Innovative Sensing Solutions

At Turck, we understand that every application is unique, which is why we dedicate ourselves to finding the optimal engineered solution for all applications. Whether you need a sensor, cordset, or network I/O, Turck's range of innovative manufacturing capabilities and engineering expertise allows us to work beyond the scope of our competitors. We utilize the most up-to-date manufacturing processes, including EDM, molding, and laser trimming, ensuring that our products not only survive, but thrive in the harshest of conditions.

Complimentary Sensor Audits

We consider it our job to help our customers decrease failures and reduce operation downtime, which is why we offer a complimentary audit program. The audit helps to identify, evaluate, and solve problem areas where sensors and cordsets are continually damaged or destroyed. This reduction in downtime will reduce your costs and ensure you get the most value out of your production processes.

Lifetime Warranty

We have the utmost confidence in our products, and you should, too! Solutions from Turck are not only built to work, but built to last. All of our products come with extensive warranties, and many of our sensors have an optional lifetime warranty against sensor failure, so you can rest easy knowing that you have invested in a dependable solution.

GLOBAL LEADERS

PROVIDING CUSTOMERS WITH SENSING SOLUTIONS

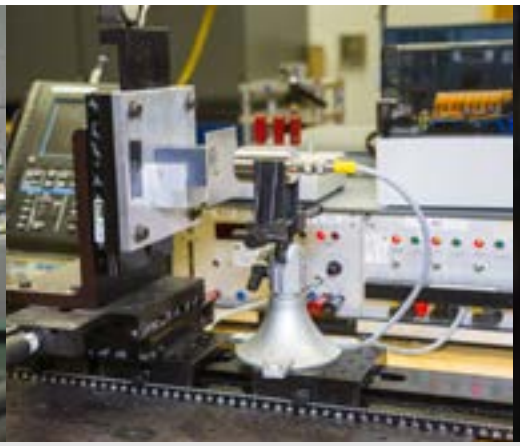
- Sensing ranges from .08 – 100 mm
- Overmolds
- Custom designed sensor housings
- Pigtails / Mold-ons
- Mating cordsets
- Free software and support
- Wide range of accessories
- Kitting

MATERIALS

BUILT TO LAST IN THE HARSHEST ENVIRONMENTS

- Stainless steel
- Overmolds
- Viton
- PUR/TPU/TPE
- Armored Cable
- PTFE and Weldguard coating
- FDA Approved Washdown







SHIPPING

SHIP ONE-TO-ONE MILLION, WITH NO LIMIT

We understand that some applications require less parts, which is why we offer flexible minimum orders to ensure you only receive the number of parts you need.

TESTING

OUR PRODUCTS UNDERGO EXTENSIVE TESTING

To continuously deliver solutions of only the highest quality, Turck products undergo a rigorous set of tests. These tests are in accordance to national and international standards, such as IEC and UL. Our products meet and exceed industry standards, ensuring their survivability and dependability in all applications.

INVENTORY

USE TURCKS VAST NETWORK OF DISTRIBUTORS, OR...

Get immediate access to your Turck products with your own on-site Turck vending machine. Convenient access to your most used products can help save money and reduce downtime.

Rectangular Inductive Sensor Selection Guide

Rectangular Style Sensors					
					
Housing	**4.7 mm**	**5.5 mm**	**6 mm**	**8 mm**	**10 mm**
Sensing Range	**2 mm**	**2 - 3.5 mm**	**3 mm**	**5 - 8 mm**	**2 - 5 mm**
Pages	**A11**	**A11**	**A11**	**A13 - 16**	**A17**
Features				**Uprox+**	**Uprox+**

Rectangular Style Sensors					
					
Housing	**Variable, with pigtail**	**10 mm**	**12 mm**	**14 mm**	**20 mm**
Sensing Range	**2 - 7 mm**	**2 - 4 mm**	**2 - 5 mm**	**10 - 20 mm**	**15 - 25 mm**
Pages	**A19**	**A21**	**A23**	**A25**	**A27 - 30**
Features			**Uprox+**		

Rectangular Style Sensors					
					
Housing	**18 mm**	**25 mm**	**30 mm**	**40 mm**	**40 mm**
Sensing Range	**5 - 10 mm**	**10 mm**	**15 mm**	**20 mm**	**15 - 50 mm**
Pages	**A31**	**A31**	**A31**	**A33**	**A35 - 40**
Features				**Uprox+**	**Uprox+**

Rectangular Style Sensors					
					IS
Housing	**40 mm**	**80 mm**	**80 mm**	**90 mm**	**Variable**
Sensing Range	**15 - 50 mm**	**40 - 75 mm**	**50 - 75 mm**	**60 - 100 mm**	**2 - 50 mm**
Pages	**A41 - 46**	**A47 - 50**	**A51**	**A53**	**A55 - 58**
Features	**Uprox+**	**Uprox+**	**Uprox+**		**Intrinsically Safe**

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensor Part Number Key

B	i	15		-	Q	20		-	A	P	6	X2	Wiring Option*	Special Option Code**

Mounting
B = embeddable
N = nonembeddable

Principle of Operation
i = inductive

Rated Operating Distance (mm)

Sensing Characteristics
S = side sensing on Q10S sensor
U = Uprox® Sensor

Housing Style

Rectangular
K = smooth
Q = metal or plastic, various rectangular styles

Limit Switch
CA = Stubby®, short aluminum housing, connector
CK = Stubby, short plastic housing, connector
CP = Combiprox®, plastic housing, terminal chamber base with removable sensor

Housing Height (mm)

Number of LEDs
(blank) = no LEDs
X = 1 LED
X2 = 2 LEDs

Voltage Range

AC/DC: (No SCP)**
3 = 20-250 VAC, 10-300 VDC
31 = 20-250 VAC, 10-300 VDC, plastic barrel

AC/DC: (Latched SCP)
30 = 20-250 VAC, 10-300 VDC 400 mA
32 = 20-250 VAC, 10-300 VDC 400 mA

DC:
4 = 10-65 VDC, polarity protected, pulsed SCP**
6 = 10-30 VDC, polarity protected, pulsed SCP
**SCP = short-circuit and overload protection

Output
D = 2-wire DC (transistor output)
DZ = 2-wire AC/DC, (power MOSFET output)
N = NPN transistor (current sinking)
P = PNP transistor (current sourcing)
Z = 2-wire AC or 2-wire AC/DC

Output Function
A = normally open (N.O.)
F = connection programmable (N.O. or N.C.)
V = complementary outputs: one N.O., one N.C.
Y0 = NAMUR output, requires switching amplifier
Y1 = NAMUR output, requires switching amplifier/ATEX approved

Secondary Housing Modifier
SR = straight terminal chamber

NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.

Wiring Options*

A. Connectorized Sensor

Bi15 - Q20 - AN6X2 - | H1 | 1 | 4 | 1 |

Connector Family
B1 = Minifast®, Metal, Male
B2 = Minifast, Plastic, Male
B3 = Microfast®, Metal, Male
H1 = Eurofast®, Metal or Plastic, Male
V1 = Picofast®, Metal, Male
V2 = Picofast, Snap and M8x1, Male (Q08 Only)

Connector/Sensor Transition
1 = straight

Wiring Configuration

Example:
1 = Standard
3 = N.C. DC Output on Pin 4 (for US)

Number of Pins

B. Potted Cable

Bi15 - Q20 - AN6X2 - | 7M |

Cable Length
Blank = 2 meter cable
7M = 7 meter cable

Special Option Codes**

Bi - 5 - Q08 - AN6XS | /S34 |

Option Code

Example:
/S34 = Weld Field Immune
/S97 = -40 °C (-40 °F) Operating Temperature
/S100 = +100 °C (+212 °F) Operating Temperature
/S1590 = CK/CA40 sensors with Weldguard laminate
/S1591 = CA40 sensors with Weldguard and Armorguard

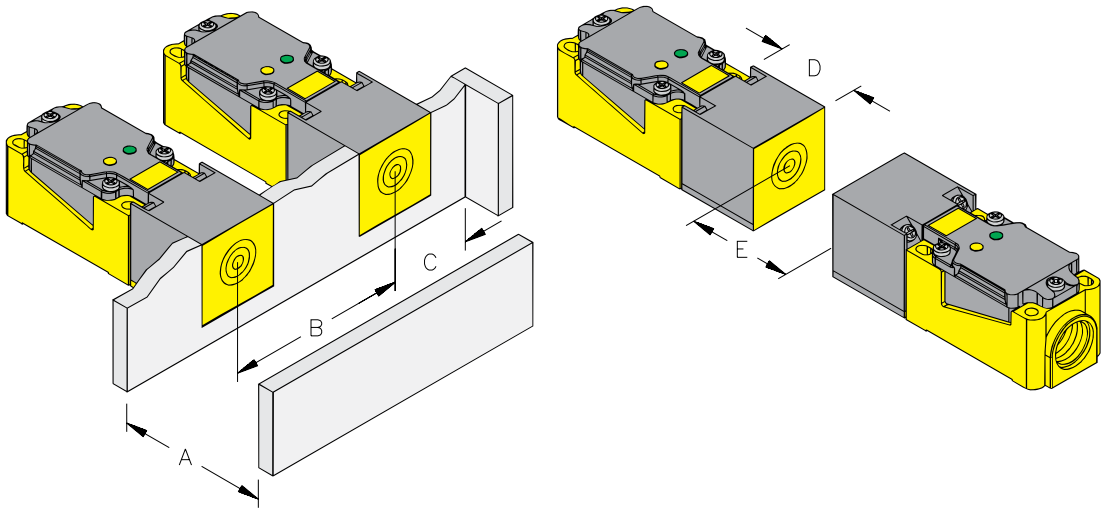
We reserve the right to make technical alterations without prior notice.

Mounting

Turck inductive proximity sensors are manufactured with a shielded coil, designated by "Bi" in the part number, and a nonshielded coil, designated by "Ni" in the part number (see page A2). Embeddable (shielded) units may be safely flush-mounted in metal. Nonembeddable (nonshielded) units require a metal free area around the sensing face. Because of possible interference of the electromagnetic fields generated by the oscillators, minimum spacing is required between adjacent or opposing sensors.

It is good engineering practice to mount sensors horizontally or with the sensing face looking down. Avoid sensors that look up wherever possible, especially if metal filings and chips are present.

Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable - CK40 and CP40

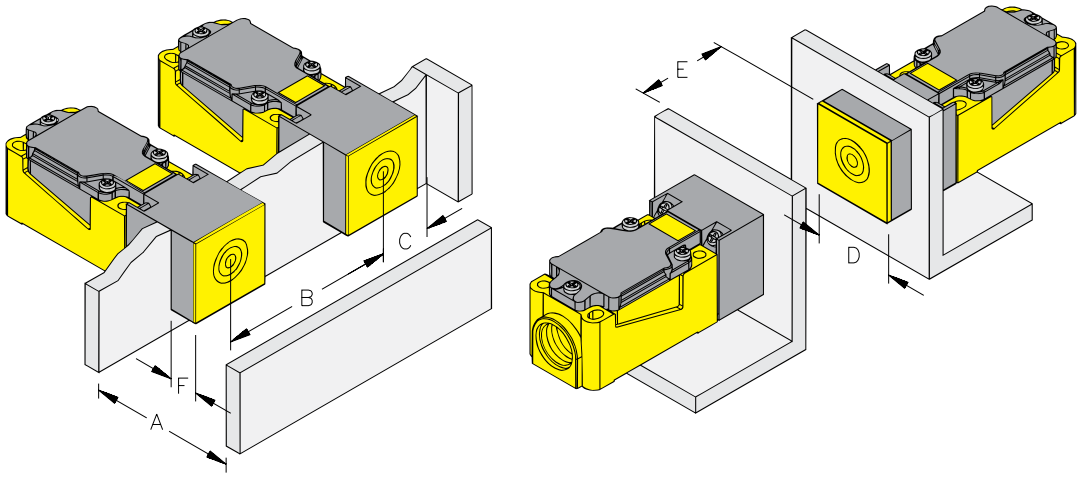
Housing Type	Sensor Type	A	B	C	D	E
CP40/CK40	Bi15U	45.00	80.00	40.00	40.00	90.00
CP40/CK40	Bi15	45.00	80.00	40.00	40.00	90.00
CP40/CK40/CA40	Bi20U	60.00	80.00	40.00	40.00	120.00
CP40	Bi20	60.00	80.00	40.00	40.00	120.00
CP40/CK40	Bi30U	90.00	80.00	40.00	40.00	180.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors

Nonembeddable Mounting Characteristics - Rectangular Housings

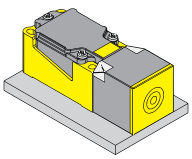


Non - Flush Mountable - CA25, CK40, and CP40

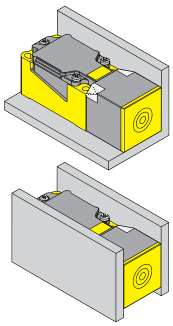
Housing Type	Sensor Type	A	B	C	D	E	F	1-Side	2-Side	3-Side	4-Side
CP/CK40	Ni20	60.00	120.00	60.00	40.00	120.00	20.00				
CP/CK40	Ni25U	75.00	240.00	60.00	40.00	150.00	30.00	Sr=22 mm*	Sr=20 mm*	Sr=17 mm*	Sr=13 mm*
CP/CK40	Ni25	75.00	120.00	60.00	40.00	150.00	40.00				
CP/CK40	Ni35U	105.00	240.00	60.00	40.00	210.00	30.00	Sr=28 mm*	Sr=24 mm*	Sr=19 mm*	
CP/CK40	Ni35	105.00	180.00	60.00	40.00	210.00	40.00				
CP/CK40	Ni40U	120.00	240.00	60.00	40.00	240.00	30.00				
CP/CK40	Ni40	120.00	180.00	60.00	40.00	240.00	40.00				
CP/CK40	Ni50U	105.00	240.00	60.00	40.00	240.00	30.00	Sr=35 mm*	Sr=25 mm*	Sr=20 mm*	Sr=15 mm*

Dimensions are in mm.
*Uprox Non-embeddable flush mounting guidelines. The above Uprox Ni sensors with DC ouptuts can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.

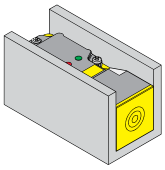
1-Side



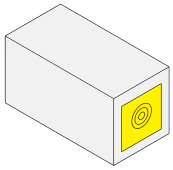
2-Side



3-Side

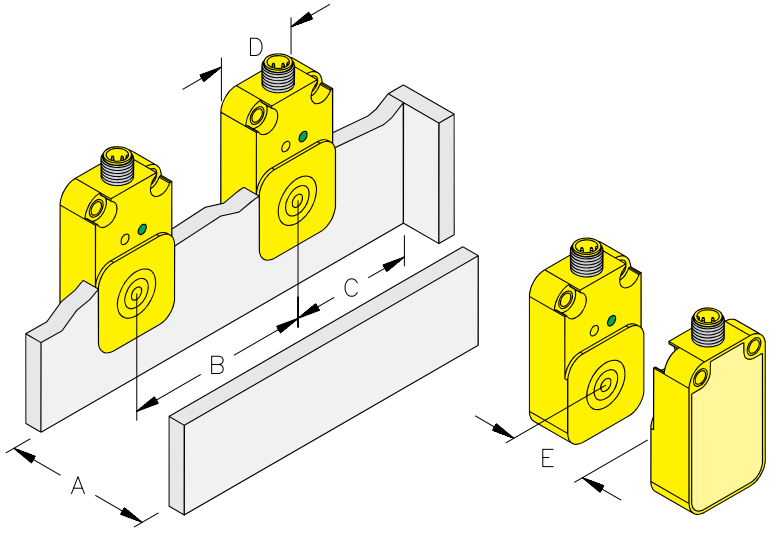


4-Side



We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable

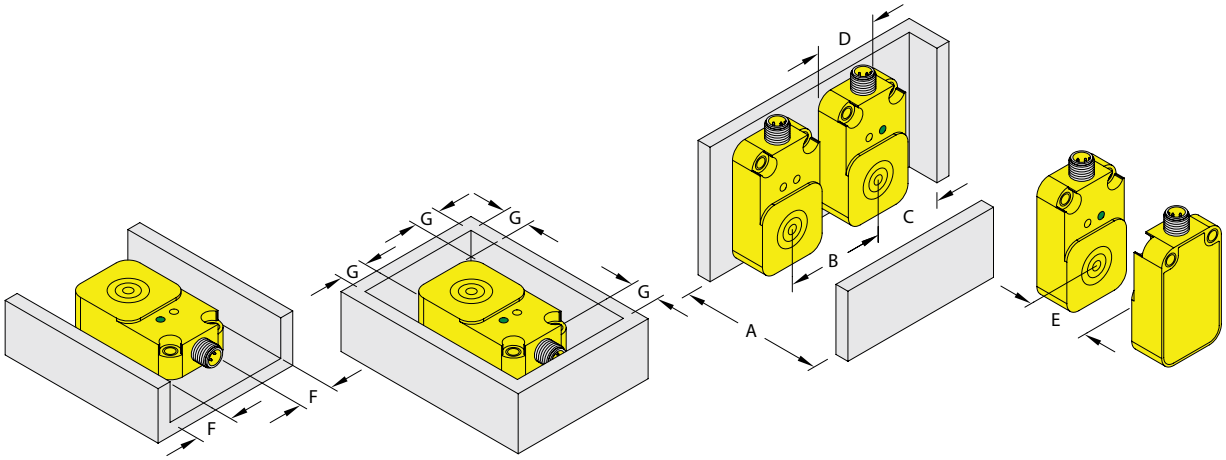
Housing Type	Sensor Type	A	B	C	D	E
Q4.7	Bi2	6.00	16.00	12.00	8.00	12.00
Q5.5	Bi2	6.00	16.00	8.00	8.00	12.00
Q06	Bi3	9.00	35.00	17.00	17.30	18.00
Q08	Bi5	15.00	40.00	20.00	20.00	30.00
Q08	Bi5U	15.00	40.00	20.00	20.00	30.00
Q08	Bi7	21.00	40.00	20.00	20.00	42.00
Q10	Bi8	24.00	50.00	25.00	25.00	48.00
Q10	Bi8U	24.00	50.00	25.00	25.00	48.00
Q14	Bi10	30.00	45.00	30.00	30.00	60.00
Q14	Bi10U	30.00	45.00	30.00	30.00	60.00
Q20	Bi15	45.00	60.00	40.00	40.00	90.00
Q20	Bi15U	45.00	60.00	40.00	40.00	90.00
CP80	Bi40	120.00	160.00	80.00	80.00	240.00
Q80	Bi50U	150.00	240.00	80.00	80.00	300.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors

Embeddable Mounting Characteristics - Rectangular Housings

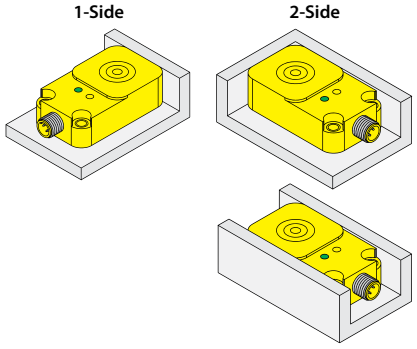


Non-flush Mountable - Minimum Distances - Q5.5, Q14, Q20, CP80, Q80 and K90

Housing Type	Sensor Type	A	B	C	D	E	F	G	1-Side	2-Side	3 & 4-Side
Q5.5	**Ni3.5**	11.00	24.00	12.00	8.00	21.00	4.00	8.00			
Q14	**Ni20**	60.00	90.00	45.00	30.00	120.00	20.00	40.00			
Q20	**Ni25**	75.00	120.00	60.00	40.00	150.00	25.00	50.00			
CP80	**Ni40**	120.00	240.00	120.00	80.00	240.00	80.00	80.00			
Q80	**Ni75U**	225.00	240.00	60.00	80.00	450.00	80.00	80.00	Sr=50 mm*	Sr=45 mm*	Sr=40 mm*
CP80	**Ni75U**	225.00	240.00	120.00	80.00	450.00	80.00	80.00			
K90	**Ni60**	180.00	270.00	135.00	90.00	360.00	60.00	90.00			
K90SR	**Ni100U**	300.00	270.00	90.00	90.00	600.00	100.00	200.00	Sr=70 mm*		

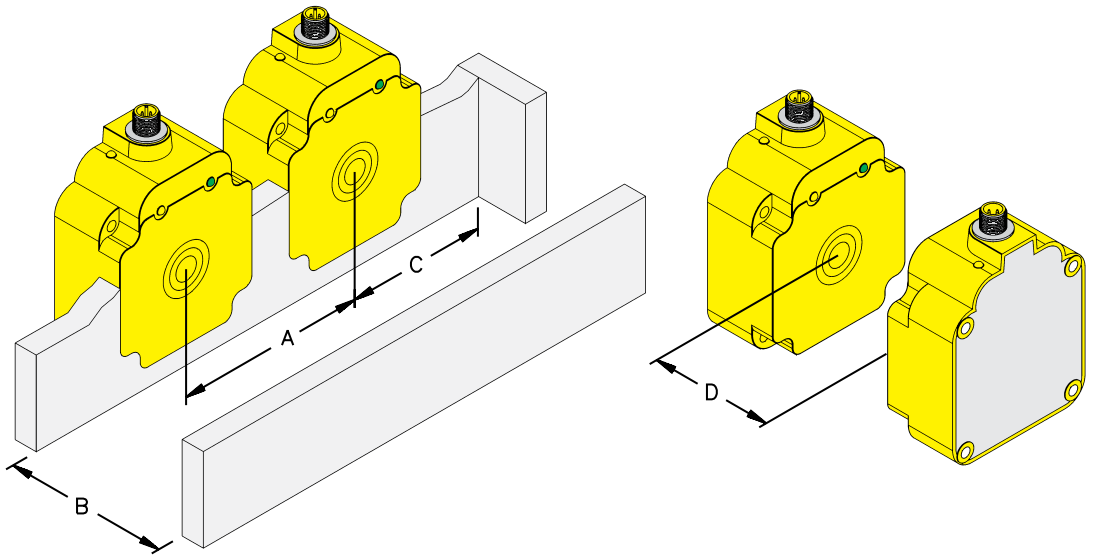
Dimensions are in mm.

*Uprox Non-embeddable flush mounting guidelines. The above Uprox Ni sensors with DC ouptuts can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.



We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics

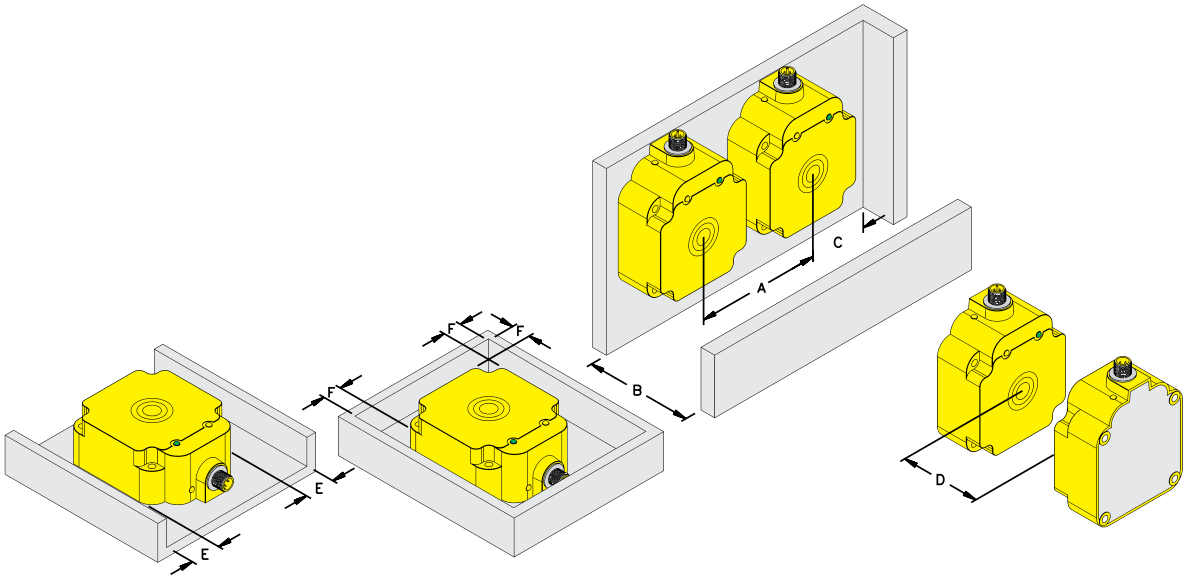


Embeddable, Square Sensors

Part Number	A	B	C	D
Bi50U-Q80	240.00	150.00	80.00	300.00

Dimensions are in mm.

Nonembeddable Mounting Characteristics



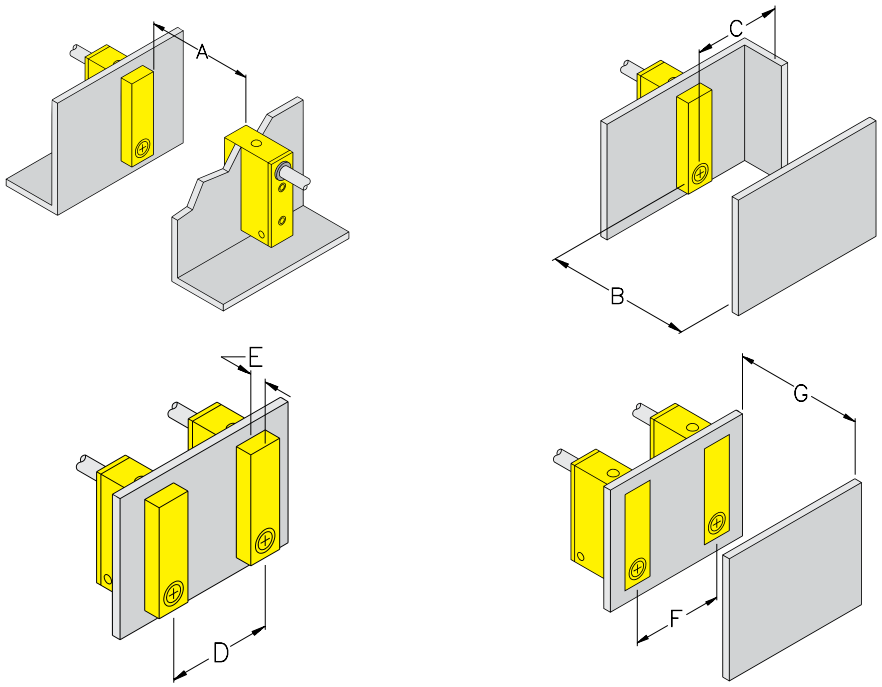
Nonembeddable, Square Sensors

Part Number	A	B	C	D	E	F
Ni75U-Q80	240.00	225.00	60.00	450.00	80.00	80.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable

Housing Type	Sensor Type	Housing	A	C	F	G
Q6.5	Bi1	6.50	6.00	7.00	13.00	3.00
Q10S	Bi2	10.00	12.00	10.00	20.00	6.00
Q12	Bi2	12.00	12.00	12.00	24.00	6.00

Dimensions are in mm.

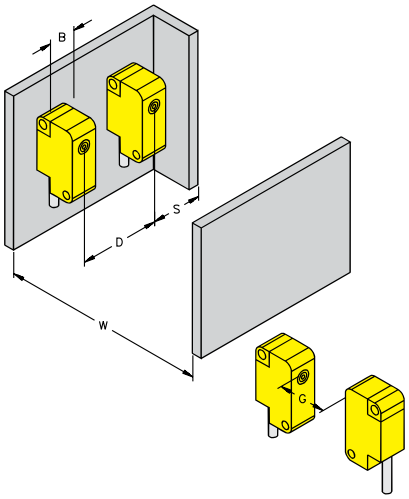
Non-Flush Mountable

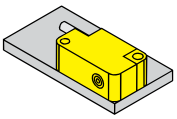
Housing Type	Sensor Type	Housing	A	B	C	D	E
Q6.5	Ni2	6.50	12.00	6.00	10.00	20.00	4.00
Q9.5	Ni2	9.50	12.00	6.00	14.00	19.00	4.00
Q12	Ni4	12.00	24.00	12.00	18.00	24.00	8.00
Q25	Ni10	25.00	60.00	30.00	38.00	75.00	20.00
Q30	Ni15	30.00	90.00	45.00	45.00	90.00	30.00

Dimensions are in mm.

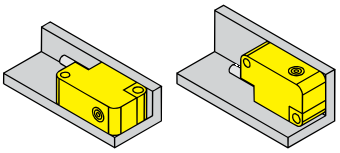
We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics

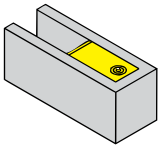




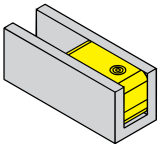
1-side mounting
Sn=3



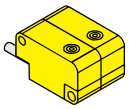
2-side mounting
Sn=3 mm



4-side mounting
Sn=2.3 mm



3-side mounting
Sn=2.6 mm

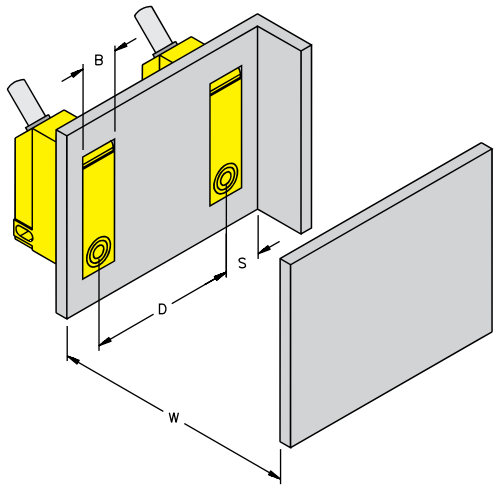


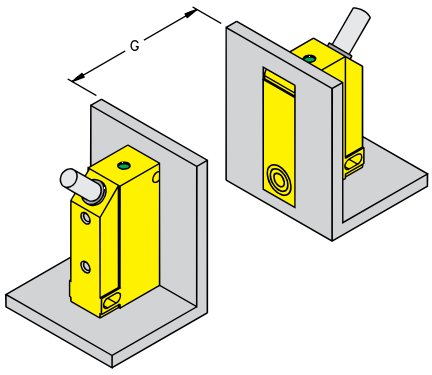
In many cases sensors have to be mounted in close proximity to fulfill the monitoring work. In order to avoid mutual interferences, Turck offers the Q10S-ZP shield (Q10S only).

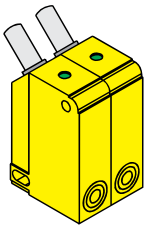
Nonembeddable, Square Sensors

Part Number	D	W	S	G	B Width of Active Face
Ni5U-Q10S	31.00	15.00	15.30	30.00	10.20

Dimensions are in mm.







Embeddable, Square Sensors

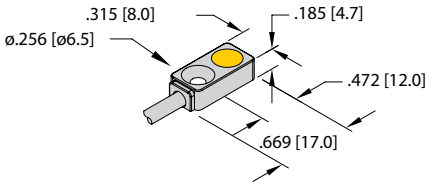
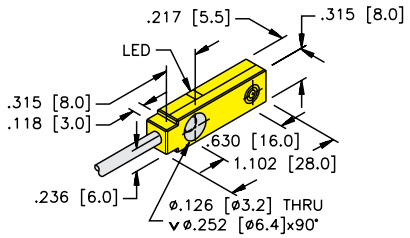
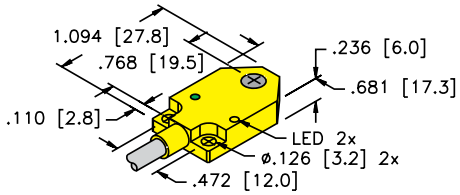
Part Number	D	W	S	G	B Width of Active Face
Bi5U-Q12	48.00	25.00	12.00	50.00	12.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

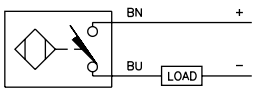
Rectangular Inductive Sensors | Q4.7, Q5.5, & Q06

Top Sensing Subminiature Qpak Housing

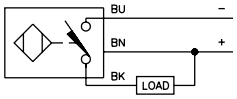
Housing Style	Dimension Drawings
	A  4.7 mm - Embeddable, Potted-In Cable
B  5.5 mm - Embeddable/Nonembeddable, Potted-In Cable	C  6.0 mm - Embeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

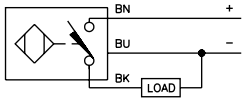
1



2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q4.7, Q5.5, & Q06

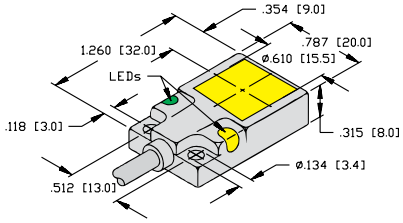
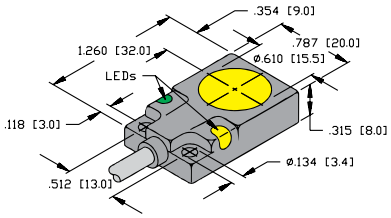
Top Sensing Subminiature Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q4.7-AN6X 1614001		•	2	3-wire DC NPN	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	2M/TPU	A	2	A4
Bi2-Q4.7-AP6X 1614000		•	2	3-wire DC NPN	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	2M/TPU	A	3	A4
Bi2-Q5.5-AG6X 1613108		•	2	2-wire DC	10-30 VDC	1000	≤50	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	1	A2
Bi2-Q5.5-AN6X 1613100		•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Bi2-Q5.5-AN6X/S34 1613101	WFI	•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Ni3.5-Q5.5-AN6X 4613610			3.5	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Bi2-Q5.5-AP6X 1613000		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Bi2-Q5.5-AP6X/S34 1613001	WFI	•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Ni3.5-Q5.5-AP6X 4613601			3.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Bi3-Q06-AN6X2 1620150		•	3	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	2M/TPU	C	2	A4
Bi3-Q06-AP6X2 1620100		•	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	2M/TPU	C	3	A4

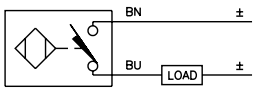
We reserve the right to make technical alterations without prior notice.

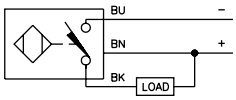
Rectangular Inductive Sensors | Q08

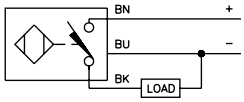
Top Sensing Qpak Housing with Potted-in Cable

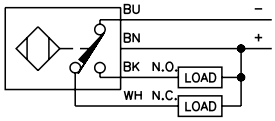
Housing Style	Dimension Drawings
	A  8.0 mm - Embeddable, Potted-In Cable
B  8.0 mm - Embeddable, Potted-In Cable	

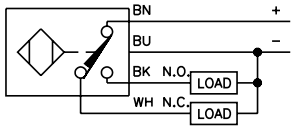
Wiring Diagrams/Mating Cordsets

1 

2 

3 

4 

5 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q08

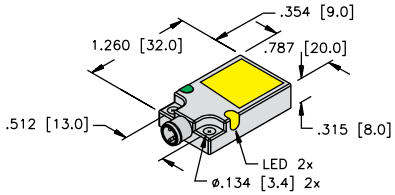
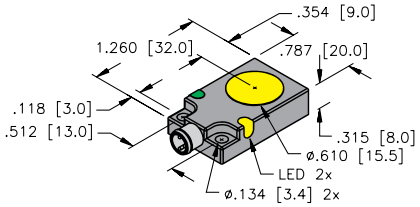
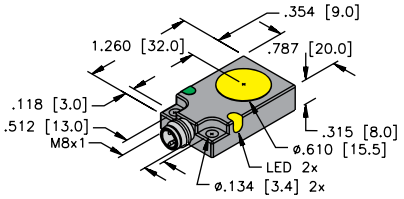
Top Sensing Qpak Housing with Potted-in Cable

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-Q08-AN6X2 1608911	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	2	A4
Bi5U-Q08-AP6X2 1608901	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	3	A4
Bi5-Q08-AD4X/S34 4414550	WFI	•	5	2-wire DC	10-65 VDC	50	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	2M/TPU	B	1	A2
Bi5-Q08-VN6X2 1600200	Comp. Outputs	•	5	4-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	4	A4
Bi5-Q08-VP6X2 1600100	Comp. Outputs	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	5	A4
Bi7-Q08-AN6X2 1601620	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	2	A4
Bi7-Q08-AP6X2 1601600	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	3	A4
Bi7-Q08-VN6X2 1600920	Ext. Range	•	7	4-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	4	A4
Bi7-Q08-VP6X2 1600900	Ext. Range	•	7	4-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	5	A4
Bi8U-Q08-AN6X2 1662007	Uprox+	•	8	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA12	GN	YE	2M/TPU	A	2	A4
Bi8U-Q08-AP6X2 1662006	Uprox+	•	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA12	GN	YE	2M/TPU	A	3	A4

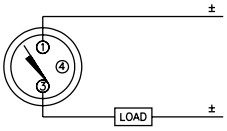
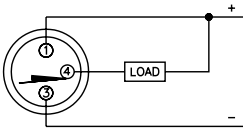
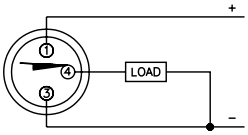
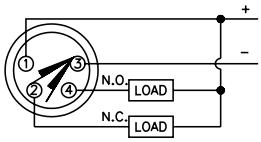
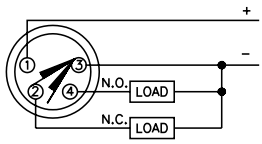
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q08

Top Sensing Qpak Housing with Integral Connector

Housing Style	Dimension Drawings
	A  8.0 mm - Embeddable, Picofast Connector
B  8.0 mm - Embeddable, M8 snap-on Picofast Connector	C  8.0 mm - Embeddable, M8 thread-on Picofast Connector

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: PKG 3Z-*; PKG 3M-*	2  Mating Cordset: PKG 3Z-*; PKG 3M-*	3  Mating Cordset: PKG 3Z-*; PKG 3M-*
4  Mating Cordset: PKG 4Z-*	5  Mating Cordset: PKG 4Z-*	

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V Polarized (AG) ≤4.2 V	Transient Protection:	Per EN 60947-5-2
		Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current ≥170 mA on 150 mA Load Current ≥120 mA on 100 mA Load Current	Transient Protection:	Per EN 60947-5-2
		Temperature Drift:	≤±10%
		Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular) ≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance
Time Delay Before Availability:	≤8 ms		

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Rectangular Inductive Sensors | Q08

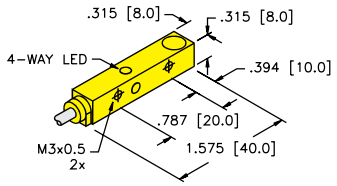
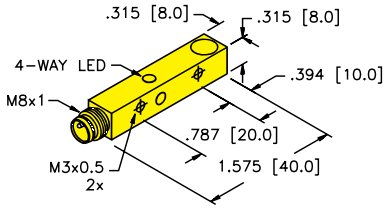
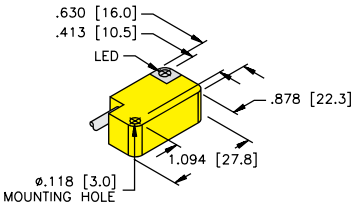
Top Sensing Qpak Housing with Integral Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-Q08-AN6X2-V1131 1608910	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi5U-Q08-AP6X2-V1131 1608900	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi5U-Q08-AN6X2-V2131 1608904	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi5U-Q08-AP6X2-V2131 1608905	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi5-Q08-AD4X-V1130 4414551		•	5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	PKG 3Z-*	B	1	A2
Bi5-Q08-AN6X2-V1131 1600600		•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi5-Q08-AP6X2-V1131 1600500		•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi5-Q08-VN6X2-V1141 1600400	Comp. Outputs	•	5	4-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	4	A4
Bi5-Q08-VP6X2-V1141 1600300	Comp. Outputs	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	5	A4
Bi5-Q08-AD4X-V2130 4414553		•	5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	PKG 3M-*	C	1	A2
Bi5-Q08-AN6X2-V2131 1600602		•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi5-Q08-AP6X2-V2131 1600502		•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi7-Q08-AN6X2-V1131 1601622	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi7-Q08-AP6X2-V1131 1601602	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi7-Q08-AN6X2-V2131 1601623	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi7-Q08-AP6X2-V2131 1601603	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi7-Q08-VN6X2-V1141 1600922	Ext. Range	•	7	4-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	4	A4
Bi7-Q08-VP6X2-V1141 1600902	Ext. Range	•	7	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	5	A4
Bi8U-Q08-AN6X2-V1131 1662008	Uprox+	•	8	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA 12	GN	YE	PKG 3Z-*	A	2	A4
Bi8U-Q08-AP6X2-V1131 1662005	Uprox+	•	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA 12	GN	YE	PKG 3Z-*	A	3	A4

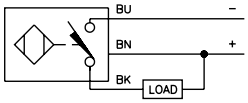
We reserve the right to make technical alterations without prior notice.

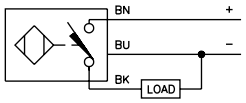
Rectangular Inductive Sensors | Q8SE & Q10S

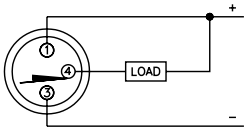
Side Sensing Qpak Housing

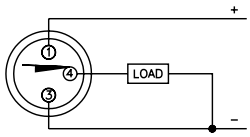
Housing Style	Dimension Drawings
	A  8.0 mm - Nonembeddable, Potted-In Cable
B  8.0 mm - Nonembeddable, M8 Picofast Connector	C  10 mm - Embeddable/Nonembeddable, Potted-In Cable

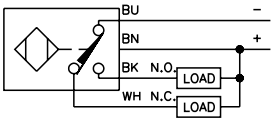
Wiring Diagrams/Mating Cordsets

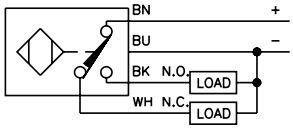
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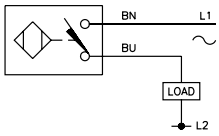
2 

3  Mating Cordset: PKG 3Z-*

4  Mating Cordset: PKG 3Z-*

5 

6 

7 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

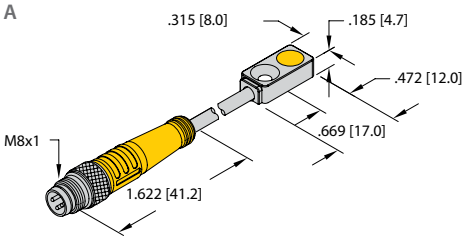
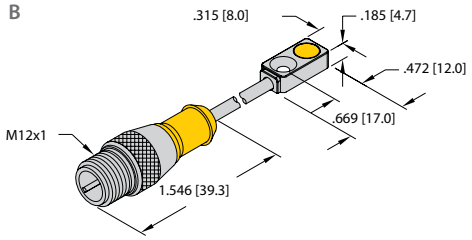
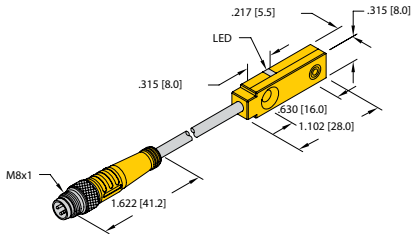
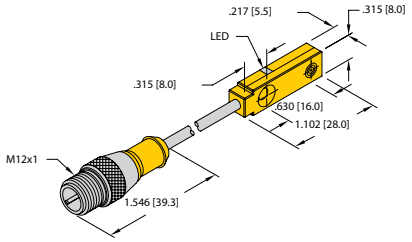
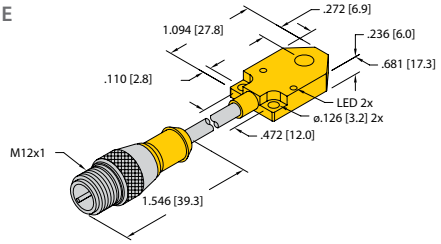
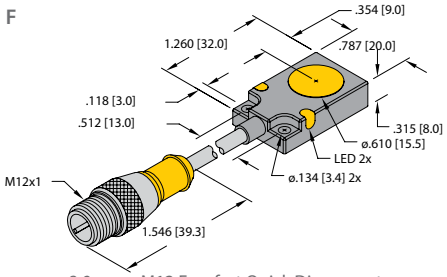
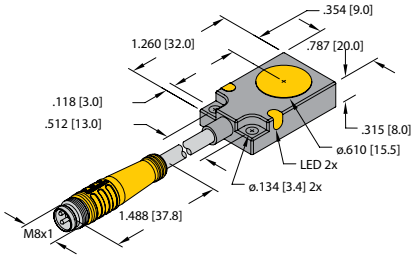
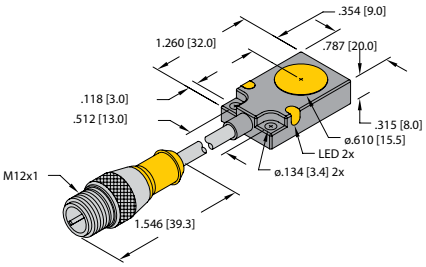
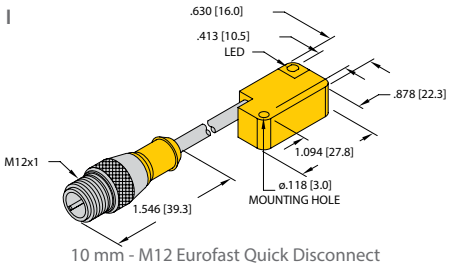
Rectangular Inductive Sensors | Q8SE & Q10S

Side Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni4U-Q8SE-AN6X 4635809	Uprox+		4	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	2M/TPU	A	1	A4
Ni4U-Q8SE-AP6X 4635807	Uprox+		4	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	2M/TPU	A	2	A4
Ni4U-Q8SE-AN6X-V1131 4635810	Uprox+		4	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	- -	B	3	A4
Ni4U-Q8SE-AP6X-V1131 4635808	Uprox+		4	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	- -	B	4	A4
Bi2-Q10S-AN6X 1619310		•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	1	A4
Bi2-Q10S-AP6X 1609360		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	2	A4
Bi2-Q10S-VN6X 1609341	Comp. Outputs	•	2	4-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	5	A4
Bi2-Q10S-VP6X 1609340	Comp. Outputs	•	2	4-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	6	A4
Bi2-Q10S-AZ31X 1309100		•	2	2-wire AC	20-250 VAC/10-300 VDC	60	≤100	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	RD	2M/TPU	C	7	A6
Ni5U-Q10S-AN6X 1609365	Uprox+		5	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	1	A4
Ni5U-Q10S-AP6X 1609364	Uprox+		5	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	2	A4

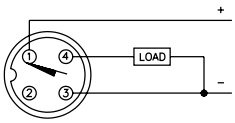
We reserve the right to make technical alterations without prior notice.

Sensor with Molded Connector

Housing Style	Dimension Drawings	
	A  4.7 mm - M8 Picofast Quick Disconnect	B  4.7 mm - M12 Eurofast Quick Disconnect
C  5.5 mm - M8 Picofast Quick Disconnect	D  5.5 mm - M12 Eurofast Quick Disconnect	E  6.0 mm - M12 Eurofast Quick Disconnect
F  8.0 mm - M12 Eurofast Quick Disconnect	G  8.0 mm - M8 Picofast Quick Disconnect	H  8.0 mm - M12 Eurofast Quick Disconnect
I  10 mm - M12 Eurofast Quick Disconnect		

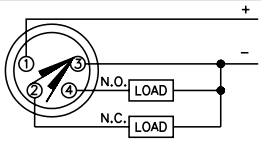
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4T-*

2



Mating Cordset: PKG 3M-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Small Rectangular

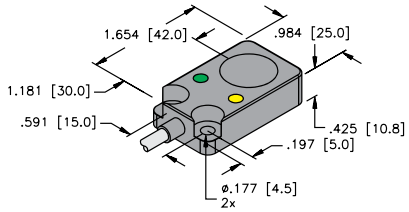
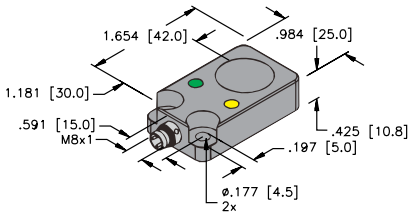
Sensor with Molded Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q4.7-AP6X-0.3-PSG3M 1614000		•	2	3-wire DC PNP	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	0.3M/TPU	A	2	A4
Bi2-Q4.7-AP6X-0.3-RS4T 16140024		•	2	3-wire DC PNP	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	0.3M/TPU	B	1	A4
Bi2-Q5.5-AP6X-0.2-PSG3M 1613099		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	0.2M/TPU	C	2	A4
Bi2-Q5.5-AP6X-0.2-RS4T 1613094		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	0.2M/TPU	D	1	A4
Bi3-Q06-AP6X2-0.2-RS4T 1620193		•	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	0.2M/TPU	E	1	A4
Bi5U-Q08-AP6X2-0.2-RS4T 1608990	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	F	1	A4
Bi5-Q08-AP6X2-0.2-PSG3F 1600592		•	5	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	G	2	A4
Bi7-Q08-AP6X2-0.2-RS4T 1601683		•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	H	1	A4
Bi2-Q10S-AP6X-0.2-RS4T 1609390		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	0.2M/TPU	I	1	A4

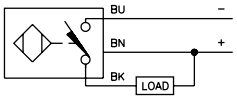
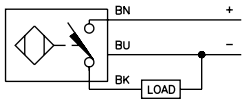
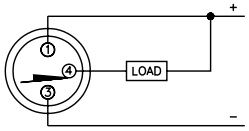
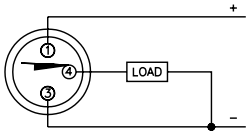
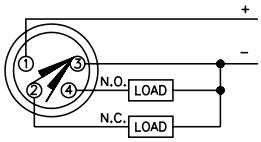
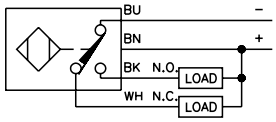
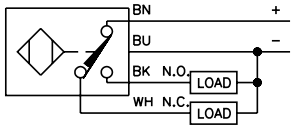
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q10

Top Sensing Qpak Housing

Housing Style	Dimension Drawings
	A  10 mm - Embeddable, Potted-In Cable
B  10 mm - Embeddable, M8 Picofast Connector	

Wiring Diagrams/Mating Cordsets

1 	2 	3  Mating Cordset: PKG 3Z-*
4  Mating Cordset: PKG 3Z-*	5  Mating Cordset: PKG 4Z-*	6 
7 		

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q10

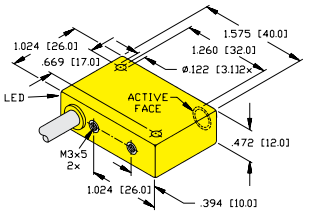
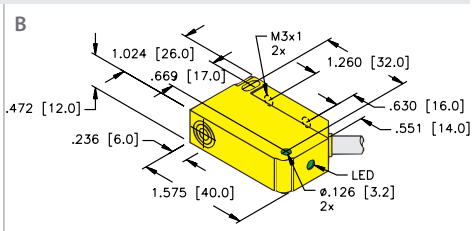
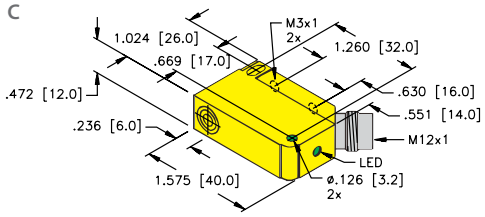
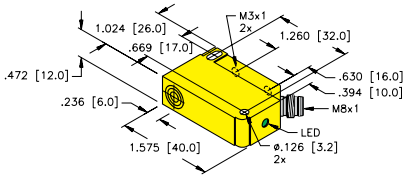
Top Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-Q10-AN6X2 1662003	Uprox	•	8	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Bi8U-Q10-AP6X2 1662001	Uprox	•	8	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi8U-Q10-AN6X2-V1131 1662004	Uprox	•	8	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	3	A4
Bi8U-Q10-AP6X2-V1131 1662002	Uprox	•	8	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	4	A4
Bi8-Q10-VN6X2 4616410	Comp. Outputs	•	8	4-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	6	A4
Bi8-Q10-VP6X2 4616401	Comp. Outputs	•	8	4-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	7	A4
Bi8-Q10-VP6X2-V1141 4616402	Comp. Outputs	•	8	4-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4

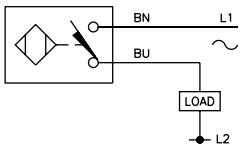
We reserve the right to make technical alterations without prior notice.

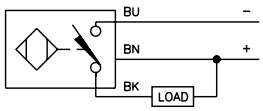
Rectangular Inductive Sensors | Q12

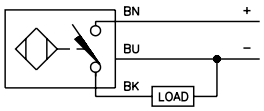
Side Sensing Qpak Housing

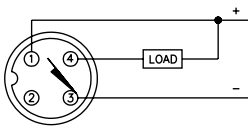
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable/Nonembeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable
C  12 mm - Embeddable, M12 Eurofast Connection	D  12 mm - Embeddable, M8 Picofast Connection	

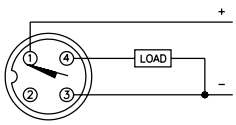
Wiring Diagrams/Mating Cordsets

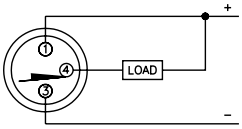
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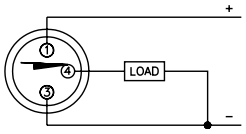
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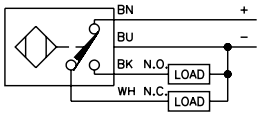
3 

4 
Mating Cordset: RK 4T-*

5 
Mating Cordset: RK 4T-*

6 
Mating Cordset: PKG 3Z-*

7 
Mating Cordset: PKG 3Z-*

8 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q12

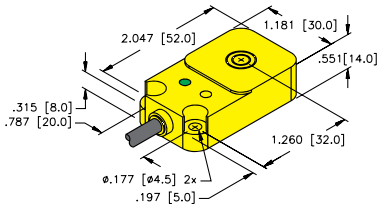
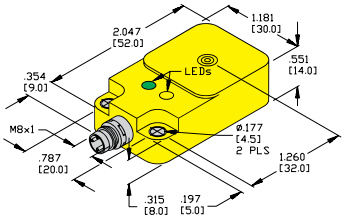
Side Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q12-AZ31X 13100		•	2	2-wire AC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	A	1	A6
Ni4-Q12-AZ31X 13102			4	2-wire AC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	A	1	A6
Bi5U-Q12-AN6X2 1635523	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	2M/ TPU	B	2	A4
Bi5U-Q12-AP6X2 1635522	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	2M/ TPU	B	3	A4
Bi5U-Q12-VP6X2 1635533	Uprox+	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	PA 12-GF30	GN	YE	2M/ TPU	B	8	A4
Bi5U-Q12-AN6X2-H1141 1635527	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	C	4	A4
Bi5U-Q12-AP6X2-H1141 1635526	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	C	5	A4
Bi5U-Q12-AN6X2-V1131 1635525	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	D	6	A4
Bi5U-Q12-AP6X2-V1131 1635524	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	D	7	A4

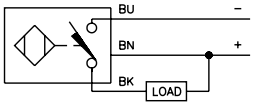
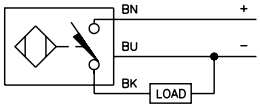
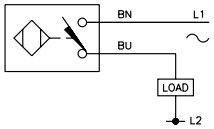
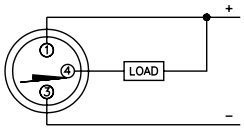
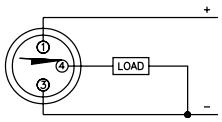
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q14

Top Sensing Qpak Housing

Housing Style	Dimension Drawings
	A  14 mm - Potted-In Cable
B  14 mm - Embeddable/Nonembeddable, M8 Picofast Connector	

Wiring Diagrams/Mating Cordsets

1	2	3
		
4	**5**	
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*	

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q14

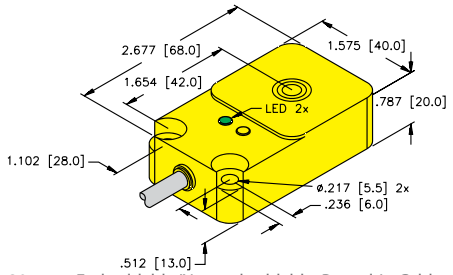
Top Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-Q14-AN6X2 1608710	Uprox	•	10	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Bi10U-Q14-AP6X2 1608700	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Bi10U-Q14-AN6X2-V1131 1608510	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	4	A4
Bi10U-Q14-AP6X2-V1131 1608500	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Bi10-Q14-AN6X2 1608320		•	10	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Bi10-Q14-AP6X2 1608720		•	10	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Bi10-Q14-ADZ32X2 4256220		•	10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5
Bi10-Q14-ADZ32X2/S34 4256225	WFI	•	10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5
Bi10-Q14-AP6X2-V1131 1608530		•	10	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Ni20-Q14-AP6X2-V1131 4690210			20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Ni20-Q14-AN6X2 4690220			20	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Ni20-Q14-AP6X2 4690205		•	20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Ni20-Q14-ADZ32X2 4205410		•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5

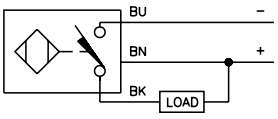
We reserve the right to make technical alterations without prior notice.

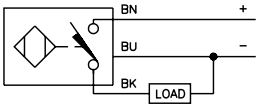
Rectangular Inductive Sensors | Q20

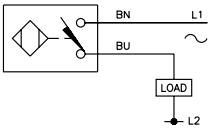
Top Sensing Qpak Housing with Potted-in Cable

Housing Style	Dimension Drawings
	A  20 mm - Embeddable/Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

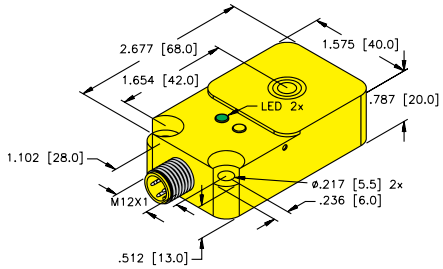
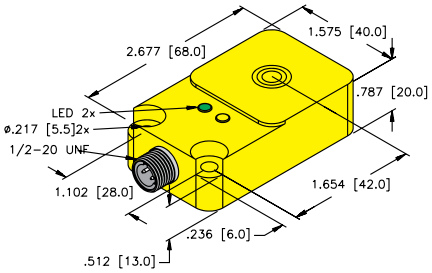
Top Sensing Qpak Housing with Potted-in Cable

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-Q20-AN6X2 1608810	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Bi15U-Q20-AP6X2 1608800	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi15-Q20-AP6X2 1608300		•	15	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi15-Q20-ADZ32X2 4256250		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	3	A5
Ni25-Q20-AN6X2 1602800			25	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Ni25-Q20-AP6X2 1602700			25	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4

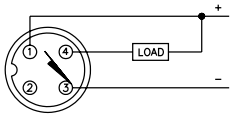
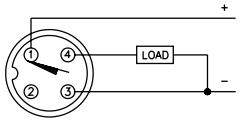
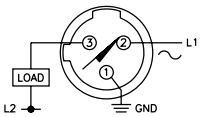
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

Top Sensing Qpak Housing with Integral Connector

Housing Style	Dimension Drawings
	A  20 mm - Embeddable/Nonembeddable, M12 Eurofast Connector
B  20 mm - Embeddable, 1/2-20UNF Microfast Connector	

Wiring Diagrams/Mating Cordsets

1	2	3
		
Mating Cordset: RK 4T-*	Mating Cordset:RK 4T-*	Mating Cordset: KB 3T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

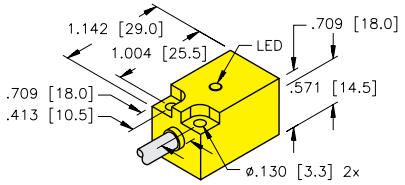
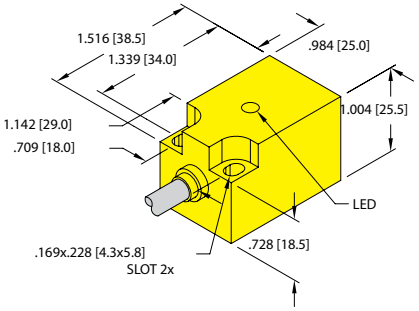
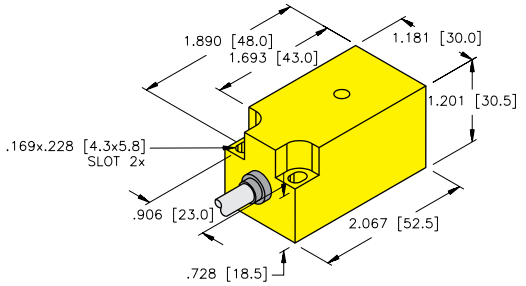
Top Sensing Qpak Housing with Integral Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-Q20-AN6X2-H1141 1608610	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15U-Q20-AP6X2-H1141 1608600	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-Q20-AN6X2-H1141 1608315		•	15	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-Q20-AP6X2-H1141 1608305		•	15	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-Q20-ADZ32X2-B3131 4256251		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	B	3	A5
Ni25-Q20-AN6X2-H1141 1602802			25	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni25-Q20-AP6X2-H1141 1602702			25	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4

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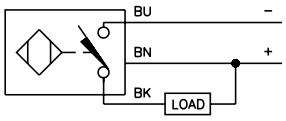
Rectangular Inductive Sensors | Q18, Q25, & Q30

Side Sensing Qpak Housing

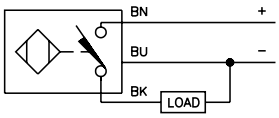
Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, Potted-In Cable
B  25 mm - Nonembeddable, Potted-In Cable	C  30 mm - Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



2



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q18, Q25, & Q30

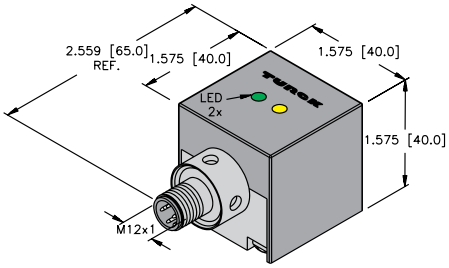
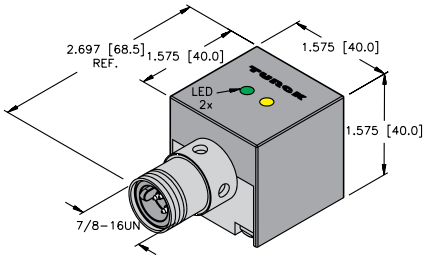
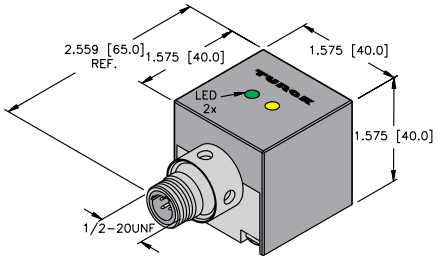
Side Sensing Qpak Housing

Part Number/ ID Number	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni5-Q18-AN6X 4614607	5	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Ni5-Q18-AP6X 4614606	5	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Ni10-Q25-AN6X 4652330	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	1	A4
Ni10-Q25-AP6X 4652225	10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	2	A4
Ni15-Q30-AN6X 4659330	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	C	1	A4
Ni15-Q30-AP6X 4659325	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	C	2	A4

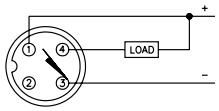
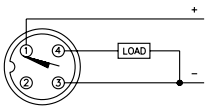
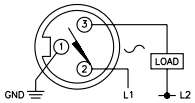
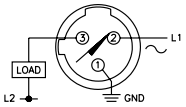
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CA40

Rotatable Sensing Head with Metal Housing

Housing Style	Dimension Drawings
	A  CA40 - Embeddable, Eurofast Connector
B  CA40 - Embeddable, Minifast Connector	C  CA40 - Embeddable, Microfast Connector

Wiring Diagrams/Mating Cordsets

1	2	3	4
			
Mating Cordset: RK 4T-*	Mating Cordset: RK 4T-*	Mating Cordset: RKM 30-*M	Mating Cordset: KB 3T-*

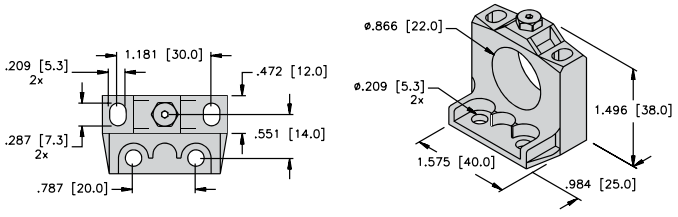
A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

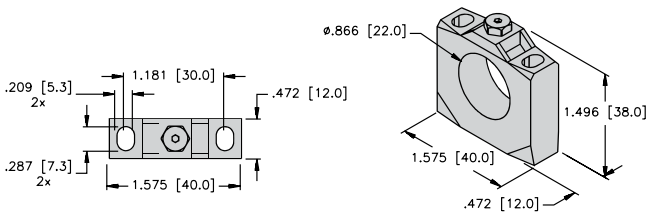
A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

BS 2.1 Mounting Bracket



BS 2.0 Mounting Bracket



We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CA40

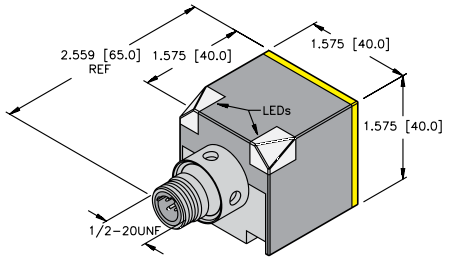
Rotatable Sensing Head with Metal Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20U-CA40-AN6X2-H1141 W/BS2.1 1627390	Uprox	•	20	3-wire DC NPN	10-30 VDC	250	≤200	0 to +70	IP67	AL	TP	GN	YE	A	1	A4
Bi20U-CA40-AP6X2-H1141 W/BS2.1 1627290	Uprox	•	20	3-wire DC PNP	10-30 VDC	250	≤200	0 to +70	IP67	AL	TP	GN	YE	A	2	A4
Bi20U-CA40-AP6X2-H1141/S1590 W/BS2.0 1627297	Weldguard®	•	20	3-wire DC PNP	10-30 VDC	250	≤200	0 to +70	IP67	AL	WG	GN	YE	A	2	A4
Bi20U-CA40-ADZ30X2-B1131 W/BS2.1 4283290	Uprox	•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	AL	TP	GN	YE	B	3	A5
Bi20U-CA40-ADZ30X2-B3131 W/BS2.1 4283292	Uprox	•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	AL	TP	GN	YE	C	4	A5

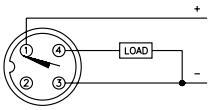
We reserve the right to make technical alterations without prior notice.

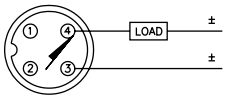
Rectangular Inductive Sensors | CK40

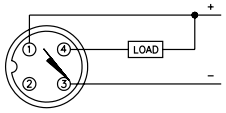
Rotatable Sensing Head with 2 and 3-wire DC Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Eurofast Connector

Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*

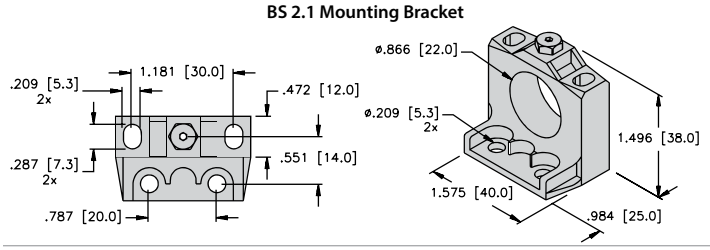
A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

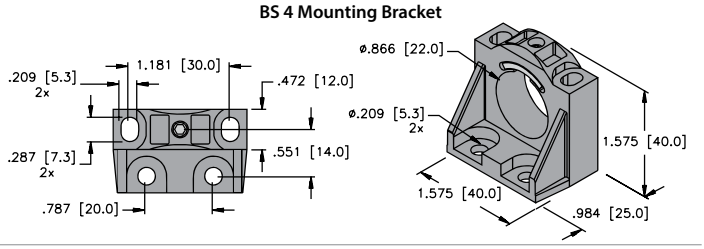
A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

BS 2.1 Mounting Bracket



BS 4 Mounting Bracket



We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CK40

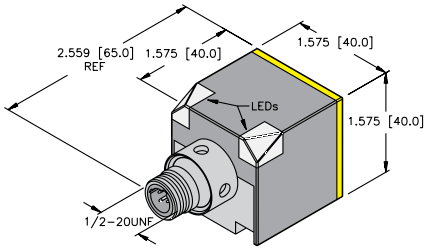
Rotatable Sensing Head with 2 and 3-wire DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CK40-AN6X2-H1141 W/BS2.1 1625690	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi15U-CK40-AP6X2-H1141 W/BS2.1 1625689	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-AN6X2-H1141 W/BS2.1 1625190		•	15	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi15-CK40-AP6X2-H1141 W/BS2.1 1625090		•	15	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-AD4X-H1141 W/BS2.1 4465090		•	15	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A2
Bi20U-CK40-AN6X2-H1141 1627231	Uprox+	•	20	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi20U-CK40-AP6X2-H1141 W/BS2.1 1627288	Uprox+	•	20	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi30U-CK40-AN6X2-H1141 1625820	Uprox+	•	30	3-wire DC NPN	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	3	A4
Bi30U-CK40-AP6X2-H1141 1625829	Uprox+	•	30	3-wire DC PNP	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-AN6X2-H1141 W/BS2.1 1625390			20	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni20-CK40-AP6X2-H1141 W/BS2.1 1625290			20	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-AD4X-H1141 W/BS2.1 4465290			20	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A2
Ni25U-CK40-AN6X2-H1141 W/BS2.1 1625789	Uprox		25	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Ni25U-CK40-AP6X2-H1141 W/BS2.1 1625790	Uprox		25	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni35U-CK40-AP6X2-H1141 1625800	Uprox		35	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Ni35U-CK40-AN6X2-H1141 1625810	Uprox		35	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni50U-CK40-AN6X2-H1141 1625823	Uprox+		50	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Ni50U-CK40-AP6X2-H1141 1625868	Uprox+		50	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4

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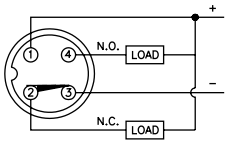
Rectangular Inductive Sensors | CK40

Rotatable Sensing Head with Complementary Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Eurofast Connector

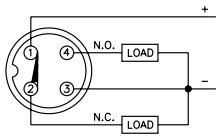
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.4T-*

2

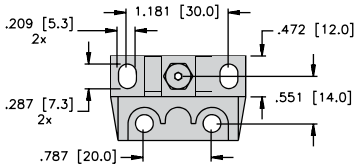


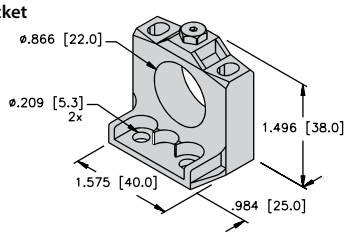
Mating Cordset: RK 4.4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

BS 2.1 Mounting Bracket





We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CK40

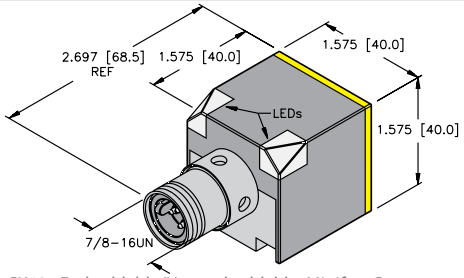
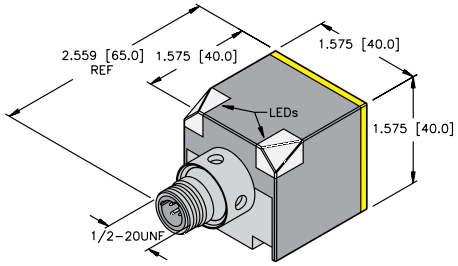
Rotatable Sensing Head with Complementary Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-CK40-VN4X2-H1141 W/BS2.1 1550190	Comp. Outputs	•	15	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-VP4X2-H1141 W/BS2.1 1550091	Comp. Outputs	•	15	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CK40-VN4X2-H1141 W/BS2.1 1550390	Comp. Outputs		20	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-VP4X2-H1141 W/BS2.1 1550290	Comp. Outputs		20	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni35U-CK40-VP6X2-H1141 1625815	Uprox, Comp. Outputs		35	4-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni50U-CK40-VN4X2-H1141 1625806	Uprox+, Comp. Outputs		50	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4
Ni50U-CK40-VP4X2-H1141 1538302	Uprox+, Comp. Outputs		50	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4

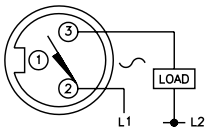
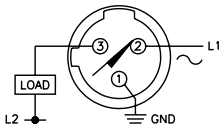
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CK40

Rotatable Sensing Head with AC/DC Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Minifast Connector
B  CK40 - Embeddable/Nonembeddable, Microfast Connector	

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: RKM 30-*M	 Mating Cordset: KB 3T-*

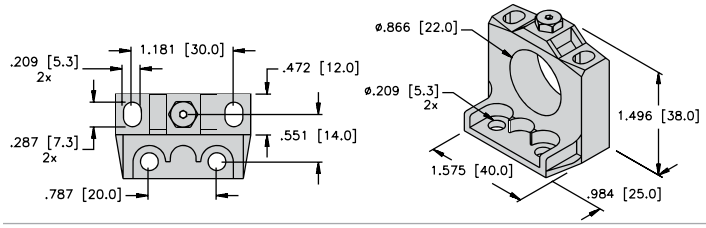
A5 — **2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)**

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

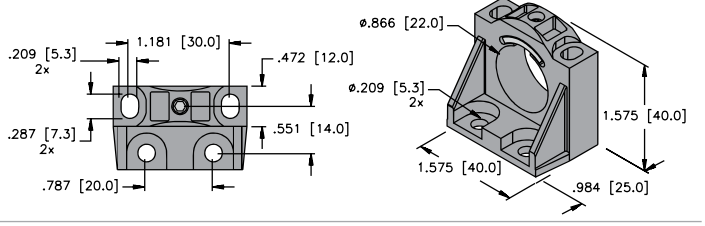
A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

BS 2.1 Mounting Bracket



BS 4 Mounting Bracket



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Rectangular Inductive Sensors | CK40

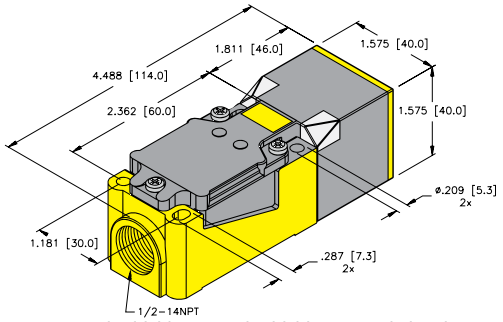
Rotatable Sensing Head with AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CK40-ADZ30X2-B1131 W/BS2.1 4280090	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5
Bi15U-CK40-ADZ30X2-B3131 W/B 2.1 4280091	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	B	2	A5
Bi15-CK40-AZ3X2-B1131 W/BS2.1 1335091		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CK40-AZ3X2-B3131 W/BS2.1 1335095		•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A6
Ni20-CK40-AZ3X2-B1131 W/BS2.1 1335291			20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CK40-AZ3X2-B3131 W/BS2.1 1335290			20	2-Wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A6
Ni25U-CK40-ADZ30X2-B1131 W/BS2.1 4280290	Uprox		25	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5
Ni25U-CK40-ADZ30X2-B3131 W/BS2.1 4280291	Uprox		25	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	B	2	A5
Ni35U-CK40-ADZ30X2-B1131 4280410	Uprox		35	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5

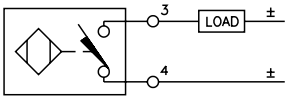
We reserve the right to make technical alterations without prior notice.

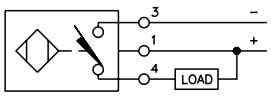
Rectangular Inductive Sensors | CP40

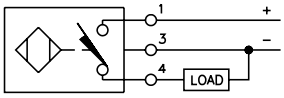
Rotatable Sensing Head with 2 and 3-wire DC Outputs and Terminal Chamber

Housing Style	Dimension Drawings
	A  CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP40

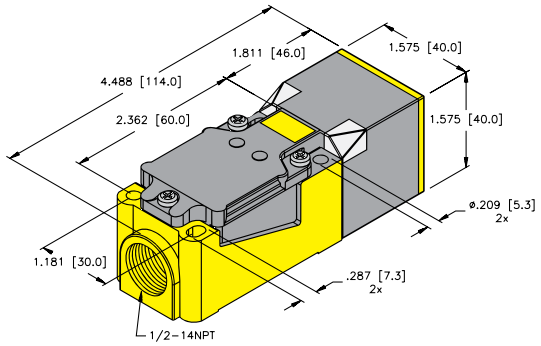
Rotatable Sensing Head with 2 and 3-wire DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-AP6X2 1623502	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi15-CP40-AN6X2 1623000		•	15	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-AN6X2/S10-S97 1623001	Low Temp. -40 °C	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-40 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-AP6X2/S10 16030		•	15	3-Wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi15-CP40-AD4X/S10 44770		•	15	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	A	1	A2
Bi20U-CP40-AP6X2/S10 1625826	Uprox+	•	20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Bi30U-CP40-AP6X2/S10 1625825	Uprox+	•	30	3-wire DC PNP	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	3	A4
Ni20-CP40-AP6X2/S10 16031			20	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni20-CP40-AD4X/S10 44771			20	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	A	1	A2
Ni25U-CP40-AP6X2/S10 1623701	Uprox		25	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni40U-CP40-AP6X2/S10 1623602	Uprox		40	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Ni50U-CP40-AN6X2/S10 1625824	Uprox+		50	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Ni50U-CP40-AP6X2/S10 1625842	Uprox+		50	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4

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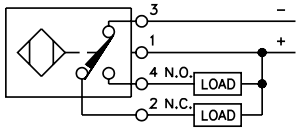
Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with Complementary Outputs and Terminal Chamber

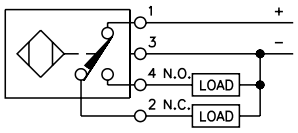
Housing Style	Dimension Drawings
	A  CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with Complementary Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-VN4X2/S10 1540511	Uprox	•	15	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi15U-CP40-VP4X2/S10 1540501	Uprox	•	15	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-VN4X2/S100 15250	Comp. Outputs	•	15	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CP40-VN4X2/S100-S10 15144	High Temp. 100 °C	•	15	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CP40-VP4X2/S10 15010	Comp. Outputs	•	15	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-VP4X2/S100-S10 15019	High Temp. 100 °C	•	15	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	2	A4
Bi20-CP40-VN4X2/S10 1579221	Ext. Range	•	20	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi20-CP40-VP4X2/S10 15012	Ext. Range	•	20	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CP40-VN4X2/S10 15251	Comp. Outputs		20	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CP40-VP4X2/S10 15011	Comp. Outputs		20	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CP40-VP4X2/S100-S10 15020	High Temp. 100 °C		20	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	2	A4
Ni35-CP40-VN4X2/S10 15254	Comp. Outputs		35	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni35-CP40-VP4X2/S10 15014	Comp. Outputs		35	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni40U-CP40-VN4X2/S10 1540611	Uprox, Ext. Range		40	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni40U-CP40-VP4X2/S10 1540601	Uprox, Ext. Range		40	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	2	A4
Ni50U-CP40-VN4X2/S10 1625807	Uprox+		50	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni50U-CP40-VP4X2 1538303	Uprox+		50	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	2	A4

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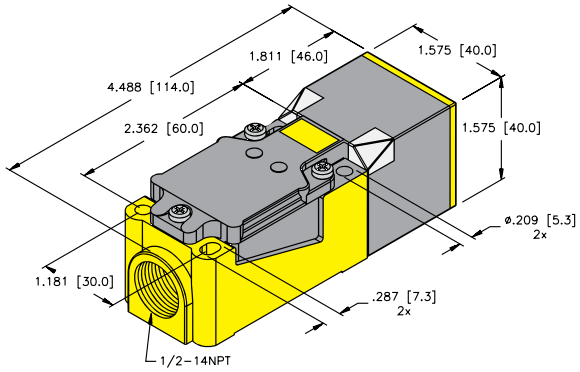
Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with AC/DC Outputs and Terminal Chamber

Housing Style	Dimension Drawings

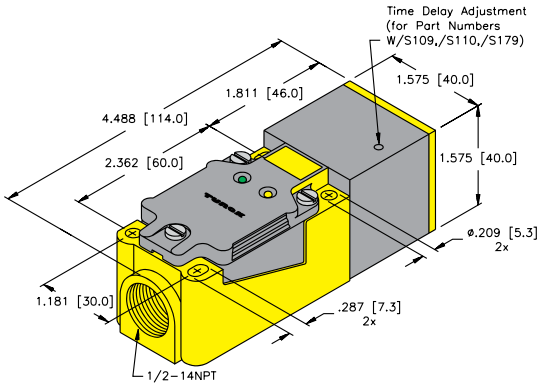


A



CP40 - Embeddable/Nonembeddable, Terminal Chamber

B



CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP40

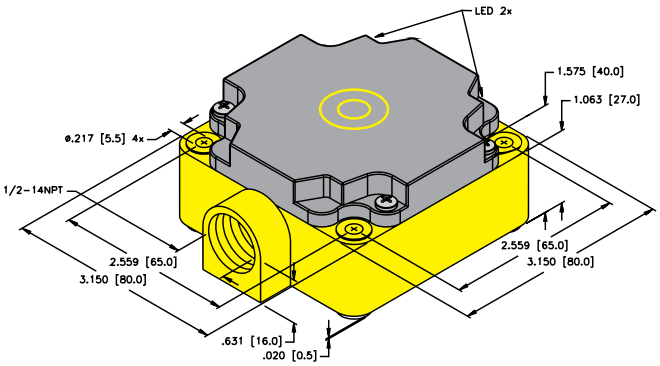
Rotatable Sensing Head with AC/DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-FDZ30X2 4280601	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FDZ30X2/S10 42241	Prog. Outputs	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FDZ30X2/S10-S97 42266	Low Temp. -40 °C	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-40 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FZ3X2/S109-S10 13737	Time Delay	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Bi15-CP40-FZ3X2/S110-S10 13735	Time Delay	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Bi15-CP40-FZ3X2/S10 13410	Prog. Outputs	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Bi15-CP40-FZ3X2/S10-S97 1341010	Low Temp. -40 °C	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-40 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Bi15-CP40-FZ3X2/S100-S10 13776	High Temp. 100 °C	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FDZ30X2/S10 42242	Prog. Outputs		20	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni20-CP40-FZ3X2/S100 13411	Prog. Outputs		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FZ3X2/S100-S10 13775	High Temp. 100 °C		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FZ3X2/S110-S10 13746	Time Delay		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni30-CP40-FZ3X2/S109-S10 13747	Time Delay		30	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni30-CP40-FZ3X2/S110-S10 13744	Time Delay		30	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni35-CP40-FDZ30X2/S10 42245	Prog. Outputs		35	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni35-CP40-FZ3X2/S10 13413	Prog. Outputs		35	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40U-CP40-FDZ30X2/S10 4280801	Uprox		40	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5
Ni40-CP40-FZ3X2/S100-S10 1374802	High Temp. 100 °C		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6

We reserve the right to make technical alterations without prior notice.

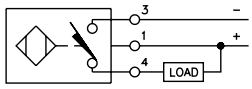
Rectangular Inductive Sensors | CP80

Top Sensing with 3 and 4-Wire DC Outputs and Terminal Chamber

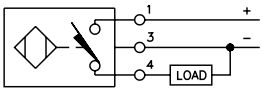
Housing Style	Dimension Drawings
	A  CP80 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

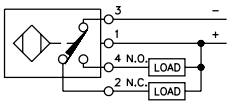
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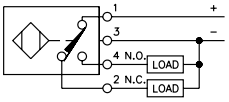
2



3



4



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP80

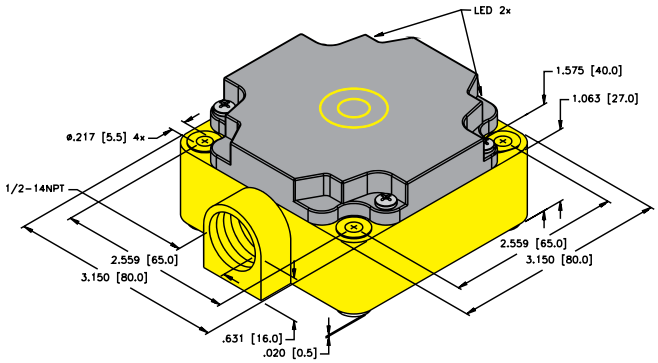
Top Sensing with 3 and 4-Wire DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi40-CP80-VN4X2/S10 1579800	Comp. Outputs	•	40	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi40-CP80-VP4X2/S10 15698	Comp. Outputs	•	40	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni40-CP80-VP4X2/S10 15015	Comp. Outputs		40	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni50-CP80-VN4X2/S10 15256	Comp. Outputs		50	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni50-CP80-VP4X2/S10 15016	Comp. Outputs		50	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni75U-CP80-AN6X2/S10 1623811	Uprox		75	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Ni75U-CP80-AP6X2/S10 1623801	Uprox		75	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Ni75U-CP80-VN4X2/S10 1540811	Uprox		75	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni75U-CP80-VP4X2/S10 1540801	Uprox		75	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	4	A4

We reserve the right to make technical alterations without prior notice.

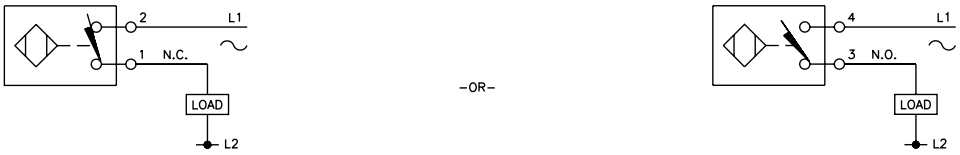
Rectangular Inductive Sensors | CP80

Top Sensing with AC/DC Outputs and Terminal Chamber

Housing Style	Dimension Drawings
	A  CP80 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP80

Top Sensing with AC/DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi40-CP80-FDZ30X2/S10 4230901	Prog. Outputs	•	40	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi40-CP80-FZ3X2/S10 1340401	Prog. Outputs	•	40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40-CP80-FZ3X2/S100 13415	Prog. Outputs		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40-CP80-FZ3X2/S100-S10 13453	High Temp. 100 °C		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni50-CP80-FZ3X2/S10 13410	Prog. Outputs		50	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni50-CP80-FDZ30X2/S100 42321	Prog. Outputs		50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni50-CP80-FDZ30X2/S100-S10 42290	High Temp. 100 °C		50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A5
Ni75U-CP80-FDZ30X2/S10 4280901	Uprox		75	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5

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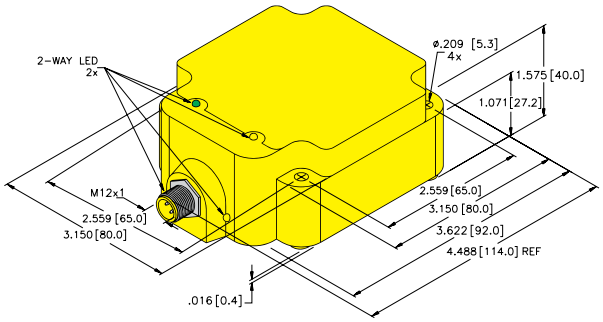
Rectangular Inductive Sensors | Q80

Top Sensing with 3 and 4-Wire DC or AC/DC Outputs

Housing Style	Dimension Drawings

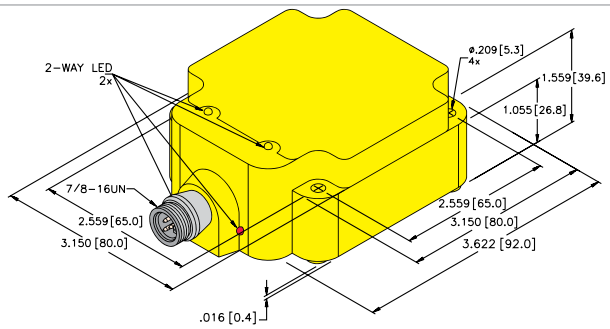


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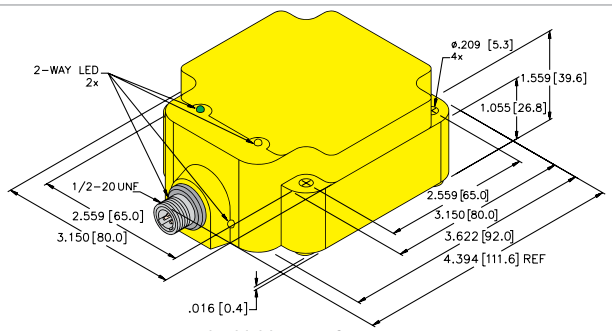
Q80 - Embeddable/Nonembeddable, Eurofast Connector

B



Q80 - Embeddable, Minifast Connector

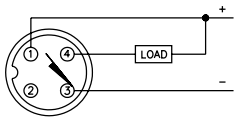
C



Q80 - Embeddable, Microfast Connector

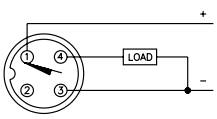
Wiring Diagrams/Mating Cordsets

1



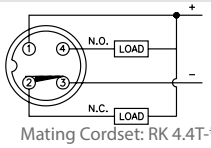
Mating Cordset: RK 4T-*

2



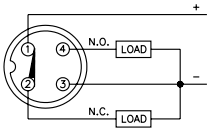
Mating Cordset: RK 4T-*

3



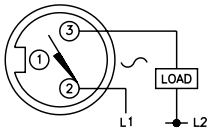
Mating Cordset: RK 4.4T-*

4



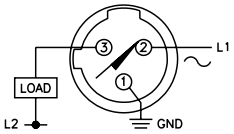
Mating Cordset: RK 4.4T-*

5



Mating Cordset: RKM 30-*M

6



Mating Cordset: KB 3T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤1.8 V
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current
	≥170 mA on 150 mA Load Current
	≥120 mA on 100 mA Load Current
Off-State (Leakage) Current:	≤0.1 mA
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)
	≤20 mA (Uprox+, Uprox 3)
Time Delay Before Availability:	≤8 ms
Power-On Effect:	Per IEC 947-5-2
Reverse Polarity Protection:	Incorporated
Wire-Break Protection:	Incorporated
Transient Protection:	Per EN 60947-5-2
Temperature Drift:	≤±10%
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA
	AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA (AC)
	≤1.5 mA (DC)
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q80

Top Sensing with 3 and 4-Wire DC or AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi50U-Q80-AP6X2-H1141 1608940	Uprox+	•	50	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Bi50U-Q80-VN4X2-H1141 1562001	Uprox+, Comp. Outputs	•	50	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Bi50U-Q80-VP4X2-H1141 15620	Uprox+, Comp. Outputs	•	50	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	4	A4
Bi50-Q80-ADZ30X2-B1131 4200310		•	50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	5	A5
Bi50-Q80-ADZ30X2-B3131 4200311		•	50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	C	6	A5
Ni75U-Q80-AN6X2-H1141 1625856	Uprox+		75	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4
Ni75U-Q80-AP6X2-H1141 1625855	Uprox+		75	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Ni75U-Q80-VP4X2-H1141 1625857	Uprox+, Comp. Outputs		75	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	4	A4

We reserve the right to make technical alterations without prior notice.

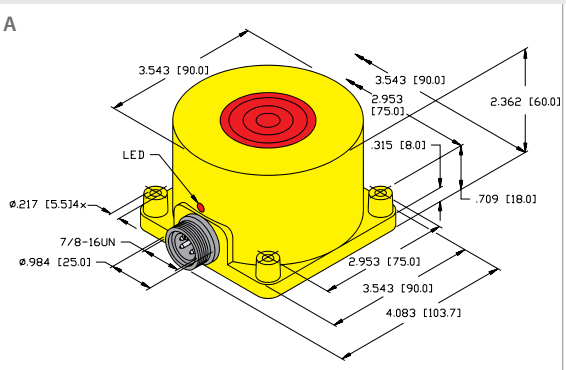
Rectangular Inductive Sensors | K90 & K90SR

Top Sensing with 4-Wire DC or AC/DC Outputs

Housing Style	Dimension Drawings

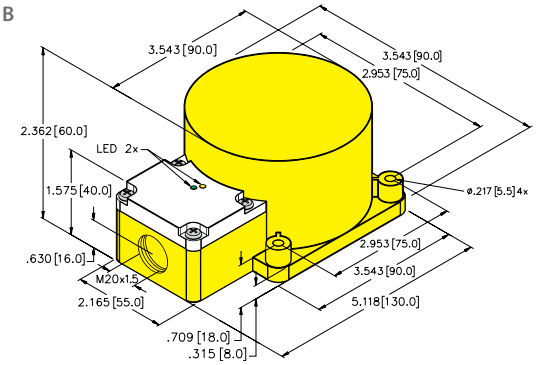


A



K90 - Nonembeddable, Minifast Connector

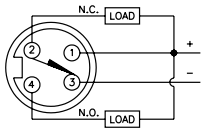
B



K90SR - Nonembeddable, Terminal Chamber

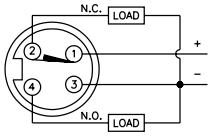
Wiring Diagrams/Mating Cordsets

1



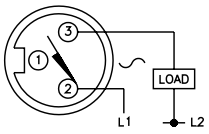
Mating Cordset: RK 40-*M

2



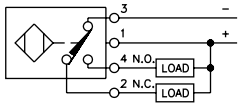
Mating Cordset: RK 40-*M

3

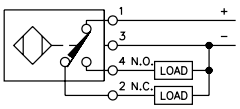


Mating Cordset: RK 30-*M

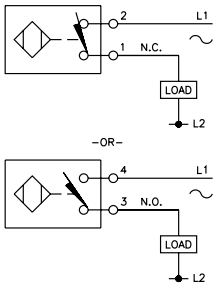
4



5



6



A4	3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)		
Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6	2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)		
Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | K90 & K90SR

Top Sensing with 4-Wire DC or AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni60-K90-VN4X-B2141 15203	Comp. Outputs		60	4-wire DC NPN	10-65 VDC	60	≤200	-25 to +70	IP67	PUR	PUR	N/A	YE	A	1	A4
Ni60-K90-VP4X-B2141 15103	Comp. Outputs		60	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PUR	PUR	N/A	YE	A	2	A4
Ni60-K90-AZ3X-B2131 13542			60	2-wire AC	20-250 VAC/10-300 VDC	20	≤500	-25 to +70	IP67	PBT	PBT	N/A	YE	A	3	A6
Ni60-K90SR-VN4X2 15740	Comp. Outputs		60	4-wire DC NPN	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	B	4	A4
Ni60-K90SR-VP4X2 15640	Comp. Outputs		60	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	B	5	A4
Ni60-K90SR-FZ3X2 13429	Prog. Outputs		60	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	6	A6
Ni100U-K90SR-VP4X2 1625834	Uprox+, Comp. Outputs		100	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	B	5	A4

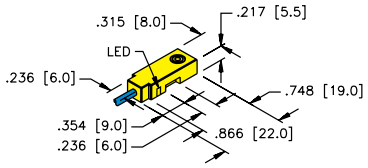
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

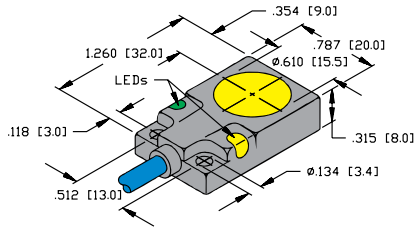
Dimension Drawings

A



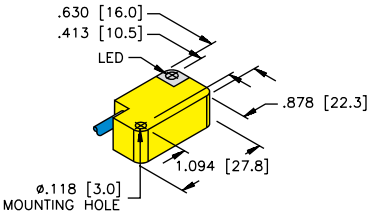
5.5 mm - Embeddable/Nonembeddable, Potted-In Cable

B



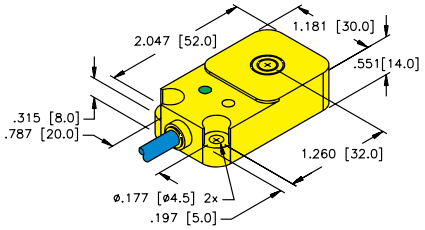
8.0 mm - Embeddable, Potted-In Cable

C



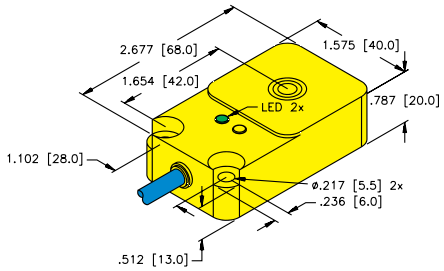
10 mm - Embeddable/Nonembeddable, Potted-In Cable

D



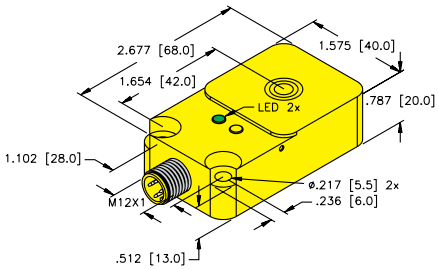
14 mm - Potted-In Cable

E



20 mm - Embeddable/Nonembeddable, Potted-In Cable

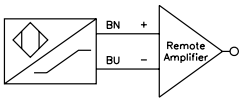
F



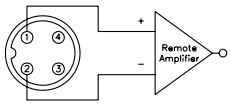
20 mm - Embeddable/Nonembeddable, Eurofast Connector

Wiring Diagrams/Mating Cordsets

1



2



Mating Cordset: RK 4.21T-*

A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q5.5K-Y1X 4055300		•	2	2-wire DC NAMUR	8.2 VDC nominal	2000	Remote	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	A	1	A1
Bi5-Q08-Y1X 4054000		•	5	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	Zinc	PA 12	N/A	YE	2M/TPU	B	1	A1
Bi2-Q10S-Y1X 4012130		•	2	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	YE	2M/PVC	C	1	A1
Bi10-Q14-Y1X 1608730		•	10	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/TPU	D	1	A1
Bi15-Q20-Y1X 1080020		•	15	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/TPU	E	1	A1
Bi15-Q20-Y1X-H1141 1080025		•	15	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	F	2	A1

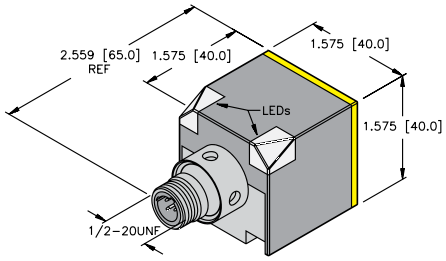
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

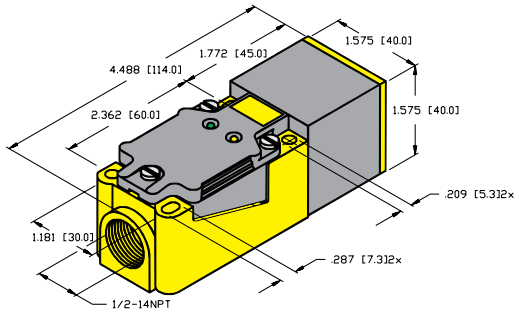
Dimension Drawings

A



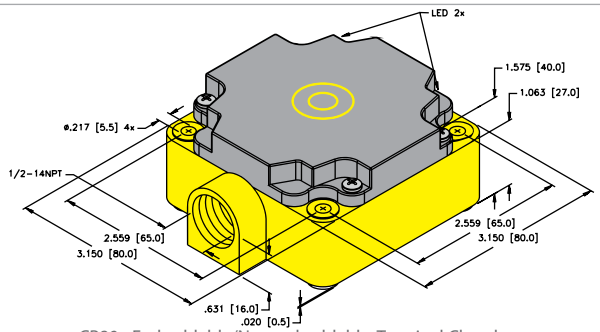
CK40 - Embeddable/Nonembeddable, Eurofast Connector

B



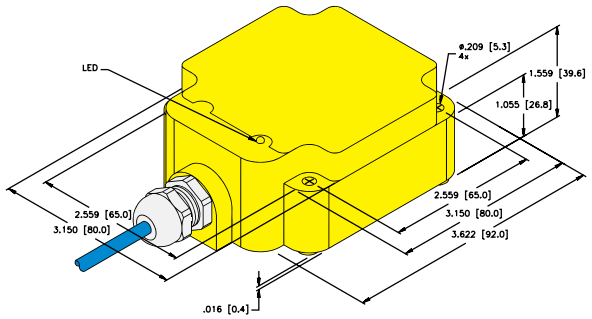
CP40 - Embeddable/Nonembeddable, Terminal Chamber

C



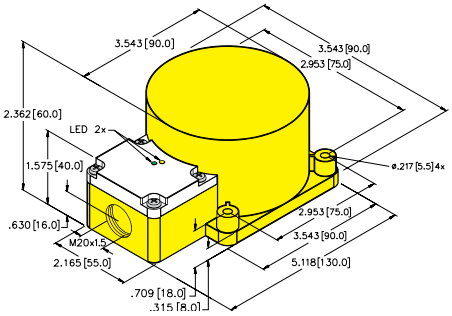
CP80 - Embeddable/Nonembeddable, Terminal Chamber

D



Q80 - Nonembeddable, Potted-In Cable

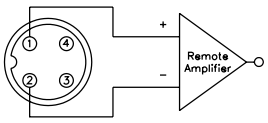
E



K90SR - Nonembeddable, Terminal Chamber

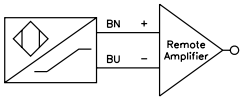
Wiring Diagrams/Mating Cordsets

1

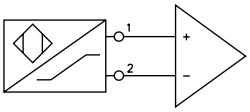


Mating Cordset: RK 4.21T-*

2



3



A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated current consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated current consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for		Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-CK40-Y1X-H1141 4065000		•	15	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	A	1	A1
Bi15-CP40-Y1X/S10 10120		•	15	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni20-CP40-Y1X/S10 10121			20	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni35-CP40-Y1X/S100-S10 1011126	High Temp. 100 °C		35	2-wire DC NAMUR	8.2 VDC nominal	80	Remote	-25 to +100	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni50-CP80-Y1/S10 10401			50	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	- -	C	3	A1
Ni60-Q80-Y1X 1008700			60	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	D	2	A1
Ni50-K90SR-Y1 10074			50	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	- -	E	3	A1

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Selection Guide

Embeddable/Nonembeddable Barrels					
					
Housing	**3 mm**	**4 mm**	**4 mm**	**4 mm**	**5 mm**
Sensing Range	**1 mm**	**1 mm**	**1 mm**	**1 mm**	**1 mm**
Pages	**B9**	**B9**	**B9**	**B11**	**B11**
Features					
2-wire					
3/4-wire	•	•	•	•	•
2-wire AC/DC					

Embeddable/Nonembeddable Barrels				
				
Housing	**5 mm**	**6.5 mm**	**6.5 mm**	**8 mm**
Sensing Range	**1 mm**	**1.5 - 6 mm**	**1.5 - 6 mm**	**1.5 - 2 mm**
Pages	**B11**	**B13 - 16**	**B13 - 16**	**B17**
Features		**Uprox**	**Uprox**	
2-wire				
3/4-wire	•	•	•	•
2-wire AC/DC				

Embeddable/Nonembeddable Barrels				
				
Housing	**8 mm**	**Side Sensing**	**Side Sensing**	**8 mm**
Sensing Range	**1.5 - 2 mm**	**1 - 1.5 mm**	**1.5 mm**	**1.5 - 6 mm**
Pages	**B17**	**B19**	**B19**	**B23 - 34**
Features	**Uprox**			**Uprox**
2-wire				•
3/4-wire	•	•	•	•
2-wire AC/DC				

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Inductive Barrel Sensor Selection Guide

Embeddable/Nonembeddable Barrels				
				
Housing	**8 mm**	**12 mm**	**12 mm**	**12 mm**
Sensing Range	**1.5 - 6 mm**	**2 - 10 mm**	**2 - 8 mm**	**2 - 10 mm**
Pages	**B35 - 42**	**B43 - 64**	**B59**	**B65 - 72**
Features		**Uprox**	**Uprox**	
2-wire	•	•		•
3/4-wire	•	•	•	•
2-wire AC/DC		•		•

Embeddable/Nonembeddable Barrels				
				
Housing	**12 mm**	**12 mm**	**18 mm**	**18 mm**
Sensing Range	**2 - 8 mm**	**2 - 8 mm**	**5 - 15 mm**	**2 - 10 mm**
Pages	**B73**	**B75**	**B77 - 104**	**B95** / **B103**
Features	**Uprox**	**Uprox**	**Uprox**	**Uprox**
2-wire		•	•	
3/4-wire	•	•	•	•
2-wire AC/DC	•		•	

Embeddable/Nonembeddable Barrels				
				
Housing	**18 mm**	**18 mm**	**18 mm**	**18 mm**
Sensing Range	**5 - 15 mm**	**5 - 12 mm**	**5 - 10 mm**	**5 - 12 mm**
Pages	**B105 - 110**	**B99 - 112**	**B113**	**B115**
Features	**Uprox**	**Uprox**	**Uprox**	**Uprox**
2-wire	•	•		
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

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Inductive Barrel Sensor Selection Guide

Embeddable/Nonembeddable Barrels				
				
Housing	**30 mm**	**30 mm**	**30 mm**	**30 mm**
Sensing Range	**10 - 30 mm**	**10 - 20 mm**	**10 - 30 mm**	**10 - 20 mm**
Pages	**B117 - 132**	**B127** **B143**	**B133 - 140**	**B141**
Features	**Uprox**	**Uprox**	**Uprox**	**Uprox**
2-wire	•	•	•	•
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

Embeddable/Nonembeddable Barrels				
				
Housing	**30 mm**	**30 mm**	**40 mm**	**47 mm**
Sensing Range	**10 - 20 mm**	**10 - 20 mm**	**30 mm**	**20 - 25 mm**
Pages	**B145**	**B145**	**B147**	**B147**
Features	**Uprox**			
2-wire				
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

Embeddable/Nonembeddable Barrels				
				
Housing	**47 mm**	**40 mm**	**47 mm**	**Variable**
Sensing Range	**20 - 25 mm**	**15 - 30 mm**	**25 - 40 mm**	**1 - 15 mm**
Pages	**B147**	**B149**	**B149**	**B151 - 162**
Features				
2-wire				•
3/4-wire	•	•	•	
2-wire AC/DC	•	•	•	

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Part Number Key

B	I	10	U	-		G	T	30		-	A	DZ	30	X2	Wiring Option*	Special Option Code**

Mounting
B = embeddable
N = nonembeddable

Principle of Operation
I = inductive

Rated Operating Distance (mm)

Sensing Characteristics
U = Uprox® sensor

Housing Material Modifier
E = stainless steel

Housing Style

Barrel - Metal
G = full threading, generally chrome plated brass
GS = threaded side sensor
H = smooth, chrome plated brass or stainless steel
HS = smooth side sensor
M = partial threading, chrome plated brass

Barrel - Plastic
K = smooth
P = full threading
S = partial threading
SK = side sensing/slot sensor, plastic housing

Primary Barrel Modifier
T = PTFE coated

Housing Diameter or Height (mm)

Secondary Barrel Modifier
CA = conduit adaptor
E = extended barrel length
EE = extra long barrel length
F = stainless steel face
FE = stainless steel face, extended barrel length
H = Stoneface®
K = short barrel length
M = medium barrel length
S = side sensing
SE = extended length
SK = right-angle terminal chamber
SR = straight terminal chamber
T = barb fitting at cable entry
TC = terminal chamber
WD = washdown IP68/IP69K

Output Function
A = normally open (N.O.)
DA = dynamic output (ring sensor), normally open
F = connection programmable (N.O or N.C.)
R = normally closed (N.C.)
V = complementary outputs: one N.O., one N.C.
Y0 = NAMUR output, requires switching amplifier
Y1 = NAMUR output, requires switching amplifier, ATEX Approved

Output
D = 2-wire DC (transistor output)
DZ = 2-wire AC/DC, (power MOSFET output)
G = 2-wire DC, low voltage drop
N = NPN transistor (current sinking)
P = PNP transistor (current sourcing)
Z = 2-wire AC or 2-wire AC/DC

Voltage Range

AC/DC: (No SCP)**
3 = 20-250 VAC, 10-300 VDC
14 = 20-132 VAC, 10-140 VDC
31 = 20-250 VAC, 10-300 VDC, plastic barrel
33 = 35-250 VAC, grounded metal barrel

AC/DC: (Latched SCP)
30 = 20-250 VAC, 10-300 VDC
32 = 20-250 VAC, 10-300 VDC
40 = 20-140 VAC/DC, high off-state current

DC:
4 = 10-65 VDC, polarity protected, pulsed SCP**
6 = 10-30 VDC, polarity protected, pulsed SCP
7 = 10-30 VDC, TTL compatible
8 = 20-30 VDC, polarity protected, pulsed SCP
41 = 10-55 VDC, polarity protected, pulsed SCP
44 = 10-55 VDC
45 = 8.4-64 Volts
**SCP = short-circuit and overload protection

Number of LEDs
(blank) = no LEDs
X = 1 LED
X2 = 2 LEDs

NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Part Number Key

Wiring Options*

A. Connectorized Sensor

Bi2-M12-AN6X - H1 1 4 1

Connector Family

B1 = Minifast®, 7/8"-16UN, metal, male
B2 = Minifast®, 7/8"-16UN, plastic, male
B3 = Microfast®, 1/2"-20UNF, metal, male
H1 = Eurofast®, M12x1, metal or plastic, male
V1 = Picofast®, snap and M8x1, metal, male (Q08 snap only)
V2 = Picofast®, snap and M8x1, male (Q08 only)

Connector/Sensor Transition

1 = straight
3 = straight with adapter
4 = right-angle with adapter

Factory Code

Example:
0 = non-standard wiring
1 = standard wiring
3 = N.C. DC output on pin 4
4 = N.O. 2-wire DC output on pin 4

Number of Pins

B. Potted Cable

Bi2-G12-AN6X 7M

Cable Length

(blank) = 2 meter cable
7M = 7 meter cable
*M = custom cable lengths available

C. Potted Cable with Molded Connector

Bi2-G12-Y0X - 0.2M - RS 4.21T

Cable Length

examples:
0.2M = 0.2 meters (minimum)
2M = 2 meter cable
7M = 7 meter cable

Standard Cordset Connector

AC: RSM 30 = Minifast, 7/8"-16UN, metal, male, 3-conductor
SB 3T = Microfast, 1/2"-20UNF, metal , male, 30 conductor
DC: RS 4T = Eurofast, M12x1, metal or plastic, male, 3-conductor
RS 4.2T = Eurofast, M12x1, metal or plastic, male, 2-conductor
RS 4.21T = Eurofast, M12x1, metal or plastic, male, NAMUR, 2-conductor
RS 4.4T = Eurofast, M12x1, metal or plastic, male, 4-conductor
RSM 40 = Minifast, 7/8"-16UN, metal, male, 4-conductor
PSG 3 = Picofast, snap, plastic, male, 3-conductor
PSG 3M = Picofast, M8x1, male, 3-conductor

Option Codes for Special or Custom-Built Sensors**

Bi 2-S12-AN7X /S100 or Bi10-M30-AN6X-H1141 /F2

examples:
/S34 = weld field immune
/S90 = TPU cable
/S97 = -40 °C (-40 °F) operating temperature
/S100 = +100 °C (+212 °F) operating temperature
/S1589 = barrel sensors with Weldguard® laminate
/S1610 = barrel sensors with tool steel sleeve and Weldguard® laminate

example:
/F2 = alternate oscillator frequency

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors

Mounting

Turck inductive proximity sensors are manufactured with a shielded coil, designated by "Bi" in the part number, and a nonshielded coil, designated by "Ni" in the part number. Embeddable (shielded) units may be safely flush-mounted in metal. Nonembeddable (nonshielded) units require a metal free area around the sensing face. Because of possible interference of the electromagnetic fields generated by the oscillators, minimum spacing is required between adjacent or opposing sensors.

It is good engineering practice to mount sensors horizontally or with the sensing face looking down. Avoid sensors that look up wherever considered, especially if metal filings and chips are present.

Maximum Locknut Torque Specifications

The locknut torque should be considered for all threaded sensors to prevent the housing from being over stressed. The values below pertain to the locknut provided with each sensor. Liquid thread sealants of an anaerobic base, such as Loctite, are recommended if strong vibrations are likely.

Caution: Sensor barrels are typically brass. Consider break torque when selecting grade of thread sealant.

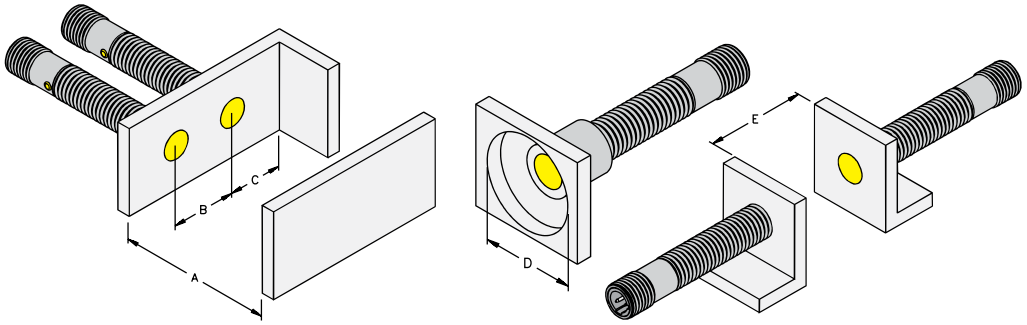
Barrel Size	Metal Barrel	Plastic Barrel
5 mm	5 Nm (3.7 ft-lb)	- - - -
8 mm	5 Nm (3.7 ft-lb)	- - - -
8 mm (M08 Ferrite)	7 Nm (5.2 ft-lb)	- - - -
12 mm	10 Nm (7.4 ft-lb)	1 Nm (0.7 ft-lb)
18 mm	25 Nm (18 ft-lb)	2 Nm (1.4 ft-lb)
30 mm	75 Nm (55 ft-lb)	5 Nm (3.7 ft-lb)
47 mm	90 Nm (66 ft-lb)	- - - -

Drill Hole Sizes for Metric Threads

Thread Size	Pitch	Thru Hole (mm)	Tap Hole Dia. (mm)	Thru Hole (in)	Tap Hole Dia. (in)
M5 x 0.5	0.5	5.0	4.5	13/64	5/32
M8 x 1	1.0	8.0	7	21/64	1/4
M12 x 1	1.0	12.0	11	31/64	13/32
M18 x 1	1.0	18.0	17	23/32	41/64
M30 x 1.5	1.5	30.0	28	1-3/16	1-5/64
PG 9	1.41	15.2	14	5/8	1/2
PG 13.5	1.41	20.4	19	13/16	23/32
PG 36	1.59	47.0	45.5	1-7/8	1-47/64

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Embeddable Mounting Considerations



Flush Mountable

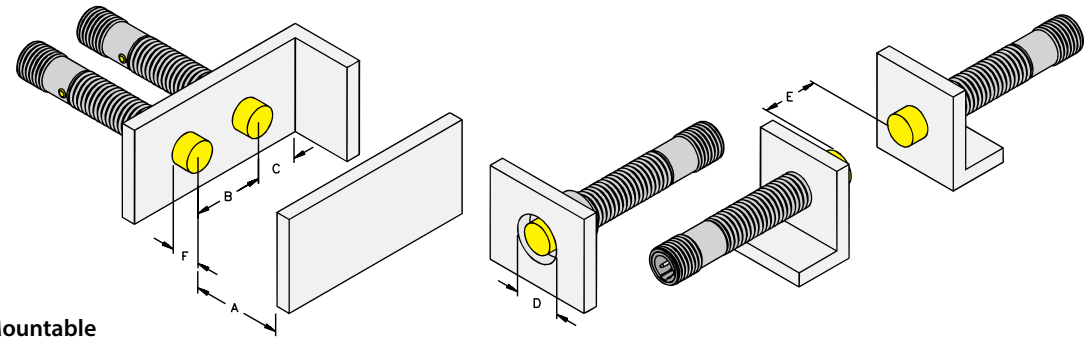
Sensor Type	Barrel Diameter	A	B	C	D	E
Bi1	3.00	3.00	6.00	4.50	9.00	9.00
Bi1U	4.00	3.00	8.00	6.00	12.00	6.00
Bi1	4.00	3.00	8.00	6.00	12.00	6.00
Bi1	5.00	3.00	10.00	8.00	15.00	6.00
Bi1U	5.00	3.00	10.00	7.50	15.00	6.00
Bi1.5U	6.50	5.00	13.00	10.00	20.00	9.00
Bi1.5	6.50	5.00	13.00	10.00	20.00	9.00
Bi2	6.50	6.00	13.00	10.00	20.00	12.00
Bi1.5U	8.00	5.00	16.00	12.00	24.00	9.00
Bi1.5	8.00	5.00	16.00	12.00	24.00	9.00
Bi2	8.00	6.00	16.00	12.00	24.00	12.00
Bi2U	8.00	6.00	16.00	12.00	24.00	12.00
Bi3U	8.00	9.00	16.00	12.00	24.00	18.00
Bi2	11.00	6.00	22.00	17.00	33.00	12.00
Bi2	12.00	6.00	24.00	18.00	36.00	12.00
Bi3U	12.00	9.00	24.00	18.00	36.00	18.00
Bi3	12.00	9.00	24.00	18.00	36.00	18.00
Bi4	12.00	12.00	24.00	18.00	36.00	24.00
Bi4U	12.00	12.00	24.00	18.00	36.00	24.00
Bi6U	12.00	18.00	24.00	18.00	36.00	36.00
Bi5U	18.00	15.00	36.00	27.00	54.00	30.00
Bi5	18.00	15.00	36.00	27.00	54.00	30.00
Bi7	18.00	21.00	36.00	27.00	54.00	42.00
Bi8U	18.00	24.00	36.00	27.00	54.00	48.00
Bi8	18.00	24.00	36.00	27.00	54.00	48.00
Bi10U	18.00	30.00	36.00	27.00	54.00	60.00
Bi10U	30.00	27.00	60.00	45.00	90.00	54.00
Bi10	30.00	30.00	60.00	45.00	90.00	60.00
Bi12	30.00	36.00	60.00	45.00	90.00	72.00
Bi15	30.00	45.00	60.00	45.00	90.00	90.00
Bi15U	30.00	45.00	60.00	45.00	90.00	90.00
Bi 20U	30.00	60.00	60.00	45.00	90.00	120.00
Bi 20	47.00	60.00	94.00	71.00	141.00	120.00
Bi 25	47.00	75.00	94.00	71.00	141.00	150.00

Dimensions are in mm.

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Inductive Barrel Sensors

Nonembeddable Mounting Characteristics

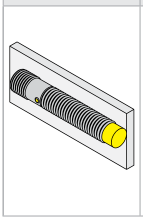
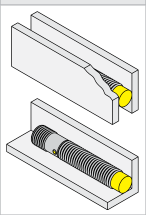
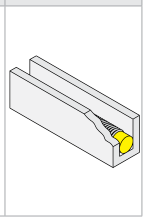


Non-Flush Mountable

Sensor Type	Barrel Diameter	A	B	C	D	E	F	1 Side	2 Side	3 Side
Ni3	6.50	9.00	20.00	10.00	20.00	18.00	6.00			
Ni3	8.00	9.00	24.00	12.00	24.00	18.00	6.00			
Ni4U	8.00	12.00	32.00	12.00	32.00	24.00	8.00			
Ni4	8.00	12.00	24.00	12.00	24.00	24.00	8.00			
Ni6U	8.00	18.00	32.00	12.00	36.00	36.00	12.00			
Ni5	11.00	15.00	33.00	17.00	33.00	30.00	10.00			
Ni4	12.00	12.00	36.00	18.00	36.00	24.00	8.00			
Ni5	12.00	15.00	36.00	18.00	36.00	30.00	10.00			
Ni8U	12.00	24.00	48.00	18.00	45.00	48.00	16.00	Sr=6 mm*		
Ni8	12.00	24.00	36.00	18.00	36.00	48.00	16.00			
Ni10U	12.00	30.00	48.00	18.00	36.00	60.00	20.00			
Ni8	18.00	24.00	54.00	27.00	54.00	48.00	16.00			
Ni10	18.00	30.00	54.00	27.00	54.00	60.00	20.00			
Ni12U	18.00	36.00	70.00	27.00	54.00	72.00	24.00			
Ni14	18.00	42.00	54.00	27.00	54.00	84.00	20.00			
Ni15U	18.00	45.00	70.00	27.00	54.00	90.00	30.00			
Ni10	20.00	30.00	60.00	30.00	60.00	60.00	20.00			
Ni15	30.00	45.00	90.00	45.00	90.00	90.00	20.00			
Ni20U	30.00	60.00	90.00	45.00	90.00	120.00	40.00	Sr=15 mm*	Sr=12 mm*	Sr=11 mm*
Ni20	30.00	60.00	90.00	45.00	90.00	120.00	20.00			
Ni30U	30.00	135.00	90.00	45.00	90.00	180.00	60.00			
Ni20	40.00	60.00	120.00	60.00	120.00	120.00	40.00			
Ni30	40.00	90.00	120.00	60.00	120.00	180.00	40.00			
Ni25	47.00	75.00	141.00	71.00	141.00	150.00	40.00			
Ni40	47.00	120.00	141.00	71.00	141.00	240.00	40.00			

Dimensions are in mm.

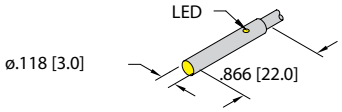
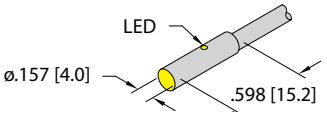
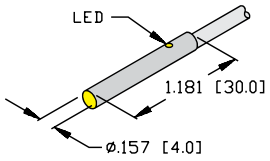
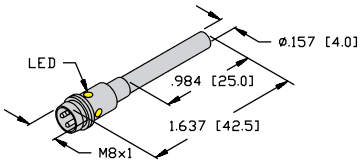
* The above Uprox Ni sensors with DC outputs and Stainless barrels can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.

1 Side	2 Side	3 Side
		

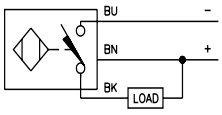
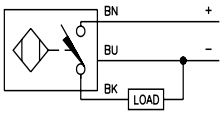
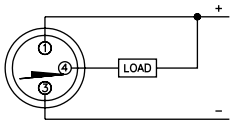
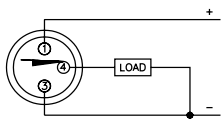
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 3 mm, 4 mm

Embeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  3 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  4 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  4 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	D  4 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 3 mm, 4 mm

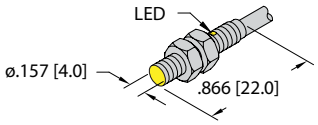
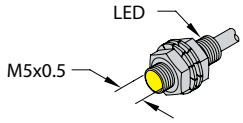
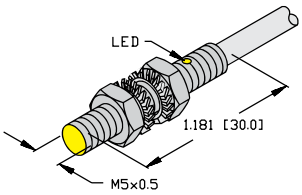
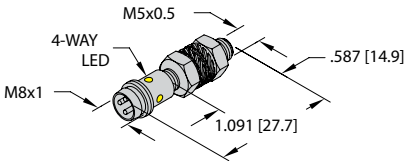
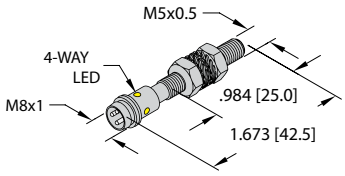
Embeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1U-EH04-AN6X 4602114	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1U-EH04-AP6X 4602112	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EH04-AN6X 4609640		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1-EH04-AP6X 4609540		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EH04K-AN6X 4609768	Short Barrel	1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1-EH04K-AP6X 4609767	Short Barrel	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1-EH03-AN6X 1619326		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-EH03-AP6X 1619325		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1U-EH04-AN6X-V1331 4602115	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1U-EH04-AP6X-V1331 4602113	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi1-EH04-AN6X-V1331 4608540		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1-EH04-AP6X-V1331 4608440		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4

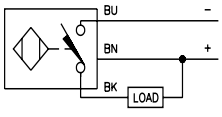
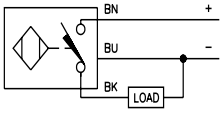
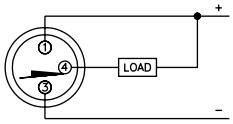
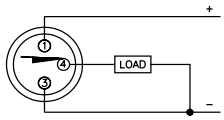
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm

Embeddable Threaded Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  4 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  5 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
C  5 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	D  5 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  5 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm

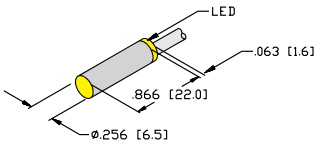
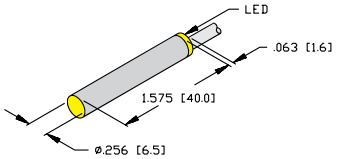
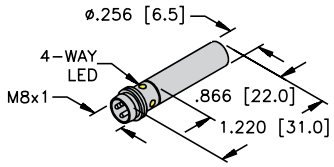
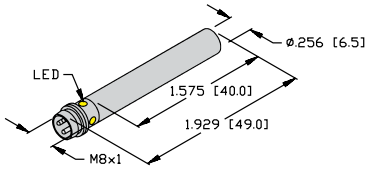
Embeddable Threaded Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1U-EG05-AN6X 4602118	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1U-EG05-AP6X 4602116	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EG05-AN6X 4609840		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1-EG05-AP6X 4609740		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EG05K-AN6X 4609764	Short Barrel	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1-EG05K-AP6X 4609765	Short Barrel	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1-EG04-AN6X 1619328		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-EG04-AP6X 1619327		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1U-EG05-AN6X-V1331 4602119	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Bi1U-EG05-AP6X-V1331 4602117	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4
Bi1-EG05-AN6X-V1331 4608740		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Bi1-EG05-AP6X-V1331 4608640		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4
Bi1-EG05K-AP6X-V1331 4609766	Short Barrel	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4

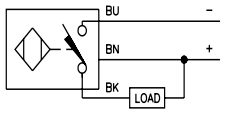
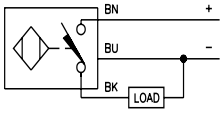
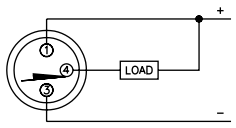
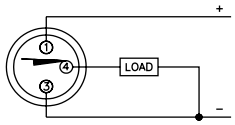
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

Embeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  6.5 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	D  6.5 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
		 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

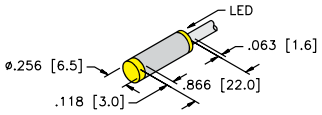
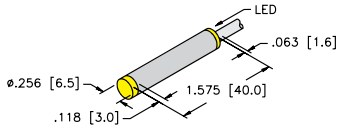
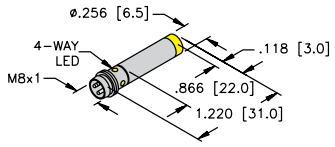
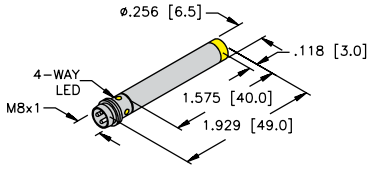
Embeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EH6.5-AN6X 4281170	Uprox	2	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi2U-EH6.5-AP6X 4281150	Uprox	2	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi2-EH6.5-AN6X 4612300		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi2-EH6.5-AP6X 4612200		2	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi2-EH6.5K-AN6X 4610100	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	1	A4
Bi2-EH6.5K-AP6X 4610000	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	2	A4
Bi1.5-EH6.5-AN6X 4612100		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi1.5-EH6.5-AP6X 4612000		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi1.5-EH6.5-AP6X/S100 4612001	High Temp. 100 °C	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi1.5-EH6.5K-AN6X 4610640	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	1	A4
Bi1.5-EH6.5K-AP6X 4610540	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	2	A4
Bi2U-EH6.5-AN6X-V1131 4281180	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP68	SS	PA 12	N/A	YE	--	D	3	A4
Bi2U-EH6.5-AP6X-V1131 4281160	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Bi2-EH6.5-AN6X-V1131 4612320		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi2-EH6.5-AP6X-V1131 4612220		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi2-EH6.5K-AN6X-V1131 4610120	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Bi2-EH6.5K-AP6X-V1131 4610020	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4
Bi1.5-EH6.5-AN6X-V1131 4612120		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1.5-EH6.5-AP6X-V1131 4612020		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi1.5-EH6.5K-AN6X-V1131 4610840	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Bi1.5-EH6.5K-AP6X-V1131 4610740	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4

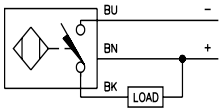
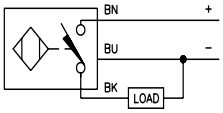
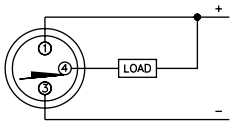
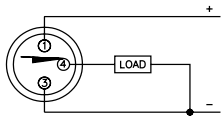
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

Nonembeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  6.5 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable	B  6.5 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable
C  6.5 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect	D  6.5 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

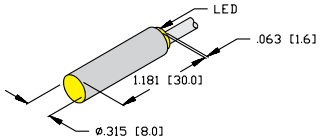
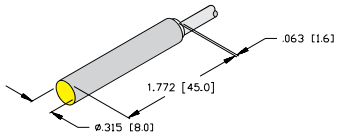
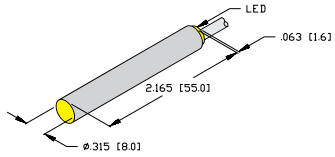
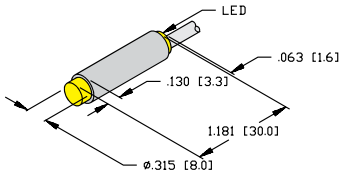
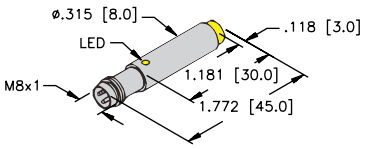
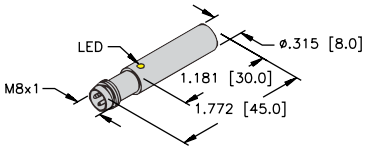
Nonembeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni4U-EH6.5-AP6X 4600680	Uprox	4	3-wire DC PNP	10-30 VDC	3000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-EH6.5-AN6X 4612500		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Ni3-EH6.5-AP6X 4612400		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-EH6.5K-AN6X 4610300	Short Barrel	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Ni3-EH6.5K-AP6X 4610200	Short Barrel	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Ni6U-EH6.5-AP6X-V1131 4631510	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Ni4U-EH6.5-AN6X-V1131 4600683	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	--	D	3	A4
Ni4U-EH6.5-AP6X-V1131 4600681	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Ni3-EH6.5-AN6X-V1131 4612520		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Ni3-EH6.5-AP6X-V1131 4612420		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Ni3-EH6.5K-AN6X-V1131 4610320	Short Barrel	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Ni3-EH6.5K-AP6X-V1131 4610220	Short Barrel	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4

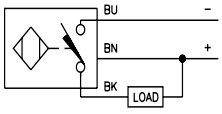
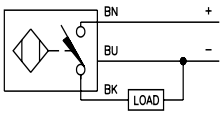
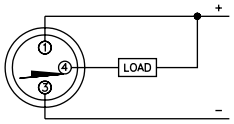
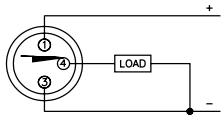
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable and Nonembeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	D  8 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable	E  8 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect
F  8 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect		

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable and Nonembeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-H08K-AN6X 1604341	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-H08K-AP6X 1604331	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-H08M-AP6X 1604301		1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-H08-AN6X 16143		1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-H08-AP6X 16043		1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Ni2-H08K-AN6X 16147	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	D	1	A4
Ni2-H08K-AP6X 16047	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	D	2	A4
Bi1.5-H08K-AN6X-V1131 1604340	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	--	F	3	A4
Bi1.5-H08K-AP6X-V1131 1604330	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	--	F	4	A4
Ni2-H08K-AN6X-V1131 16148	Short Barrel	2	3-wire DC NPN	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Ni2-H08K-AP6X-V1131 16048	Short Barrel	2	3-wire DC PNP	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4

We reserve the right to make technical alterations without prior notice.

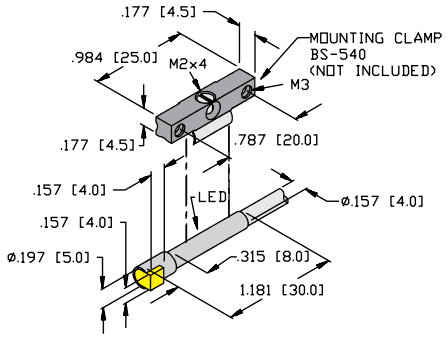
Inductive Barrel Sensors | 5 mm, 8 mm

Embeddable Side Sensing Metal Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings

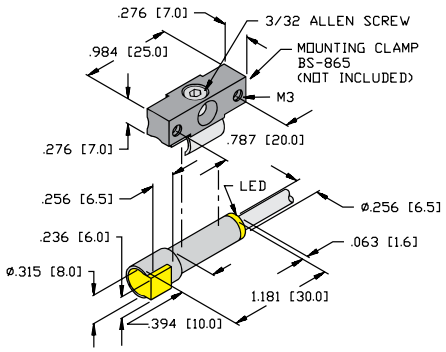


A



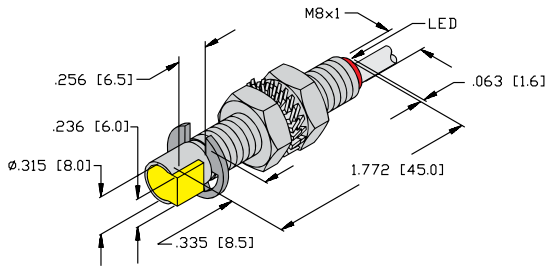
5 mm - Embeddable, Side Sensing, Miniature Smooth Barrel, Potted-In Cable

B



8 mm - Embeddable, Side Sensing, Miniature Smooth Barrel, Potted-In Cable

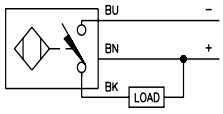
C



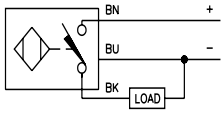
8 mm - Embeddable, Miniature Threaded Barrel, Side Sensing, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 5 mm, 8 mm

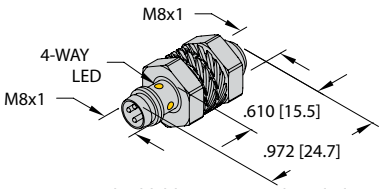
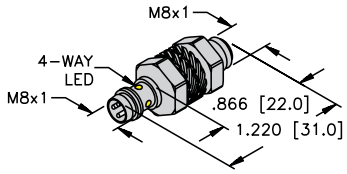
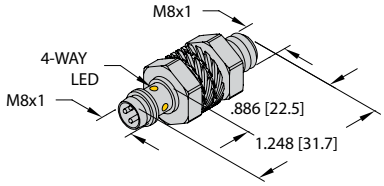
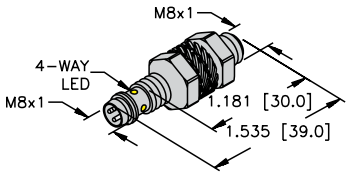
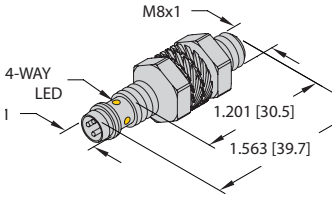
Embeddable Side Sensing Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-HS865-AN6X 4604301	Side Sensing	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1.5-HS865-AP6X 4604201	Side Sensing	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-GS880-AN6X 4604501	Side Sensing	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-GS880-AP6X 4604401	Side Sensing	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-HS540-AN6X 4604101	Side Sensing	1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-HS540-AP6X 4604001	Side Sensing	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4

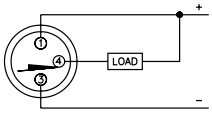
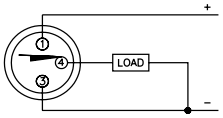
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	B  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect
C  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	D  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

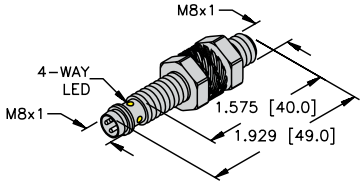
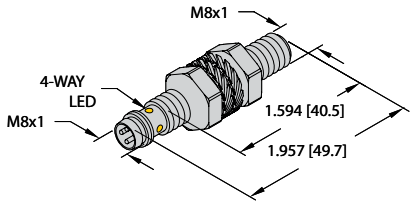
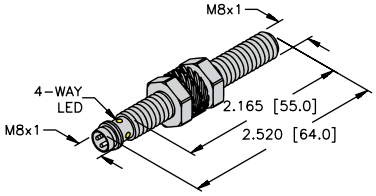
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X-V1131 4602423	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	1	A4
Bi3U-EMT08-AN6X-V1131 4602157	Uprox3, PTFE	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	1	A4
Bi3U-EM08-AP6X-V1131 4602413	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	2	A4
Bi3U-EMT08-AP6X-V1131 4602156	Uprox3, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	2	A4
Bi3-M08-AN6X-V1131 4602914		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	1	A4
Bi3-M08-AP6X-V1131 4602911		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	2	A4
Bi3-M08KK-AN6X-V1131 4602942	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	1	A4
Bi3-M08KK-AP6X-V1131 4602939	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Bi2-EG08K-AN6X-V1131 4669550		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	D	1	A4
Bi2-EG08K-AP6X-V1131 4669450		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	D	2	A4
Bi2-G08K-AP6X-V1131 4672803		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	D	2	A4
Bi2-M08K-AN6X-V1131 4602965		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	1	A4
Bi2-M08K-AP6X-V1131 4602968		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Bi1.5-EG08K-AN6X-V1131 4672540		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A4
Bi1.5-EG08K-AP6X-V1131 4672440		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4

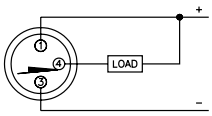
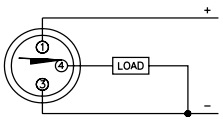
Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect
B  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	C  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets	
1  Mating Cordset: PKG 3M-*	2  Mating Cordset: PKG 3M-*; PKG 3M-*/S1587

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

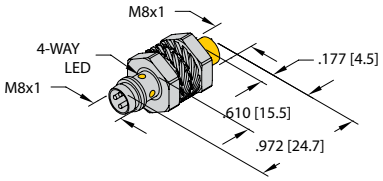
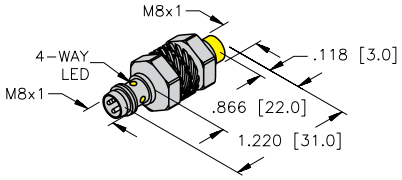
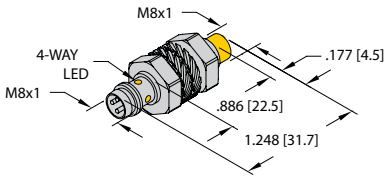
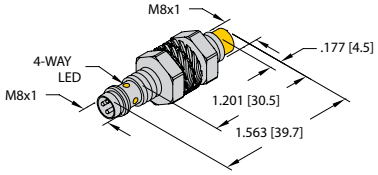
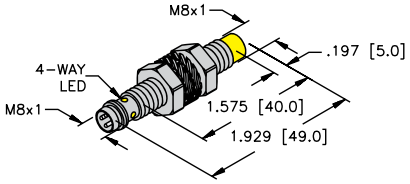
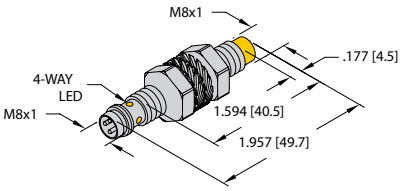
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X-V1131 4602036	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	C	1	A4
Bi2U-EG08-AP6X-V1131 4602033	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	C	2	A4
Bi2-EG08-AN6X-V1131 4602150		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	1	A4
Bi2-EG08-AP6X-V1131 4602050		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Bi2-EG08-AP6X-V1131/S1589 46020501	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	C	2	A4
Bi2-EGT08-AP6X-V1131/S100 4602263	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	TC	N/A	YE	C	2	A4
Bi2-EGT08-AP6X-V1131/S100/S1589 4602072	PTFE, High Temp. 100 °C, Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	WG	N/A	YE	C	2	A4
Bi2-G08-AP6X-V1131 4602002		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Bi2-M08E-AN6X-V1131 4602953		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	1	A4
Bi2-M08E-AP6X-V1131 4602956		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	2	A4
Bi1.5U-EG08-AN6X-V1131 4600530	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	1	A4
Bi1.5U-EG08-AP6X-V1131 4600520	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi1.5-EG08-AN6X-V1131 4602350		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A4
Bi1.5-EG08-AP6X-V1131 4602220		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4

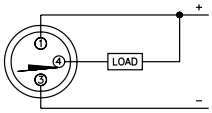
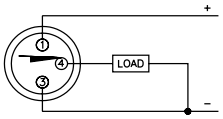
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	B  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect
C  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	D  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect
F  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect		

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

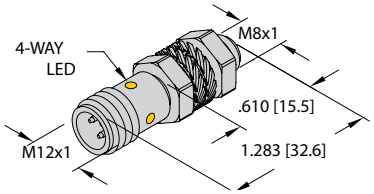
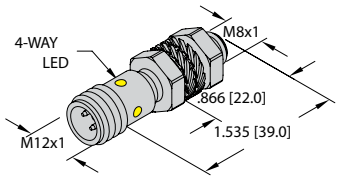
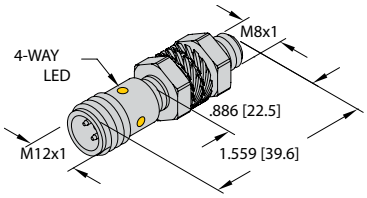
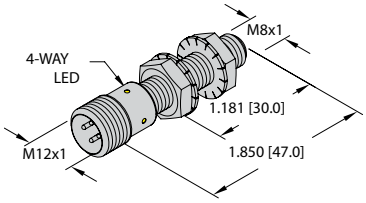
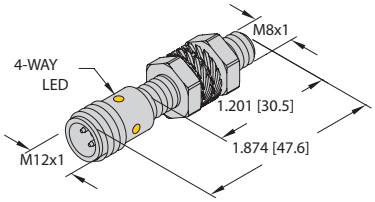
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

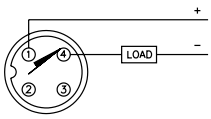
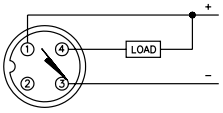
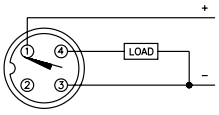
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X-V1131 4635804	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	E	1	A4
Ni6U-EG08-AP6X-V1131 4635801	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	E	2	A4
Ni5-M08-AN6X-V1131 4602924		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	D	1	A4
Ni5-M08-AP6X-V1131 4602921		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	D	2	A4
Ni5-M08KK-AN6X-V1131 4602949	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	A	1	A4
Ni5-M08KK-AP6X-V1131 4602946	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	A	2	A4
Ni4U-EG08-AN6X-V1131 4600630	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	E	1	A4
Ni4U-EG08-AP6X-V1131 4600620	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	E	2	A4
Ni3-M08E-AN6X-V1131 4602833		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	F	1	A4
Ni3-M08E-AP6X-V1131 4602836		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	F	2	A4
Ni3-M08K-AN6X-V1131 4602849		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	C	1	A4
Ni3-M08K-AP6X-V1131 4602853		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	C	2	A4
Ni3-EG08-AN6X-V1131 4602850		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	E	1	A4
Ni3-EG08-AP6X-V1131 4602750		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	E	2	A4
Ni3-EG08K-AN6X-V1131 4669750		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A4
Ni3-EG08K-AP6X-V1131 4669650		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	B  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
C  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	D  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	E  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets		
1  Mating Cordset: RK 4.23T-*	2  Mating Cordset: RK 4T-*	3  Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

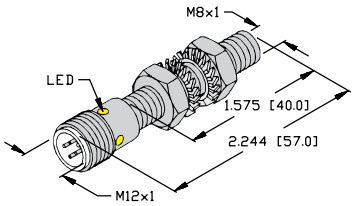
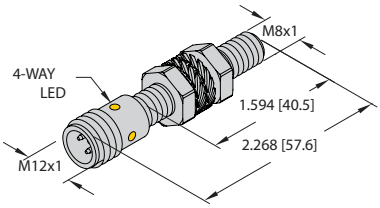
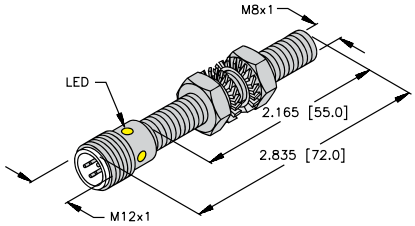
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X-H1341 4602422	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	2	A4
Bi3U-EMT08-AN6X-H1341 4602158	Uprox3, PTFE	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	2	A4
Bi3U-EM08-AP6X-H1341 4602412	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	3	A4
Bi3U-EMT08-AP6X-H1341 4602156	Uprox3, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	3	A4
Bi3-M08-AN6X-H1341 4602915		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	2	A4
Bi3-M08-AP6X-H1341 4602912		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	3	A4
Bi3-M08KK-AN6X-H1341 4602943	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Bi3-M08KK-AP6X-H1341 4602940	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	3	A4
Bi2-EG08K-AG41X-H1341 4562011		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A2
Bi2-EG08K-AG41X-H1341/S1589 4562090	Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Bi2-EGT08K-AG41X-H1341/S1589 4602599	PTFE, Short barrel, Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Bi2-EG08K-AN6X-H1341 4669560		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Bi2-EG08K-AP6X-H1341 4669460		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4
Bi2-EG08K-AP6X-H1341/S1589 4669486	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	B	3	A4
Bi2-M08K-AN6X-H1341 4602964		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Bi2-M08K-AP6X-H1341 4602967		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	3	A4
Bi1.5-EG08K-AN6X-H1341 4669150		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Bi1.5-EG08K-AP6X-H1341 4669050		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4

Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

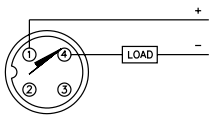
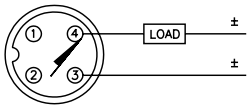
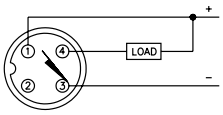
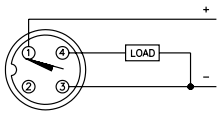
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
B  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	C  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4.23T-*	2  Mating Cordset: RK 4.23T-*
3  Mating Cordset: RK 4T-*; RK 4T-*/S1587	4  Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2 — **2-wire DC - (AD, RD, AG)**

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X-H1341 4602037	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-35 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Bi2U-EG08-AP6X-H1341 4602034	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-35 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi2-EG08-AG41X-H1341 4562001		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A2
Bi2-EG08-AG41X-H1341/S1589 4562095	Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	A	1	A2
Bi2-EG08-AN6X-H1341 4602160		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi2-EG08-AN6X-H1341/S1589 4602182	Weldguard	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi2-EG08-AP6X-H1341 4602060		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi2-EG08-AP6X-H1341/S1589 4602086	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	4	A4
Bi2-EGT08-AP6X-H1341/S100 4602257	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	TC	TC	N/A	YE	A	4	A4
Bi2-EG08-VN6X-H1341 4602521	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	3000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi2-EG08-VP6X-H1341 S4602522	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	3000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	6	A4
Bi2-G08-AN6X-H1341 46026		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi2-G08-AP6X-H1341 46025		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	4	A4
Bi2-M08E-AN6X-H1341 4602952		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	B	3	A4
Bi2-M08E-AP6X-H1341 4602955		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	B	4	A4
Bi1.5U-EG08-AN6X-H1341 4600550	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi1.5U-EG08-AP6X-H1341 4600540	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi1.5U-EG08-AP6X-H1341/S1589 46005401	Uprox, Weldguard	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	WG	N/A	YE	A	4	A4
Bi1.5U-EGT08-AP6X-H1341 4600555	Uprox, PTFE	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi1.5-EG08-AD6X-H1341 4600203		1.5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A2
Bi1.5-EG08-AN6X-H1341 4602360		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi1.5-EG08-AP6X-H1341 4602260		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi1.5-G08-AN6X-H1341 4603700		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi1.5-G08-AN7X-H1341 4701126	TTL Compatible	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi1.5-G08-AP6X-H1341 4603600		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	4	A4

We reserve the right to make technical alterations without prior notice.

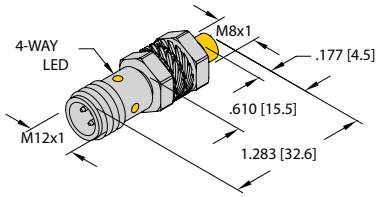
Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings

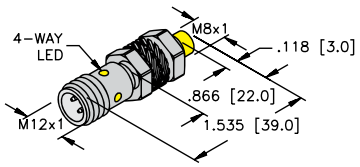


A



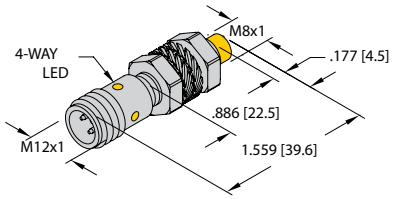
8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

B



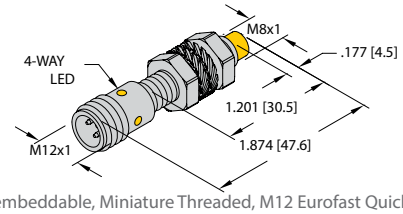
8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

C



8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

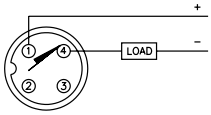
D



8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

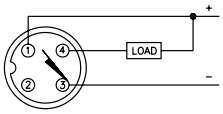
Wiring Diagrams/Mating Cordsets

1



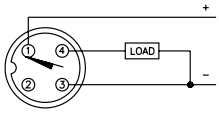
Mating Cordset: RK 4.23T-*

2



Mating Cordset: RK 4T-*

3



Mating Cordset: RK 4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

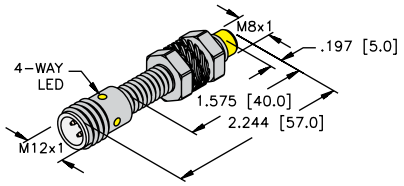
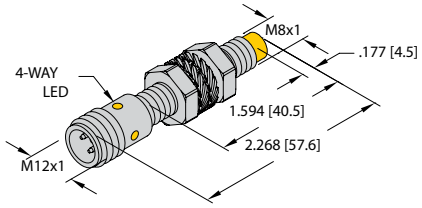
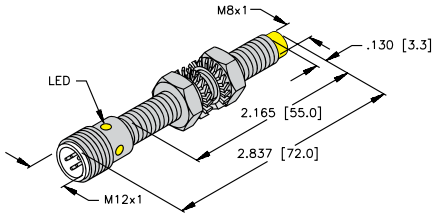
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni5-M08-AN6X-H1341 4602925		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	D	2	A4
Ni5-M08-AP6X-H1341 4602922		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	D	3	A4
Ni5-M08KK-AN6X-H1341 4602950	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Ni5-M08KK-AP6X-H1341 4602947	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	3	A4
Ni4-EG08K-AG41X-H1341 4561011		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A2
Ni4-EG08K-AG41X-H1341/S1589 4561090	Weldguard	4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Ni3-EG08K-AN6X-H1341 4669760		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Ni3-EG08K-AP6X-H1341 4669660		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4
Ni3-M08K-AN6X-H1341 4602848		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Ni3-M08K-AP6X-H1341 4602852		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	3	A4

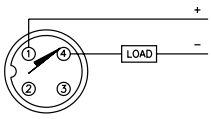
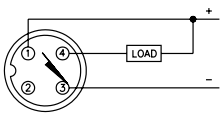
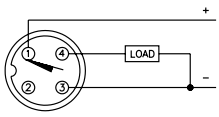
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
B  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	C  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2	3
 	 	
Mating Cordset: RK 4.23T-*; RK 4.23T-*/S1587	Mating Cordset: RK 4T-*;	Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

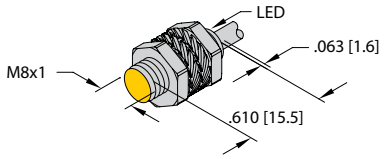
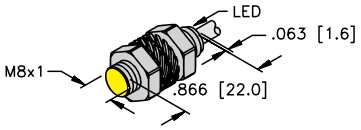
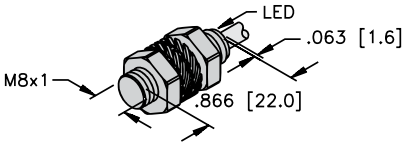
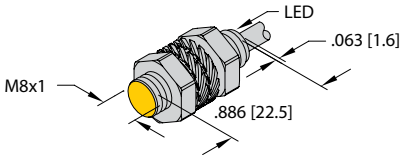
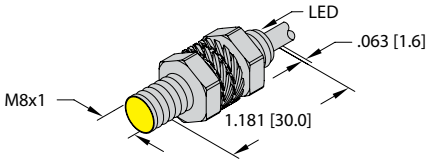
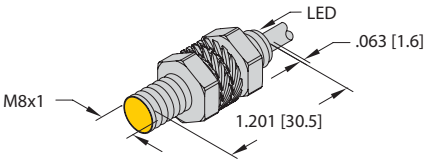
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X-H1341 4635805	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	A	2	A4
Ni6U-EG08-AP6X-H1341 4635802	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	A	3	A4
Ni4U-EG08-AN6X-H1341 4600650	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Ni4U-EG08-AP6X-H1341 4600640	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Ni4U-EG08-AP6X-H1341/S1589 4600641	Uprox, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	WG	N/A	YE	A	3	A4
Ni4-EG08-AG41X-H1341 4561001		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A2
Ni4-EG08-AG41X-H1341/S1589 4561091	Weldguard	4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	A	1	A2
Ni3-EG08-AN6X-H1341 4602860		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Ni3-EG08-AN7X-H1341 4669761	TTL Compatible	3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Ni3-EG08-AP6X-H1341 4602760		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Ni3-EG08-AP6X-H1341/S1589 4602799	Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Ni3-M08E-AN6X-H1341 4602832		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	2	A4
Ni3-M08E-AP6X-H1341 4602835		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	3	A4
Ni3-G08-AN6X-H1341 4602704		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Ni3-G08-AP6X-H1341 4602705		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Ni2-G08-AN6X-H1341 46033		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Ni2-G08-AP6X-H1341 46032		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4

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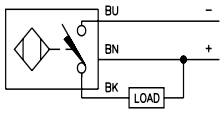
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

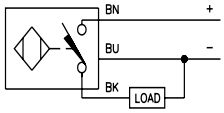
Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated	D  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	E  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
F  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable		

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

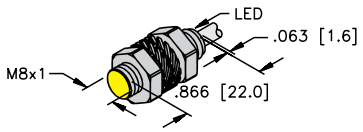
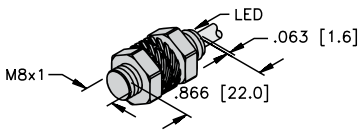
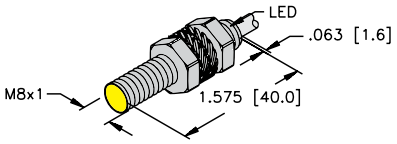
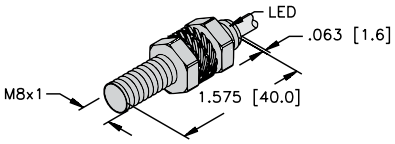
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X 4602421	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Bi3U-EM08-AP6X 4602411	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Bi3-M08-AN6X 4602913		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	F	1	A4
Bi3-M08-AP6X 4602910		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	F	2	A4
Bi3-M08KK-AN6X 4602941	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	A	1	A4
Bi3-M08KK-AP6X 4602938	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08K-AN6X 4669500		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi2-EG08K-AN6X/S1589 4669587	Weldguard	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	B	1	A4
Bi2-EG08K-AP6X 4669400		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi2-EG08K-AP6X/S97 4669413	Low Temp. -40 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-40 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi2-EGT08K-AP6X 4602541	PTFE	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	TC	TC	N/A	YE	2M/TPU	C	2	A4
Bi2-EGT08K-AP6X/S100 4602544	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	TC	TC	N/A	YE	2M/TPU	C	2	A4
Bi2-EGT08K-AP6X/S1589 46025413	PTFE, Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	TC	WG	N/A	YE	2M/TPU	C	2	A4
Bi2-M08K-AN6X 4602963		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	D	1	A4
Bi2-M08K-AP6X 4602966		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	D	2	A4
Bi1.5-EG08K-AN6X 4669140		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1.5-EG08K-AP6X 4669040		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-EG08K-AP6/S100 4669016	High Temp. 100 °C	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4

Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

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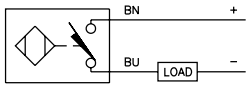
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and 2-Wire Outputs

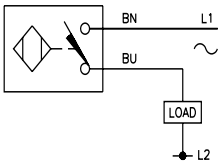
Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated
C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	D  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



2



A2	2-wire DC - (AD, RD, AG)		
Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A6	2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)		
Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10 ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

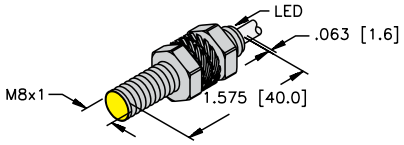
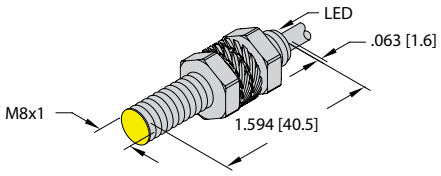
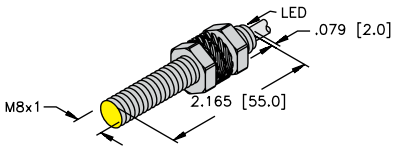
Embeddable Threaded Metal Barrels with Cable and 2-Wire Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-EG08-AG41X 4562000		2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A2
Bi2-EG08-AG41X/S1589 4562088	Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	C	1	A2
Bi2-EG08-AZ14X 4100001		2	2-wire AC/DC	20-132 VAC/10-140 VDC	20	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A6
Bi2-EGT08-AG41X 4602540	PTFE	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	2M/TPU	D	1	A2
Bi2-EGT08-AG41X/S1589 46020003	PTFE, Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	2M/TPU	D	1	A2
Bi2-EG08K-AG41X 4562010		2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A2
Bi2-EG08K-AG41X/S1589 4562091	Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	A	1	A2
Bi2-EGT08K-AG41X 4602545	PTFE	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	2M/TPU	B	1	A2

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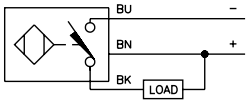
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

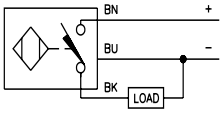
Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

Wiring Diagrams/Mating Cordsets

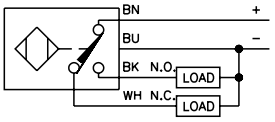
1



2



3



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

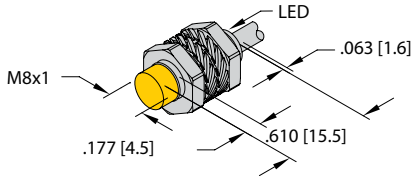
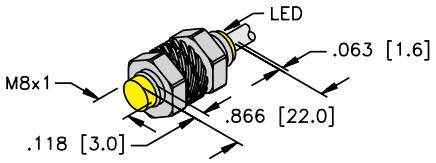
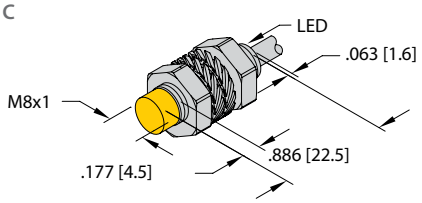
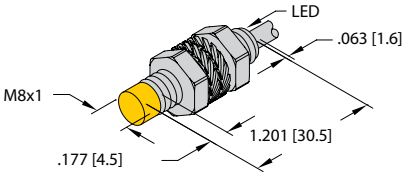
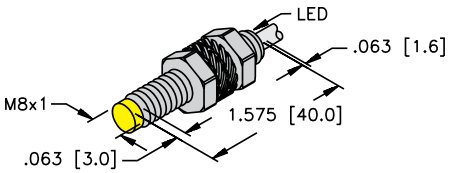
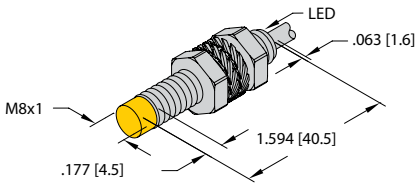
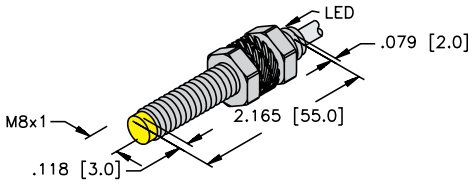
Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X 4602035	Uprox	2	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi2U-EG08-AP6X 4602032	Uprox	2	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AN6X 4602140	Extended Range	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi2-EG08-AP6X 4602040	Extended Range	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AP6X/S100 4602047	High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AP6X/S1589 4602085	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-VP6X 1604610	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	3	A4
Bi2-G08-AN6X 46021	Extended Range	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi2-G08-AP6X 46020	Extended Range	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi2-M08E-AN6X 4602951		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	B	1	A4
Bi2-M08E-AP6X 4602954		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	B	2	A4
Bi1.5U-EG08-AN6X 4600510	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5U-EG08-AP6X 4600500	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-EG08-AN6X 4602340		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-EG08-AN7X 1766110	TTL Compatible	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-EG08-AP6X 4602240		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-G08-AN6X 46023		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-G08-AP6X 46022		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4

We reserve the right to make technical alterations without prior notice.

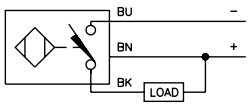
Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

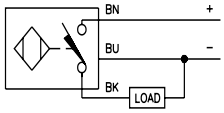
Housing Style	Dimension Drawings	
	A  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable
C  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	D  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	E  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable
F  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	G  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1



2



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

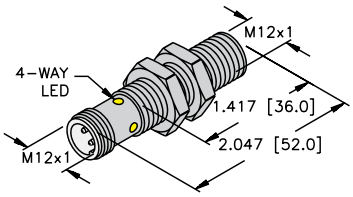
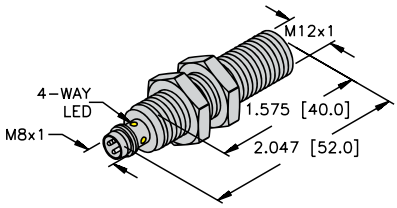
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X 4635803	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	2M/TPU	E	1	A4
Ni6U-EG08-AP6X 4635800	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	2M/TPU	E	2	A4
Ni5-M08-AN6X 4602923		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	D	1	A4
Ni5-M08-AP6X 4602920		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	D	2	A4
Ni5-M08KK-AN6X 4602948	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	A	1	A4
Ni5-M08KK-AP6X 4602944	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	A	2	A4
Ni4U-EG08-AN6X 4600610	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni4U-EG08-AP6X 4600600	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08-AN6X 4602840		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AN6X/S1589 4602888	Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AN7X 4669759	TTL Compatible	3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AP6X 4602740		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08-AP6X/S1589 4602789	Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08K-AN6X 4669700		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Ni3-EG08K-AP6X 4669600		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-G08-AN6X 46028		3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	1	A4
Ni3-G08-AP6X 46027		3	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	2	A4
Ni3-M08E-AN6X 4602831		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	F	1	A4
Ni3-M08E-AP6X 4602834		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	F	2	A4
Ni3-M08K-AN6X 4602847		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	C	1	A4
Ni3-M08K-AP6X 4602851		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	C	2	A4
Ni2-G08-AN6X 4601300		2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	1	A4
Ni2-G08-AP6X 46012		2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	2	A4

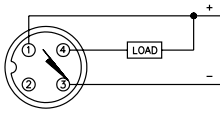
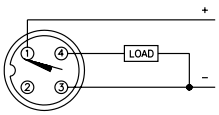
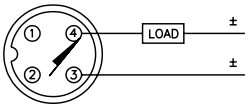
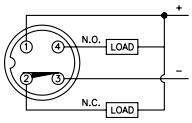
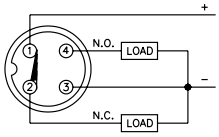
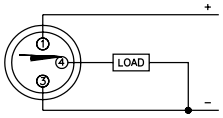
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, M12 Eurofast Connection	B  12 mm - Embeddable, M8 Picofast Connection

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4T-*; RKV 4T-*	2  Mating Cordset: RK 4T-*; RKV 4T-*	3  Mating Cordset: RK 4.2T-*
4  Mating Cordset: RK 4.4T-*	5  Mating Cordset: RK 4.4T-*; RKV 4.4T-*	6  Mating Cordset: PKG 3M-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

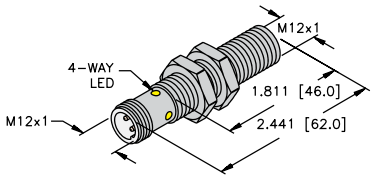
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-M12-AN6X-H1141 1644808	Uprox3	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	1	A4
Bi6U-M12-AP6X-H1141 1644810	Uprox3	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi6U-M12-VP6X-H1141 1644805	Uprox3, Comp. Outputs	6	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	5	A4
Bi4U-EM12-AN6X-H1141 1634827	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	1	A4
Bi4U-M12-AN6X-H1141 1634824	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	1	A4
Bi4U-EM12-AP6X-H1141 1634807	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	2	A4
Bi4U-M12-AP6X-H1141 1634804	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi4U-M12-AP6X-V1131 1634780	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	B	6	A4
Bi4-M12-AN6X-H1141 4607100	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi4-M12-AP6X-H1141 46070	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi4-M12-VN6X-H1141 1643200	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi4-M12-VP6X-H1141 1633200	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi4-EM12-VP6X-H1141 1633201	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi3U-EM12-AN6X-H1141 1634350	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	1	A4
Bi3U-M12-AN6X-H1141 1634150	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi3U-EM12-AP6X-H1141 1634340	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi3U-M12-AP6X-H1141 1634140	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi3-M12-AD4X-H1141 4405041		3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A2
Bi2-M12-AD4X-H1141 44065		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A2
Bi2-EM12-AN6X-H1141 4606601		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A4
Bi2-M12-AN6X-H1141 46066		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi2-EM12-AP6X-H1141 4606501		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi2-M12-AP6X-H1141 46065		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi2-M12-VN6X-H1141 16430	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi2-M12-VP6X-H1141 16330	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4

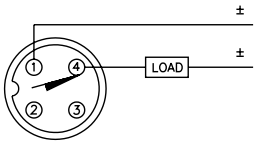
We reserve the right to make technical alterations without prior notice.

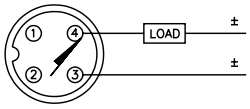
Inductive Barrel Sensors | 12 mm

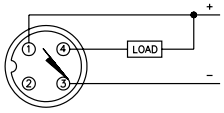
Embeddable Threaded Metal Barrels with Connector and DC Outputs

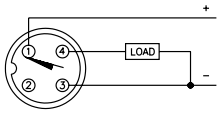
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length

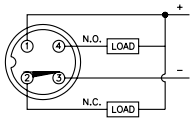
Wiring Diagrams/Mating Cordsets

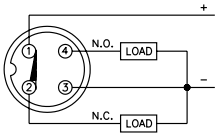
1 
Mating Cordset: RK 4.23T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

5 
Mating Cordset: RK 4.4T-*

6 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

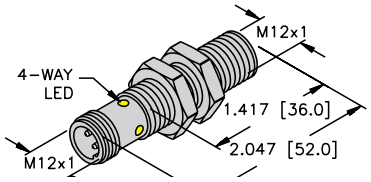
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-M12E-AN6X-H1141 4607193	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi4-EM12E-AN6X-H1141/S1589 4607185	Ext. Range, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi4-M12E-AP6X-H1141 4608030	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi4-EM12E-AP6X-H1141/S1589 4607184	Ext. Range, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	4	A4
Bi4-M12E-VN6X-H1141 1643201	Extended Range	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi4-M12E-VP6X-H1141 4608092	Extended Range	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Bi3U-EM12E-AN6X-H1141 1634351	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Bi3U-EM12HE-AN6X2-H1141 1634311	Uprox, Stoneface	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	GN	YE	A	3	A4
Bi3U-EM12E-AN6X2-H1141/S1589 1634397	Uprox, Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	3	A4
Bi3U-M12E-AP6X-H1141 1634148	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi3U-EM12HE-AP6X2-H1141 1634310	Uprox, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	4	A4
Bi3U-EM12E-AP6X2-H1141/S1589 1634398	Uprox, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	4	A4
Bi3U-M12E-AN6X-H1141 1634151	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi3U-EM12E-AP6X-H1141 1634343	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi3U-M12E-VN4X-H1141 1580354	Uprox	3	4-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi3U-M12E-VP4X-H1141 1580252	Uprox	3	4-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	6	A4
Bi3-M12E-AD4X-H1141 4405080		3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Bi2U-M12E-AD4X-H1144 4405060	Uprox	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	CPB	LCP	N/A	YE	A	1	A2
Bi2-M12E-AN6X-H1141 4606602		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4

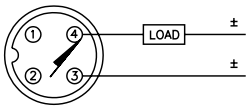
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

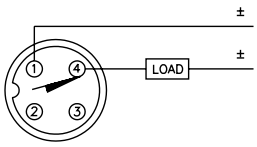
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, PTFE Coated Sensors

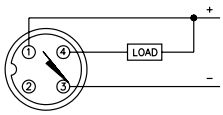
Wiring Diagrams s/Mating Cordset

1 

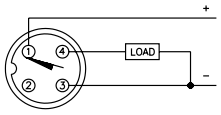
Mating Cordset: RK 4.2T-*

2 

Mating Cordset: RK 4.23T-*

3 

Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 

Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

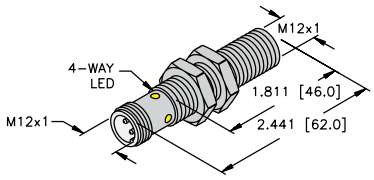
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-MT12-AN6X-H1141 1644858	Uprox3, PTFE	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	3	A4
Bi6U-MT12-AP6X-H1141 1644831	Uprox3, PTFE	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	4	A4
Bi6U-MT12-AP6X2-H1141 1644904	Uprox3, PTFE	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	GN	YE	A	4	A4
Bi4U-MT12-AN6X-H1141 1634829	Uprox+, PTFE	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	3	A4
Bi4U-MT12-AN6X-H1141/S1589 16348290	Uprox+, PTFE, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	3	A4
Bi4U-MT12-AP6X-H1141 1634809	Uprox+, PTFE	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	4	A4
Bi4-MT12H-AN6X-H1141 4607194	Ext. Range, PTFE, Stoneface	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	SF	N/A	YE	A	3	A4
Bi4-MT12-AN6X-H1141/S1589 4607188	Ext. Range, PTFE, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	3	A4
Bi4-MT12H-AP6X-H1141 4607093	Ext. Range, PTFE, Stoneface	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	SF	N/A	YE	A	4	A4
Bi4-MT12-AP6X-H1141/S1589 4607099	Ext. Range, PTFE, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	4	A4
Bi3U-MT12-AN6X-H1141 1634250	Uprox, PTFE	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Bi3U-MT12-AP6X-H1141 1634240	Uprox, PTFE	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi3U-MT12-AP6X2-H1141 1634245	Uprox, PTFE	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	4	A4
Bi3U-MT12H-AP6X-H1141 1634212	Uprox, PTFE, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi3U-MT12-AP6X2-H1141/S1589 1634293	Uprox, PTFE, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	4	A4
Bi3-MT12-AD4X-H1141/S1589 4405082	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	1	A2
Bi3-MT12-AD4X-H1144/S1589 4405084	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2

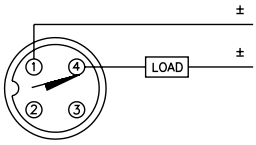
We reserve the right to make technical alterations without prior notice.

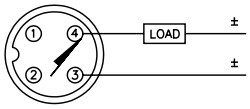
Inductive Barrel Sensors | 12 mm

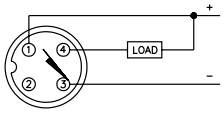
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

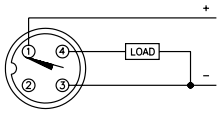
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length, PTFE Coated Sensors

Wiring Diagrams/Mating Cordset

1 
Mating Cordset: RK 4.23T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

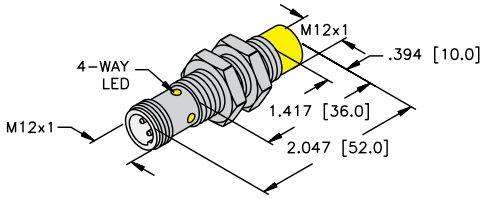
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4U-MT12E-AP6X2-H1141 1644742	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	GN	YE	A	4	A4
Bi4U-MT12E-AP6X2-H1141/S1589 1644797	Uprox+, PTFE, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	4	A4
Bi4-MT12E-AP6X-H1141 46080932	Ext. Range, PTFE	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	4	A4
Bi4-MT12HE-AN6X-H1141 4607197	Ext. Range, PTFE	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	3	A4
Bi4-MT12HE-AP6X-H1141 4608093	Ext. Range, Stoneface	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	4	A4
Bi4-MT12E-AN6X-H1141/S1589 4607187	Ext. Range, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	3	A4
Bi4-MT12E-AP6X-H1141/S1589 4608094	Ext. Range, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	4	A4
Bi3U-MT12HE-AN6X2-H1141 1634230	Uprox, PTFE, Stoneface	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4
Bi3U-MT12E-AN6X2-H1141/S1589 1634290	Uprox, Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	3	A4
Bi3U-MT12HE-AP6X2-H1141 1634220	Uprox, PTFE, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	4	A4
Bi3U-MT12E-AP6X2-H1141/S1589 1634291	Uprox, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	4	A4
Bi3-MT12E-AD4X-H1141 44050882	PTFE	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	TC	N/A	YE	A	2	A2
Bi3-MT12HE-AD4X-H1141 4405088	Stoneface	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	TC	N/A	YE	A	2	A2
Bi3-MT12E-AD4X-H1141/S1589 4405086	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2
Bi3-MT12E-AD4X-H1144/S1589 4405087	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2
Bi2U-MT12E-AD4X-H1144 4405061	Uprox+, PTFE	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	TC	TC	N/A	YE	A	1	A2

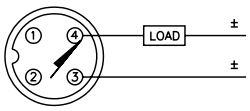
We reserve the right to make technical alterations without prior notice.

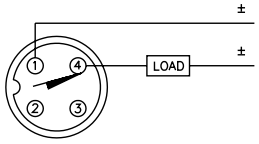
Inductive Barrel Sensors | 12 mm

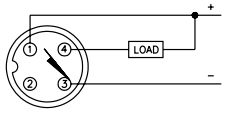
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

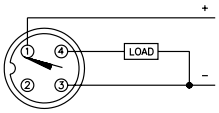
Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, M12 Eurofast Connection

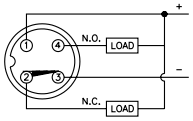
Wiring Diagrams/Mating Cordsets

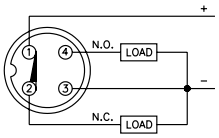
1  Mating Cordset: RK 4.2T-*

2  Mating Cordset: RK 4.23T-*

3  Mating Cordset: RK 4T-*; RKV 4T-*

4  Mating Cordset: RK 4T-*; RKV 4T-*

5  Mating Cordset: RK 4.4T-*

6  Mating Cordset: RK 4.4T-*RKV 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

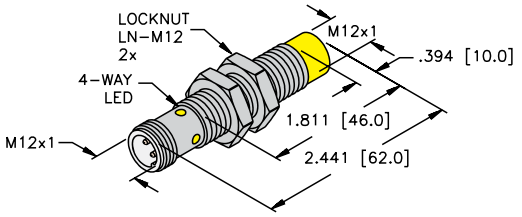
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-M12-AN6X-H1141 1634826	Uprox+	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Ni10U-M12-AP6X-H1141 1634806	Uprox+	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Ni10U-EM12-AN6X-H1141 1634828	Uprox+	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni10U-EM12-AP6X-H1141 1634808	Uprox+	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	4	A4
Ni8U-M12-AN6X-H1141 1644150	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	3	A4
Ni8U-M12-AN6X2-H1141 1644155	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	GN	YE	A	3	A4
Ni8U-M12-AP6X-H1141 1644140	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	4	A4
Ni8U-M12-AP6X2-H1141 1644145	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	GN	YE	A	4	A4
Ni8U-EM12-AN6X-H1141 1644350	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni8U-EM12-AP6X-H1141 1644340	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	4	A4
Ni8-M12-AD4X-H1141 4411241	Extended Range	8	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni8-M12-AD4X-H1144 4411289	Extended Range	8	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Ni8-M12-AN6X-H1141 4611315	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8-M12-AP6X-H1141 4611310	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni8-M12-VN6X-H1141 4611323	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni8-M12-VP6X-H1141 4611324	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni5-M12-AN6X-H1141 4671390		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni5-M12-AP6X-H1141 4653400		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni4-M12-AD4X-H1141 44067		4	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni4-M12-AN6X-H1141 46068		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni4-M12-AP6X-H1141 46067		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni4-EM12-AN7X-H1141 4606893	TTL Compatible	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni4-M12-VN6X-H1141 16431	Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni4-M12-VP6X-H1141 16331	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni4-EM12-VP6X-H1141 1633101	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	6	A4

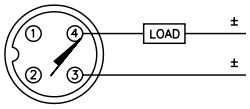
We reserve the right to make technical alterations without prior notice.

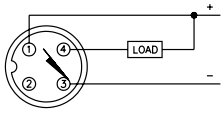
Inductive Barrel Sensors | 12 mm

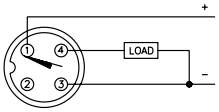
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

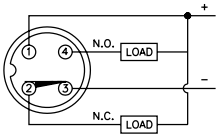
Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, Extended Barrel Length, M12 Eurofast Connection

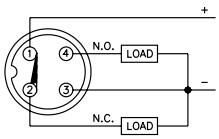
Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4.23T-*

2 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4.4T-*

5 
Mating Cordset: RK 4.4T-*; RKV 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

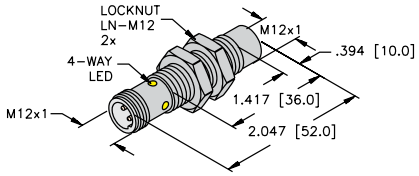
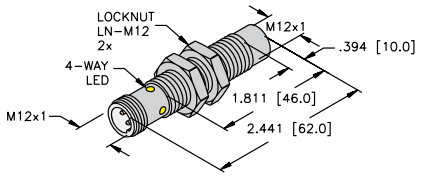
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni8U-M12E-AN6X-H1141 1644151	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Ni8U-EM12E-AN6X2-H1141 1644315	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PA 12	GN	YE	A	2	A4
Ni8U-EM12E-AN6X2-H1141/S1589 1644391	Uprox, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	WG	WG	GN	YE	A	2	A4
Ni8U-M12E-AP6X-H1141 1644144	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8U-EM12E-AP6X-H1141 1644342	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Ni8U-EM12E-AP6X2-H1141 1644314	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	3	A4
Ni8U-EM12E-AP6X2-H1141/S1589 1644392	Uprox, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	WG	WG	GN	YE	A	3	A4
Ni8U-M12E-VN4X-H1141 1580552	Uprox, Comp. Outputs	8	4-wire DC NPN	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	4	A4
Ni8U-M12E-VP4X-H1141 1580454	Uprox	8	4-wire DC PNP	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	5	A4
Ni8U-EM12E-VP4X-H1141 1580463	Uprox	8	4-wire DC PNP	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	5	A4
Ni8-M12E-AN6X-H1141 4611325	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Ni8-EM12E-AN6X-H1141/S1589 4611395	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	A	2	A4
Ni8-M12E-AP6X-H1141 46113981	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8-EM12E-AP6X-H1141/S1589 4611396	Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	A	3	A4
Ni8-M12E-VP6X-H1141 4611389	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni4-M12E-AD4X-H1144 4406792		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni4-EM12E-VP6X-H1141 1633191	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4

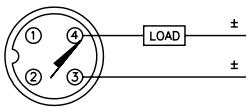
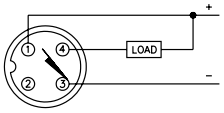
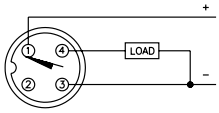
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Inductive Barrel Sensors | 12 mm

Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Nonembeddable, M12 Eurofast Connection, PTFE Coated	B  12 mm - Nonembeddable, Extended Barrel Length, M12 Eurofast Connection, PTFE Coated

Wiring Diagrams/Mating Cordsets

1	2	3
 	 	
Mating Cordset: RKC 4.2T-*	Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

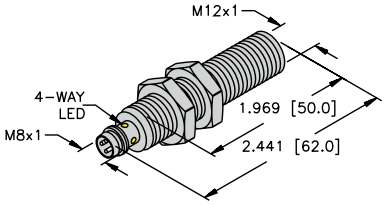
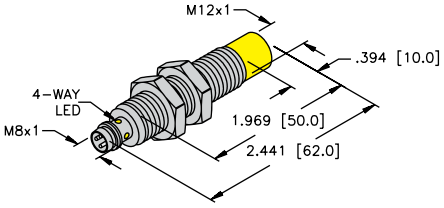
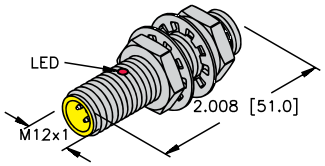
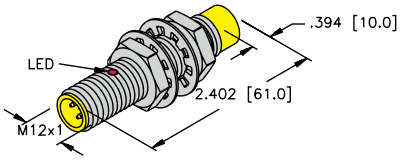
Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-MT12-AN6X-H1141 1634830	Uprox+, PTFE	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	N/A	YE	A	2	A4
Ni10U-MT12-AP6X-H1141 1634810	Uprox+, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	N/A	YE	A	3	A4
Ni10U-MT12-AP6X-H1141/S1589 16348101	Uprox+, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	3	A4
Ni10U-MT12E-AP6X2-H1141 1634844	Uprox+, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	GN	YE	B	3	A4
Ni10U-MT12E-AP6X2-H1141/S1589 1634994	Uprox+, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	B	3	A4
Ni8U-MT12-AP6X-H1141 1644240	Uprox, PTFE	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Ni8U-MT12-AP6X2-H1141 1644245	Uprox, PTFE	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4
Ni8U-MT12-AP6X2-H1141/S1589 1644292	Uprox, PTFE, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	3	A4
Ni8U-MT12E-AN6X2-H1141 1644248	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	2	A4
Ni8U-MT12E-AP6X2-H1141 1644247	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	3	A4
Ni8-MT12-AD4X-H1141/S1589 4411291	PTFE, Weldguard	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	1	A2
Ni8-MT12E-AN6X-H1141/S1589 4611397	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	B	2	A4
Ni8-MT12E-AP6X-H1141/S1589 4611398	Ext. Range, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	B	3	A4

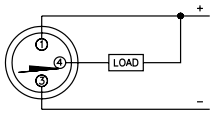
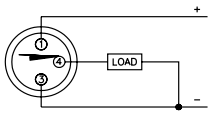
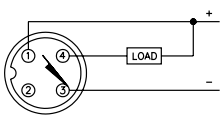
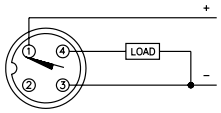
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M8 Picofast Connection
B  12 mm - Embeddable, M8 Picofast Connection	C  12 mm - Embeddable, M12 Eurofast Connection
D  12 mm - Nonembeddable, M12 Eurofast Connection	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 	
Mating Cordset: PKG 3M-*	Mating Cordset: PKG 3M-*	Mating Cordset: RK 4T-*	Mating Cordset: RK 4T-*; RKV 4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

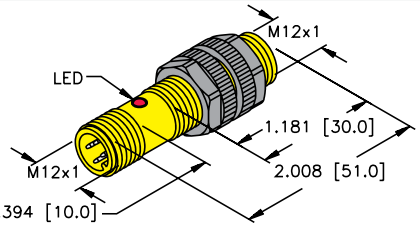
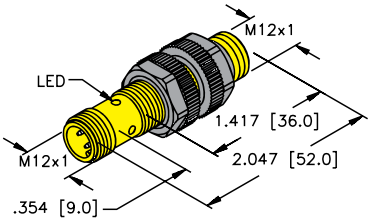
Fully Threaded Metal Barrels with Connector and DC Outputs

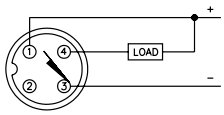
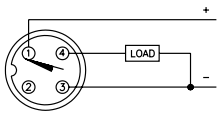
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-AN6X-V1131 1690707	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi4-G12-AP6X-V1131 1690703	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi4-EG12-AP6X-H1141 4607091	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	RD	C	4	A4
Bi2-G12-AN6X-V1131 4635583		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi2-G12-AN6X-H1141 4606693		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	3	A4
Bi2-G12-AP6X-H1141 4606595		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	4	A4
Bi2-G12-AP6X-V1131 4606597		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni8-G12-AN6X-H1141 4611383	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AN6X-V1131 4635721		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Ni5-G12-AN6X-H1141 4635793		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AN7X-H1141 1714593	TTL Compatible	5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AP6X-V1131 4635690		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni5-G12-AP6X-H1141 4635692		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	4	A4

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Threaded Plastic Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable/Nonembeddable, Plastic, M12 Eurofast Connection
B  12 mm - Embeddable/Nonembeddable, Plastic, M12 Eurofast Connection	

Wiring Diagrams/Mating Cordsets	
1  Mating Cordset: RKK 4T-*	2  Mating Cordset: RKK 4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

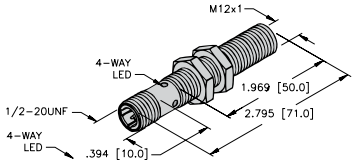
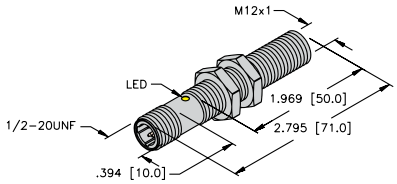
Threaded Plastic Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-S12-AN6X-H1141 1634620	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	1	A4
Bi3U-S12-AP6X-H1141 16346	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	2	A4
Bi2-S12-AN6X-H1141 46521		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	1	A4
Bi2-S12-AP6X-H1141 46520		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	2	A4
Ni8U-S12-AN6X-H1141 1644620	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	1	A4
Ni8U-S12-AP6X-H1141 1644600	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	2	A4
Ni4-S12-AN6X-H1141 46523		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	1	A4
Ni4-S12-AP6X-H1141 46522		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	2	A4

We reserve the right to make technical alterations without prior notice.

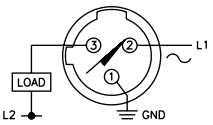
Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, 1/2" Microfast Connection
B  12 mm - Embeddable, 1/2" Microfast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

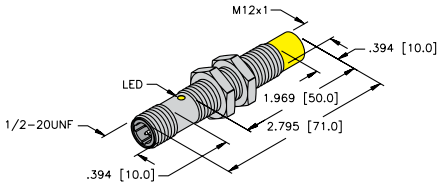
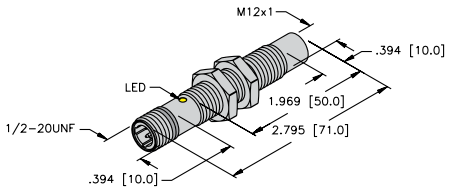
Embeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-ADZ32X-B3131 4205031	Extended Range	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Bi4-GT12H-ADZ32X-B3131 4205097	Stoneface	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi4-GT12-ADZ32X-B3131/S1589 4205087	PTFE, Weldguard	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	1	A5
Bi2U-G12-ADZ32X-B3131 4281005	Uprox	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	CPB	PBT	N/A	YE	A	1	A5
Bi2U-GT12-ADZ32X-B3131 4281015	Uprox	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-G12-AZ33X-B3131 1304032		2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A6
Bi2-G12-ADZ32X-B3131 4205001		2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Bi2-GT12H-ADZ32X-B3131/S34 4205093	PTFE, WFI, Stoneface	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-GT12-ADZ32X-B3131/S34 4205005	PTFE, WFI	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-GT12-AZ33X-B3131/S34 1304082	PTFE, WFI	2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A6

We reserve the right to make technical alterations without prior notice.

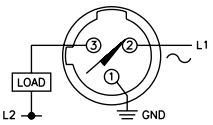
Inductive Barrel Sensors | 12 mm

Nonembeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, 1/2" Microfast Connection
B  12 mm - Nonembeddable, 1/2" Microfast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

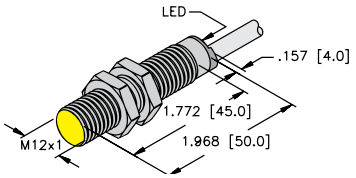
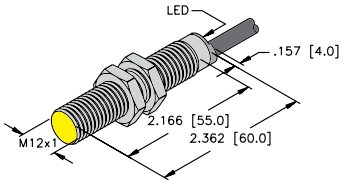
Nonembeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni8U-G12-ADZ32X-B3131 4281105	Uprox	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	CPB	PBT	N/A	YE	A	1	A5
Ni8U-GT12-ADZ32X-B3131 4281115	Uprox	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	TC	PA 12	N/A	YE	B	1	A5
Ni4-G12-ADZ32X-B3131 4205201		4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Ni4-G12-AZ33X-B3131 1304232		4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A6
Ni4-GT12-ADZ32X-B3131/S34 4205205	PTFE, WFI	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	B	1	A5
Ni4-GT12-AZ33X-B3131/S34 1304292	PTFE, WFI	4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	B	1	A6
Ni4-GT12-ADZ32X-B3131/S34/S1589 4205293	PTFE, Weldguard	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	1	A5

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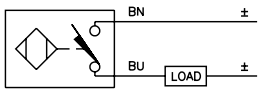
Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

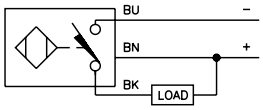
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, Potted-in Cable
B  12 mm - Embeddable, Extended Length Barrel, Potted-in Cable	

Wiring Diagrams/Mating Cordsets

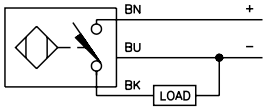
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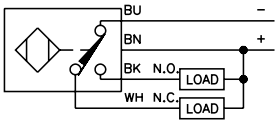
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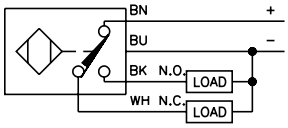
3



4



5



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

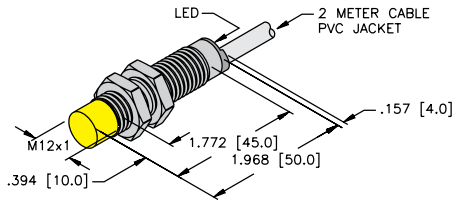
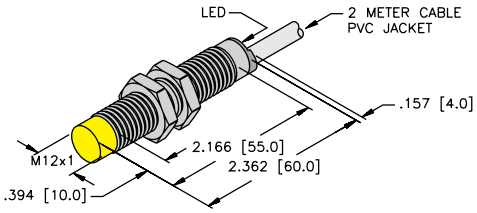
Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-M12-AN6X 1644806	Uprox3	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi6U-M12-AP6X 1644801	Uprox3	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi6U-M12-VP6X 1644803	Uprox3, Comp. Outputs	6	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	5	A4
Bi4U-M12-AN6X 1634823	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi4U-M12-AP6X 1634803	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi4-M12-AN6X 4607130	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi4-M12-AP6X 4607006	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi4-M12-VN6X 1643300	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi4-M12-VP6X 1633300	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Bi4-M12E-VN6X 1643290	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	4	A4
Bi4-M12E-VP6X 1633391	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	5	A4
Bi3U-M12-AN6X 1634120	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Bi3U-M12-AP6X 1634100	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	3	A4
Bi3U-M12E-AP6X 1634108	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	B	3	A4
Bi3U-EM12-AN6X 1634320	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	2	A4
Bi3U-EM12-AP6X 1634300	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	3	A4
Bi3-M12-AD4X 4405035	Extended Range	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi2U-M12E-AD4X 4405062	Uprox	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	B	1	A2
Bi2-M12-AD4X 44050		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi2-M12-AP6X 46050		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi2-M12-VN6X 16402	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi2-M12-VP6X 16302	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4

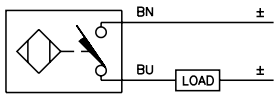
We reserve the right to make technical alterations without prior notice.

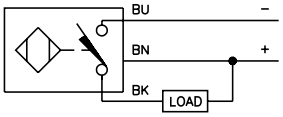
Inductive Barrel Sensors | 12 mm

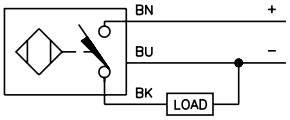
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

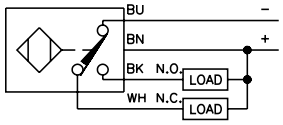
Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, Potted-in Cable
B  12 mm - Nonembeddable, Potted-In Cable, Extended Barrel Length	

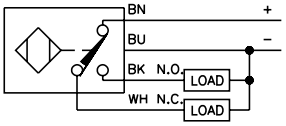
Wiring Diagrams/Mating Cordsets

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A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

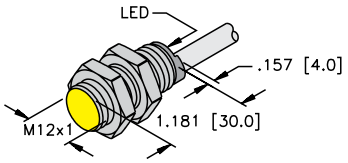
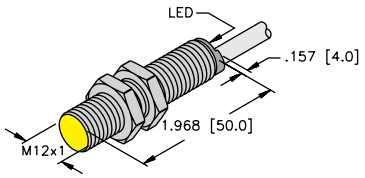
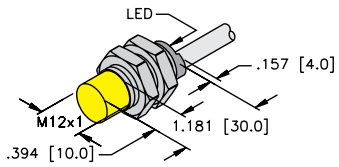
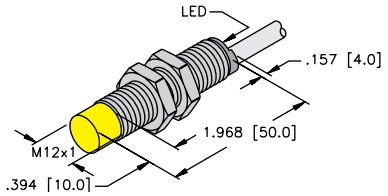
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-M12-AN6X 1634825	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni10U-M12-AP6X 1634805	Uprox	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8U-M12-AN6X 1644120	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni8U-M12-AP6X 1644100	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8U-M12E-AP6X 1644102	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	B	3	A4
Ni8U-EM12-AP6X 1644300	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8-M12-AD4X 4411235	Extended Range	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni8-M12-AN6X 4611318	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni8-M12E-AN6X 4611326		8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Ni8-M12-AP6X 4611319	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Ni8-M12-VN6X 4611321	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Ni8-M12-VP6X 4611322	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Ni4-M12-AD4X 44052		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni4-M12E-AD4X 4405298		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A2
Ni4-M12-AP6X 46052		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4

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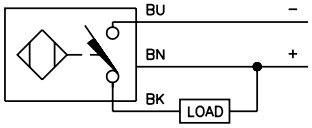
Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Cable and DC Outputs

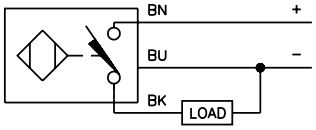
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable
C  12 mm - Nonembeddable, Potted-In Cable	D  12 mm - Nonembeddable, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

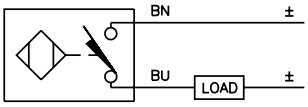
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2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

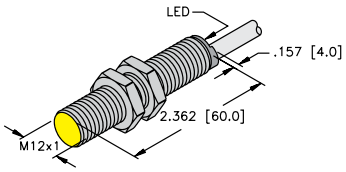
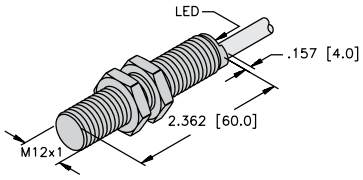
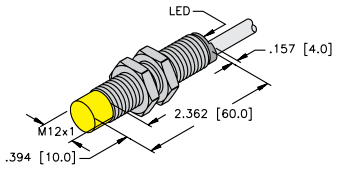
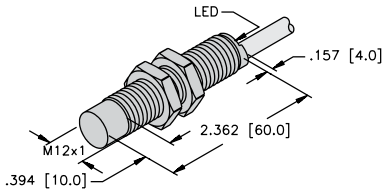
Fully Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-AN6X 1690706	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi4-G12K-AN6X 4670251	Ext. Range, Short Barrel	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A4
Bi4-G12K-AP6X 4670250	Ext. Range, Short Barrel	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi2-G12-AN6X 4635500		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-G12-AN7X 4730500	TTL Compatible	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-EG12-AP6X 4605001		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-G12-AP6X 4635400		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-G12K-AN6X 46712	Short Barrel	2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A4
Bi2-G12K-AP6X 46702	Short Barrel	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni8-G12-AN6X 4611327	Extended Range	8	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni8-G12K-AD4X 4411230	Short Barrel	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	3	A2
Ni5-G12K-AN6X 46713	Short Barrel	5	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni5-G12K-AP6X 46703	Short Barrel	5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni5-G12-AN6X 4635700		5	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni5-G12-AN7X 1714500	TTL Compatible	5	3-wire DC NPN	10-30 VDC	1500	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni5-G12-AP6X 46356		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	2	A4

We reserve the right to make technical alterations without prior notice.

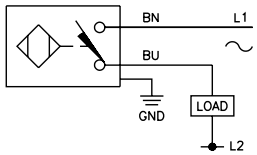
Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Cable and AC/DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable, PTFE Coated
C  12 mm - Nonembeddable, Potted-In Cable	D  12 mm - Nonembeddable, Potted-In Cable, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



A5 — **2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)**

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

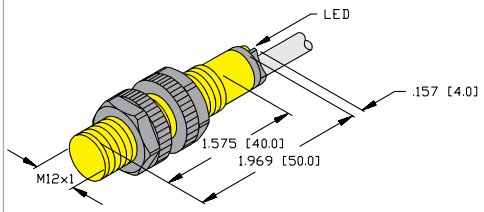
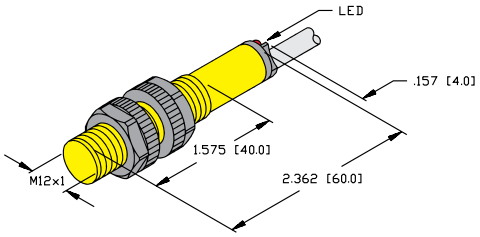
Fully Threaded Metal Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-ADZ32X 4205030	Extended Range	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A5
Bi2-G12-ADZ32X 4205000		2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A5
Bi2-G12-AZ33X 1304002		2	2-wire AC/DC	35-250 VAC	20	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A6
Bi2-GT12-ADZ32X/S34 4205210	PTFE, WFI	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	B	1	A5
Bi2-GT12-AZ33X/S34 1304052	PTFE, WFI	2	2-wire AC/DC	35-250 VAC	20	≤200	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	B	1	A6
Ni8-G12-ADZ32X 4205400	Extended Range	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A5
Ni4-G12-AZ33X 1304202		4	2-wire AC/DC	35-250 VAC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A6
Ni4-G12-ADZ32X 4205200		4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A5
Ni4-GT12-ADZ32X/S34 4205210	PTFE, WFI	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	D	1	A5
Ni4-GT12-AZ33X/S34 1304294	PTFE, WFI	4	2-wire AC/DC	35-250 VAC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	D	1	A6

We reserve the right to make technical alterations without prior notice.

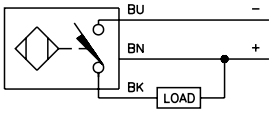
Inductive Barrel Sensors | 12 mm

Threaded Plastic Barrels with Cable and AC/DC Outputs

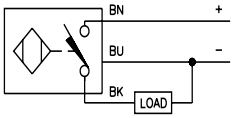
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable/Nonembeddable, Plastic, Potted-In Cable	B  12 mm - Embeddable/Nonembeddable, Plastic, Potted-In Cable

Wiring Diagrams/Mating Cordsets

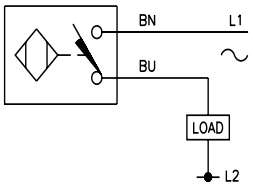
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2



3



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

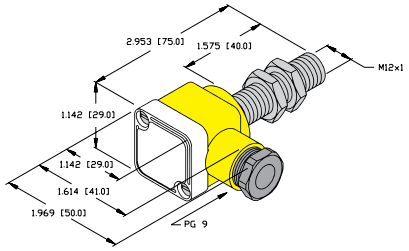
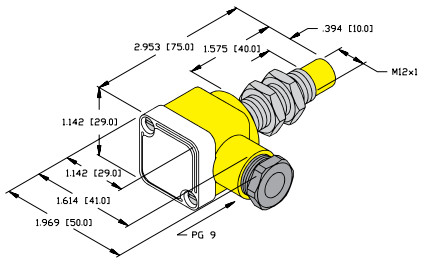
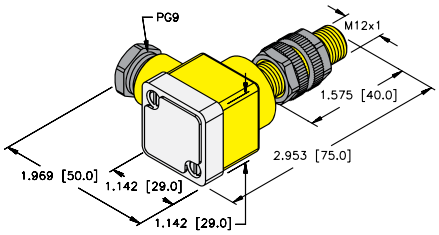
Threaded Plastic Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-S12-AN6X 1634520	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Bi3U-S12-AP6X 1634500	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Bi2-S12-AN6X 46531		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-S12-AN7X 1713800	TTL Compatible	2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-S12-AP6X 46530		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-S12-AP7X/S100 17555	TTL Compatible, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +100	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-S12-AZ31X 13020		2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Bi2-S12-AZ31X/S100 1302001	High Temp. 100 °C	2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +100	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Ni8U-S12-AN6X 1644520	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Ni8U-S12-AP6X 1644500	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Ni4-S12-AN6X 46533		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Ni4-S12-AN7X 1713900	TTL Compatible	4	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Ni4-S12-AP6X 46532		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Ni4-S12-AZ31X 13022		4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Ni4-S12-AZ31X/S100 1302201	High Temp. 100 °C	4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +100	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6

We reserve the right to make technical alterations without prior notice.

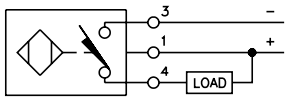
Inductive Barrel Sensors | 12 mm

Threaded Barrels with Terminal Chamber and DC Outputs

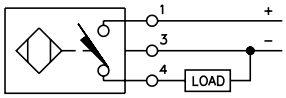
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, Terminal Chamber
B  12 mm - Nonembeddable, Terminal Chamber	C  12 mm - Embeddable/Nonembeddable, Plastic, Terminal Chamber

Wiring Diagrams/Mating Cordsets

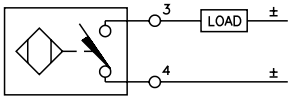
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2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

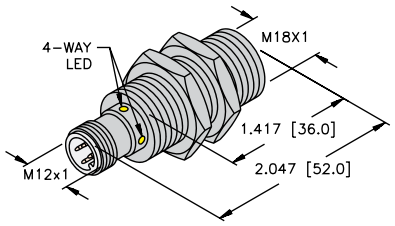
Threaded Barrels with Terminal Chamber and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EG12SK-AP6X 1634400	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	2	A4
Bi3U-P12SK-AP6X 1634700	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	2	A4
Bi2-G12SK-AN6X2 4636500		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	1	A4
Bi2-G12SK-AP6X2 4636400		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	2	A4
Bi2-P12SK-AD4X 4453050		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	C	3	A2
Bi2-P12SK-AN6X2 4654000		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	1	A4
Bi2-P12SK-AP6X2 4653900		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4
Ni8U-EG12SK-AP6X 1644400	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	B	2	A4
Ni5-G12SK-AP6X2 46366		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	B	2	A4
Ni5-P12SK-AP6X2 4654100		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4

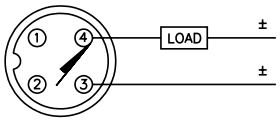
We reserve the right to make technical alterations without prior notice.

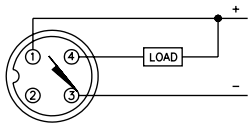
Inductive Barrel Sensors | 18 mm

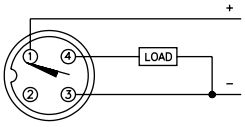
Embeddable Threaded Metal Barrels with Connector and DC Outputs

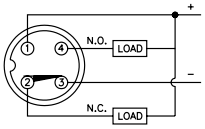
Housing Style	Dimension Drawings
	A  18 mm - Embeddable M12 Eurofast Connection

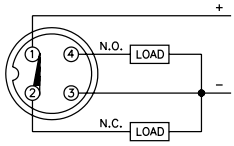
Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4T-*; RKV 4T-*

3 
Mating Cordset: RK 4T-*; RKV 4T-*

4 
Mating Cordset: RK 4.4T-*; RKV 4.4T-*

5 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

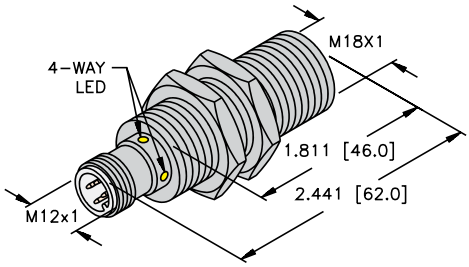
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-M18-AN6X-H1141 1644847	Uprox3	10	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi10U-M18-AP6X-H1141 1644830	Uprox3	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi10U-M18-VP6X-H1141 1644844	Uprox3, Comp. Outputs	10	4-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	5	A4
Bi8U-M18-AN6X-H1141 1644737	Uprox+	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi8U-EM18-AN6X-H1141 1644738	Uprox+	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	2	A4
Bi8U-M18-AP6X-H1141 1644731	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi8U-EM18-AP6X-H1141 1644734	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Bi8-M18-AN6X-H1141 4615100	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi8-M18-AP6X-H1141 46150	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi8-EM18H-AP6X-H1141 4615094	Ext. Range, Stoneface	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	3	A4
Bi8-EM18-AP6X-H1141/S1589 4615099	Weldguard	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi8-M18-VN4X-H1141 4590702	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi8-M18-VP4X-H1141 4590701	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi7-M18-AD4X-H1141 4414541	Extended Range	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5U-M18-AN6X-H1141 1635150	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-EM18-AN6X-H1141 1635350	Uprox	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	2	A4
Bi5U-M18-AP6X-H1141 1635140	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Bi5U-EM18-AP6X-H1141 1635340	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Bi5-M18-AD4X-H1141 44145		5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5-M18-AN6X-H1141 46146		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi5-M18-AP6X-H1141 46145		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi5-EM18-AP6X-H1141 4614501		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi5-M18-VN4X-H1141 15718	Comp. Outputs	5	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi5-EM18-VN4X-H1141 4614699	Comp. Outputs	5	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi5-M18-VP4X-H1141 15618	Comp. Outputs	5	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4

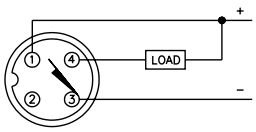
We reserve the right to make technical alterations without prior notice.

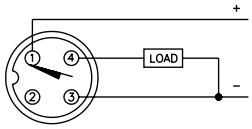
Inductive Barrel Sensors | 18 mm

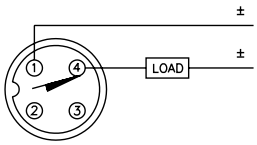
Embeddable Threaded Metal Barrels with Connector and DC Outputs

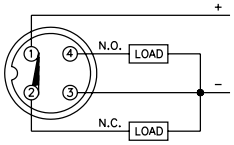
Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

2 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3 
Mating Cordset: RK 4.23T-*

4 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

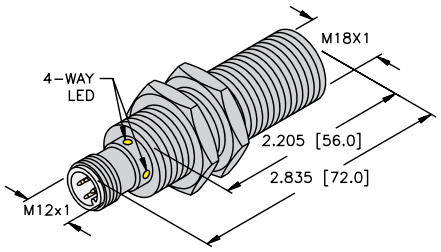
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-EM18M-AP6X2-H1141/S1589 1644771	Uprox+, Weldguard	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	2	A4
Bi8U-M18M-VP44X-H1141 1634877	Uprox+, Comp. Outputs	8	4-wire DC PNP	10-55 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Bi8-M18M-AP6X-H1141 4615083	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +75	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-M18M-AD4X-H1144 4405066	Uprox+	5	2-wire DC	10-65 VDC	10	≤100	-30 to +85	IP68	TC	LCP	N/A	YE	A	3	A2
Bi5U-M18-AN6X-H1141/S395 1635154	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi5U-M18-AP6X-H1141/S395 1635141	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-EM18-AP6X-H1141/S395 1635342	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi5U-EM18H-AN6X2-H1141/S395 1635146	Uprox, Stoneface	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	1	A4
Bi5U-EM18H-AN6X2-H1141/S395/S1589 1635196	Uprox, Weldguard	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	1	A4
Bi5U-EM18H-AP6X2-H1141/S395 1635158	Uprox, Stoneface	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	2	A4
Bi5U-EM18-AP6X2-H1141/S395/S1589 1635197	Uprox, Weldguard	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	2	A4
Bi5U-EM18M-AP6X2-H1141 1635349	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	2	A4

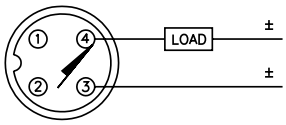
We reserve the right to make technical alterations without prior notice.

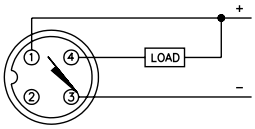
Inductive Barrel Sensors | 18 mm

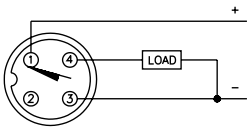
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, Ext. Barrel Length, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3 
Mating Cordset: RK 4T-*; RKV 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

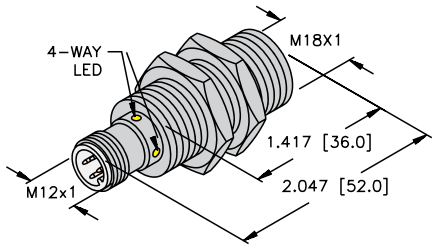
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-EM18E-AP6X-H1141 1634865	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Bi8-M18E-AN6X-H1141 4615190	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi8-EM18HE-AN6X-H1141 4615194	Ext. Range, Stoneface	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	2	A4
Bi8-EM18E-AN6X-H1141/S1589 4615193	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	2	A4
Bi8-EM18E-AP6X-H1141 46150952	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi8-EM18HE-AP6X-H1141 4615095	Ext. Range, Stoneface	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	3	A4
Bi8-EM18E-AP6X-H1141/S1589 4615096	Ext. Range, Weldguard	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi7-M18E-AD4X-H1141 4414580	Extended Range	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5U-M18E-AN6X-H1141 1635122	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-M18E-AP6X-H1141 1635103	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Bi5-M18E-AD4X-H1141 4414591		5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5-M18E-AN6X-H1141 4614697		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4

We reserve the right to make technical alterations without prior notice.

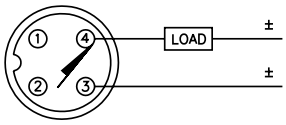
Inductive Barrel Sensors | 18 mm

Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection, PTFE Coated

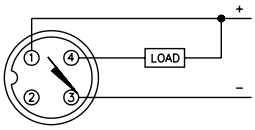
Wiring Diagrams/Mating Cordsets

1



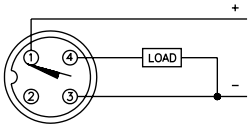
Mating Cordset: RK 4.2T-*

2



Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3



Mating Cordset: RK 4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

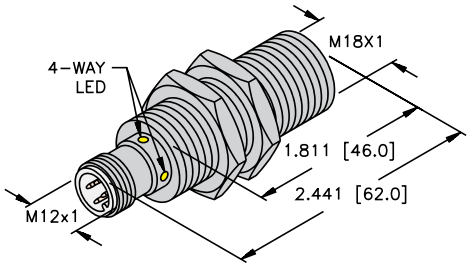
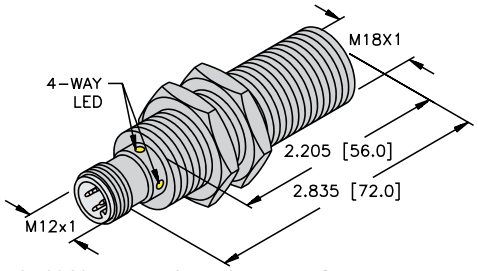
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
BI10U-MT18-AN6X-H1141 1644858	Uprox3, PTFE	10	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	2	A4
Bi10U-MT18-AP6X-H1141 1644831	Uprox3, PTFE	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	3	A4
Bi10U-MT18-AP6X2-H1141 1644905	Uprox3, PTFE	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	GN	YE	A	3	A4
Bi8U-MT18-AN6X-H1141 1644739	Uprox+, PTFE	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	2	A4
Bi8U-MT18-AP6X-H1141 1644730	Uprox+, PTFE	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	3	A4
Bi8U-MT18-AN6X-H1141/S1589 1644791	Uprox+, PTFE, Weldguard	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	2	A4
Bi7-MT18H-AD4X-H1141 44145801	Ext. Range, PTFE	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	SF	N/A	YE	A	1	A2
Bi5U-MT18-AN6X-H1141 1635250	Uprox, PTFE	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	2	A4
Bi5U-MT18-AP6X-H1141 1635240	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Bi5U-MT18-AP6X2-H1141 1635245	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4

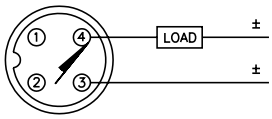
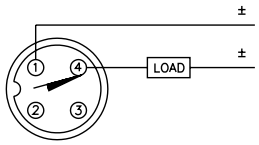
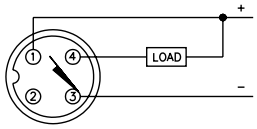
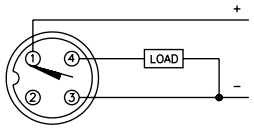
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection, PTFE Coated
B  18 mm - Embeddable, Ext. Barrel Length, M12 Eurofast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1	2	3	4
			
Mating Cordset: RK 4.2T-*	Mating Cordset: RK 4.23T-*	Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

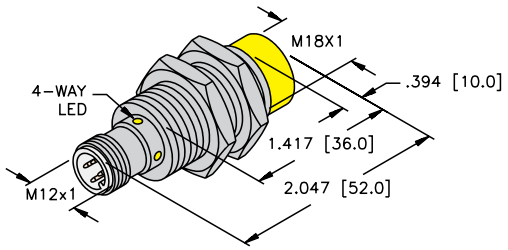
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-MT18M-AP6X2-H1141 1644740	Uprox+, PTFE	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	LCP	GN	YE	A	4	A4
Bi8U-MT18M-AP6X2-H1141/S1589 16447411	Uprox+, PTFE, Weldguard	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	GN	YE	A	4	A4
Bi7-MT18HE-AD4X-H1141 4414597	PTFE, Stoneface	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	SF	N/A	YE	B	1	A2
Bi7-MT18HE-AD4X-H1144 4414598	PTFE, Stoneface	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	SF	N/A	YE	B	2	A2
Bi7-MT18HE-AD4X-H1141/S1589 4414588	PTFE, Weldguard	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	1	A2
Bi7-MT18HE-AD4X-H1144/S1589 4414599	PTFE, Weldguard	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	2	A2
Bi5U-MT18E-AP6X2-H1141 1635247	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	TC	TC	GN	YE	B	4	A4
Bi5U-MT18M-AP6X2-H1141 1635252	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	4	A4
Bi5U-MT18H-AN6X2-H1141/S395 1635225	Uprox, PTFE, Stoneface	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	SF	GN	YE	A	3	A4
Bi5U-MT18-AN6X2-H1141/S395/S1589 1635290	Uprox, PTFE, Weldguard	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	3	A4
Bi5U-MT18-AP6X-H1141/S395 1635231	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi5U-MT18H-AP6X2-H1141/S395 1635220	Uprox, PTFE, Stoneface	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	SF	GN	YE	A	4	A4
Bi5U-MT18-AP6X2-H1141/S395/S1589 1635291	Uprox, PTFE, Weldguard	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	4	A4

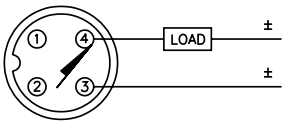
We reserve the right to make technical alterations without prior notice.

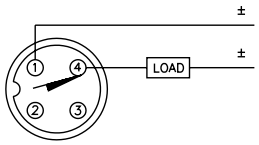
Inductive Barrel Sensors | 18 mm

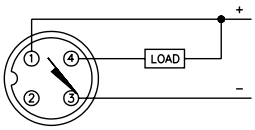
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

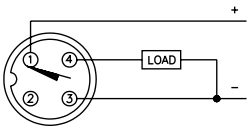
Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, M12 Eurofast Connection

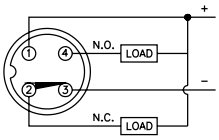
Wiring Diagrams/Mating Cordsets

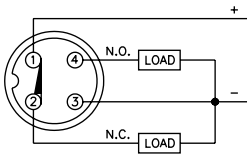
1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4.23T-*

3 
Mating Cordset: RK 4T-*; RKV 4T-*

4 
Mating Cordset: RK 4T-*; RKV 4T-*

5 
Mating Cordset: RK 4.4T-*

6 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

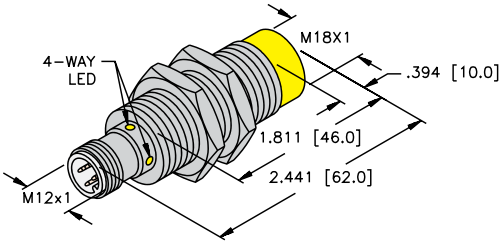
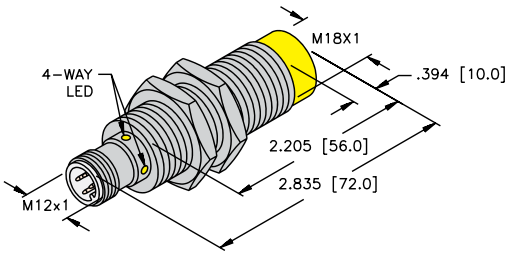
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni15U-M18-AN6X-H1141 1635335	Uprox+	15	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Ni15U-EM18-AN6X-H1141 1635336	Uprox+	15	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni15U-M18-AP6X-H1141 1635331	Uprox+	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Ni15U-EM18-AP6X-H1141 1635332	Uprox+	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	4	A4
Ni14-M18-AD4X-H1141 4417241	Extended Range	14	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni14-M18-AD4X-H1144 4417290	Extended Range	14	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Ni14-M18-AN6X-H1141 4611410	Extended Range	14	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni14-M18-AP6X-H1141 4611400	Extended Range	14	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni14-M18-VN4X-H1141 4590603	Ext. Range, Comp. Outputs	14	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni14-M18-VP4X-H1141 4590602	Ext. Range, Comp. Outputs	14	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni12U-M18-AN6X-H1141 1645150	Uprox	12	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	3	A4
Ni12U-EM18-AN6X-H1141 1645350	Uprox	12	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Ni12U-M18-AP6X-H1141 1645140	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	4	A4
Ni12U-M18-AP6X2-H1141 1645145	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	LCP	GN	YE	A	4	A4
Ni12U-EM18-AP6X-H1141 1645340	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	4	A4
Ni12U-EM18-AP6X2-H1141 1645345	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	4	A4
Ni10-M18-AN6X-H1141 4614892		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni10-M18-AP6X-H1141 4641291		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni8-M18-AD4X-H1141 44147		8	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni8-M18-AD4X-H1144 4411288		8	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Ni8-M18-AN6X-H1141 46148		8	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8-M18-AP6X-H1141 46147		8	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni8-M18-VN4X-H1141 15719	Comp. Outputs	8	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni8-M18-VP4X-H1141 15619	Comp. Outputs	8	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4

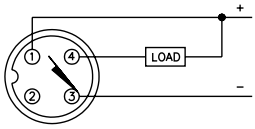
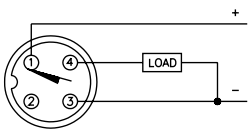
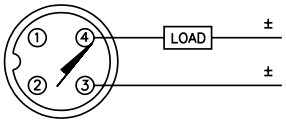
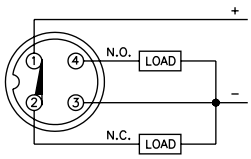
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, M12 Eurofast Connection
B  18 mm - Nonembeddable, Ext. Barrel Length M12 Eurofast Connection	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4T-*; RKC 4T-*/S1587	2  Mating Cordset: RK 4T-*; RKC 4T-*/S1587
3  Mating Cordset: RK 4.2T-*	4  Mating Cordset: RK 4.4T-*

A2 — **2-wire DC - (AD, RD, AG)**

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

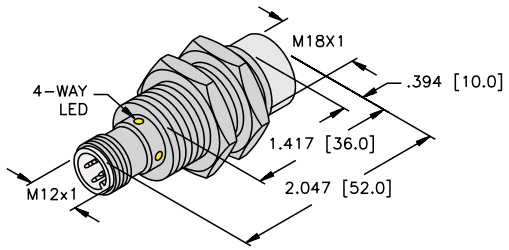
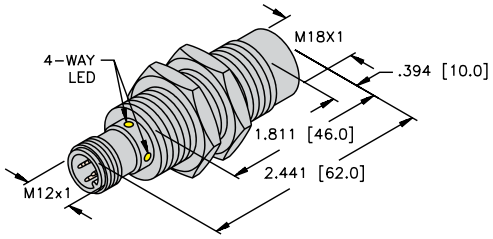
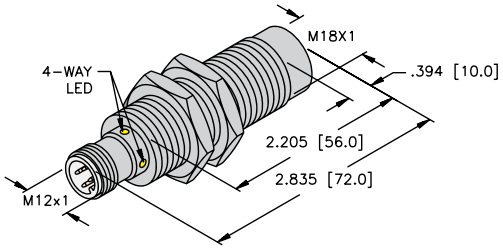
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni14-M18E-AD4X-H1141 4417292	Extended Range	14	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	3	A2
Ni14-M18E-AN6X-H1141 4611483	Extended Range	14	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Ni14-EM18E-AN6X-H1141/S1589 4611494	Ext. Range, Weldguard	14	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A4
Ni14-M18E-AP6X-H1141 4611489	Extended Range	14	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni14-EM18E-AP6X-H1141/S1589 4611495	Ext. Range, Weldguard	14	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	B	2	A4
Ni12U-M18-AN6X-H1141/S395 1645151	Uprox	12	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	1	A4
Ni12U-EM18-AP6X2-H1141/S395 1645304	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	2	A4
Ni12U-EM18-AN6X2-H1141/S395/S1589 1645490	Uprox, Weldguard	12	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	1	A4
Ni12U-EM18-AP6X2-H1141/S395/S1589 1645491	Uprox, Weldguard	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	2	A4
Ni12U-M18E-AP6X-H1141 1645143	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	B	2	A4
Ni12U-M18-AP6X-H1141/S395 1645142	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	2	A4
Ni12U-M18M-VP4X-H1141 1581458	Uprox, Comp. Outputs	12	4-wire DC PNP	10-65 VDC	1500	≤200	-30 to +85	IP68	CPB	PBT	N/A	YE	A	4	A4
Ni10-M18E-AN6X-H1141 4614894		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Ni10-M18E-AP6X-H1141 4641294		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni8-M18E-AD4X-H1141 4411210		8	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	3	A2
Ni8-M18E-VP4X-H1141 1561990	Comp. Outputs	8	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	4	A4

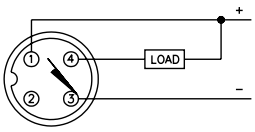
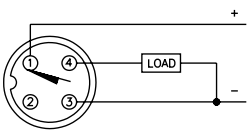
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, M12 Eurofast Connection, PTFE Coated
B  18 mm - Nonembeddable, M12 Eurofast Connection, PTFE Coated	C  18 mm - Nonembeddable, Ext. Barrel Length M12 Eurofast Connection, PTFE Coated

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: RK 4T-*; RKC 4T-*/S1587	 Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni15U-MT18-AN6X-H1141 1635337	Uprox+, PTFE	15	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	1	A4
Ni15U-MT18-AN6X-H1141/S1589 16353370	Uprox+, PTFE, Weldguard	15	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	1	A4
Ni15U-MT18-AP6X-H1141 1635333	Uprox+, PTFE	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	2	A4
Ni15U-MT18-AP6X-H1141/S1589 1635333-1	Uprox+, PTFE, Weldguard	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	2	A4
Ni15U-MT18M-AP6X2-H1141 1635338	Uprox+, PTFE	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	GN	YE	B	2	A4
Ni15U-MT18M-AP6X2-H1141/S1589 16352920	Uprox+, PTFE, Weldguard	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	WG	GN	YE	B	2	A4
Ni14-MT18E-AP6X-H1141/S1589 4611497	Ext. Range, PTFE, Weldguard	14	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	TC	WG	N/A	YE	C	2	A4
Ni12U-MT18-AN6X-H1141 1645250	Uprox, PTFE	12	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	1	A4
Ni12U-MT18-AP6X-H1141 1645240	Uprox, PTFE	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	2	A4
Ni12U-MT18-AP6X-H1141/S1589 1645292	Uprox, Weldguard	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	WG	N/A	YE	A	2	A4
Ni12U-MT18-AP6X2-H1141 1645245	Uprox, PTFE	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	2	A4
Ni12U-MT18-AP6X2-H1141/S1589 1645293	Uprox, Weldguard	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	2	A4
Ni12U-MT18-AP6X-H1141/S395 1645242	Uprox, PTFE	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	2	A4
Ni12U-MT18-AP6X2-H1141/S395 1645246	Uprox, PTFE	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	TC	GN	YE	B	2	A4
Ni12U-MT18-AP6X2-H1141/S395/ S1589 1645291	Uprox, PTFE, Weldguard	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	TC	WG	GN	YE	B	2	A4

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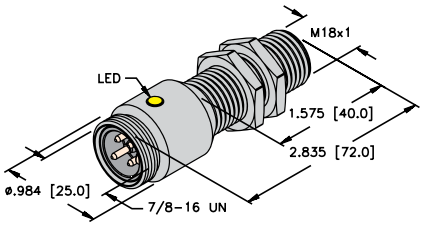
Inductive Barrel Sensors | 18 mm

Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings

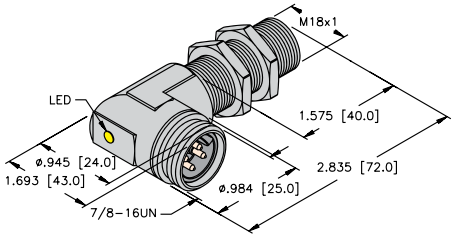


A



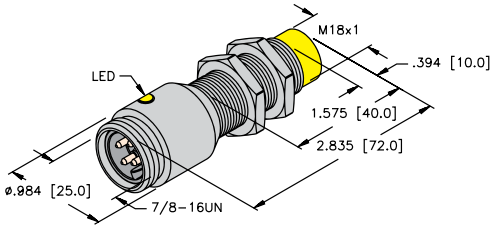
18 mm - Embeddable, 7/8" Minifast Connection

B



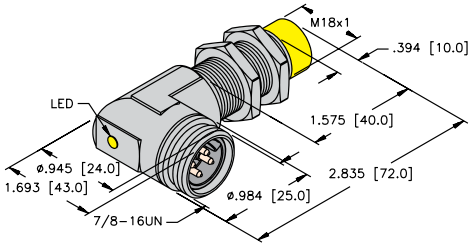
18 mm - Embeddable, Right Angle, 7/8" Minifast Connection

C



18 mm - Nonembeddable, 7/8" Minifast Connection

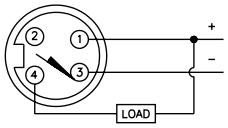
D



18 mm - Nonembeddable, 7/8" Minifast Right Angle Connection

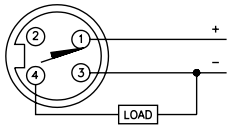
Wiring Diagrams/Mating Cordsets

1



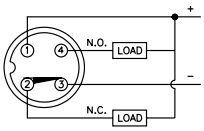
Mating Cordset: RKM 40-*M

2



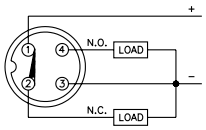
Mating Cordset: RKM 40-*M

3



Mating Cordset: RKM 40-*M

4



Mating Cordset: RKM 40-*M

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-G18-AN6X-B1341 46952		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi5-G18-AP6X-B1341 46963		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi5-G18-AN6X-B1441 46956		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Bi5-G18-AP6X-B1441 46967		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni10-G18-AN6X-B1341 46953		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	C	1	A4
Ni10-G18-AP6X-B1341 46964		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	C	2	A4
Ni10-G18-AN6X-B1441 46957		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	1	A4
Ni10-G18-AP6X-B1441 46968		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	2	A4
Ni10-G18-VN6X-B1441 46991	Comp. Outputs	10	4-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	3	A4
Ni10-G18-VP6X-B1441 4699190	Comp. Outputs	10	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	4	A4

We reserve the right to make technical alterations without prior notice.

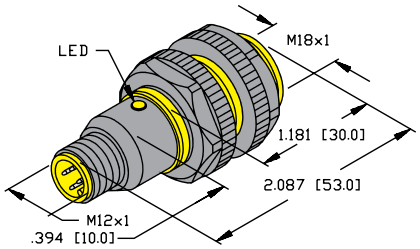
Inductive Barrel Sensors | 18 mm

Threaded Plastic Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings

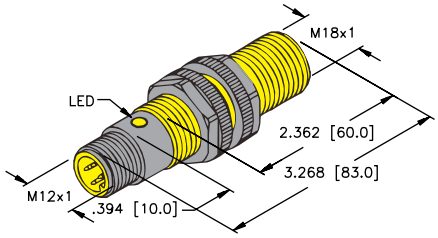


A



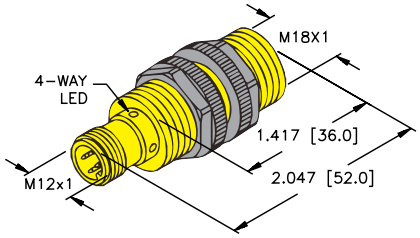
18 mm - Embeddable and Nonembeddable, Partial Threading, M12 Eurofast Connection

B



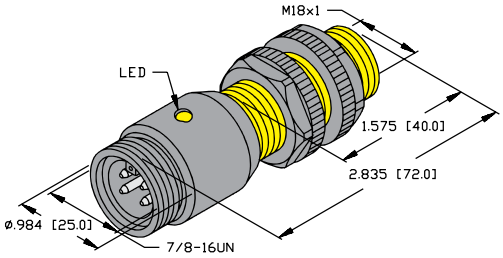
18 mm - Embeddable and Nonembeddable, Partial Threading, M12 Eurofast Connection

C



18 mm - Embeddable and Nonembeddable, Partial Threading, M12 Eurofast Connection

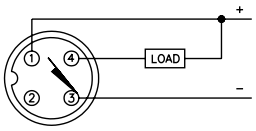
D



18 mm - Embeddable and Nonembeddable, Full Threading, 7/8" Minifast Connection

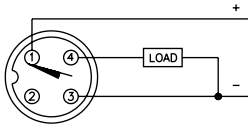
Wiring Diagrams/Mating Cordsets

1



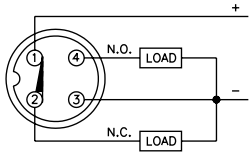
Mating Cordset: RKK 4T-*

2



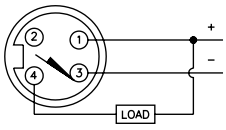
Mating Cordset: RKK 4T-*

3



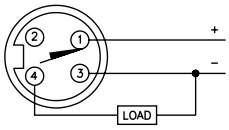
Mating Cordset: RKK 4.4T-*

4



Mating Cordset: RK 40-*M

5



Mating Cordset: RK 40-*M

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤1.8 V
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current
	≥170 mA on 150 mA Load Current
	≥120 mA on 100 mA Load Current
Off-State (Leakage) Current:	≤0.1 mA
No-Load Current:	≤15 mA (Ferrite, Uprox)
	≤20 mA (Uprox+, Uprox3)

Time Delay Before Availability:	≤8 ms
Power-On Effect:	Per IEC 947-5-2
Reverse Polarity Protection:	Incorporated
Wire-Break Protection:	Incorporated
Transient Protection:	Per EN 60947-5-2
Temperature Drift:	≤±10%
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Threaded Plastic Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-S18-AN6X-H1141 1635620	Uprox	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	1	A4
Bi5U-S18-AP6X-H1141 1635600	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	2	A4
Bi5-S18-AN6X-H1141 46525		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Bi5-S18-AP6X-H1141 46524		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4
Bi5-S18-VP4X-H1141 1513401	Comp. Outputs	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	B	3	A4
Bi5-P18-AN6X-B2341 46972		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	D	4	A4
Bi5-P18-AP6X-B2341 46973		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	D	5	A4
Ni12U-S18-AN6X-H1141 1645620	Uprox	12	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	1	A4
Ni12U-S18-AP6X-H1141 1645600	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	2	A4
Ni10-P18-AN6X-B2341 4697800		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	D	4	A4
Ni10-P18-AP6X-B2341 4697900		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	D	5	A4
Ni8-S18-AN6X-H1141 46527		8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Ni8-S18-AP6X-H1141 46526		8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4

We reserve the right to make technical alterations without prior notice.

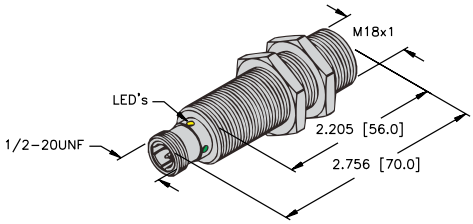
Inductive Barrel Sensors | 18 mm

Embeddable Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings

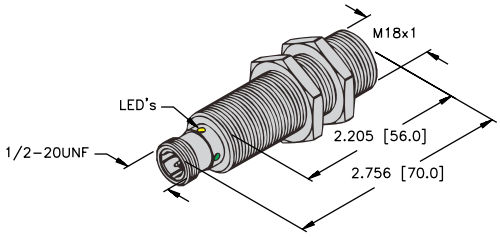


A



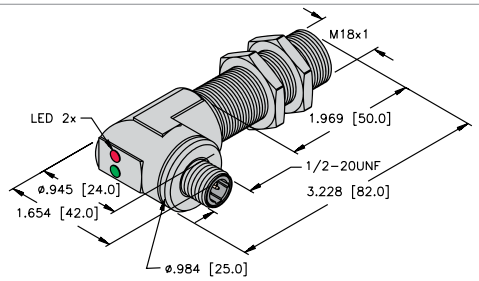
18 mm - Embeddable, 1/2" Microfast Connection

B



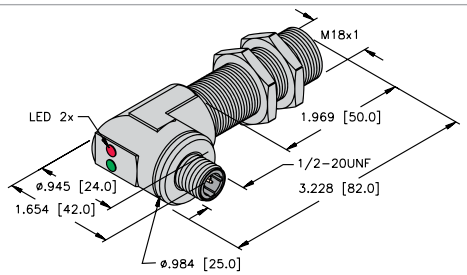
18 mm - Embeddable, 1/2" Microfast Connection, PTFE Coated

C



18 mm - Embeddable, 1/2" Microfast Connection

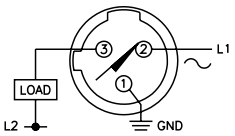
D



18 mm - Embeddable, 1/2" Microfast Right Angle Connection, PTFE Coated

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*; KBE 3T-*/S600

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA
	AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA (AC)
	≤1.5 mA (DC)
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤8 A (≤10ms max. 5 Hz)
	≤1 A (≤10 ms max. 5 Hz) 12 mm
	≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

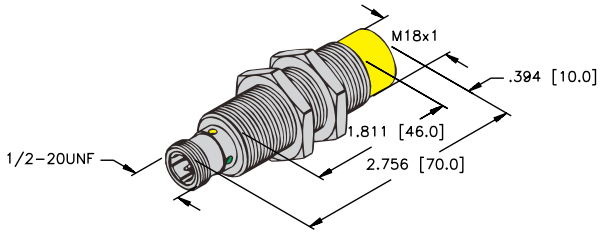
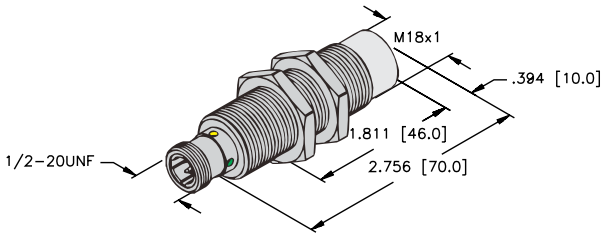
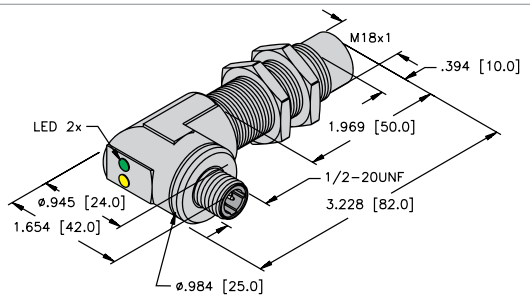
Embeddable Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8-G18-ADZ30X2-B3331 4209301	Extended Range	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	PA 12	GN	RD	A	1	A5
Bi5U-G18-ADZ30X2-B3331 4281213	Uprox	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Bi5U-GT18-ADZ30X2-B3331 4281223	Uprox, PTFE	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	B	1	A5
Bi5-G18-ADZ30X2-B3331 4208092		5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi5-GT18-ADZ30X2-B3331 4255491	PTFE	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Bi5-GT18-ADZ30X2-B3331/S34 4255400	PTFE, WFI	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Bi5-GT18H-ADZ30X2-B3331/S34 4255289	PTFE, WFI, Stoneface	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	SF	GN	RD	B	1	A5
Bi5-GT18H-ADZ30X2-B3331/S34/S1589 4255283	PTFE, Weldguard	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	B	1	A5
Bi5-GT18-ADZ30X2-B3431/S34 4255605	PTFE, WFI	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	D	1	A5
Bi5-G18-AZ3X-B3331 4372098		5	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Bi5-G18-AZ3X-B3431 4372090		5	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	1	A6

We reserve the right to make technical alterations without prior notice.

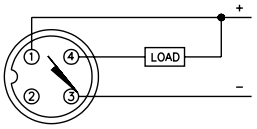
Inductive Barrel Sensors | 18 mm

Nonembeddable Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, 1/2" Microfast connection
B  18 mm - Nonembeddable, 1/2" Microfast connection, PTFE Coated	C  18 mm - Nonembeddable, PTFE Coated, 1/2" Microfast Right Angle Connection

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

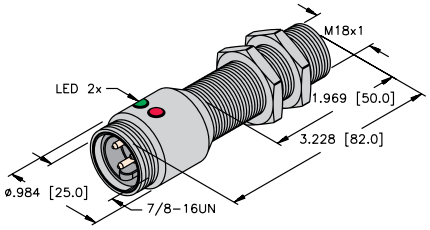
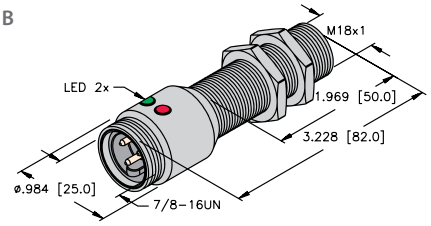
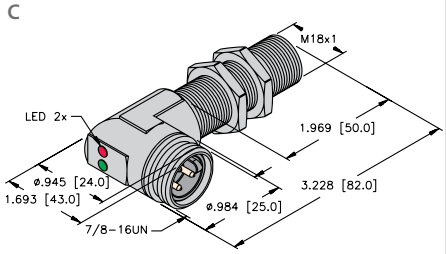
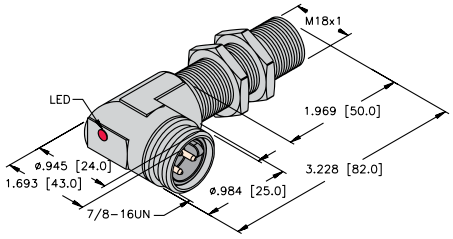
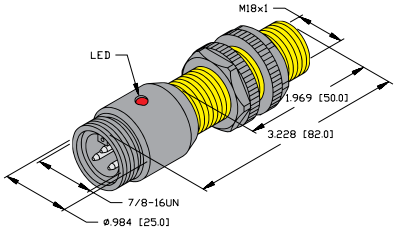
Nonembeddable Fully Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni14-G18-ADZ30X2-B3331 4205403	Extended Range	14	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Ni12U-G18-ADZ30X2-B3331 4281413	Uprox	12	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Ni12U-GT18-ADZ30X2-B3331 4281423	Uprox, PTFE	12	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	B	1	A5
Ni10-G18-AZ3X-B3331 4372192		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Ni8-G18-ADZ30X2-B3331/S34 4209100	WFI	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Ni8-GT18-ADZ30X2-B3331/S34 4209101	PTFE, WFI	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Ni8-GT18-ADZ30X2-B3431/S34 4209201	PTFE, WFI	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	C	1	A5
Ni8-G18-AZ3X-B3331 4350588		8	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6

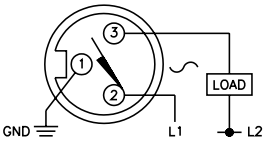
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

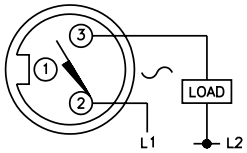
Embeddable Fully Threaded Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings	
	A  18 mm - Embeddable, 7/8" Minifast Connection	B  18 mm - Embeddable, 7/8" Minifast Connection, PTFE Coated
C  18 mm - Embeddable, 7/8" Minifast Right Angle Connection	D  18 mm - Embeddable, 7/8" Minifast Right Angle Connection, PTFE Coated	E  18 mm - Embeddable and Nonembeddable, Full Threading, 7/8" Minifast Connection

Wiring Diagrams/Mating Cordsets

1 

Mating Cordset: RKM 30-*M; RKM 311-*M/S600

2 

Mating Cordset: RK 30-*M

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Embeddable Fully Threaded Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-G18-ADZ30X2-B1331 4281212	Uprox	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Bi5U-GT18-ADZ30X2-B1331 4281222	Uprox, PTFE	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	B	1	A5
Bi5-G18-ADZ30X2-B1331 42080		5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi5-GT18-ADZ30X2-B1331 4255290	PTFE	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Bi5-GT18-ADZ30X2-B1331/S34 4255200	PTFE, WFI	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Bi5-GT18H-ADZ30X2-B1331/S34/S1589 4255284	PTFE, WFI, Weldguard	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	B	1	A5
Bi5-GT18-ADZ30X2-B1431 4255690	PTFE	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	D	1	A5
Bi5-GT18-ADZ30X2-B1431/S34 4255600	PTFE, WFI	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	D	1	A5
Bi5-GT18H-ADZ30X2-B1431/S34/S1589 4255285	PTFE, Weldguard	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	D	1	A5
Bi5-G18-AZ3X-B1331 43720		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Bi5-G18-AZ3X-B1431 43724		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	1	A6
Bi5-P18-AZ3X-B2331 43748		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	E	2	A6

We reserve the right to make technical alterations without prior notice.

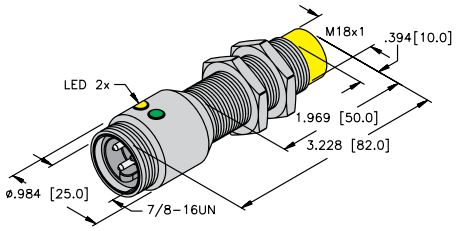
Inductive Barrel Sensors | 18 mm

Nonembeddable Fully Threaded Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings

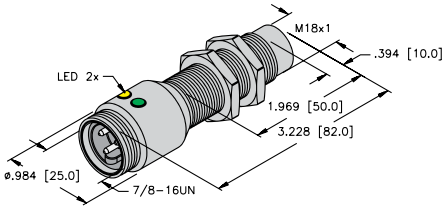


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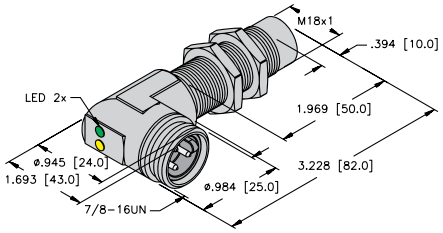
18 mm - Nonembeddable 7/8" Minifast Connection

B



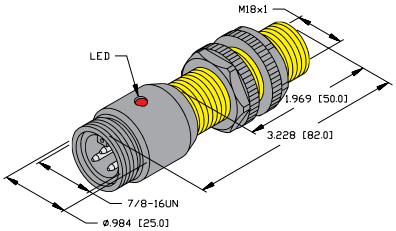
18 mm - Nonembeddable 7/8" Minifast Connection, PTFE Coated

C



18 mm - Nonembeddable, PTFE Coated 7/8" Minifast Right Angle Connection

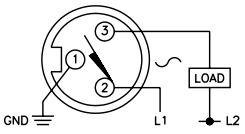
D



18 mm - Embeddable and Nonembeddable, Full Threading, 7/8" Minifast Connection

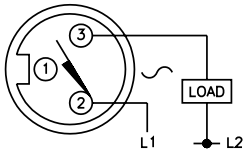
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RKM 30-*M; RKM 311-*M/S600

2



Mating Cordset: RK 30-*M

A5 — **2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)**

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Nonembeddable Fully Threaded Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni14-G18-ADZ30X2-B1331 4205407	Extended Range	14	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Ni14-GT18H-ADZ30X2-B1331/S1589 4205484	PTFE, Weldguard	14	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	B	1	A5
Ni12U-G18-ADZ30X2-B1331 4281412	Uprox	12	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Ni12U-GT18-ADZ30X2-B1331 4281422	Uprox	12	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	B	1	A5
Ni10-G18-AZ3X-B1331 43721		10	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Ni10-P18-AZ3X-B2331 43752		10	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	D	2	A6
Ni8-GT18-ADZ30X2-B1331/S34 4208801	PTFE, WFI	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Ni8-GT18H-ADZ30X2-B1331/S34/S1589 4208890	PTFE, Weldguard	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	B	1	A5
Ni8-GT18-ADZ30X2-B1431/S34 4208901	PTFE, WFI	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	C	1	A5
Ni8-GT18H-ADZ30X2-B1431/S34/S1589 4208990	Weldguard	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	C	1	A5

We reserve the right to make technical alterations without prior notice.

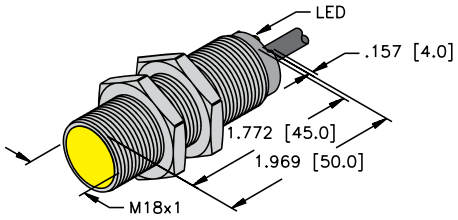
Inductive Barrel Sensors | 18 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings

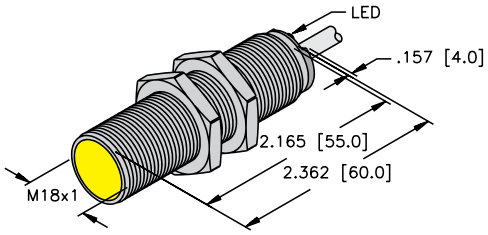


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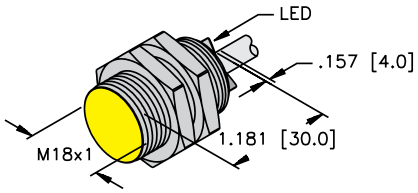
18 mm - Embeddable, Potted-in Cable

B



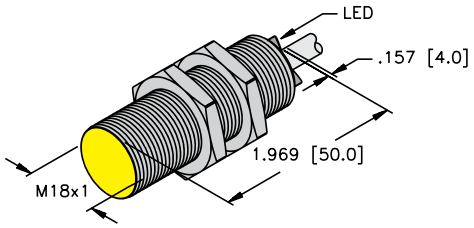
18 mm - Embeddable, Potted-In Cable, Extended Length Barrel, Partial Threading

C



18 mm - Embeddable, Full Threading, Potted-In Cable

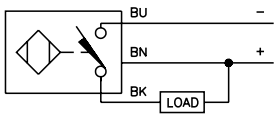
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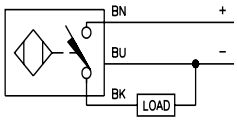
18 mm - Embeddable, Full Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

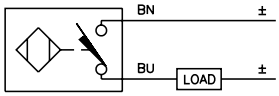
1



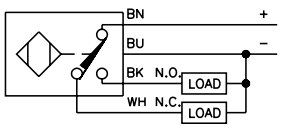
2



3



4



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-M18-AN6X 1644845	Uprox3	10	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	1	A4
BI10U-M18-AP6X 1644840	Uprox3	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
BI10U-M18-VP6X 1644842	Uprox3, Comp. Outputs	10	4-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	4	A4
Bi8U-M18-AN6X 1644736	Uprox+	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	1	A4
Bi8U-M18-AP6X 1644733	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi8-M18-AN6X 4615130	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	A	1	A4
Bi8-M18-AP6X 4615030	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi8-M18-VN4X 4590703	Comp. Outputs	8	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi8-M18-VP4X 4590704	Comp. Outputs	8	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi8-G18-AN6X 4616101	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	D	1	A4
Bi8-G18-AP6X 4615088		8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	D	2	A4
Bi5U-M18-AN6X 1635120	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	1	A4
Bi5U-EM18-AP6X 1635300	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	2	A4
Bi5U-M18-AP6X 1635100	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Bi5U-M18E-AP6X 1635101	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	B	1	A4
Bi5-G18-AN6X 4641500		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Bi5-G18-AN7X 4740500	TTL Compatible	5	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Bi5-G18-AP6X 4641400		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	2	A4
Bi5-EG18-AN6X 4611101		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	D	1	A4
Bi5-EG18-AP6X 4611001		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	D	2	A4
Bi5-M18E-VP4X 1561190	Comp. Outputs	5	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	4	A4
Bi5-G18K-AN6X 46714	Short Barrel	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A4
Bi5-G18K-AP6X 46704	Short Barrel	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4

We reserve the right to make technical alterations without prior notice.

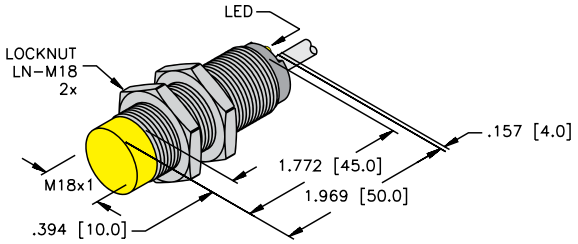
Inductive Barrel Sensors | 18 mm

Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings

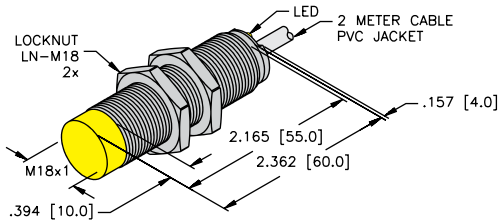


A



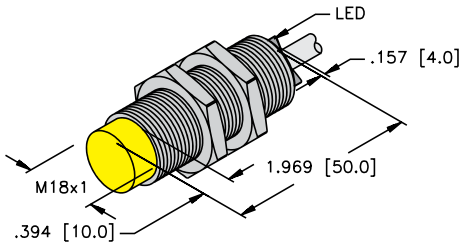
18 mm - Nonembeddable, Potted-in Cable

B



18 mm - Nonembeddable, Extended Barrel Length, Partial Threading, Potted-In Cable

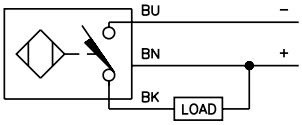
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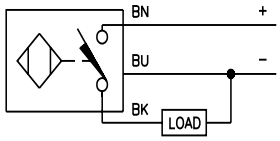
18 mm - Nonembeddable, Full Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

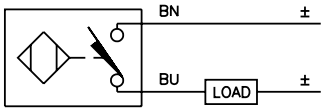
1



2



3



A2	2-wire DC - (AD, RD, AG)		
Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4	3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)		
Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

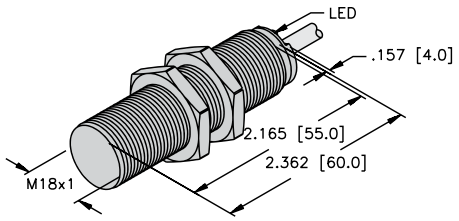
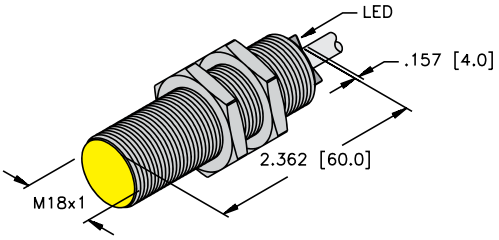
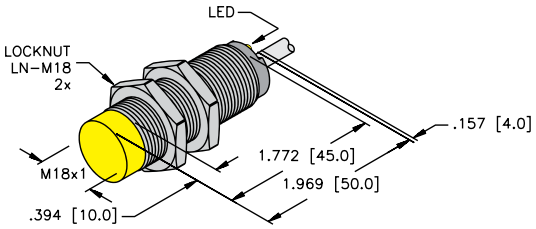
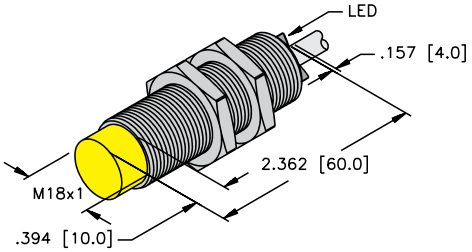
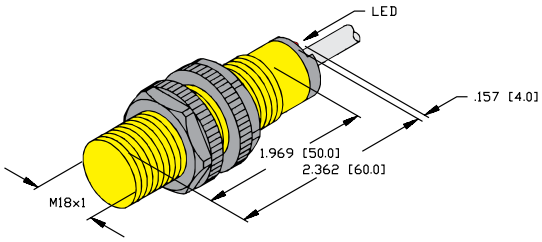
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni15U-M18-AN6X 1635334	Uprox+	15	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	1	A4
Ni15U-M18-AP6X 1635330	Uprox+	15	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni14-M18-AD4X 4417235	Extended Range	14	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A2
Ni14-M18-AN6X 4611411	Extended Range	14	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A4
Ni14-M18-AP6X 4611401	Extended Range	14	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni12U-M18-AN6X 1645120	Uprox	12	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	1	A4
Ni12U-M18-AP6X 1645100	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Ni12U-M18E-AN6X 1645110	Uprox	12	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	B	1	A4
Ni12U-M18E-AP6X 1645106	Uprox	12	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	B	2	A4
Ni12U-EM18-AN6X 1645320	Uprox	12	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	SS	PBT	N/A	YE	2M/PVC	A	1	A4
Ni12U-EM18-AP6X 1645300	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	SS	PBT	N/A	YE	2M/PVC	A	2	A4
Ni10-G18-AN6X 4641700		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A4
Ni10-G18-AN7X 4740700	TTL Compatible	10	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A4
Ni10-G18-AP6X 4641600		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni8-M18-AD4X 44112		8	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A2

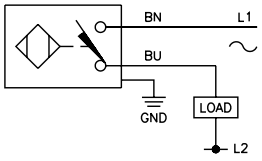
We reserve the right to make technical alterations without prior notice.

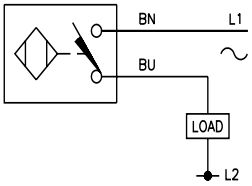
Inductive Barrel Sensors | 18 mm

Threaded Barrels with Cable and AC/DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, Potted-In Cable, Partial Threading, PTFE Coated
B  18 mm - Embeddable, Full Threading, Potted-In Cable	C  18 mm - Nonembeddable, Partial Threading, Potted-In Cable
D  18 mm - Nonembeddable, Full Threading, Potted-In Cable	E  18 mm - Embeddable and Nonembeddable, Partial Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1 

2 

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

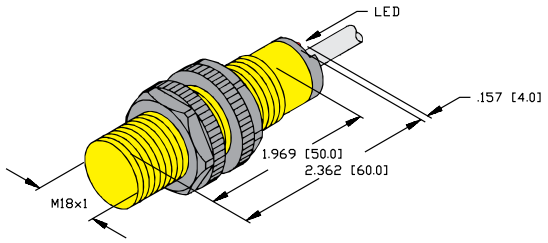
Threaded Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-MT18-ADZ30X2 4209410	Uprox	5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	2M/PVC	A	1	A5
Bi5-G18-ADZ30X2 4212000		5	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	2M/PVC	B	1	A5
Bi5-G18-AZ3X 4330400		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	B	1	A6
Bi5-G18-AZ3X2 1374195		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	YE	2M/PVC	B	1	A6
Bi5-EG18-AZ3X 4611190		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	PA 12	N/A	RD	2M/PVC	B	1	A6
Bi5-S18-AZ3X 4350400		5	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	E	2	A6
Ni14-G18-ADZ30X2 4205402	Extended Range	14	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	2M/PVC	D	1	A5
Ni12U-M18-ADZ30X2 4282410	Uprox	12	2-wire AC/DC Short-Circuit Protected	20-250 VAC/ 10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	2M/PVC	C	1	A5
Ni8-S18-AZ3X 4350500		8	2-wire AC/DC	20-250 VAC/ 10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	E	2	A6

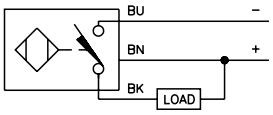
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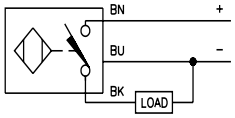
Inductive Barrel Sensors | 18 mm

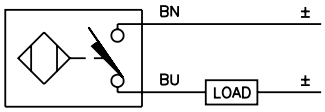
Threaded Plastic Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable and Nonembeddable, Partial Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Threaded Plastic Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-S18-AP6X 1635500	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Bi5-S18-AD4X 44560		5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	3	A2
Bi5-S18-AN6X 46561		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Bi5-S18-AN7X 1714000	TTL Compatible	5	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Bi5-S18-AN7X/S100 17734	High Temp. 100 °C	5	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +100	IP67	PA 12	IRPA	N/A	YE	A	1	A4
Bi5-S18-AP6X 46560		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4
Bi5-S18-AP7X/S100 1754200	TTL Compatible, High Temp. 100 °C	5	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +100	IP67	PA 12	IRPA	N/A	YE	A	2	A4
Ni12U-S18-AN6X 1645520	Uprox	12	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	1	A4
Ni12U-S18-AP6X 1645500	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Ni8-S18-AD4X 44562		8	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	3	A2
Ni8-S18-AN6X 46563		8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Ni8-S18-AN7X 1714100	TTL Compatible	8	3-wire DC NPN	10-30 VDC	500	≤150	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A4
Ni8-S18-AP6X 46562		8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4
Ni8-S18-AN7X/S100 1773250	TTL Compatible, High Temp. 100 °C	8	3-wire DC NPN	10-30 VDC	500	≤150	-25 to +100	IP67	PA 12	IRPA	N/A	YE	A	1	A4
Ni8-S18-AP7X/S100 1749850	TTL Compatible, High Temp. 100 °C	8	3-wire DC PNP	10-30 VDC	500	≤150	-25 to +100	IP67	PA 12	IRPA	N/A	YE	A	2	A4

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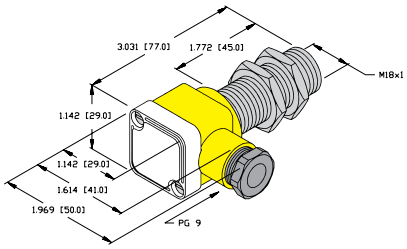
Inductive Barrel Sensors | 18 mm

Threaded Metal Barrels with Terminal Chamber and AC/DC Outputs

Housing Style	Dimension Drawings

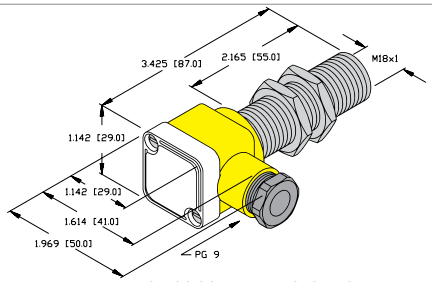


A



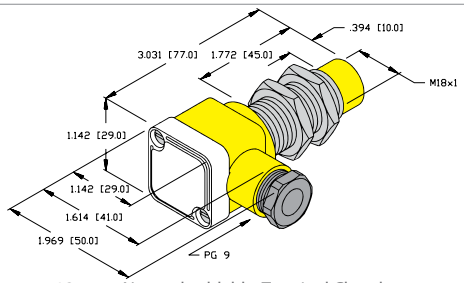
18 mm - Embeddable, Terminal Chamber

B



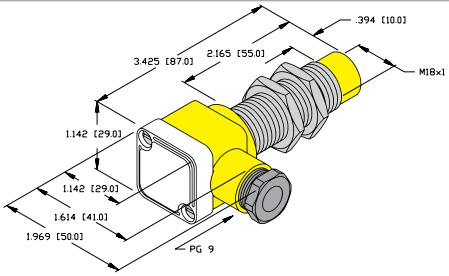
18 mm - Embeddable, Terminal Chamber

C



18 mm - Nonembeddable, Terminal Chamber

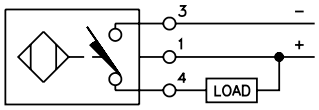
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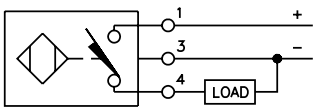
18 mm - Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

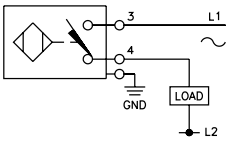
1



2



3



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

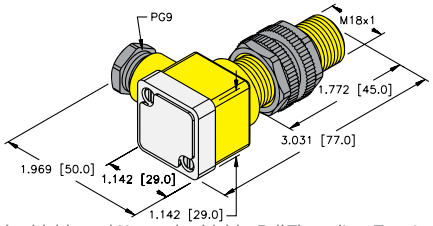
Threaded Metal Barrels with Terminal Chamber and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-EG18SK-AP6X 1635400	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi5-G18SK-AN6X2 4642500		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	1	A4
Bi5-G18SK-AP6X2 4642400		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	2	A4
Bi5-G18SK-AZ3X2 4331400		5	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤500	-25 to +70	IP67	CPB	PA 12	GN	RD	B	3	A6
Ni10-G18SK-AN6X2 4642700		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	C	1	A4
Ni10-G18SK-AP6X2 4642600		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	C	2	A4
Ni10-G18SK-AZ3X2 4331500		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	D	3	A6

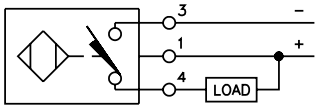
We reserve the right to make technical alterations without prior notice.

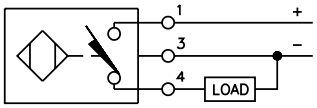
Inductive Barrel Sensors | 18 mm

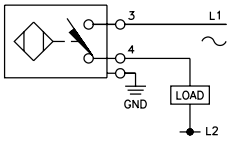
Threaded Metal Barrels with Terminal Chamber and AC/DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable and Nonembeddable, Full Threading, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

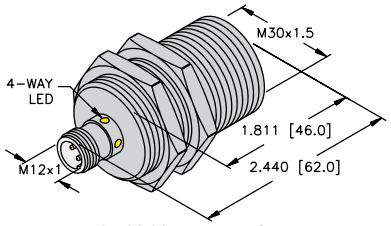
Threaded Metal Barrels with Terminal Chamber and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-P18SK-AP6X 1635700	Uprox	5	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Bi5-P18SK-AP6X2 4656900		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	A	2	A4
Bi5-P18SK-AZ3X2 4351400		5	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	GN	RD	A	3	A6
Ni12U-P18SK-AP6X 1645700	Uprox	12	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Ni10-P18SK-AZ3X2 4351500		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	GN	RD	A	3	A6
Ni10-P18SK-AN6X2 4657200		10	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	A	1	A4
Ni10-P18SK-AP6X2 4657100		10	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	A	2	A4

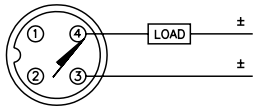
We reserve the right to make technical alterations without prior notice.

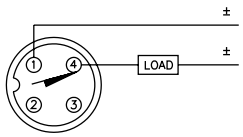
Inductive Barrel Sensors | 30 mm

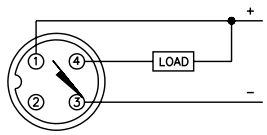
Embeddable Threaded Metal Barrels with Connector and DC Outputs

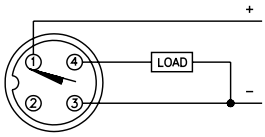
Housing Style	Dimension Drawings
	A  30 mm - Embeddable, M12 Eurofast Connection

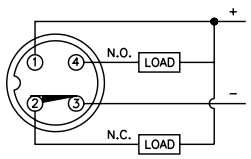
Wiring Diagrams/Mating Cordsets

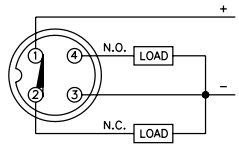
1  Mating Cordset: RK 4.2T-*

2  Mating Cordset: RK 4.23T-*

3  Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4  Mating Cordset: RK 4T-*; RKC 4T-*/S1587

5  Mating Cordset: RK 4.4T-*

6  Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

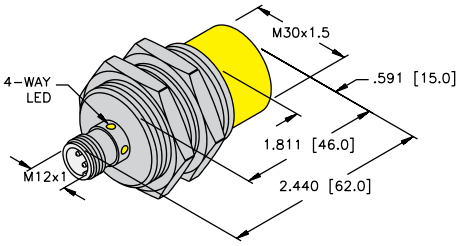
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20U-M30-AN6X-H1141 1644888	Uprox3	20	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi20U-M30-AP6X-H1141 1644880	Uprox3	20	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	4	A4
Bi15U-M30-AN6X-H1141 1636736	Uprox+	15	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi15U-M30-AP6X-H1141 1636732	Uprox+	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Bi15U-EM30-AP6X-H1141 1636733	Uprox+	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	4	A4
Bi15-M30-AN6X-H1141 4618600	Extended Range	15	3-wire DC NPN	10-30 VDC	300	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi15-EM30H-AN6X-H1141 4618692	Ext. Range, Stoneface	15	3-wire DC NPN	10-30 VDC	300	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	3	A4
Bi15-M30-AP6X-H1141 46185	Extended Range	15	3-wire DC PNP	10-30 VDC	300	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi15-EM30H-AP6X-H1141 4618592	Ext. Range, Stoneface	15	3-wire DC PNP	10-30 VDC	300	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	4	A4
Bi15-EM30-AP6X-H1141/S1589 4618593	Weldguard	15	3-wire DC PNP	10-30 VDC	300	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	4	A4
Bi15-M30-VN4X-H1141 4570711	Ext. Range, Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi15-M30-VP4X-H1141 4570710	Ext. Range, Comp. Outputs	15	4-wire DC PNP	10-65 VDC	300	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Bi12-M30-AD4X-H1141 4417041	Extended Range	12	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi10U-M30-AD4X-H1144 4405072	Uprox	10	2-wire DC	10-65 VDC	10	≤100	-25 to +70	IP68	CPB	LCP	N/A	YE	A	2	A2
Bi10U-M30-AN6X-H1141 1636150	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Bi10U-EM30-AN6X-H1141 1636350	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Bi10U-M30-AP6X-H1141 1636140	Uprox	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	4	A4
Bi10U-M30-AP6X2-H1141 1636145	Uprox	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	GN	YE	A	4	A4
Bi10U-EM30-AP6X-H1141 1636340	Uprox	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	4	A4
Bi10U-M30-VP4X-H1141 1582253	Uprox, Comp. Outputs	10	4-wire DC PNP	10-65 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	6	A4
Bi10-M30-AD4X-H1141 44175		10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi10-M30-AN6X-H1141 46176		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi10-M30-AP6X-H1141 46175		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi10-M30-VN4X-H1141 15716	Comp. Outputs	10	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi10-M30-VP4X-H1141 15616	Comp. Outputs	10	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4

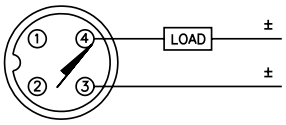
We reserve the right to make technical alterations without prior notice.

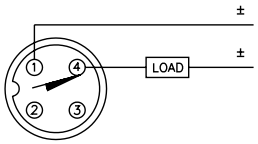
Inductive Barrel Sensors | 30 mm

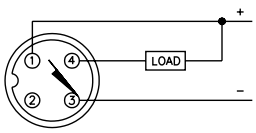
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

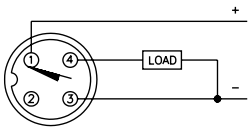
Housing Style	Dimension Drawings
	A  30 mm - Nonembeddable, M12 Eurofast Connection

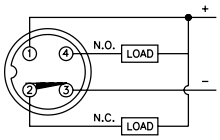
Wiring Diagrams/Mating Cordsets

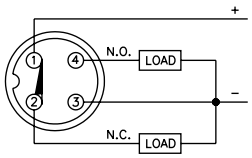
1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4.23T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

5 
Mating Cordset: RK 4.4T-*

6 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

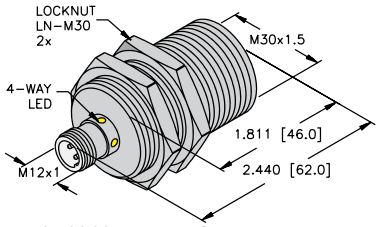
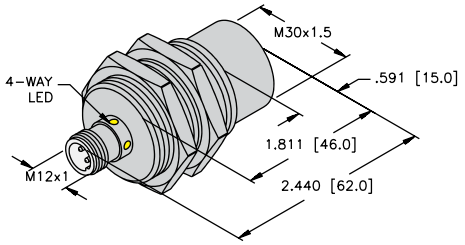
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni30U-M30-AN6X-H1141 1644635	Uprox+	30	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Ni30U-EM30-AN6X-H1141 1644636	Uprox+	30	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni30U-M30-AP6X-H1141 1646631	Uprox+	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Ni30U-EM30-AP6X-H1141 1646632	Uprox+	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	4	A4
Ni20U-M30-AN6X-H1141 1646150	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Ni20U-M30-AN6X2-H1141 1646155	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	GN	YE	A	3	A4
Ni20U-EM30-AN6X-H1141 1646350	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Ni20U-EM30-AN6X2-H1141/S1589 1646191	Uprox, Weldguard	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	3	A4
Ni20U-M30-AP6X-H1141 1646140	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	4	A4
Ni20U-EM30-AP6X-H1141 1646340	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	4	A4
Ni20U-EM30-AP6X2-H1141 1646345	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	4	A4
Ni20U-EM30-AP6X2-H1141/S1589 1646490	Uprox, Weldguard	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	4	A4
Ni20U-M30-VP4X-H1141 1582457	Uprox	20	4-wire DC PNP	10-65 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	6	A4
Ni20-M30-AD4X-H1141 4466141	Extended Range	20	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni20-M30-AD4X-H1144 4466192	Extended Range	20	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Ni20-M30-AN6X-H1141 4670515	Extended Range	20	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni20-M30-AP6X-H1141 4670510	Extended Range	20	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni20-M30-VN4X-H1141 4590606	Ext. Range, Comp. Outputs	20	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni20-M30-VP4X-H1141 4590607	Ext. Range, Comp. Outputs	20	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni15-M30-AD4X-H1141 44177		15	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni15-M30-AN6X-H1141 46178		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni15-M30-AP6X-H1141 46177		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni15-M30-VN4X-H1141 1571510	Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni15-M30-VP4X-H1141 15617	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4

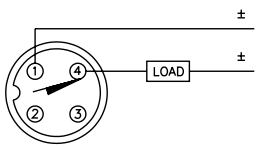
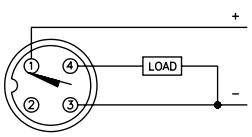
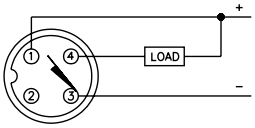
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable, M12 Eurofast Connection, PTFE Coated
B  30 mm - Nonembeddable, M12 Eurofast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1	2	3
 Mating Cordset: RK 4.23T-*	 Mating Cordset: RK 4T-*; RKC 4T-*/S1587	 Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

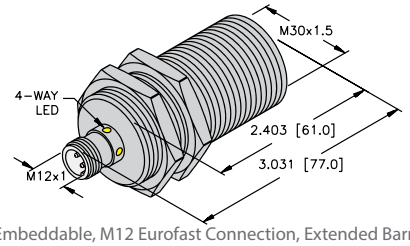
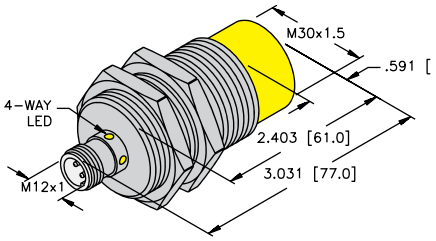
Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20U-MT30-AN6X-H1141 1644889	Uprox3, PTFE	20	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	3	A4
Bi20U-MT30-AP6X-H1141 1644881	Uprox3, PTFE	20	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	2	A4
Bi15U-MT30-AP6X-H1141 1636734	Uprox+, PTFE	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	2	A4
Bi15U-MT30-AP6X2-H1141 1644741	Uprox+	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	TC	GN	YE	A	2	A4
Bi12-MT30H-AD4X-H1144 4417095	PTFE, Stoneface	12	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	TC	SF	N/A	YE	A	1	A2
Bi10U-MT30-AN6X-H1141 1636250	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Bi10U-MT30-AP6X-H1141 1636240	Uprox, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	2	A4
Bi10U-MT30-AP6X2-H1141 1636245	Uprox, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	2	A4
Bi10U-MT30H-AP6X2-H1141 1636220	Uprox, PTFE, Stoneface	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	SF	GN	YE	A	2	A4
Bi10U-MT30-AP6X2-H1141/S1589 1636291	Uprox, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	2	A4
Ni30U-MT30-AN6X-H1141 1644637	Uprox+, PTFE	30	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	B	3	A4
Ni30U-MT30-AP6X-H1141 1646633	Uprox+, PTFE	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	B	2	A4
Ni30U-MT30-AP6X2-H1141 1646635	Uprox+, PTFE	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	TC	GN	YE	B	2	A4
Ni30U-MT30-AP6X-H1141/S1589 16466331	Uprox+, PTFE, Weldguard	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	B	2	A4
Ni30U-MT30-AP6X2-H1141/S1589 16466351	Uprox+, PTFE, Weldguard	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	GN	YE	B	2	A4
Ni20U-MT30-AP6X-H1141 1646240	Uprox, PTFE	20	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	2	A4
Ni20U-MT30-AP6X2-H1141 1646245	Uprox, PTFE	20	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	TC	GN	YE	B	2	A4
Ni20U-MT30-AP6X2-H1141/S1589 1646291	Uprox, Weldguard	20	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	TC	WG	GN	YE	B	2	A4
Ni20-MT30-AN6X-H1141/S1589 4670589	PTFE, Weldguard	20	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	TC	WG	N/A	YE	B	3	A4
Ni15U-MT30-AD4X-H1144 4405077	Uprox, PTFE	15	2-wire DC	10-65 VDC	10	≤100	-25 to +70	IP68	TC	TC	GN	YE	B	1	A2

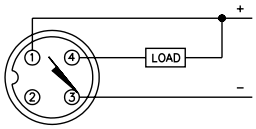
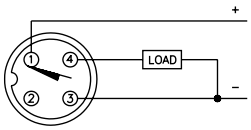
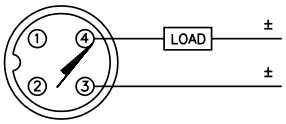
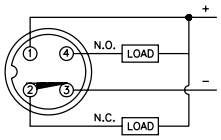
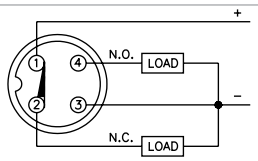
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length
B  30 mm - Nonembeddable, M12 Eurofast Connection, Extended Barrel Length	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4T-*	2  Mating Cordset: RK 4.23T-*
3  Mating Cordset: RK 4.2T-*	4  Mating Cordset: RK 4.4T-*
5  Mating Cordset: RK 4.4T-*	

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

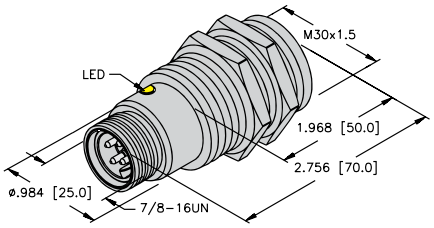
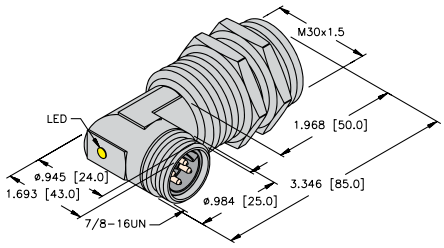
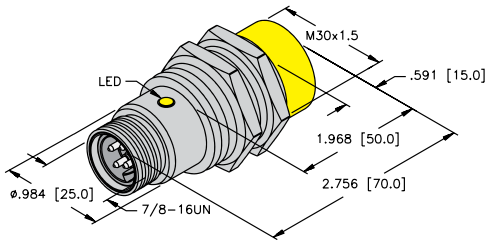
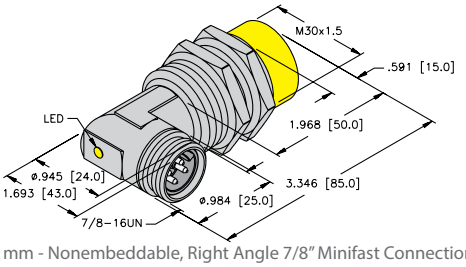
Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-M30E-AN6X-H1141 4618690	Extended Range	15	3-wire DC NPN	10-30 VDC	300	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi15-M30E-AP6X-H1141 4618590	Extended Range	15	3-wire DC PNP	10-30 VDC	300	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi10U-EM30E-AP6X-H1141 1636322	Uprox	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	2	A4
Bi10U-EM30HE-AP6X2-H1141 1636415	Uprox, Stoneface	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	2	A4
Bi10-M30E-AD4X-H1141 4417501		10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A2
Ni15-M30E-AD4X-H1141 4417790		15	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	3	A2
Ni15-M30E-VN4X-H1141 1571590	Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	4	A4
Ni15-M30E-VP4X-H1141 1561790	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	5	A4

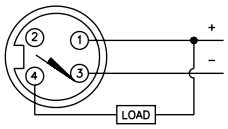
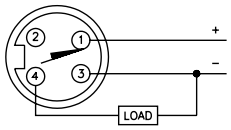
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable, 7/8" Minifast Connection
B  30 mm - Embeddable, 7/8" Minifast Right Angle Connection	C  30 mm - Nonembeddable, 7/8" Minifast Connection
D  30 mm - Nonembeddable, Right Angle 7/8" Minifast Connection	

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: RKM 40-*M	 Mating Cordset: RKM 40-*M

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

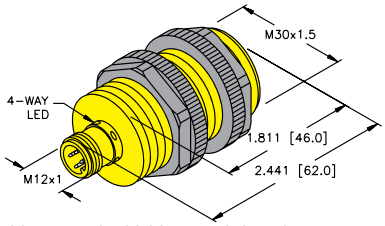
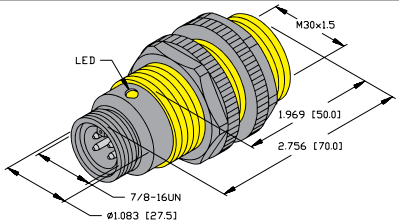
Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-G30-AN6X-B1141 46954	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi10-G30-AP6X-B1141 46965	10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi10-G30-AN6X-B1441 46958	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Bi10-G30-AP6X-B1441 46969	10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni15-G30-AN6X-B1141 46955	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	C	1	A4
Ni15-G30-AP6X-B1141 46966	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	C	2	A4
Ni15-G30-AN6X-B1441 4695590	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	1	A4
Ni15-G30-AP6X-B1441 46970	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	D	2	A4

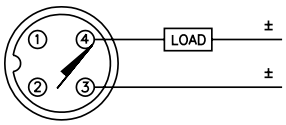
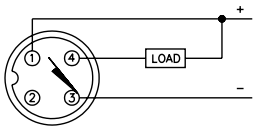
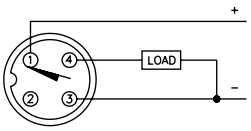
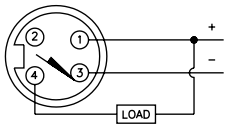
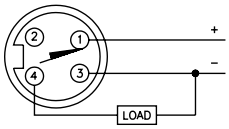
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Threaded Plastic Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable/Nonembeddable, Partial Threading, M12 Eurofast Connection
B  30 mm - Embeddable/Nonembeddable, Full Threading, 7/8" Minifast Connection	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RKK 4.2T-*	2  Mating Cordset: RKK 4T-*	3  Mating Cordset: RKK 4T-*
4  Mating Cordset: RK 40-*M	5  Mating Cordset: RK 40-*M	

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 30 mm

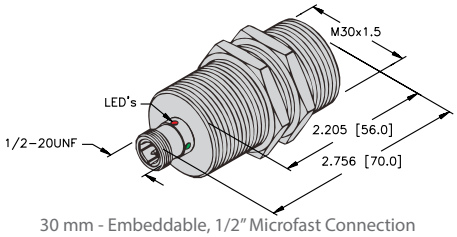
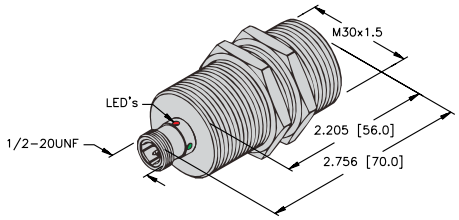
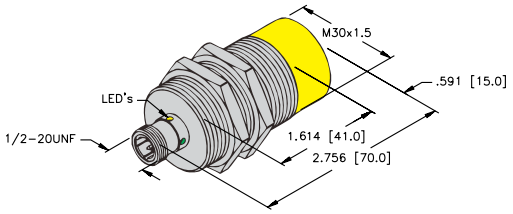
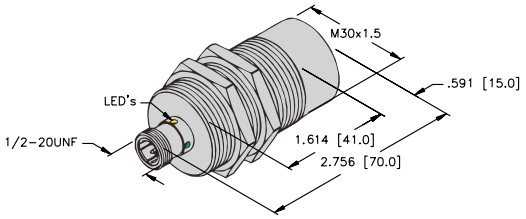
Threaded Plastic Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-S30-AN6X-H1141 1636620	Uprox	10	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Bi10U-S30-AP6X-H1141 1636600	Uprox	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	3	A4
Bi10-S30-AD4X-H1141 4458000		10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A2
Bi10-S30-AN6X-H1141 46581		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4
Bi10-S30-AP6X-H1141 46580		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	3	A4
Bi10-P30-AN6X-B2141 46974		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	B	4	A4
Bi10-P30-AP6X-B2141 46975		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	B	5	A4
Ni20U-S30-AN6X-H1141 1646620	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	2	A4
Ni20U-S30-AP6X-H1141 1646600	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	A	3	A4
Ni15-S30-AD4X-H1141 44582		15	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	1	A2
Ni15-S30-AN6X-H1141 46583		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	2	A4
Ni15-P30-AN6X-B2141 46976		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	B	4	A4
Ni15-S30-AP6X-H1141 46582		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	A	3	A4
Ni15-P30-AP6X-B2141 46977		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	B	5	A4

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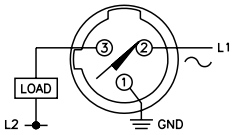
Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable, 1/2" Microfast Connection
B  30 mm - Embeddable, 1/2" Microfast Connection, PTFE Coated	C  30 mm - Nonembeddable, 1/2" Microfast Connection
D  30 mm - Nonembeddable, 1/2" Microfast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*; KBE 3T-*/S600

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

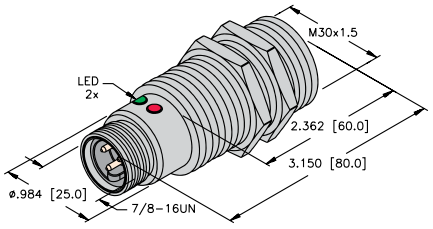
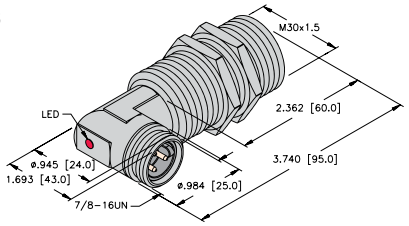
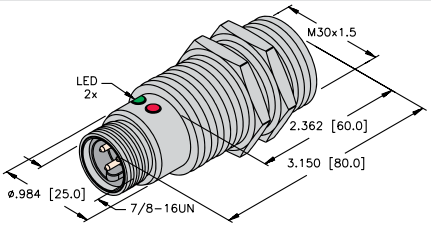
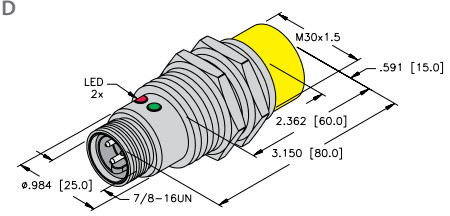
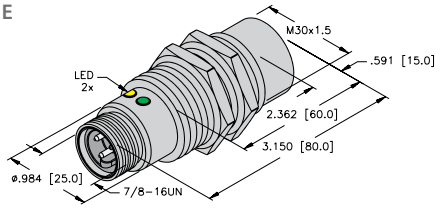
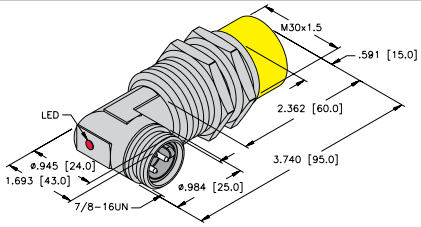
Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-G30-ADZ30X2-B3131 4207201	Extended Range	15	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi15-EG30H-ADZ30X2-B3131 4207284	Ext. Range, Stoneface	15	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	SF	GN	RD	A	1	A5
Bi10U-G30-ADZ30X2-B3131 4281613	Uprox	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Bi10U-GT30-ADZ30X2-B3131 4281623	Uprox, PTFE	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	B	1	A5
Bi10-G30-ADZ30X2-B3131 T207591		10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi10-GT30-ADZ30X2-B3131/S34 4256203	PTFE, WFI	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	B	1	A5
Bi10-GT30H-ADZ30X2-B3131/S34 4256094	WFI, Stoneface	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	SF	GN	RD	B	1	A5
Bi10-G30-AZ3X-B3131 4372298		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Ni20U-G30-ADZ30X2-B3131 4281813	Uprox	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	C	1	A5
Ni20U-GT30-ADZ30X2-B3131 4281823	Uprox, PTFE	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	D	1	A5
Ni20-G30-ADZ30X2-B3131 4205406	Extended Range	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	C	1	A5
Ni15-G30-AZ3X-B3131 1306090		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	1	A6

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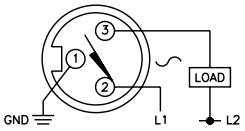
Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings	
	A  30 mm - Embeddable, 7/8" Minifast Connection	B  30 mm - Embeddable, 7/8" Minifast Right Angle Connection
C  30 mm - Embeddable, 7/8" Minifast Connection, PTFE Coated	D  30 mm - Nonembeddable, 7/8" Minifast Connection	E  30 mm - Nonembeddable, 7/8" Minifast Connection, PTFE Coated
F  30 mm - Nonembeddable, 7/8" Minifast Right Angle Connection		

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RKM 30-*M; RKM 311-*M/S600

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

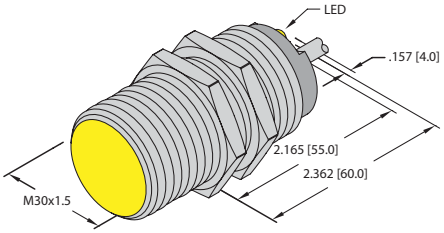
Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-G30-ADZ30X2-B1131 4207202	Extended Range	15	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi15-EG30H-ADZ30X2-B1131 4207292	Ext. Range, Stoneface	15	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	SF	GN	RD	A	1	A5
Bi10U-G30-ADZ30X2-B1131 4281612	Uprox	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	A	1	A5
Bi10-GT30-ADZ30X2-B1131/S34/S1589 4255280	PTFE, WFI, Weldguard	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	WG	GN	RD	C	1	A5
Bi10-G30-ADZ30X2-B1131 42075		10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	1	A5
Bi10-GT30-ADZ30X2-B1131/S34 4256200	PTFE, WFI	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	C	1	A5
Bi10-GT30-ADZ30X2-B1131 4256290	PTFE	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	C	1	A5
Bi10-G30-AZ3X-B1131 43722		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	A	1	A6
Bi10-G30-AZ3X-B1431 43726		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	B	1	A6
Bi10U-GT30-ADZ30X2-B1131 4281622	Uprox, PTFE	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	C	1	A5
Ni20U-G30-ADZ30X2-B1131 4281812	Uprox	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	CPB	PBT	GN	YE	D	1	A5
Ni20U-GT30-ADZ30X2-B1131 4281822	Uprox	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	TC	TC	GN	YE	E	1	A5
Ni20-G30-ADZ30X2-B1131 4205405	Extended Range	20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	D	1	A5
Ni15-G30-AZ3X-B1131 43723		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	1	A6
Ni15-G30-AZ3X-B1431 4372700		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	F	1	A6

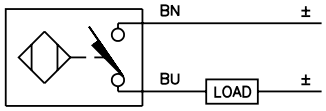
We reserve the right to make technical alterations without prior notice.

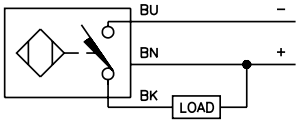
Inductive Barrel Sensors | 30 mm

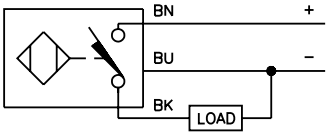
Embeddable Threaded Metal Barrels with Cable and DC Outputs

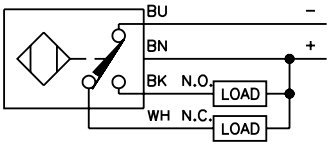
Housing Style	Dimension Drawings
	A  30 mm - Embeddable, Potted-in Cable

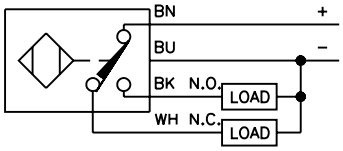
Wiring Diagrams/Mating Cordsets

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A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

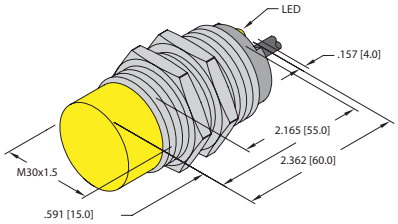
Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi20U-M30-AN6X 1644890	Uprox3	20	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi20U-M30-AP6X 1644886	Uprox3	20	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi15U-M30-AN6X 1636735	Uprox+	15	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi15U-M30-AP6X 1636731	Uprox+	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi15U-EM30-AP6X 1636741	Uprox+	15	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	2M/PVC	A	3	A4
Bi15-M30-AN6X 4618620	Extended Range	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi15-M30-AP6X 4618530	Extended Range	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi15-M30-VN4X 4570712	Ext. Range, Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi15-M30-VP4X 4570713	Ext. Range, Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Bi12-M30-AD4X 4417035	Extended Range	12	2-wire DC	10-65 VDC	400	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi10U-M30-AD4X 4405073	Uprox	10	2-wire DC	10-65 VDC	10	≤100	-30 to +85	IP68	TC	LCP	N/A	YE	2M/PVC	A	1	A2
Bi10U-M30-AN6X 1636120	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Bi10U-EM30-AN6X 1636320	Uprox	10	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	2M/PVC	A	2	A4
Bi10U-M30-AP6X 1636100	Uprox	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	3	A4
Bi10U-EM30-AP6X 1636300	Uprox	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	2M/PVC	A	3	A4
Bi10-M30-AD4X 44170		10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi10-M30-VN4X 15714	Comp. Outputs	10	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi10-M30-VP4X 15614	Comp. Outputs	10	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4

We reserve the right to make technical alterations without prior notice.

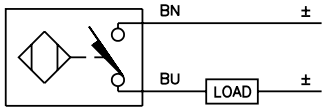
Inductive Barrel Sensors | 30 mm

Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

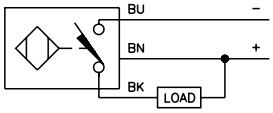
Housing Style	Dimension Drawings
	A  30 mm - Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

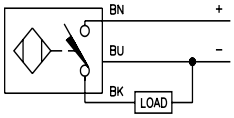
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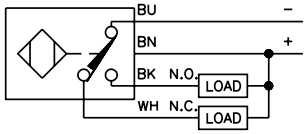
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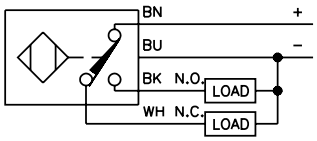
3



4



5



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni30U-M30-AN6X 1644634	Uprox+	30	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni30U-M30-AP6X 1646630	Uprox+	30	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Ni20U-M30-AN6X 1646120	Uprox	20	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Ni20U-EM30-AN6X 1646320	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	2	A4
Ni20U-M30-AP6X 1646100	Uprox	20	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	3	A4
Ni20U-EM30-AP6X 1646300	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	3	A4
Ni20-M30-AD4X 4466135	Extended Range	20	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni20-M30-AN6X 4670516	Extended Range	20	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni20-M30-AP6X 4670511	Extended Range	20	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Ni20-M30-VN4X 4590604	Extended Range	20	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Ni20-M30-VP4X 4590605	Extended Range	20	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Ni15-M30-AD4X 44172		15	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni15-M30-VN4X 15715	Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Ni15-M30-VP4X 15615	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4

We reserve the right to make technical alterations without prior notice.

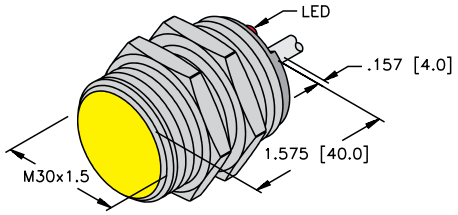
Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings

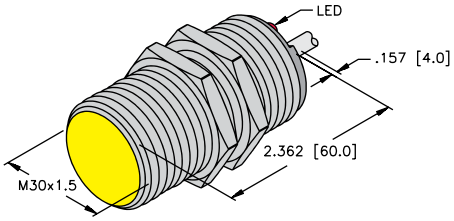


A



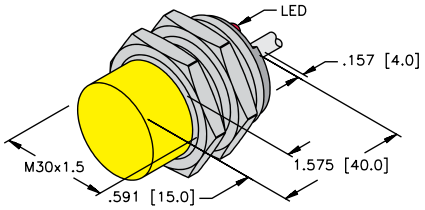
30 mm - Embeddable, Potted-In Cable

B



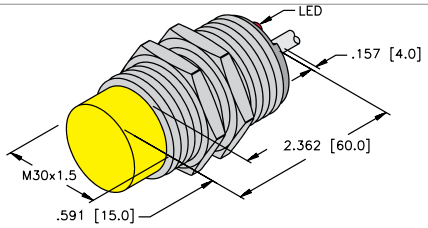
30 mm - Embeddable, Potted-In Cable

C



30 mm - Nonembeddable, Potted-In Cable

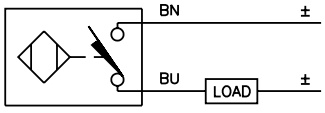
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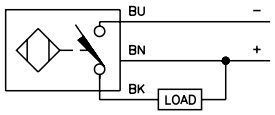
30 mm - Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

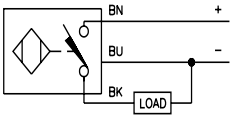
1



2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-G30K-AD4X 4670695	Short Barrel	10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi10-G30K-AN6X 46716	Short Barrel	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi10-G30K-AP6X 46706	Short Barrel	10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi15-G30K-AP6X 4207300	Short Barrel	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi10-G30-AN6X 4647500		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi10-G30-AN7X 1714800	TTL Compatible	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi10-G30-AP6X 4647400		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	3	A4
Ni30-G30K-AP6X 4670711	Short Barrel	30	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	3	A4
Ni15-G30-AN6X 46477		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	2	A4
Ni15-G30-AN7X 1714900		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	2	A4
Ni15-G30-AP6X 4647600		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	3	A4
Ni15-G30K-AN6X 46717	Short Barrel	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni15-G30K-AP6X 46707	Short Barrel	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	3	A4

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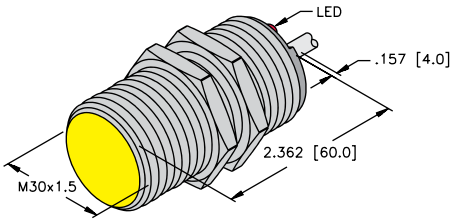
Inductive Barrel Sensors | 30 mm

Threaded Metal Barrels with Cable and AC/DC Outputs

Housing Style	Dimension Drawings

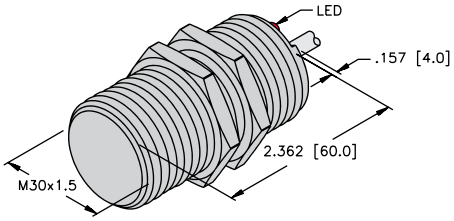


A



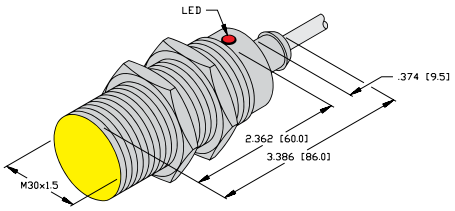
30 mm - Embeddable, Potted-In Cable

B



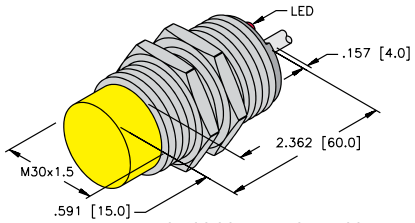
30 mm - Embeddable, Potted-In Cable, PTFE Coated

C



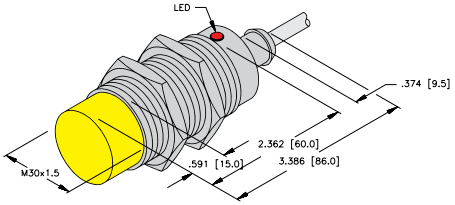
30 mm - Embeddable, Potted-In Cable

D



30 mm - Nonembeddable, Potted-In Cable

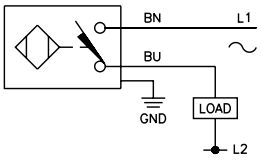
E



30 mm - Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



A5 — **2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)**

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA
	AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA (AC)
	≤1.5 mA (DC)
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤8 A (≤10ms max. 5 Hz)
	≤1 A (≤10 ms max. 5 Hz) 12 mm
	≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

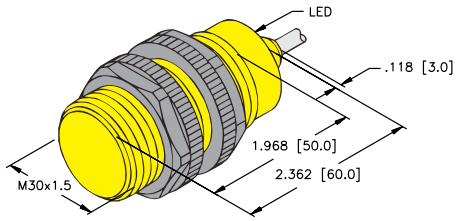
Threaded Metal Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-EG30-ADZ30X2 4256095		10	2-wire AC/DC Short-circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	PA 12	GN	RD	2M/PVC	A	1	A5
Bi10-G30-ADZ30X2 42070		10	2-wire AC/DC Short-circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	2M/PVC	A	1	A5
Bi15-G30-ADZ30X2 4207200		15	2-wire AC/DC Short-circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	2M/PVC	A	1	A5
Bi10-EG30-AZ3X 4345699		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	SS	PA 12	N/A	RD	2M/PVC	A	1	A6
Bi10-G30-AZ3X 4345400		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	A	1	A6
Bi10-GT30-ADZ30X2/S34 4256000	PTFE, WFI	10	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	TC	TC	GN	RD	2M/PVC	B	1	A5
Bi10-M30T-AZ3X 43170		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	C	1	A6
Ni20-G30-ADZ30X2 4205404		20	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	2M/PVC	D	1	A5
Ni15-M30T-AZ3X 43171		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	E	1	A6

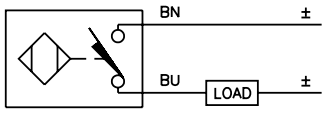
We reserve the right to make technical alterations without prior notice.

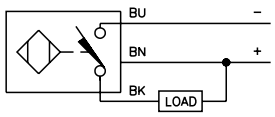
Inductive Barrel Sensors | 30 mm

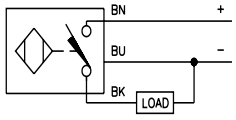
Threaded Plastic Barrels with Cable and DC Outputs

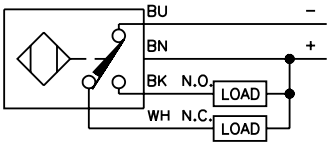
Housing Style	Dimension Drawings
	A  30 mm - Embeddable/Nonembeddable, Partial Threading, Potted-In Cable

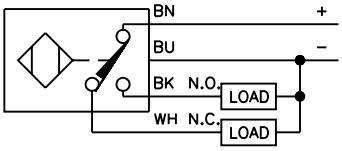
Wiring Diagrams/Mating Cordsets

1 

2 

3 

4 

5 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

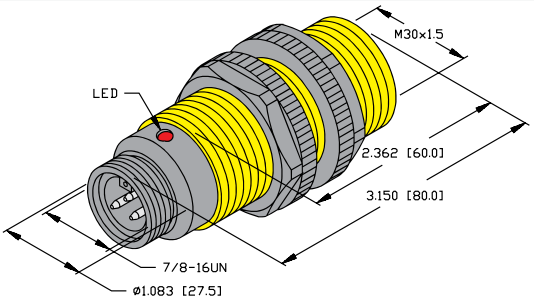
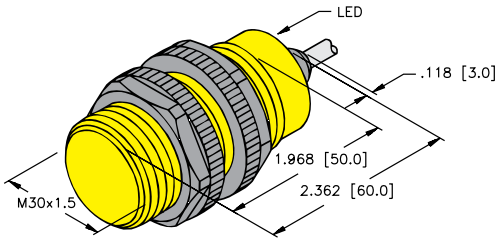
Threaded Plastic Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-S30-AN6X 1636520	Uprox	10	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi10U-S30-AP6X 1636500	Uprox	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi10-S30-AD4X 44590		10	2-wire DC	10-65 VDC	500	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi10-S30-AN6X 46591		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi10-S30-AN7X/S100 17777	TTL Compatible, High Temp. 100 °C	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +100	IP67	PA 12	IRPA	N/A	YE	2M/PVC	A	2	A4
Bi10-S30-AP6X 46590		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi10-S30-VP4X 15122	Comp. Outputs	10	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	5	A4
Ni20U-S30-AN6X 1646520	Uprox	20	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni20U-S30-AP6X 1646500	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	2M/PVC	A	3	A4
Ni15-S30-AD4X 44592		15	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni15-S30-AN6X 46593		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni15-S30-AP6X 46592		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	3	A4
Ni15-S30-VN4X 15224	Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	4	A4
Ni15-S30-VP4X 15630	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	A	5	A4

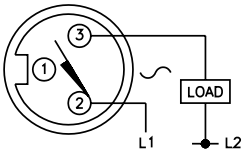
We reserve the right to make technical alterations without prior notice.

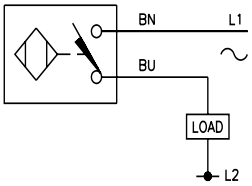
Inductive Barrel Sensors | 30 mm

Threaded Plastic Barrels with AC Outputs

Housing Style	Dimension Drawings
	A  30 mm - Embeddable/Nonembeddable, Full Threading, 7/8" Minifast Connection
B  30 mm - Embeddable/Nonembeddable, Partial Threading, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 30-*M

2 

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

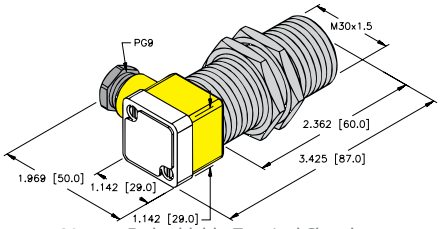
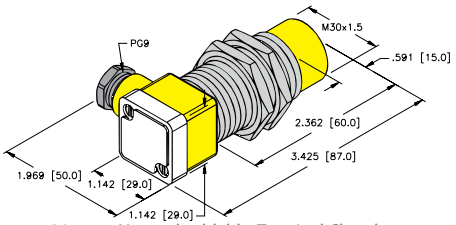
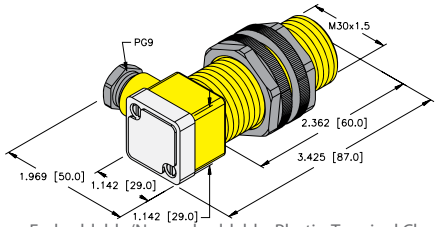
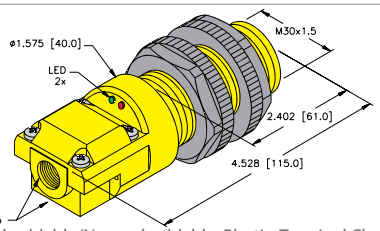
Threaded Plastic Barrels with AC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-S30-AZ3X 43554		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	2	A6
Ni15-S30-AZ3X 43555		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	2	A6
Bi10-P30-AZ3X-B2131 43749		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	--	A	1	A6
Ni15-S30-AZ3X/S100 13758	High Temp. 100 °C	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	2	A6
Ni15-P30-AZ3X-B2131 43754		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	N/A	RD	--	A	1	A6

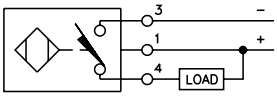
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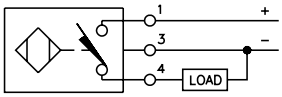
Inductive Barrel Sensors | 30 mm

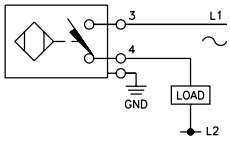
Threaded Barrels with Terminal Chamber and AC/DC Outputs

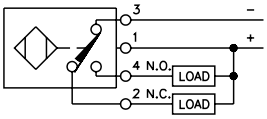
Housing Style	Dimension Drawings
	A  30 mm - Embeddable, Terminal Chamber
B  30 mm - Nonembeddable, Terminal Chamber	C  30 mm - Embeddable/Nonembeddable, Plastic, Terminal Chamber
D  30 mm - Embeddable/Nonembeddable, Plastic, Terminal Chamber	

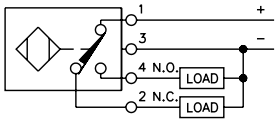
Wiring Diagrams/Mating Cordsets

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A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm

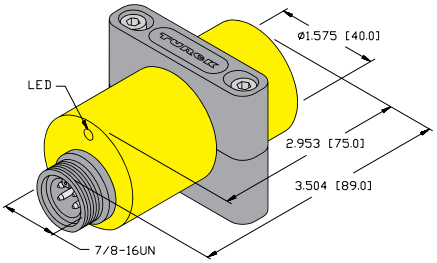
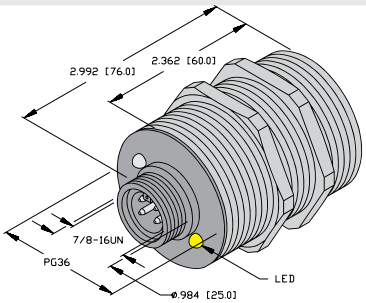
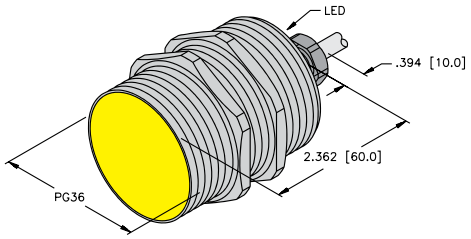
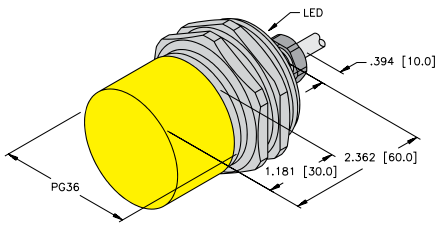
Threaded Barrels with Terminal Chamber and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-EG30SK-AN6X 1636420	Uprox	10	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	1	A4
Bi10-G30SK-AN6X2 4648500		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	1	A4
Bi10-P30SK-AN6X2 4660000		10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	1	A4
Bi10-G30SK-AP6X2 4648400		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	2	A4
Bi10-P30SK-AP6X2 4659900		10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4
Bi10-P30SR-VN4X2 15752	Comp. Outputs	10	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	D	4	A4
Bi10-P30SR-VP4X2 15652	Comp. Outputs	10	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	D	5	A4
Bi10-G30SK-AZ3X2 4346400		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	A	3	A6
Bi10-P30SK-AZ3X2 4356400		10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	GN	RD	C	3	A6
Bi10-P30SR-FZ3X2 13420	Programmable Outputs	10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤500	-25 to +70	IP67	PA 12	PA 12	GN	RD	D	3	A6
Ni20U-P30SK-AP6X 1646700	Uprox	20	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	2	A4
Ni15-P30SK-AN6X2 4660200		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	1	A4
Ni15-G30SK-AP6X2 4648600		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	B	2	A4
Ni15-P30SK-AP6X2 4660100		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4
Ni15-P30SR-VN4X2 15753	Comp. Outputs	15	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	D	4	A4
Ni15-P30SR-VP4X2 15653	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	D	5	A4
Ni15-G30SK-AZ3X2 4346500		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	B	3	A6
Ni15-P30SK-AZ3X2 4356500		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PA 12	PA 12	GN	RD	C	3	A6
Ni15-P30SR-FZ3X2 13421	Programmable Outputs	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤500	-25 to +70	IP67	PA 12	PA 12	GN	RD	D	3	A6

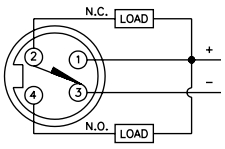
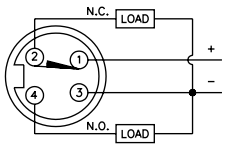
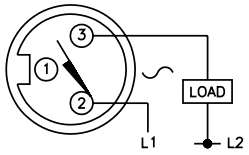
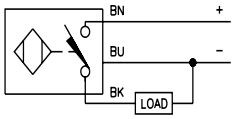
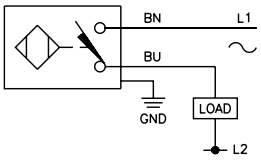
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 40 mm, 47 mm

Large Diameter Barrels with AC/DC Outputs

Housing Style	Dimension Drawings	
	A  40 mm - Nonembeddable, Smooth Plastic Barrel, 7/8" Minifast Connection	B  47 mm - Embeddable, 7/8" Minifast Connection
C  47 mm - Embeddable, Potted-In Cable	D  47 mm - Nonembeddable, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RKM 40-*M	2  Mating Cordset: RKM 40-*M	3  Mating Cordset: RKM 30-*M
4 	5 	

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 40 mm, 47 mm

Large Diameter Barrels with AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi20-G47-AP4X 15645		20	3-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	4	A4
Bi20-G47-AZ3X 13088		20	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	C	5	A6
Ni25-G47-AP4X 15646		25	3-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	4	A4
Ni25-G47-AZ3X 13089		25	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	2M/PVC	D	5	A6
Bi25-G47-VN4X-B2141 45903	Comp. Outputs	25	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	--	B	1	A4
Bi25-G47-VP4X-B2141 45902	Comp. Outputs	25	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	--	B	2	A4
Bi20-G47-AZ3X-B2131 43759		20	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	N/A	RD	--	B	3	A6
Ni30-K40-VN4X-B2141 45904	Comp. Outputs	30	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	N/A	YE	--	A	1	A4
Ni30-K40-VP4X-B2141 45905	Comp. Outputs	30	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	N/A	YE	--	A	2	A4
Ni30-K40-AZ3X-B2131 43758		30	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	ABS	ABS	N/A	RD	--	A	3	A6

We reserve the right to make technical alterations without prior notice.

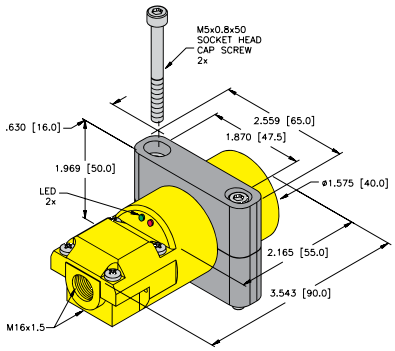
Inductive Barrel Sensors | 40 mm, 47 mm

Large Diameter Barrels with Terminal Chambers and AC/DC Outputs

Housing Style	Dimension Drawings

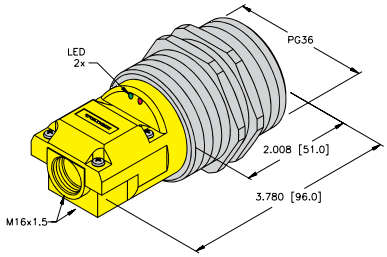


A



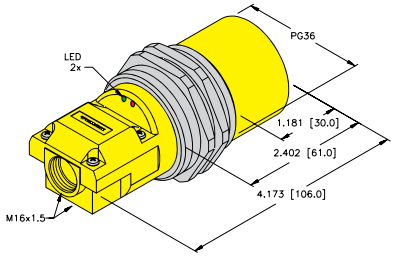
40 mm - Smooth Plastic, Terminal Chamber

B



47 mm - Embeddable, Terminal Chamber

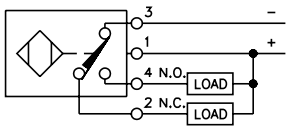
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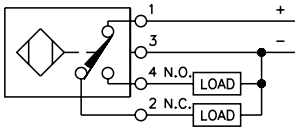
47 mm - Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

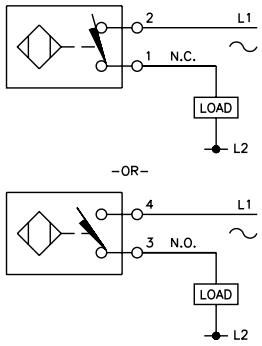
1



2



3



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤1.8 V
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current
	≥170 mA on 150 mA Load Current
	≥120 mA on 100 mA Load Current
Off-State (Leakage) Current:	≤0.1 mA
No-Load Current:	≤15 mA (Ferrite, Uprox)
	≤20 mA (Uprox+, Uprox3)

Time Delay Before Availability:	≤8 ms
Power-On Effect:	Per IEC 947-5-2
Reverse Polarity Protection:	Incorporated
Wire-Break Protection:	Incorporated
Transient Protection:	Per EN 60947-5-2
Temperature Drift:	≤±10%
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA
Minimum Load Current:	≥3.0 mA

Inrush Current:	≤8 A (≤10ms max. 5 Hz)
	≤1 A (≤10 ms max. 5 Hz) 12 mm
	≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 40 mm, 47 mm

Large Diameter Barrels with Terminal Chambers and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi25-G47SR-FZ3X2 13427	Programmable Outputs	25	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	B	3	A6
Bi25-G47SR-VN4X2 15748	Comp. Outputs	25	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	B	1	A4
Bi25-G47SR-VP4X2 15648	Comp. Outputs	25	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	B	2	A4
Bi15-K40SR-FZ3X2 13423	Programmable Outputs	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	ABS	ABS	GN	RD	A	3	A6
Bi15-K40SR-VP4X2 15655	Comp. Outputs	15	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	GN	YE	A	2	A4
Ni40-G47SR-FZ3X2 13428	Programmable Outputs	40	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	CPB	PA 12	GN	RD	C	3	A6
Ni40-G47SR-VP4X2 15650	Comp. Outputs	40	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	C	2	A4
Ni30-K40SR-FZ3X2 13425	Programmable Outputs	30	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	ABS	ABS	GN	RD	A	3	A6
Ni30-K40SR-VN4X2 15758	Comp. Outputs	30	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	GN	YE	A	1	A4
Ni30-K40SR-VP4X2 15658	Comp. Outputs	30	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	GN	YE	A	2	A4
Ni20-K40SR-FZ3X2 13424	Programmable Outputs	20	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	ABS	ABS	GN	RD	A	3	A6
Ni20-K40SR-VN4X2 15756	Comp. Outputs	20	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	GN	YE	A	1	A4
Ni20-K40SR-VP4X2 15656	Comp. Outputs	20	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	ABS	ABS	GN	YE	A	2	A4

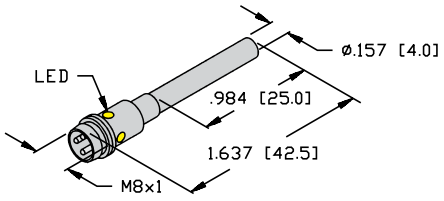
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm, & 6.5 mm Namur

Intrinsically Safe

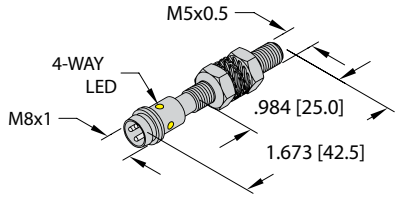
Dimension Drawings

A



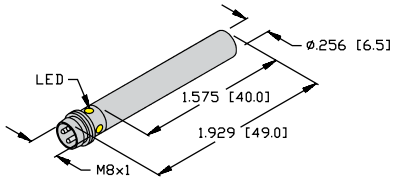
4 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect

B



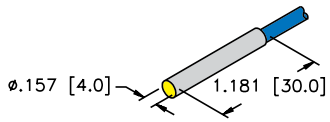
5 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

C



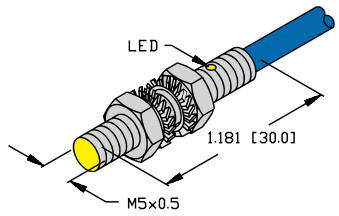
6.5 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect

D



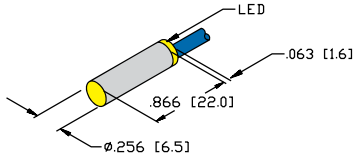
4 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable

E



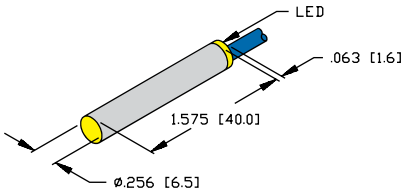
5 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

F



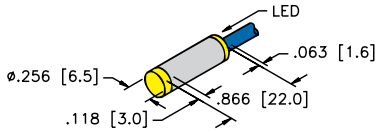
6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable

G



6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable

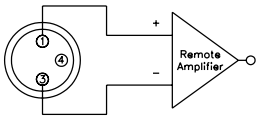
H



6.5 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable

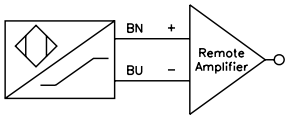
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: PKG 3M-*

2



A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for	>1.2 to <2.1 mA,	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Remote Amplifier:	typ. 1.55 mA ON/1.75 mA OFF	Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm, & 6.5 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Cable Length/Jacket	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi1-EH04-Y1-V1330 1003044		1	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	--	N/A	A	1	A1
Bi1-EG05-Y1-V1331 1003241		1	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	--	N/A	B	1	A1
Bi1.5-EH6.5-Y1-V1130 1004621		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	--	N/A	C	1	A1
Bi1-EH04-Y1 1003040		1	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	2M/PVC	N/A	D	2	A1
Bi1-EG05-Y1 1003240		1	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	2M/PVC	N/A	E	2	A1
Bi1.5-EH6.5K-Y1 1004600	Short Barrel	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	2M/PVC	N/A	F	2	A1
Bi1.5-H6.5-Y1X 4004810		1.5	2-wire DC NAMUR	5-30 VDC	3000	Remote	-25 to +70	IP67	SS	PA 12	2M/PVC	YE	G	2	A1
Ni3-EH6.5K-Y1 1004700	Short Barrel	3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	2M/PVC	N/A	H	2	A1

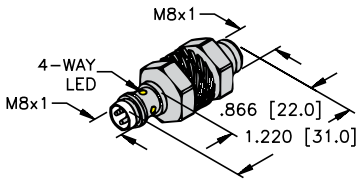
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm Namur

Intrinsically Safe

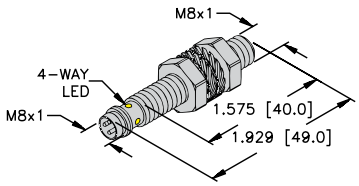
Dimension Drawings

A



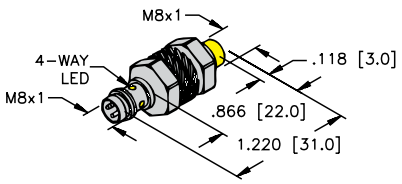
8 mm - Embeddable, Miniature Threaded,
M8 Picofast Quick Disconnect

B



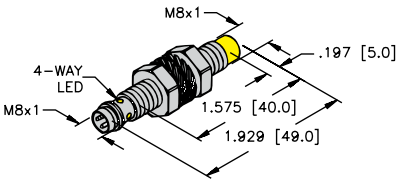
8 mm - Embeddable, Miniature Threaded,
M8 Picofast Quick Disconnect

C



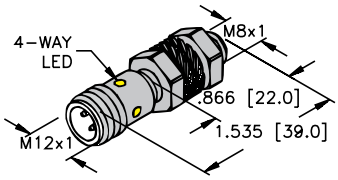
8 mm - Nonembeddable, Miniature Threaded,
M8 Picofast Quick Disconnect

D



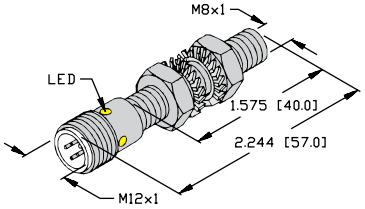
8 mm - Nonembeddable, Miniature Threaded,
M8 Picofast Quick Disconnect

E



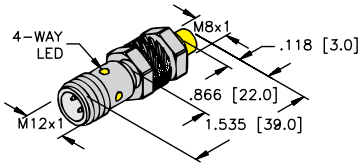
8 mm - Embeddable, Miniature Threaded,
M12 Eurofast Quick Disconnect

F



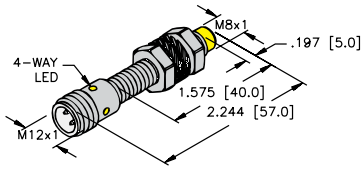
8 mm - Embeddable, Miniature Threaded,
M12 Eurofast Quick Disconnect

G



8 mm - Nonembeddable, Miniature Threaded,
M12 Eurofast Quick Disconnect

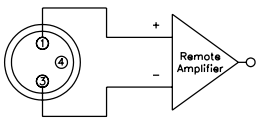
H



8 mm - Nonembeddable, Miniature Threaded,
M12 Eurofast Quick Disconnect

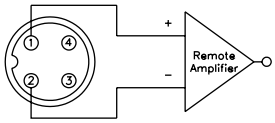
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: PKG 3M-*

2



Mating Cordset: RK 4.21T-*

A1 — 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-EG08K-Y1-V1131 1003630	Short Barrel	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	A	1	A1
Bi1.5-EG08-Y1-V1131 1003530		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	B	1	A1
Ni3-EG08K-Y1-V1130 1003721	Short Barrel	3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	C	1	A1
Ni3-EG08-Y1-V1130 1003732		3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	D	1	A1
Bi1.5-EG08K-Y1-H1341 1003620	Short Barrel	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	E	2	A1
Bi1.5-EG08K-Y1X-H1341 1003640	Short Barrel	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	YE	E	2	A1
Bi1.5-EG08-Y1-H1341 1003502		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	F	2	A1
Ni3-EG08K-Y1-H1341 1003720	Short Barrel	3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	G	2	A1
Ni3-EG08K-Y1X-H1341 1003704	Short Barrel	3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	G	2	A1
Ni3-EG08-Y1-H1341 1003730		3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	H	2	A1

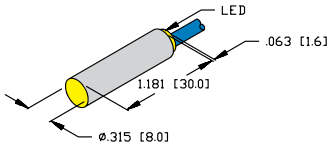
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm Namur

Intrinsically Safe

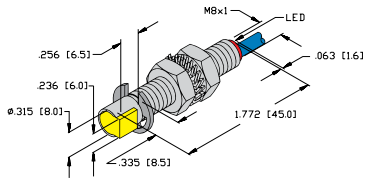
Dimension Drawings

A



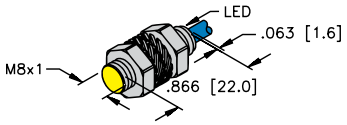
8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable

B



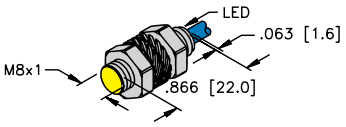
8 mm - Embeddable, Miniature Threaded Barrel, Side Sensing, Potted-In Cable

C



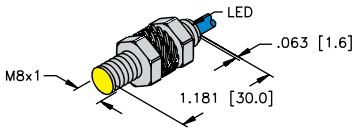
8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

D



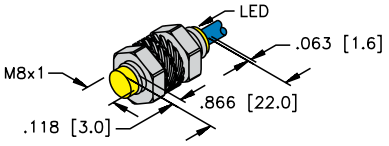
8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

E



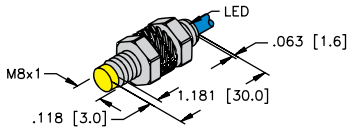
8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

F



8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable

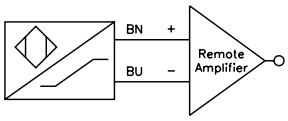
G



8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



A1 — 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-H08-Y1 1021800		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	A	1	A1
Bi1.5-GS880-Y0 1004401	Side Sensing	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	B	1	A1
Bi1.5-EG08K-Y1 1003600	Short Barrel	1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	C	1	A1
Bi1.5-EG08-Y1 1003500		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	D	1	A1
Bi1.5-G08-Y1 1005224		1.5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	E	1	A1
Ni3-EG08K-Y1 1003700	Short Barrel	3	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	F	1	A1
Ni2-G08-Y1 10053		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	G	1	A1

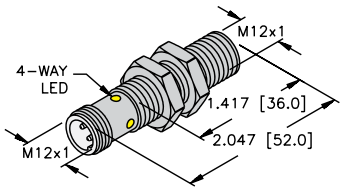
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm Namur

Intrinsically Safe

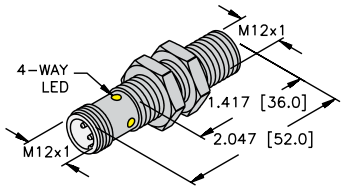
Dimension Drawings

A



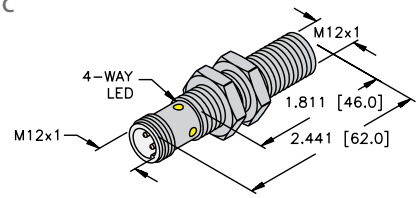
12 mm - Embeddable, M12 Eurofast Connection

B



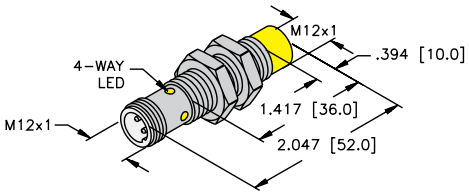
12 mm - Embeddable, M12 Eurofast Connection, PTFE Coated Sensors

C



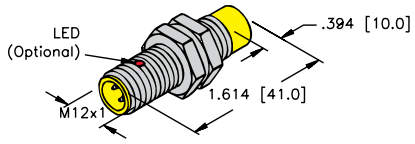
12 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length

D



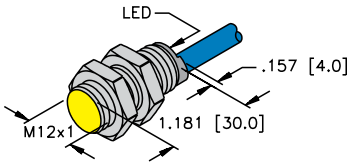
12 mm - Nonembeddable, M12 Eurofast Connection

E



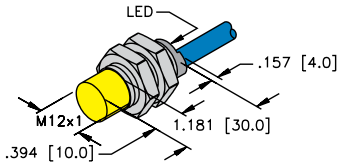
12 mm - Nonembeddable, M12 Eurofast Connection

F



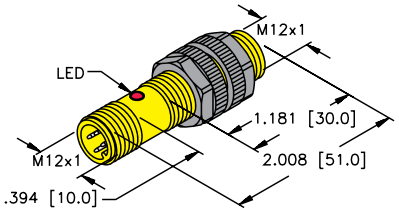
12 mm - Embeddable, Potted-In Cable

G



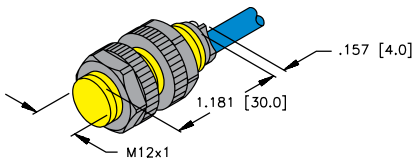
12 mm - Nonembeddable, Potted-In Cable

H



12 mm - Embeddable/Nonembeddable, Plastic, M12 Eurofast Quick Disconnect

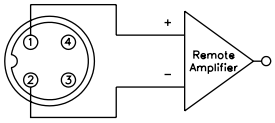
I



12 mm - Embeddable/Nonembeddable, Plastic Potted-In Cable

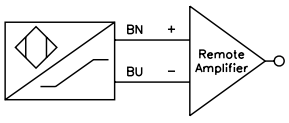
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.21T-*; RKK 4.21T-*

2



A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-M12-Y1X-H1141 40102		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	A	1	A1
Bi2-MT12-Y0X-H1141 4010093	PTFE	2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	TC	TC	YE	--	B	1	A1
Bi2-M12E-Y0X-H1141 4606490		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	C	1	A1
Bi2-S12-Y0X-H1141 4030090		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	PA	PA	RD	--	H	1	A1
Ni5-M12-Y1X-H1141 40103		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	D	1	A1
Ni5-G12-Y0-H1141 1005594		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	--	E	1	A1
Ni5-S12-Y0X-H1141 4030300		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	PA	PA	RD	--	H	1	A1
Bi2-EG12-Y0X 4012097		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	SS	PA 12	YE	2M/PVC	F	2	A1
Bi2-G12-Y0 1005450		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	F	2	A1
Bi2-G12-Y0X 4010000		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	F	2	A1
Bi2-P12-Y0 1005456		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	I	2	A1
Bi2-P12-Y0X 403000		2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	I	2	A1
Bi2-P12-Y1X/S97 4030021	Low Temp. -40 °C	2	2-wire DC NAMUR	5-30 VDC	5000	Remote	-40 to +70	IP67	PA 12	PA 12	YE	2M/Silicon	I	2	A1
Ni5-G12-Y0 1005451		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	G	2	A1
Ni5-G12-Y0X 1005458		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	G	2	A1
Ni5-P12-Y0X 1005460		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	I	2	A1
Ni5-P12-Y1 10094		5	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	I	2	A1

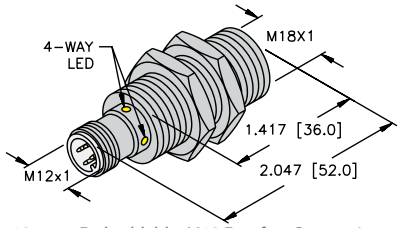
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm Namur

Intrinsically Safe

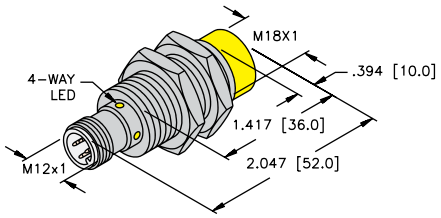
Dimension Drawings

A



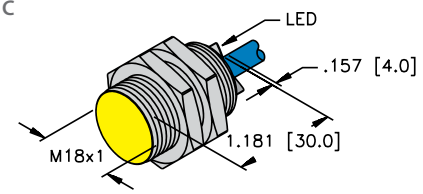
18 mm - Embeddable, M12 Eurofast Connection

B



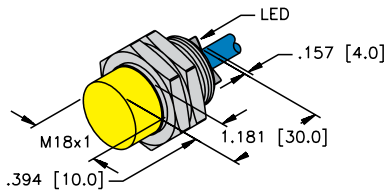
18 mm - Nonembeddable, M12 Eurofast Connection

C



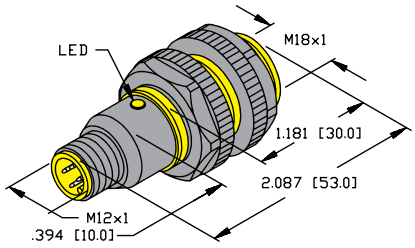
18 mm - Embeddable, Full Threading, Potted-In Cable

D



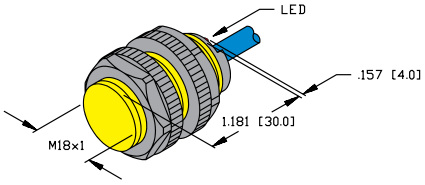
18 mm - Nonembeddable, Full Threading, Potted-In Cable

E



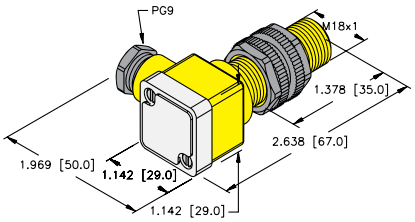
18 mm - Embeddable and Nonembeddable,
Partial Threading, M12 Eurofast Connection

F



18 mm - Embeddable and Nonembeddable,
Full Threading, Potted-In Cable

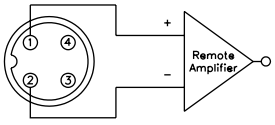
G



18 mm - Embeddable and Nonembeddable,
Full Threading, Terminal Chamber

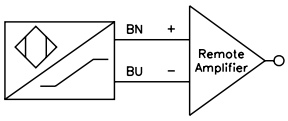
Wiring Diagrams/Mating Cordsets

1

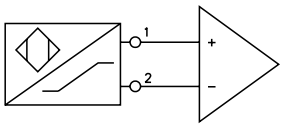


Mating Cordset: RK 4.21T-*; RKK 4.21T-*

2



3



A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)
Nominal Voltage:	8.2 VDC (EN60947-5-6)
Load Resistance:	1000 Ω
Non-Activated Current Consumption:	≥2.1 mA
Activated Current Consumption:	≤1.2 mA
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF

Power-On Effect:	Realized in Amplifier
Reverse Polarity Protection:	Incorporated
Wire-Break Protection:	Realized in Amplifier
Transient Protection:	Realized in Amplifier
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-M18-Y1X-H1141 40152		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	A	1	A1
Ni10-M18-Y1X-H1141 40153		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	B	1	A1
Bi5-EG18-Y0 100600		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	SS	PA 12	N/A	2M/PVC	C	2	A1
Bi5-G18-Y0 1005452		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	C	2	A1
Bi5-G18-Y0X 4015000		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	C	2	A1
Ni10-G18-Y0 1006100		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	D	2	A1
Ni10-G18-Y0X 4015100		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	D	2	A1
Bi5-S18-Y0X-H1141 4036095		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	PA 12	PA 12	YE	--	E	1	A1
Bi5-P18-Y0 1005457		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	F	2	A1
Bi5-P18-Y0X 1005462		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	F	2	A1
Bi5-P18-Y0/S100 1024500	High Temp. 100 °C	5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +100	IP67	PA 12	IRPA	N/A	2M/PVC	F	2	A1
Ni10-P18-Y0X 1005463		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	F	2	A1
Ni10-P18-Y1 10096		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	F	2	A1
Ni10-P18-Y0/S100 103170	High Temp. 100 °C	10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +100	IP67	PA 12	IRPA	N/A	2M/PVC	F	2	A1
Bi5-P18SK-Y1X 40360		5	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	PA 12	PA 12	YE	--	G	3	A1
Ni10-P18SK-Y1X 40361		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	PA 12	PA 12	YE	--	G	3	A1

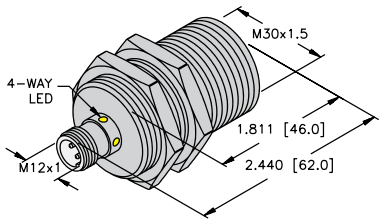
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm Namur

Intrinsically Safe

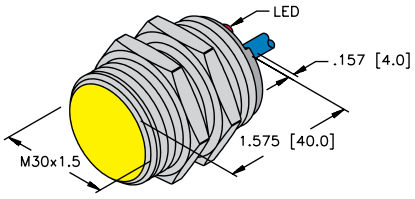
Dimension Drawings

A



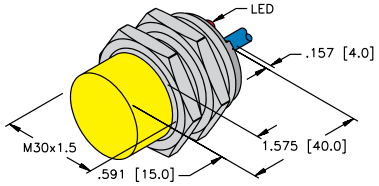
30 mm - Embeddable, M12 Eurofast Connection

B



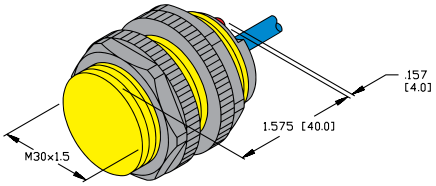
30 mm - Embeddable, Potted-In Cable

C



30 mm - Nonembeddable, Potted-In Cable

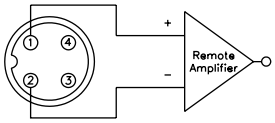
D



30 mm - Embeddable/Nonembeddable, Full Threading, Potted-In Cable

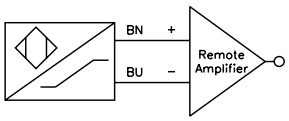
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.21T-*

2



A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 30 mm Namur

Intrinsically Safe IS

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-M30-Y1X-H1141 40202		10	2-wire DC NAMUR	5-30 VDC	2000	Remote	-25 to +70	IP67	CPB	PA 12	YE	--	A	1	A1
Bi10-G30-Y0 1005453	Short Barrel	10	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	B	2	A1
Bi10-G30-Y0X 1005459	Short Barrel	10	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	B	2	A1
Ni15-G30-Y0 1005454		15	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	CPB	PA 12	N/A	2M/PVC	C	2	A1
Ni15-G30-Y0X 4020100		15	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	CPB	PA 12	YE	2M/PVC	C	2	A1
Bi10-P30-Y0X 404000		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	D	2	A1
Bi10-P30-Y1 10097		10	2-wire DC NAMUR	5-30 VDC	500	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	D	2	A1
Ni15-P30-Y0X 1005465		15	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	PA 12	PA 12	YE	2M/PVC	D	2	A1
Ni15-P30-Y1 10098		15	2-wire DC NAMUR	5-30 VDC	200	Remote	-25 to +70	IP67	PA 12	PA 12	N/A	2M/PVC	D	2	A1

We reserve the right to make technical alterations without prior notice.

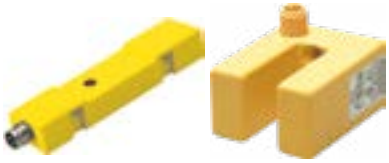
Notes

Notes

Specialty Sensor Section

Specialty Sensors			
			
Housing	**Barrel and Rectangular**	**12, 18, and 30 mm**	**40, 80, and 160 mm**
Features	**Washdown Uprox+**	**High Temperature Sensors**	**High Temperature Sensors**
Pages	**C9 - 14**	**C15 - 20**	**C21**

Specialty Sensors			
			
Housing	**8, 12, 18, and 30 mm**	**Barrel and Rectangular**	**30 mm**
Features	**Stainless Steel Face Sensors**	**Mobile Equipment Sensors**	**High Current Solid State Sensors**
Pages	**C23 - 32**	**C33 - 36**	**C37**

Specialty Sensors			
			
Housing	**12,18, and 30 mm**	**Variable**	**Variable**
Features	**FM, Class I Div 2 Approved Sensors**	**Ring Sensing**	**Tube and Slot Sensing**
Pages	**C39**	**C41 - 44**	**C45 - 48**

We reserve the right to make technical alterations without prior notice.

Specialty Sensor Selection Guide

Specialty Sensors			
			
Housing	**12 mm**	**80 and 130 mm**	**130 mm**
Features	**Weld Nut Detection Sensor**	**Edge Detection Sensing**	**Can Line Sensing**
Pages	**C49**	**C51 - 54**	**C55**

Specialty Sensors			
			
Housing	**8, 12, and 18 mm**	**18 mm**	**Barrel and Rectangular**
Features	**Magnetic Inductive Sensing**	**Submersible**	**Selective Metal Sensing**
Pages	**C57 - 60**	**C61**	**C63 - 66**

Specialty Sensors		
		
Housing	**12 and 18 mm**	**18 and 30 mm**
Features	**In Cylinder Sensor**	**Rotational Speed Monitoring**
Pages	**C67**	**C69**

We reserve the right to make technical alterations without prior notice.

Specialty Sensor Part Number Key

B	I	10	U	-		G	T	30		-	A	DZ	30	X2		Wiring Option*	Special Option Code**

Mounting
B = embeddable
BID = high pressure sensor
N = nonembeddable
S = slot

Principle of Operation
I = inductive
IM = inductive magnet operated

Rated Operating Distance (mm)

Sensing Characteristics
FE = ferrous only
R = ring sensor
U =Uprox® Sensor

Housing Material Modifier
E = stainless steel

Housing Style

Barrel - Metal
G = full threading, generally chrome plated brass
H = smooth, chrome plated brass or stainless steel
M = partial threading, chrome plated brass

Barrel - Plastic
K = smooth
P = full threading
S = partial threading

Rectangular
Q = metal or plastic, various rectangular styles

Limit Switch
CA = stubby ®, short aluminum housing, connector
CK = stubby ®, short plastic housing, connector

Slot
K = slot sensor, plastic housing

Ring
32SR = large plastic housing, static or dynamic output
Q = small rectangular plastic housing, static output
W = small plastic housing, dynamic output

Primary Barrel Modifier
T = PTFE® coated

Housing Diameter or Height (mm)

Number of LEDs
(blank) = no LEDs
X = 1 LED
X2 = 2 LEDs

Voltage Range

AC/DC: (No SCP)**
3 = 20-250 VAC, 10-300 VDC

AC/DC: (Latched SCP)
30 = 20-250 VAC, 10-300 VDC 400 mA

DC:
4 = 10-65 VDC, polarity protected, pulsed SCP**
6 = 10-30 VDC, polarity protected, pulsed SCP
44 = 10-55 VDC
45 = 8.4-65 Volts

Output
D = 2-wire DC (transistor output)
DZ = 2-wire AC/DC, (power MOSFET output)
N = NPN transistor (current sinking)
P = PNP transistor (current sourcing)
Z = 2-wire AC or 2-wire AC/DC
M = high current solid state relay

Output Function
A = normally open (N.O.)
DA = dynamic output (ring sensor), normally open
R = normally closed (N.C.)
U = jumper programmable (N.O. or N.C.)
V = complementary outputs: one N.O., one N.C.
Y0 = NAMUR output, requires switching amplifier
Y1 = NAMUR output, requires switching amplifier, ATEX approved

Secondary Barrel Modifier
E = extended barrel length
EE = extra long barrel length
FE = stainless steel face, extended barrel length
FM = stainless steel face, medium barrel length
M = medium barrel length
TC = terminal chamber
WD = washdown IP67/IP68/IP69K
F = stainless steel face, standard length

NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.
* See next page Wiring Options and Special Option Codes.

We reserve the right to make technical alterations without prior notice.

Specialty Sensor Part Number Key

Wiring Options*

A. Connectorized Sensor

Bi2 - M12 - AN6X2 - H1 1 4 1

Connector Family

B1 = Minifast®, 7/8"-16UN, metal, male
B2 = Minifast , 7/8"-16UN, plastic, male
B3 = Microfast®, 1/2"-20UNF, metal, male
H1 = Eurofast®, M12x1, metal or plastic, male
V1 = Picofast®, snap and M8x1, metal, male (Q08 snap only)
V2 = Picofast , snap and M8x1, male (Q08 only)

Connector/Sensor Transition

1 = straight
3 = straight with adapter
4 = right-angle with adapter

Wiring Configuration

Example:
0 = non-standard wiring
1 = standard wiring
3 = N.C. DC output on pin 4 (for US)
4 = N.O. 2-wire DC output on pin 4

Number of Pins

3 = 3
4 = 4
5 = 5

B. Potted Cable

Bi2 - G12 - AN6X 7M

Cable Length

(blank) = 2 meter cable
7M = 7 meter cable
*M = custom cable lengths available

Special Option Codes**

Bi 2-S12-AN7X /S100 or Bi10R-W30-DAN6X-H1141 /F2

Example:
/S90 = TPU cable
/S97 = -40 °C (-40 °F) operating temperature
/S100 = +100 °C (+212 °F) operating temperature
/S120 = +120 °C (+248 °F) operating temperature
/S139 = submersible
/S907 = +160 °C (+320 °F) operating temperature
/S1009 = 250 ms internal off delay
/S1102 =+250 °C (+482 °F) operating temperature
/S1751 = approved for FM Class I, Div 2, groups A, B, C, and D

Example:
/F2 = alternate oscillator frequency

We reserve the right to make technical alterations without prior notice.

Specialty Sensors

Uprox+ Washdown Sensors

The Uprox+ Washdown product family is with a full line of inductive sensors that senses all metals at the same range (no correction factor), extended temperature rating from -40 to +100 °C, robust construction with IP68 and IP69k sealing ratings, and housing materials compatible with common acidic and alkaline chemicals used in Food and Beverage applications.



Sensors with Extended Temperature Range

Turck offers sensors for applications that withstand extreme temperatures of -40 to +250 °C. Typically, these sensors are used in applications like cold storage facilities, metal foundries, glass making, outdoor applications, and in painting shops in the automotive industry.



Stainless Steel Face Sensors

Inductive sensors with one piece stainless steel faced barrels are ideal for applications where physical impact is common or where ingress through the sensing face is a concern. The sensors are available in barrel diameters from 8 mm to 30 mm, standard and extended sensing ranges, rated IP68/IP69K, with optional coatings for welding environments, and 2 and 3-wire designs.



Mobile Equipment Sensors

Position sensing applications in mobile equipment have different electrical requirements than what is common for industrial sensors. Turck designs and manufactures a diverse line of inductive sensors that meet or exceed the industry requirements for sealing (IP68/IP69K), load dump protection, resistance to shock, vibration, EMC immunity, extended temperature range, wide operating voltage, and extended sensing range.



Inductive Sensor with 6 A Rated Output

This 30 mm mobile equipment sensor uses a MOSFET component to switch up to 6 amps of current with either a normally open output or a complementary normally open and closed output in a stainless steel housing. The sensor can be configured as an embeddable or nonembeddable sensor.



We reserve the right to make technical alterations without prior notice.

Specialty Sensors

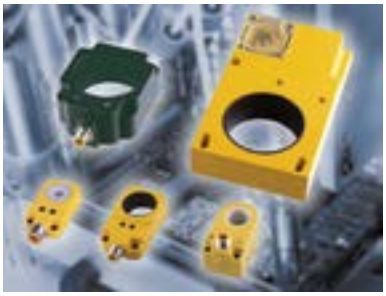
FM Class I Div 2

The new FM approval standard permits the use of quick disconnect with a lock fast accessory equipped sensor being used in Class I Div 2, Groups A, B, C, D. The ability to use quick disconnect will enable users to install sensors faster and at a lower cost than traditional conduit methods. We also offer approved cordsets with Eurofast or Minifast connectors (when used with a Lokfast guard). All cables have the ITC-ER rating. For applications where conduit is preferred, we offer sensors with potted-in ITC rated cables.



Inductive Ring Sensor

Turck offers a variety of ring sensor designs that detect a wide variety of target sizes, with sensor outputs to solve either static or dynamic part feeding applications. In addition to our six different ring sensor housings, Turck offers the TS12 Uprox®+ sensor, which senses all metals at the same range while functioning like a ring sensor but can be strapped onto a tube to simplify installation.



Inductive Slot Sensors

Turck's slot sensors incorporate a U-shaped design with the active sensing face between the two arms. If the object being detected moves into the U-shaped area, the sensor is actuated. Slot sensors are capable of securely detecting targets whose distance from the active face is not clearly defined upon side approach.



Weld Nut Sensors

Turck's magnetic weld nut sensors provide efficient and economical detection of weld nuts in automotive applications. The sensors detect ferromagnetic components, such as nuts, bushings and spacer sleeves, to ensure these components are present before robotic welding occurs. These sensors are less complex than existing devices that require additional software or electronics to detect the target.



Can and Edge Detection Sensor

Turck's Q130 sensor is designed for easy mounting on metal can conveying systems to help detect jam ups or lack of metal cans in the conveyor, while the CK4080 and CK40130 sensors are optimized to detect the edges of metal sheets commonly used in transfer presses found in automotive or white goods stamping applications.



We reserve the right to make technical alterations without prior notice.

Specialty Sensors

Inductive-Magnetic Proximity Sensors

Turck's line of BIM barrel sensors are designed to work with external magnets and can be used to solve a wide variety of sensing applications, especially where the user would like long sensing ranges (up to 90 mm with DMR31-15-5 magnet) in small housings, such as 8 or 12 mm.



Submersible Inductive Sensors

These sensors are rated for submersion in water depths up to 500 meters. The materials used to construct this 18 mm diameter sensor are seawater resistant. Available in a variety of sensing ranges and outputs.



Selective Metal Sensors

Standard inductive sensors sense all metals. Turck's family of selective metal inductive sensors offer a reliable solution for applications where the user wants to detect ferrous metals or non-ferrous metals only.



In-Cylinder Inductive Sensors

These inductive sensors are designed for use in a hydraulic cylinder to detect extended or retracted positions. Available in M12 or M18 barrels, these senors can withstand static pressures up to 7,250 psi.



Rotational Speed Sensors

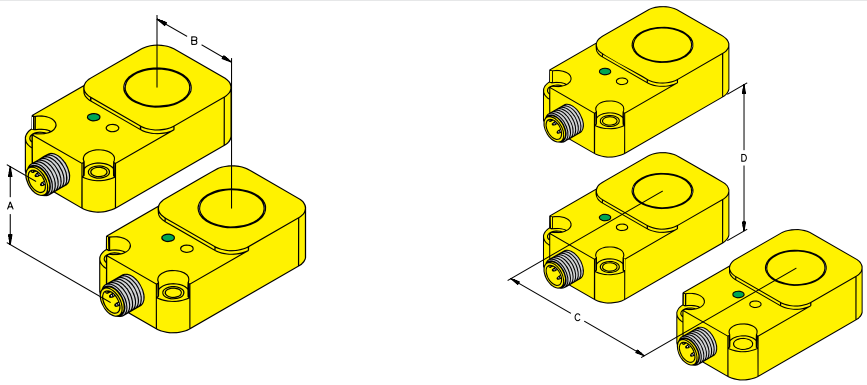
Rotational speed sensors are designed to work with a rotating metal target like a keyway or sprocket. These sensors feature a simple potentiometer for adjusting the set point and are ideal for monitoring applications where the user wants to monitor under speed or over speed conditions. If the speed is below the set point the output is off, and if the speed is above the set point the output turns on.



We reserve the right to make technical alterations without prior notice.

Specialty Sensors

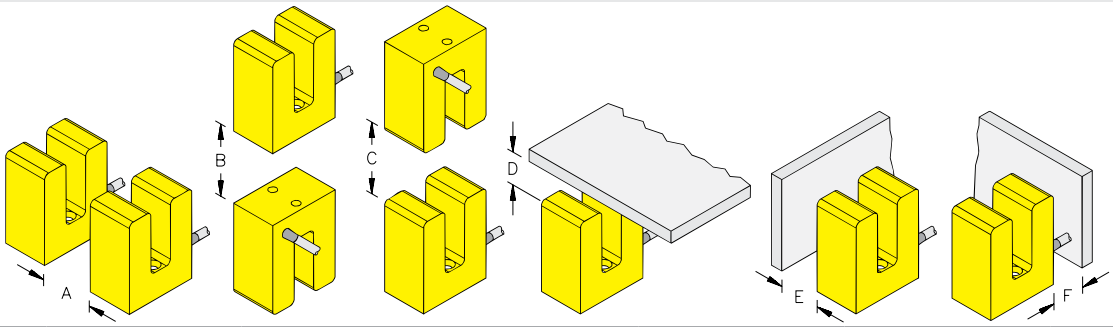
Ring and Tube Sensor Mounting Characteristics



Sensor Type	A	B	C	D
Bi6R-Q14	0	14	45	45
Bi6R-W30	120	6	120	120
Bi10R-Q14	30	14	45	45
Bi10R-W30	120	10	120	120
Bi15R-Q14	30	14	45	45
Bi15R-W30	120	15	120	120
Bi20R-Q14	30	14	45	45
Bi20R-W30	120	20	120	120
Ni20R-S32SR	150	150	150	150
Bi30R-Q20	40	20	55	55
Bi30R-W30	120	30	120	120
Ni40R-S32SR	150	150	150	150
Bi50R-Q80*	90	50	140	120
Ni65R-Q80*	90	65	140	150
Ni65R-S32SR	150	150	150	150
Ni100R-S32XL**	Consult data sheet	Consult data sheet	290	240
Ni20U-TS12*** (tube)	Consult data sheet	Consult data sheet	42	50

Dimensions are in mm.
* Do not use a metal mounting bracket.
** Sensitivity adjustment does affect the recommended mounting spacing. Please consult factory for assistance when using multiple sensors.
*** Spacing of multiple sensors depends on the actual number and orientation. Please contact factory for assistance.

Slot Sensor Mounting Characteristics

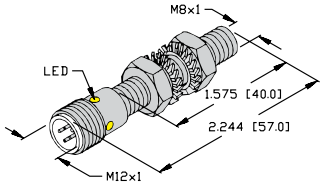
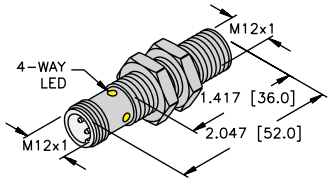
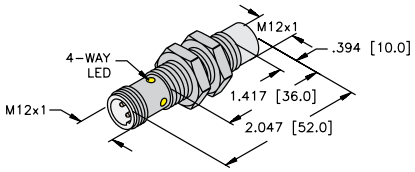
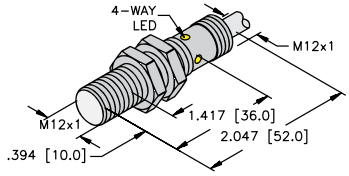
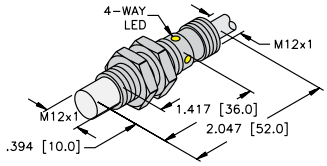


Sensor Type	A	B	C	D	E	F
Si3.5	15.00	5.00	15.00	0	0	0
Si5	10.00	0	5.00	0	0	0
Si15	30.00	10.00	30.00	5.00	5.00	5.00

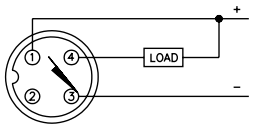
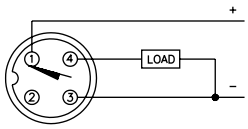
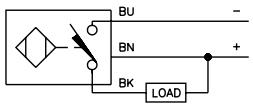
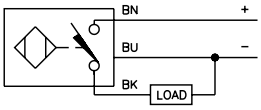
Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, M12 Eurofast Connection	B  12 mm - Embeddable, M12 Eurofast Connection
C  12 mm - Nonembeddable, M12 Eurofast Connection	D  12 mm - Embeddable, Potted-in Cable	E  12 mm - Nonembeddable, Potted-in Cable

Wiring Diagrams/Mating Cordsets

1	2	3	4
 Mating Cordset: RKV 4T-*; RKV 4T-*/S90	 Mating Cordset: RKV 4T-*; RKV 4T-*/S90	 	

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Washdown

Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-EG08WD-AN6X-H1341 4602211	Washdown	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +85	IP68/69K	SS	PVDF	N/A	YE	- -	A	1	A4
Bi1.5-EG08WD-AP6X-H1341 4602210	Washdown	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +85	IP68/69K	SS	PVDF	N/A	YE	- -	A	2	A4
Bi4U-EM12WD-AN6X-H1141 1634841	Uprox+, Washdown	4	3-wire DC NPN	10-30 VDC	2000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	- -	B	1	A4
Bi4U-EM12WD-AP6X-H1141 1634812	Uprox+, Washdown	4	3-wire DC PNP	10-30 VDC	2000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	- -	B	2	A4
Ni10U-EM12WD-AN6X-H1141 1634837	Uprox+, Washdown	10	3-wire DC NPN	10-30 VDC	1000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	- -	C	1	A4
Ni10U-EM12WD-AP6X-H1141 1634814	Uprox+, Washdown	10	3-wire DC PNP	10-30 VDC	1000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	- -	C	2	A4
Bi4U-EM12WD-AN6X 1634842	Uprox+, Washdown	4	3-wire DC NPN	10-30 VDC	2000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	2M/PP	D	3	A4
Bi4U-EM12WD-AP6X 1634811	Uprox+, Washdown	4	3-wire DC PNP	10-30 VDC	2000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	2M/PP	D	4	A4
Ni10U-EM12WD-AP6X 1634813	Uprox+, Washdown	10	3-wire DC PNP	10-30 VDC	1000	≤200	-40 to +100	IP68/69K	SS	PVDF	N/A	YE	2M/PP	E	4	A4

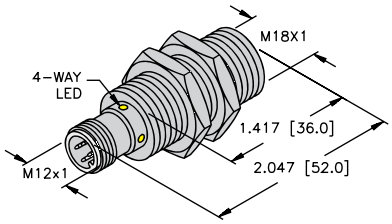
We reserve the right to make technical alterations without prior notice.

Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

Housing Style	Dimension Drawings

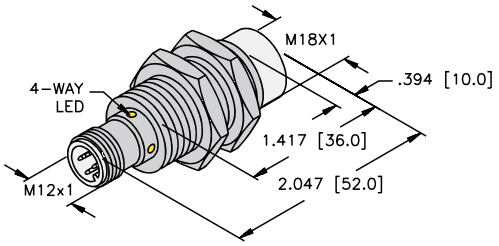


A



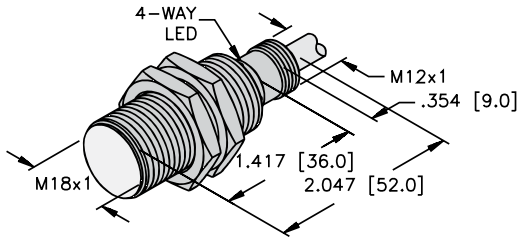
18 mm - Embeddable, M12 Eurofast Connection

B



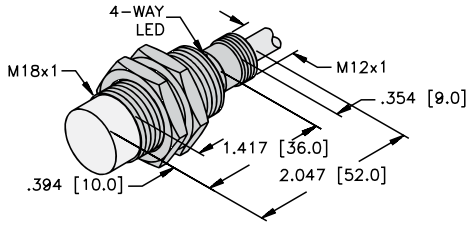
18 mm - Nonembeddable, M12 Eurofast Connection

C



18 mm - Embeddable, Potted-in Cable

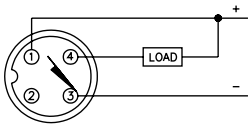
D



18 mm - Nonembeddable, Potted-in Cable

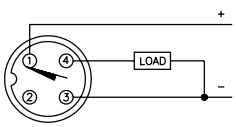
Wiring Diagrams/Mating Cordsets

1



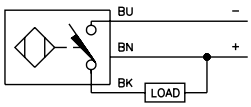
Mating Cordset: RKV 4T-*/S90

2

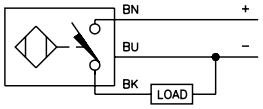


Mating Cordset: RKV 4T-*/S90

3



4



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

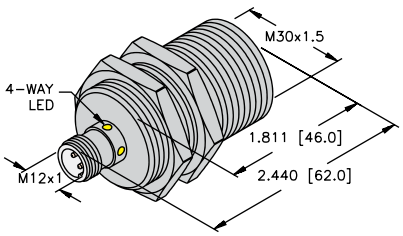
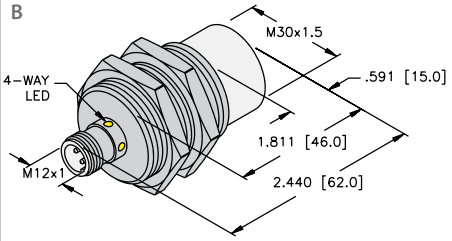
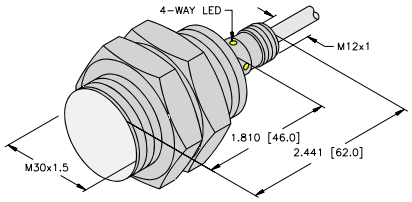
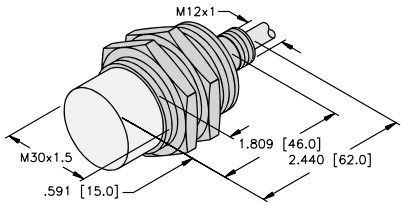
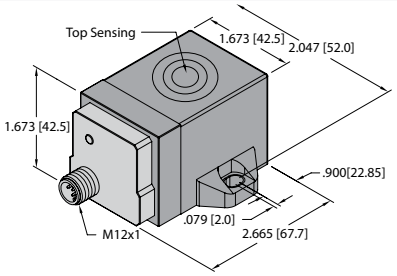
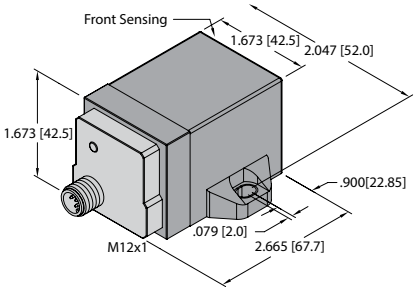
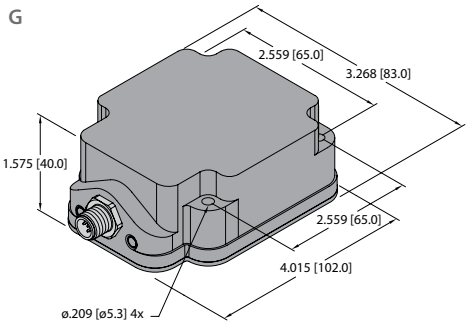
Specialty Sensors | Washdown

Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

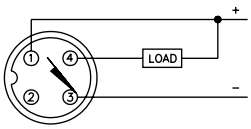
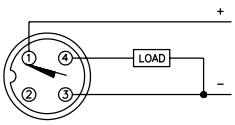
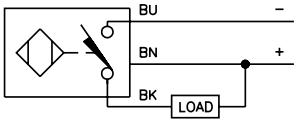
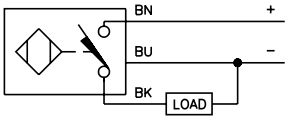
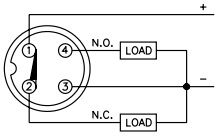
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-EM18WD-AN6X-H1141 1634839	Uprox+, Washdown	8	3-wire DC NPN	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	A	1	A4
Bi8U-EM18WD-AP6X-H1141 1634816	Uprox+, Washdown	8	3-wire DC PNP	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	A	2	A4
Ni15U-EM18WD-AN6X-H1141 1634835	Uprox+, Washdown	15	3-wire DC NPN	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	B	1	A4
Ni15U-EM18WD-AP6X-H1141 1634818	Uprox+, Washdown	15	3-wire DC PNP	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	B	2	A4
Bi8U-EM18WD-AN6X 1634840	Uprox+, Washdown	8	3-wire DC NPN	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	C	3	A4
Bi8U-EM18WD-AP6X 1634815	Uprox+, Washdown	8	3-wire DC PNP	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	C	4	A4
Ni15U-EM18WD-AN6X 1634836	Uprox+, Washdown	15	3-wire DC NPN	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	D	3	A4
Ni15U-EM18WD-AP6X 1634817	Uprox+, Washdown	15	3-wire DC PNP	10-30 VDC	1500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	D	4	A4

We reserve the right to make technical alterations without prior notice.

Rectangular and Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

Housing Style	Dimension Drawings	
	A  30 mm - Embeddable, M12 Eurofast Connection	B  30 mm - Nonembeddable, M12 Eurofast Connection
C  30 mm - Embeddable, Potted-in Cable	D  30 mm - Nonembeddable, Potted-in Cable	E  Q42T - Nonembeddable, M12 Eurofast Connector
F  Q42F - Nonembeddable, M12 Eurofast Connector	G  Q80 - Nonembeddable, M12 Eurofast Connector	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RKV 4T-*/S90	2  Mating Cordset: RKV 4T-*/S90	3 
4 	5  Mating Cordset: RKV 4.4T-*	

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox, Q42)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3, Q80)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Washdown

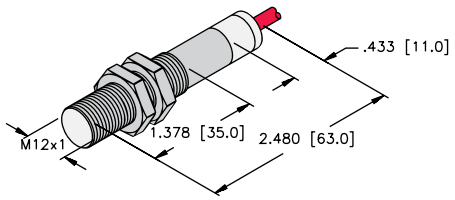
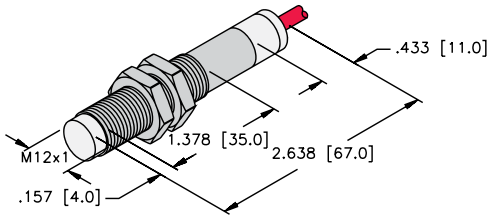
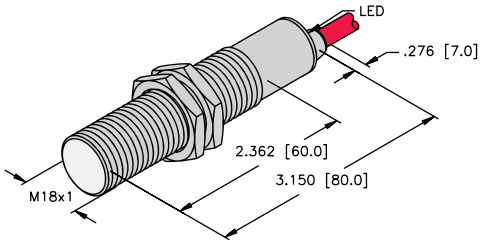
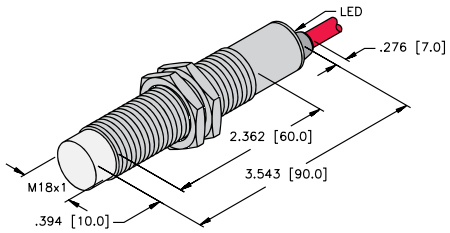
Rectangular and Threaded Metal Barrels with Cable or Connector and 3-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-EM30WD-AN6X-H1141 1634834	Uprox+, Washdown	15	3-wire DC NPN	10-30 VDC	750	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	A	1	A4
Bi15U-EM30WD-AP6X-H1141 1634820	Uprox+, Washdown	15	3-wire DC PNP	10-30 VDC	750	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	A	2	A4
Ni30U-EM30WD-AN6X-H1141 1634832	Uprox+, Washdown	30	3-wire DC NPN	10-30 VDC	500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	B	1	A4
Ni30U-EM30WD-AP6X-H1141 1634822	Uprox+, Washdown	30	3-wire DC PNP	10-30 VDC	500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	- -	B	2	A4
Bi15U-EM30WD-AN6X 1634843	Uprox+, Washdown	15	3-wire DC NPN	10-30 VDC	750	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	C	3	A4
Bi15U-EM30WD-AP6X 1634819	Uprox+, Washdown	15	3-wire DC PNP	10-30 VDC	750	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	C	4	A4
Ni30U-EM30WD-AN6X 1634833	Uprox+, Washdown	30	3-wire DC NPN	10-30 VDC	500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	D	3	A4
Ni30U-EM30WD-AP6X 1634821	Uprox+, Washdown	30	3-wire DC PNP	10-30 VDC	500	≤200	-40 to +100	IP68/69K	SS	LCP	N/A	YE	2M/PP	D	4	A4
NI50U-Q42TWD-VP6X-H1141 1538306	Uprox+, Washdown	50	4-wire DC PNP	10-30 VDC	250	≤200	-40 to +100	IP68/69K	PA 12	PA 12	N/A	YE	- -	E	5	A4
NI50U-Q42FWD-VP6X-H1141 1538305	Uprox+, Washdown	50	4-wire DC PNP	10-30 VDC	250	≤200	-40 to +100	IP68/69K	PA 12	PA 12	N/A	YE	- -	F	5	A4
NI75U-Q80WD-VP6X2-H1141 1625920	Uprox+, Washdown	75	4-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68/69K	PPS	PPS	GN	YE	- -	G	5	A4

We reserve the right to make technical alterations without prior notice.

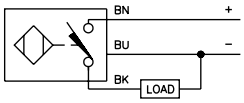
Specialty Sensors | High Temperature

Threaded Metal Barrels with Cable and AC or DC Outputs

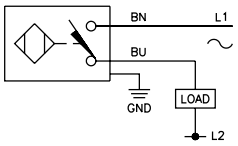
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, Potted-In Cable
B  12 mm - Nonembeddable, Potted-In Cable	C  18 mm - Embeddable, Partial Threading, Potted-In Cable
D  18 mm - Nonembeddable, Partial Threading, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1



2



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ,RZ,FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | High Temperature

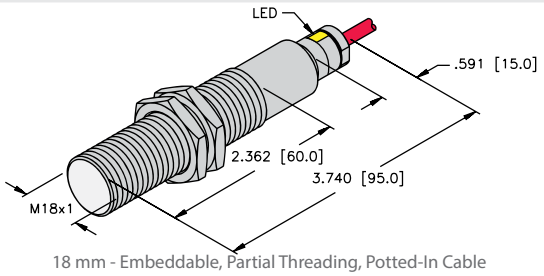
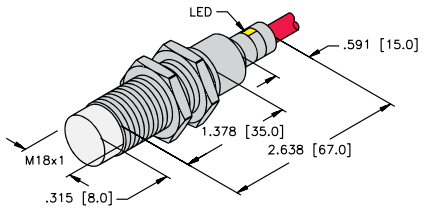
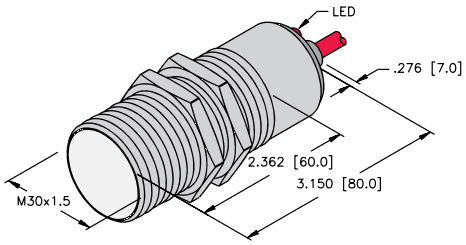
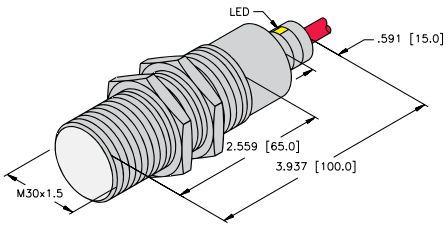
Threaded Metal Barrels with Cable and AC or DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-EM12D-AP6/S120 4614512	High Temp. 120 °C	2	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP67	SS	PTFE	PTFE	N/A	N/A	2M/PTFE	A	1	A4
Ni4-EM12D-AP6/S120 1633110	High Temp. 120 °C	4	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP67	SS	PTFE	PTFE	N/A	N/A	2M/PTFE	B	1	A4
Bi5-M18-AP6X/S120 4611030	High Temp. 120 °C	5	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP67	CPB	PA 12	EPTR	N/A	YE	2M/Silicone	C	1	A4
Bi5-M18-AZ3X/S120 4310410	High Temp. 120 °C	5	2-wire AC	20-250 VAC	20	≤100	-25 to +120	IP67	CPB	PA 12	EPTR	N/A	YE	2M/Silicone	C	2	A6
Ni8-M18-AZ3X/S120 4310530	High Temp. 120 °C	8	2-wire AC	20-250 VAC	20	≤400	-25 to +120	IP67	CPB	PA 12	EPTR	N/A	YE	2M/Silicone	D	2	A6
Ni8-M18-AP6X/S120 4611230	High Temp. 120 °C	8	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP67	CPB	PA 12	EPTR	N/A	YE	2M/Silicone	D	1	A4

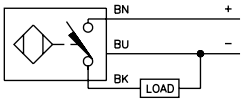
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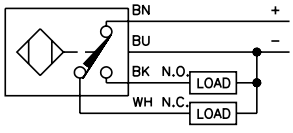
Specialty Sensors | High Temperature

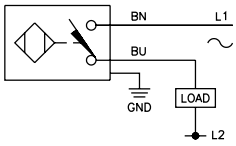
Threaded Metal Barrels with Cable and AC or DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, Partial Threading, Potted-In Cable
B  18 mm - Nonembeddable, Partial Threading, Potted-In Cable	C  30 mm - Embeddable, Partial Threading, Potted-In Cable
D  30 mm - Embeddable, Partial Threading, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | High Temperature

Threaded Metal Barrels with Cable and AC or DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-EM18D-VP6X/S120 4614900	High Temp. 120 °C	5	4-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP68/69K	SS	PTFE	PTFE	N/A	YE	2M/PTFE	A	2	A4
Ni7-EM18D-VP6X/S120 4632100	High Temp. 120 °C	7	4-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP68/69K	SS	PTFE	PTFE	N/A	YE	2M/PTFE	B	2	A4
Bi10-M30-AP6X/S120 4617010	High Temp. 120 °C	10	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP67	CPB	PA 12	PA 12	N/A	YE	2M/Silicone	C	1	A4
Bi10-M30-AZ3X/S120 4316410	High Temp. 120 °C	10	2-wire AC	20-250 VAC	20	≤400	-25 to +120	IP67	CPB	PA 12	PA 12	N/A	YE	2M/Silicone	C	3	A6
Bi10-EM30D-VP6X/S120 4617035	High Temp. 120 °C	10	4-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP68/69K	SS	PTFE	PTFE	N/A	YE	2M/PTFE	D	2	A4

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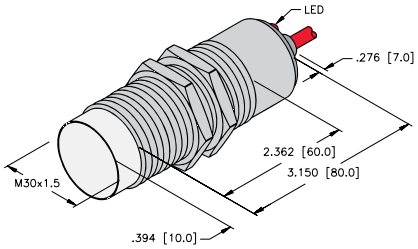
Specialty Sensors | High Temperature

Threaded Metal Barrels with Cable and AC or DC Outputs

Housing Style	Dimension Drawings

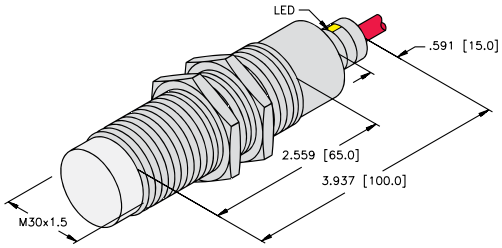


A



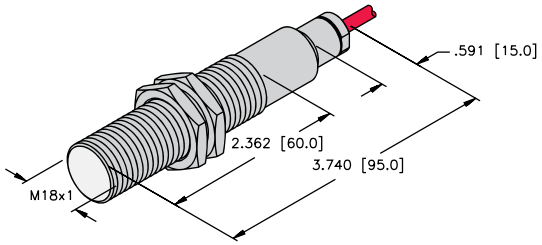
30 mm - Nonembeddable, Potted-In Cable

B



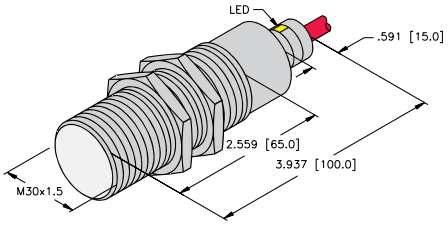
30 mm - Nonembeddable, Potted-In Cable

C



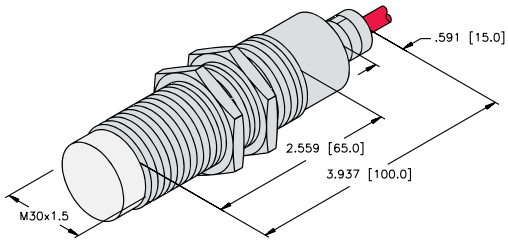
18 mm - Embeddable, Partial Threading, Potted-In Cable

D



30 mm - Embeddable, Partial Threading, Potted-In Cable

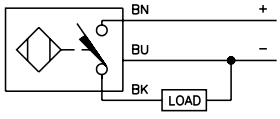
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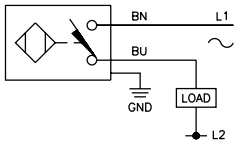
30 mm - Non-embeddable, Partial Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

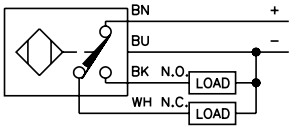
1



2



3



A4	3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)		
Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A6	2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)		
Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | High Temperature

Threaded Metal Barrels with Cable and AC or DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni15-M30-AP6X/S120 4617210	High Temp. 120 °C	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +120	IP67	CPB	PA 12	PA 12	N/A	YE	2M/Silicone	A	1	A4
Ni15-M30-AZ3X/S120 4316506	High Temp. 120 °C	15	2-wire AC	20-250 VAC	20	≤400	-25 to +120	IP67	CPB	PA 12	PA 12	N/A	YE	2M/Silicone	A	2	A6
Ni15-EM30D-VP6X/S120 4617410	High Temp. 120 °C	15	4-wire DC PNP	10-30 VDC	100	≤200	-25 to +120	IP68/69K	SS	PTFE	PTFE	N/A	YE	2M/PTFE	B	3	A4
Bi5-EM18-AP6/S907 4617425	High Temp. 160 °C	5	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +160	IP67	SS	PEEK	PTFE	N/A	N/A	2M/PTFE	C	1	A4
Bi10-EM30-AP6/S907 4614513	High Temp. 160 °C	10	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +160	IP67	SS	PEEK	PTFE	N/A	N/A	2M/PTFE	D	1	A4
Ni15-EM30-AP6/S907 4617412	High Temp. 160 °C	15	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +160	IP67	SS	PEEK	PTFE	N/A	N/A	2M/PTFE	E	1	A4

We reserve the right to make technical alterations without prior notice.

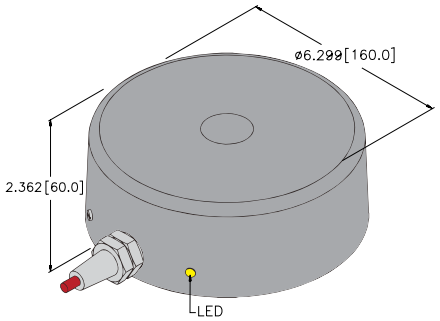
Specialty Sensors | High Temperature

Rectangular and Round Housings

Housing Style	Dimension Drawings

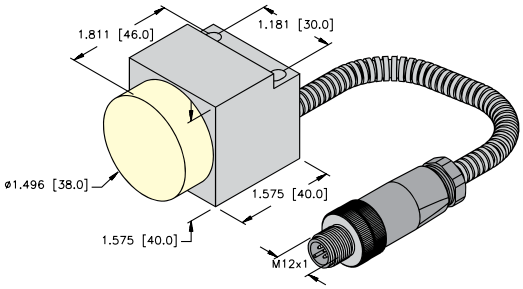


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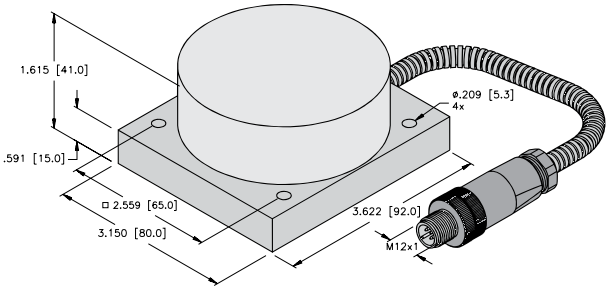
160 mm -Nonembeddable

B



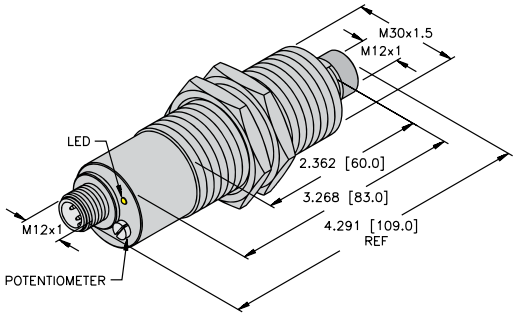
CQ40 - Nonembeddable

C



CQ80 - Nonembeddable

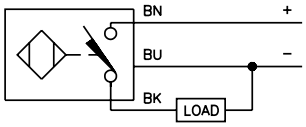
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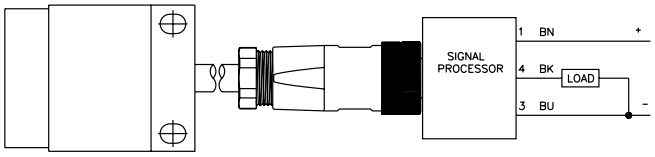
30 mm - Signal Processor

Wiring Diagrams/Mating Cordsets

1



2



A20 — 3-wire DC -High Temp (AP)

Ripple:	≤10%	Temperature Drift:	≤±20%
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2 V (120 °C)	Wire-Break Protection:	Incorporated
	≤1.8 V (250 °C)	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥420 mA on 400 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	≥220 mA on 200 mA Load Current	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤0.1 mA		

Note:
CQ40 and CQ80 sensors require signal processor for operation.

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | High Temperature

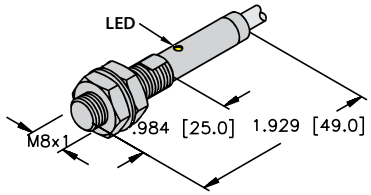
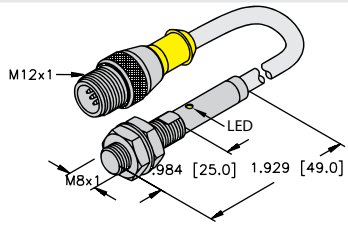
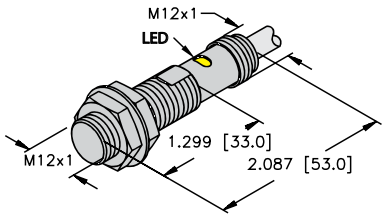
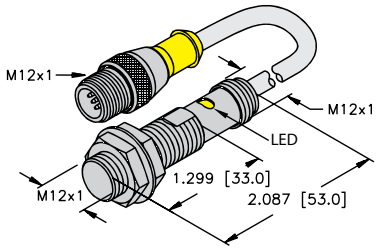
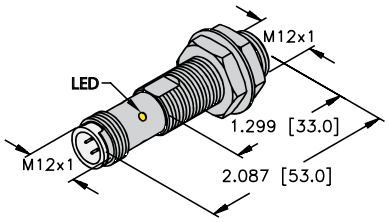
Rectangular and Round Housings

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni100-Q160-AP44X/S120 1440012	High Temp. 120 °C	100	3-wire DC PNP	10-55 VDC	50	≤400	-25 to +120	IP67	PPO	PPO	- -	N/A	YE	2M/Silicone	A	1	A20
Ni25-CQ40/S1102 5M 1602410	High Temp. 250 °C	25	Remote	- -	40	Remote	0 to +250	IP60	AL	PEEK	PEEK	N/A	N/A	5M/PTFE	B	2	- -
Ni25-CQ40/S1102 10M 1602403	High Temp. 250 °C	25	Remote	- -	40	Remote	0 to +250	IP60	AL	PEEK	PEEK	N/A	N/A	10M/PTFE	B	2	- -
Ni40-CQ80/S1102 5M 1602404	High Temp. 250 °C	40	Remote	- -	40	Remote	0 to +250	IP60	AL	PEEK	PEEK	N/A	N/A	5M/PTFE	C	2	- -
EM30-AP6X2-H1141/S1102 1602411	Signal Processor	N/A	3-wire DC PNP	10-30 VDC	40	≤200	-20 to +70	IP67	SS	SS	- -	GN	YE	- -	D	2	A20

We reserve the right to make technical alterations without prior notice.

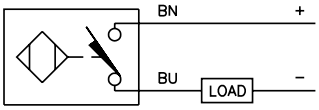
Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 2-Wire DC Outputs

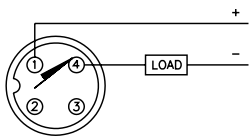
Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	B  8 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect
C  8 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	D  12 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	E  12 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1



2



Mating Cordset: RKV 4.23T-*

A21 — **2-wire DC Stainless Front Face (AG)**

Ripple:	≤10%	Temperature Drift:	≤±20%
Differential Travel (Hysteresis):	1-15% (5% typical)	Off-State (Leakage) Current:	≤0.8 mA
Voltage Drop Across Conducting Sensor:	≤3.5 V Polarized	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA on 100 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 2-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-EG08F-AG6X 4614628	Full Stainless Steel	1.5	2-wire DC	10-30 VDC	200	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	2M/ PVC	A	1	A21
Bi1.5-EGT08F-AG6X 4614677	Full Stainless Steel, PTFE	1.5	2-wire DC	10-30 VDC	200	≤100	-25 to +70	IP68/69K	TC	SS	GN	RD	2M/ PVC	A	1	A21
Bi1.5-EG08F-AG6X-0.3-RS4.23T 4614684	Full Stainless Steel	1.5	2-wire DC	10-30 VDC	200	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	0.3M/ PVC	B	2	A21
Bi1.5-EGT08F-AG6X-0.2-RS4.23T 4614686	Full Stainless Steel, PTFE	1.5	2-wire DC	10-30 VDC	200	≤100	-25 to +70	IP68/69K	TC	SS	GN	RD	0.2M/ PVC	B	2	A21
Bi2-EG08F-AG6X 4614664	Full Stainless Steel	2	2-wire DC	10-30 VDC	200	≤100	-25 to +70	IP67	SS	SS	N/A	RD	2M/ PVC	A	1	A21
Bi2-EG12F-AG6X 4614634	Full Stainless Steel	2	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	2M/ PVC	C	1	A21
Bi2-EGT12F-AG6X 46146651	Full Stainless Steel, PTFE	2	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	TC	SS	GN	RD	2M/ PVC	C	1	A21
Bi2-EG12F-AG6X-0.3-RS4.23T 4614693	Full Stainless Steel	2	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	0.3M/ PVC	D	2	A21
Bi3-EG12F-AG6X 4614665	Full Stainless Steel	3	2-wire DC	10-30 VDC	80	≤100	-25 to +70	IP67	SS	SS	N/A	RD	2M/ PVC	C	1	A21
Bi2-EG12F-AG6X-H1141 4614637	Full Stainless Steel	2	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	- -	E	2	A21
Bi2-EGT12F-AG6X-H1141 4614698	Full Stainless Steel, PTFE	2	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	TC	SS	GN	RD	- -	E	2	A21

We reserve the right to make technical alterations without prior notice.

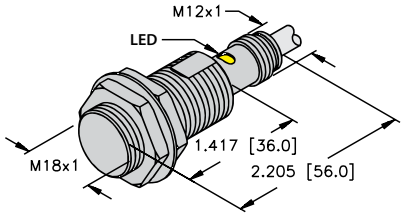
Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 2-Wire DC Outputs

Housing Style	Dimension Drawings

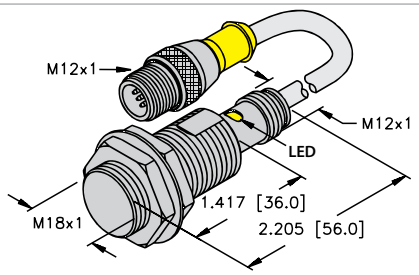


A



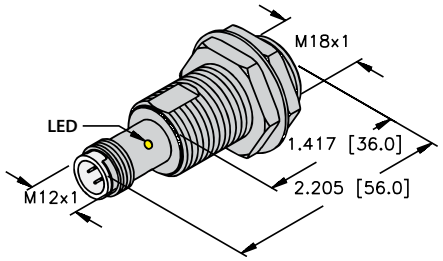
18 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable

B



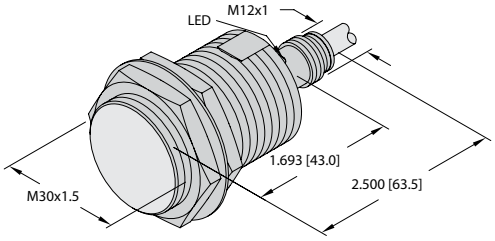
18 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect

C



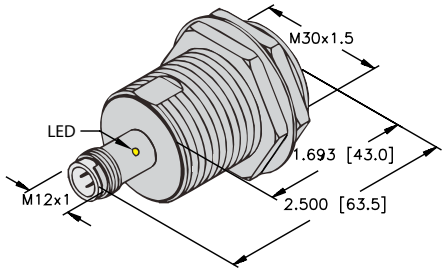
18 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect

D



30 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable

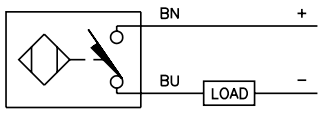
E



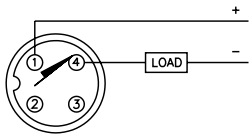
30 mm - Embeddable, M12 Eurofast Connection, Stainless Steel

Wiring Diagrams/Mating Cordsets

1



2



Mating Cordset: RKV 4T-*; RKV 4.23T-*

A21 — **2-wire DC Stainless Front Face (AG)**

Ripple:	≤10%	Temperature Drift:	≤±20%
Differential Travel (Hysteresis):	1-15% (5% typical)	Off-State (Leakage) Current:	≤0.8 mA
Voltage Drop Across Conducting Sensor:	≤3.5 V Polarized	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA on 100 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Stainless Front Face

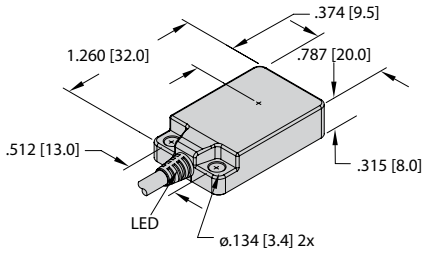
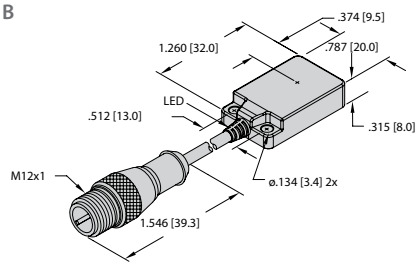
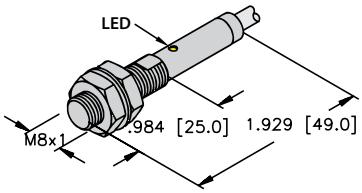
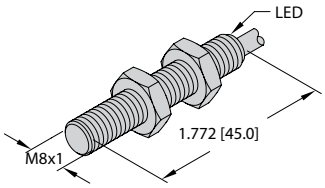
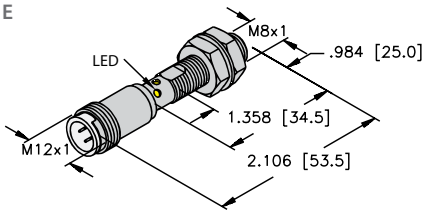
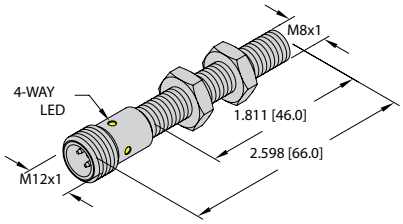
Embeddable Threaded Metal Barrels with 2-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-EG18F-AG6X 4614640	Full Stainless Steel	5	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	2M/PVC	A	1	A21
Bi5-EGT18F-AG6X 46146400	Full Stainless Steel, PTFE	5	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	TC	SS	GN	RD	2M/PVC	A	1	A21
Bi5-EG18F-AG6X-0.3-RS4.23T 4614694	Full Stainless Steel	5	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	0.3M/ PVC	B	2	A21
Bi7-EG18F-AG6X 4614666	Full Stainless Steel	7	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP67	SS	SS	N/A	RD	2M/PVC	A	1	A21
Bi5-EG18F-AG6X-H1141 4614643	Full Stainless Steel	5	2-wire DC	10-30 VDC	100	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	- -	C	2	A21
Bi12-EG30F-AG6X 4614667	Full Stainless Steel	12	2-wire DC	10-30 VDC	50	≤100	-25 to +70	IP67	SS	SS	N/A	RD	2M/PVC	D	1	A21
Bi10-EG30F-AG6X-H1141 4614649	Full Stainless Steel	10	2-wire DC	10-30 VDC	50	≤100	-25 to +70	IP68/69K	SS	SS	GN	RD	- -	E	2	A21
Bi10-EGT30F-AG6X-H1141/ S1589 46146490	Full Stainless Steel, PTFE, Weldguard	10	2-wire DC	10-30 VDC	50	≤100	-25 to +70	IP68/69K	TC	WG	GN	RD	- -	E	2	A21

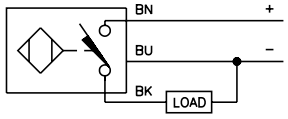
We reserve the right to make technical alterations without prior notice.

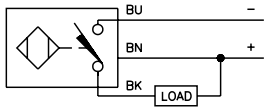
Specialty Sensors | Stainless Front Face

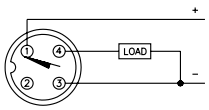
Embeddable Rectangular and Threaded Metal Barrels with 3-Wire DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Stainless Steel, Potted-In Cable	B  8 mm - Embeddable, Stainless Steel, M12 Eurofast Quick Disconnect
C  8 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	D  8 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	E  8 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect
F  8 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect		

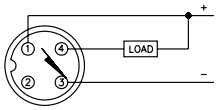
Wiring Diagrams/Mating Cordsets

1


2


3


Mating Cordset: RKV 4T-*

4


Mating Cordset: RKV 4T-*

A22	3-wire DC Stainless Front Face (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤2% of Rated Operating Distance

A23	3-wire DC Stainless Front Face Ext Range (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	20%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤10 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤5% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Stainless Front Face

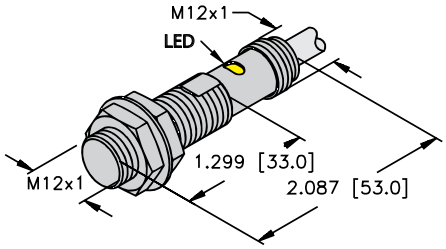
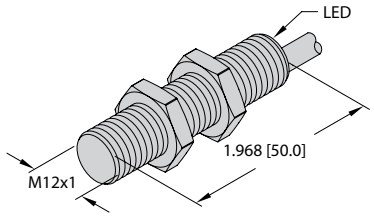
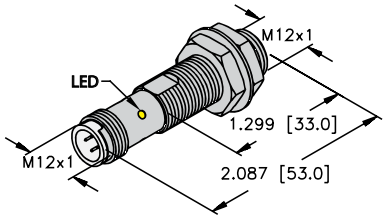
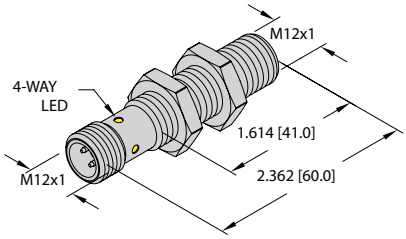
Embeddable Rectangular and Threaded Metal Barrels with 3-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi7-Q08F-AN6X 1608914	Full Stainless Steel	7	3-wire DC NPN	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/TPE	A	2	A23
Bi7-Q08F-AP6X 1608916	Full Stainless Steel	7	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/TPE	A	1	A23
Bi7-Q08F-AP6X-0.2-RS4T 16089160	Full Stainless Steel	7	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	0.2M/ TPE	B	3	A23
Bi1.5-EG08F-AN6X 4614627	Full Stainless Steel	1.5	3-wire DC NPN	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	C	2	A22
Bi3-EG08FE-AN6X 4614712	Full Stainless Steel	3	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	SS	N/A	YE	2M/PVC	D	2	A23
Bi1.5-EG08F-AP6X 4614626	Full Stainless Steel	1.5	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	C	1	A22
Bi1.5-EGT08F-AP6X 4614678	Full Stainless Steel, PTFE	1.5	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	2M/PVC	C	1	A22
Bi3-EG08FE-AP6X 4614704	Full Stainless Steel	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	SS	N/A	YE	2M/PVC	D	1	A23
Bi3-EGT08FE-AP6X 46147043	Full Stainless Steel, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	TC	SS	N/A	YE	2M/PVC	D	1	A23
Bi1.5-EG08F-AN6X-H1341 4614630	Full Stainless Steel	1.5	3-wire DC NPN	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	E	4	A22
Bi3-EG08FE-AN6X-H1341 4614711	Full Stainless Steel	3	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	SS	N/A	YE	- -	F	4	A23
Bi1.5-EG08F-AP6X-H1341 4614629	Full Stainless Steel	1.5	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	E	3	A22
Bi3-EG08FE-AP6X-H1341 4614703	Full Stainless Steel	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	SS	N/A	YE	- -	F	3	A23
Bi3-EGT08FE-AP6X-H1341 46147030	Full Stainless Steel, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	TC	SS	N/A	YE	- -	F	3	A23
Bi3-EGT08FE-AP6X-H1341/S1589 46147032	Full Stainless Steel, PTFE, Weldguard	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	- -	F	3	A23

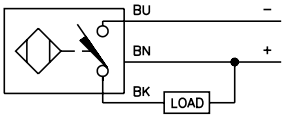
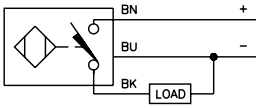
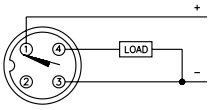
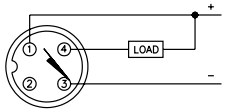
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 3-Wire DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable
B  12 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable	C  12 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect
D  12 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
		 Mating Cordset: RKV 4T-*	 Mating Cordset: RKV 4T-*

A22	3-wire DC Stainless Front Face (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤2% of Rated Operating Distance

A23	3-wire DC Stainless Front Face Ext Range (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	20%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤10 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤5% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 3-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-EG12F-AN6X 4614633	Full Stainless Steel	2	3-wire DC NPN	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	A	2	A22
Bi6-EG12FE-AN6X 4614721	Full Stainless Steel	6	3-wire DC NPN	10-30 VDC	600	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	B	2	A23
Bi2-EG12F-AP6X 4614632	Full Stainless Steel	2	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	A	1	A22
Bi6-EG12FE-AP6X 4614720	Full Stainless Steel	6	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	B	1	A23
Bi2-EG12F-AN6X-H1141 4614636	Full Stainless Steel	2	3-wire DC NPN	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	C	4	A22
Bi6-EG12FE-AN6X-H1141 4614714	Full Stainless Steel	6	3-wire DC NPN	10-30 VDC	600	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	D	4	A23
Bi6-EGT12FE-AN6X-H1141 46147140	Full Stainless Steel, PTFE	6	3-wire DC NPN	10-30 VDC	600	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	D	4	A23
Bi2-EG12F-AP6X-H1141 4614635	Full Stainless Steel	2	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	C	3	A22
Bi2-EGT12F-AP6X-H1141 46146971	Full Stainless Steel, PTFE	2	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	C	3	A22
Bi6-EG12FE-AP6X-H1141 4614706	Full Stainless Steel	6	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	D	3	A23
Bi6-EGT12FE-AP6X-H1141 46147060	Full Stainless Steel, PTFE	6	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	D	3	A23
Bi6-EGT12FE-AP6X-H1141/S1589 46147061	Full Stainless Steel, PTFE, Weldguard	6	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +70	IP68/69K	TC	WG	N/A	YE	- -	D	3	A23

We reserve the right to make technical alterations without prior notice.

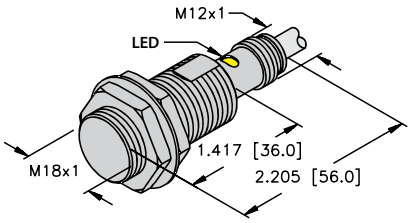
Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 3-Wire DC Outputs

Housing Style	Dimension Drawings

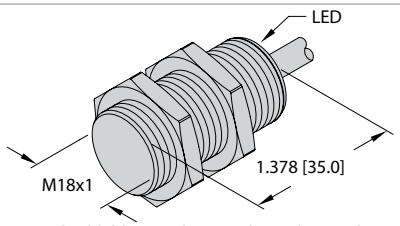


A



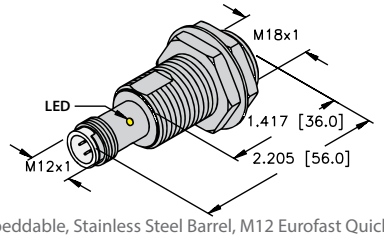
18 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable

B



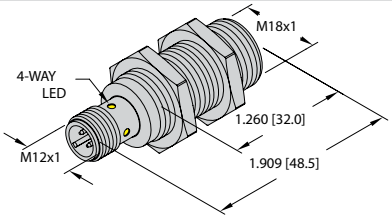
18 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable

C



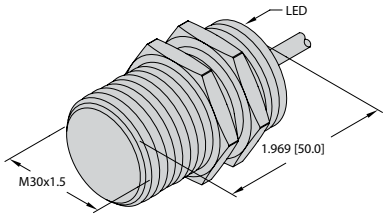
18 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect

D



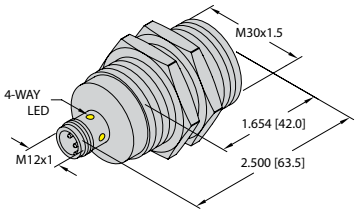
18 mm - Embeddable, Stainless Steel Barrel, M12 Eurofast Quick Disconnect

E



30 mm - Embeddable, Stainless Steel Barrel, Potted-In Cable

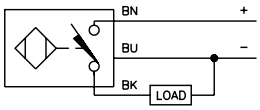
F



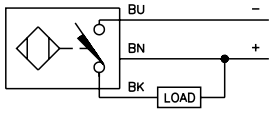
30 mm - Embeddable, M12 Eurofast Connection, Stainless Steel

Wiring Diagrams/Mating Cordsets

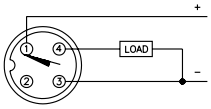
1



2

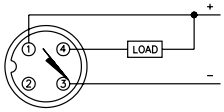


3



Mating Cordset: RKV 4T-*

4



Mating Cordset: RKV 4T-*

A22	3-wire DC Stainless Front Face (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤2% of Rated Operating Distance

A23	3-wire DC Stainless Front Face Ext Range (AP, AN, RP, RN)		
Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	20%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤10 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤5% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

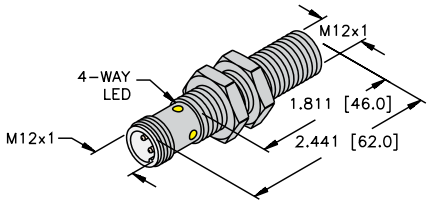
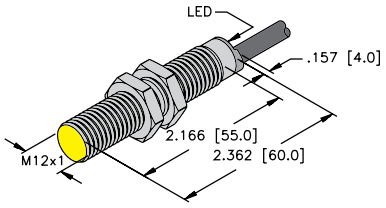
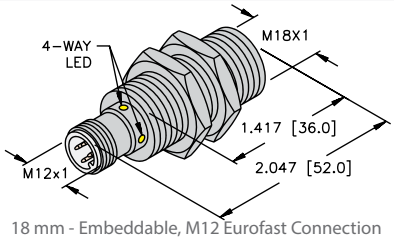
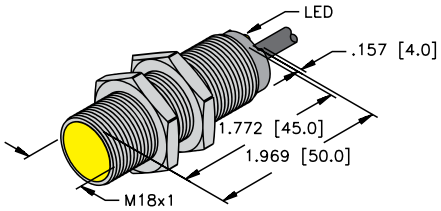
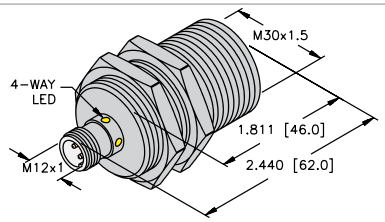
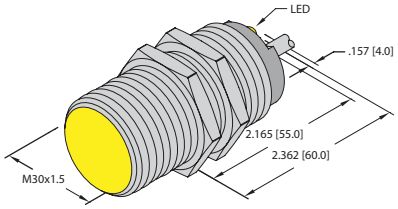
Specialty Sensors | Stainless Front Face

Embeddable Threaded Metal Barrels with 3-Wire DC Outputs

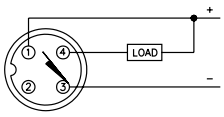
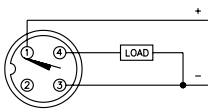
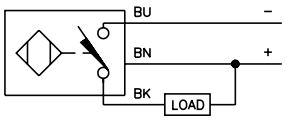
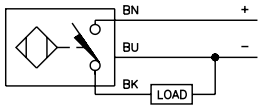
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-EG18F-AN6X 4614639	Full Stainless Steel	5	3-wire DC NPN	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	A	2	A22
Bi10-EG18F-AN6X 4614723	Full Stainless Steel	10	3-wire DC NPN	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	B	2	A23
Bi10-EG18F-AP6X 4614722	Full Stainless Steel	10	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	B	1	A23
Bi5-EG18F-AN6X-H1141 4614642	Full Stainless Steel	5	3-wire DC NPN	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	C	4	A22
Bi5-EGT18F-AN6X-H1141 4614672	Full Stainless Steel, PTFE	5	3-wire DC NPN	10-30 VDC	100	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	C	4	A22
Bi10-EG18F-AN6X-H1141 4614716	Full Stainless Steel	10	3-wire DC NPN	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	D	4	A23
Bi5-EG18F-AP6X-H1141 4614641	Full Stainless Steel	5	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	C	3	A22
Bi5-EGT18F-AP6X-H1141 4614675	Full Stainless Steel, PTFE	5	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	C	3	A22
Bi10-EG18F-AP6X-H1141 4614708	Full Stainless Steel	10	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	D	3	A23
Bi10-EGT18F-AP6X-H1141 46147080	Full Stainless Steel, PTFE	10	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	D	3	A23
Bi10-EGT18F-AP6X-H1141/S1589 46147081	Full Stainless Steel, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	200	≤200	-25 to +70	IP68/69K	TC	WG	N/A	YE	- -	D	3	A23
Bi20-EG30F-AP6X 4614724	Full Stainless Steel	20	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	2M/PVC	E	1	A23
Bi20-EG30F-AP6X-H1141 4614710	Full Stainless Steel	20	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	SS	SS	N/A	YE	- -	F	3	A23
Bi20-EGT30F-AP6X-H1141 46147100	Full Stainless Steel, PTFE	20	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	TC	SS	N/A	YE	- -	F	3	A23
Bi20-EGT30F-AP6X-H1141/S1589 46147101	Full Stainless Steel, PTFE, Weldguard	20	3-wire DC PNP	10-30 VDC	100	≤200	-25 to +70	IP68/69K	TC	WG	N/A	YE	- -	F	3	A23

We reserve the right to make technical alterations without prior notice.

Barrel Sensors Designed for use on Vehicles and Equipment

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection
B  12 mm - Embeddable, Partial Threading, Potted-In Cable	C  18 mm - Embeddable, M12 Eurofast Connection
D  18 mm - Embeddable, Partial Threading, Potted-In Cable	E  30 mm - Embeddable, M12 Eurofast Connection
F  30 mm - Embeddable, Partial Threading, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 	
Mating Cordset: RK 4T-*/S90	Mating Cordset: RK 4T-*/S90		

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

Features

- Load Dump Protection
- Shock Resistant
- EMC Immunity
- Extended Temperature Range
- Broader Operating Voltage
- Improved Sealing and Environmental Protection
- Longer Sensing Range

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Mobile Equipment

Barrel Sensors Designed for use on Vehicles and Equipment

Part Number/ ID Number	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-EM12E-AN45XLD-H1141 1584003	4	3-wire DC NPN	8.4-65 VDC	2000	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	A	1	A4
Bi4-EM12E-AP45XLD-H1141 1584000	4	3-wire DC PNP	8.4-65 VDC	2000	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	A	2	A4
Bi4-EM12E-AN45XLD 1584004	4	3-wire DC NPN	8.4-65 VDC	2000	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	B	3	A4
Bi4-EM12E-AP45XLD 1584001	4	3-wire DC PNP	8.4-65 VDC	2000	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	B	4	A4
Bi8-EM18-AN45XLD-H1141 1584017	8	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	C	1	A4
Bi8-EM18-AP45XLD-H1141 1584010	8	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	C	2	A4
Bi8-EM18-AN45XLD 1584014	8	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	D	3	A4
Bi8-EM18-AP45XLD 1584011	8	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	D	4	A4
Bi15-EM30-AN45XLD-H1141 1584024	15	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	E	1	A4
Bi15-EM30-AP45XLD-H1141 1584020	15	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	- -	E	2	A4
Bi15-EM30-AN45XLD 1584022	15	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	F	1	A4
Bi15-EM30-AP45XLD 1584021	15	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	SS	PA12	N/A	YE	2M/TPE	F	2	A4

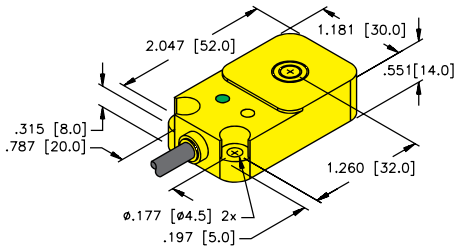
We reserve the right to make technical alterations without prior notice.

Rectangular Sensors Designed for use on Vehicles and Equipment

Housing Style	Dimension Drawings

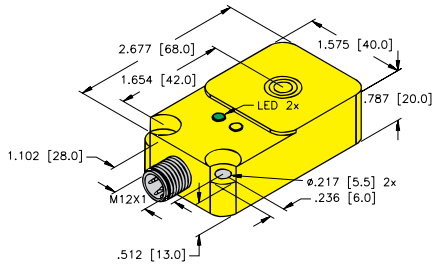


A



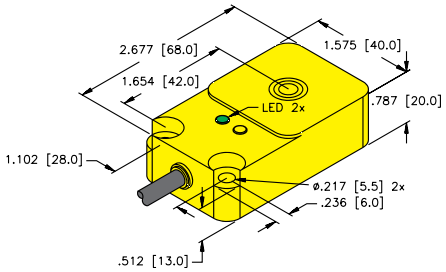
14 mm - Embeddable, Potted-In Cable

B



20 mm - Embeddable, M12 Eurofast Connection

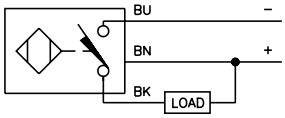
C



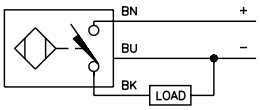
20 mm - Embeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

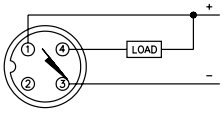
1



2

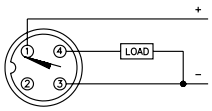


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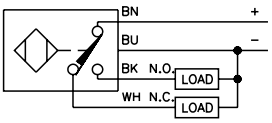
Mating Cordset: RK 4T-*/S90

4



Mating Cordset: RK 4T-*/S90

5



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

Features

- Load Dump Protection
- Shock Resistant
- EMC Immunity
- Extended Temperature Range
- Broader Operating Voltage
- Improved Sealing and Environmental Protection
- Longer Sensing Range

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Mobile Equipment

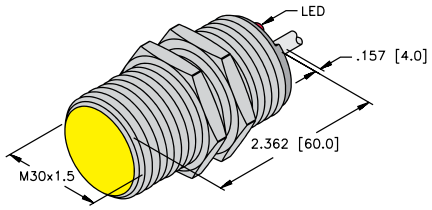
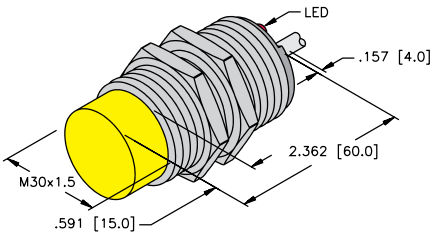
Rectangular Sensors Designed for use on Vehicles and Equipment

Part Number/ ID Number	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10-Q14-AN45X2LD 1584032	10	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	2M/TPE	A	1	A4
Bi10-Q14-AP45X2LD 1584031	10	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	2M/TPE	A	2	A4
Bi20-Q20-AN45X2LD-H1141 1584042	20	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	- -	B	3	A4
Bi20-Q20-AP45X2LD-H1141 1584040	20	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	- -	B	4	A4
Bi20-Q20-AN45X2LD 1584043	20	3-wire DC NPN	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	2M/TPE	C	1	A4
Bi20-Q20-AP45X2LD 1584041	20	3-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	2M/TPE	C	2	A4
Bi20-Q20-VP45X2LD 1584047	20	4-wire DC PNP	8.4-65 VDC	500	≤200	-40 to +85	IP68/69K	PBT	PBT	GN	YE	2M/TPE	C	5	A4

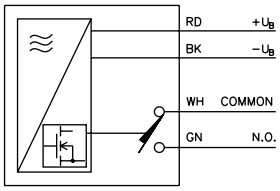
We reserve the right to make technical alterations without prior notice.

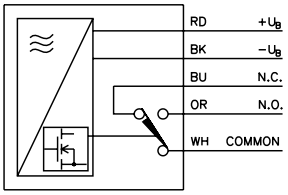
Specialty Sensors | 6A Solid State

Threaded Metal Barrel Sensors with Cable

Housing Style	Dimension Drawings
	A  30 mm - Embeddable, Potted-In Cable
B  30 mm - Nonembeddable, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1 

2 

A10 — Solid State Relay (AM6, VM6)

Ripple:	≤10%	Reverse Polarity Protection:	Incorporated
Output Voltage:	≤35 V AC, ≤50 V DC	Wire-Break Protection:	Incorporated
Differential Travel (Hysteresis):	3-15% (5% typical)	Short Circuit Protected:	No
Voltage Drop Across Conducting Sensor:	≤0.4 V	Transient Protection:	Per EN 60947-5-2
Continuous Load Current:	≤6 Amp	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Inrush Current:	≤8.0 A (≤10.0 ms max 5 Hz)	Repeatability:	≤2% of Rated Operating Distance
No-Load Current:	≤25 mA		

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | 6A Solid State

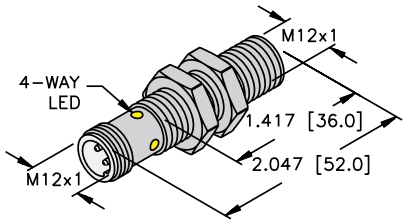
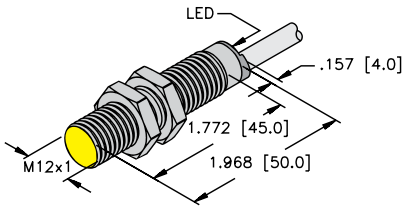
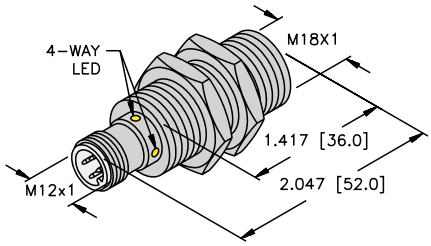
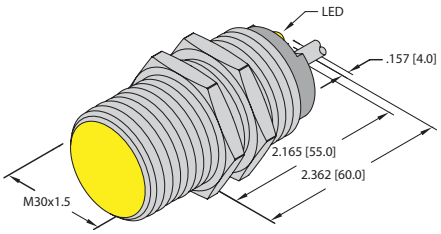
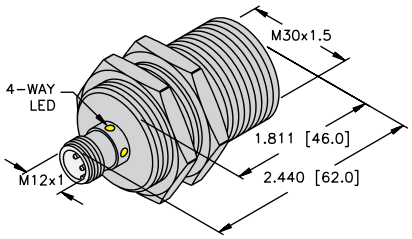
Threaded Metal Barrel Sensors with Cable

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi12-G30-AM6/37X/S97 1711200	High current rated	12	4-wire DC	10-30 VDC	20	≤6000	-40 to 70	IP67	CPB	PA12	N/A	YE	2M/PVC	A	1	A10
Bi12-G30-VM6/37X/S97 1711290	High current rated	12	5-wire DC	10-30 VDC	20	≤6000	-40 to 70	IP67	CPB	PA12	N/A	YE	2M/PVC	A	2	A10
Ni20-G30-VM6/37X/S97 4205472	High current rated	20	5-wire DC	10-30 VDC	20	≤6000	-40 to 70	IP67	CPB	PA12	N/A	YE	2M/PVC	B	2	A10

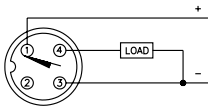
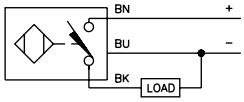
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | FM Approved Class I Div 2

Threaded Metal Barrels with 3-Wire DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connector
B  12 mm - Embeddable, Potted-In Cable	C  18 mm - Embeddable, M12 Eurofast Connector
D  30 mm - Embeddable, Potted-In Cable	E  30 mm - Embeddable, M12 Eurofast Connector

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: P-RKGV 4.43T-1699XL-*	

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | FM Approved Class I Div 2

Threaded Metal Barrels with 3-Wire DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-M12-AP6X-H1141/S1751 4607075	FM Approved	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	- -	A	1	A4
Bi4-M12-AP6X/S1751 4607073	FM Approved	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/ PVC	B	2	A4
Bi8-M18-AP6X-H1141/S1751 4615078	FM Approved	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	- -	C	1	A4
Bi15-M30-AP6X-H1141/S97/S1751 4618574	FM Approved	15	3-wire DC PNP	10-30 VDC	500	≤200	-40 to +70	IP67	CPB	PA 12	N/A	YE	- -	E	1	A4
Bi15-M30-AP6X/S1751 46185302	FM Approved	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/ PVC	D	2	A4

We reserve the right to make technical alterations without prior notice.

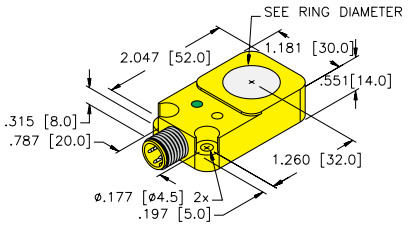
Specialty Sensors | Ring Sensors

Plastic Housing Sensors with Cable or Connector and 3-Wire DC Output

Housing Style	Dimension Drawings

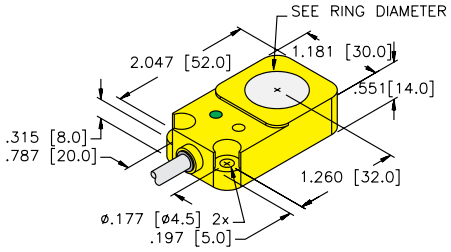


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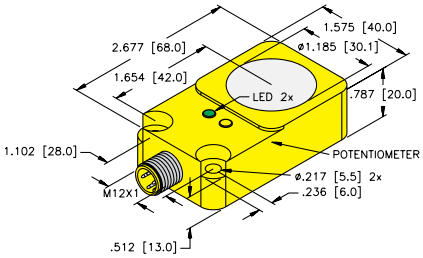
14 mm - Rectangular, Ring Sensor, M12 Eurofast Connector

B



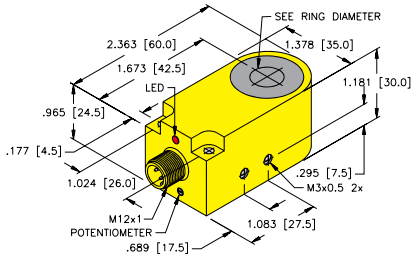
14 mm - Rectangular, Ring Sensor, Potted-In Cable

C



20 mm - Rectangular, Ring Sensor, M12 Eurofast Connector

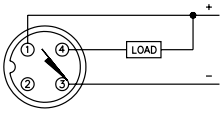
D



30 mm - Rectangular, Ring Sensor, M12 Eurofast Connector

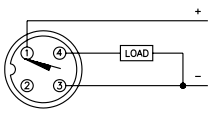
Wiring Diagrams/Mating Cordsets

1



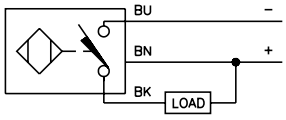
Mating Cordset: RK 4T-*

2

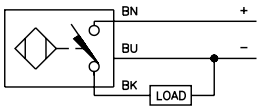


Mating Cordset: RK 4T-*

3



4



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Ring Sensors

Plastic Housing Sensors with Cable or Connector and 3-Wire DC Output

Part Number/ ID Number	Features	Minimum Target Diameter	Ring Diameter (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10R-Q14-AN6X2-H1141 1407120	Static Output	≥ 2 mm	10	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	1	A4
Bi15R-Q14-AN6X2-H1141 1407220	Static Output	≥ 3 mm	15	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	1	A4
Bi20R-Q14-AN6X2-H1141 1407320	Static Output	≥ 4 mm	20	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	1	A4
Bi6R-Q14-AP6X2-H1141 14070	Static Output	≥ 2 mm	6	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	2	A4
Bi10R-Q14-AP6X2-H1141 14071	Static Output	≥ 2 mm	10	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	2	A4
Bi15R-Q14-AP6X2-H1141 14072	Static Output	≥ 3 mm	15	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	2	A4
Bi20R-Q14-AP6X2-H1141 14073	Static Output	≥ 4 mm	20	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	A	2	A4
Bi10R-Q14-AN6X2 1406120	Static Output	≥ 2 mm	10	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	3	A4
Bi15R-Q14-AN6X2 1406220	Static Output	≥ 3 mm	15	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	3	A4
Bi20R-Q14-AN6X2 1406320	Static Output	≥ 4 mm	20	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	3	A4
Bi10R-Q14-AP6X2 14061	Static Output	≥ 2 mm	10	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	4	A4
Bi15R-Q14-AP6X2 14062	Static Output	≥ 3 mm	15	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	4	A4
Bi20R-Q14-AP6X2 14063	Static Output	≥ 4 mm	20	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	2M/PVC	B	4	A4
Bi30R-Q20-AN6X2-H1141 1407520	Static Output	≥ 6 mm	30	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	C	1	A4
Bi30R-Q20-AP6X2-H1141 14075	Static Output	≥ 6 mm	30	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PBT	POM	GN	YE	- -	C	2	A4
Bi6R-W30-DAN6X-H1141 14037	Dynamic Output	≥ 0.6 mm	6	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	1	A4
Bi10R-W30-DAN6X-H1141 14039	Dynamic Output	≥ 1 mm	10	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	1	A4
Bi15R-W30-DAN6X-H1141 14041	Dynamic Output	≥ 1.5 mm	15	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	1	A4
Bi20R-W30-DAN6X-H1141 14043	Dynamic Output	≥ 2 mm	20	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	1	A4
Bi30R-W30-DAN6X-H1141 1404501	Dynamic Output	≥ 3 mm	30	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	1	A4
Bi6R-W30-DAP6X-H1141 14036	Dynamic Output	≥ 0.6 mm	6	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	2	A4
Bi10R-W30-DAP6X-H1141 14038	Dynamic Output	≥ 1 mm	10	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	2	A4
Bi15R-W30-DAP6X-H1141 14040	Dynamic Output	≥ 1.5 mm	15	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	2	A4
Bi20R-W30-DAP6X-H1141 14042	Dynamic Output	≥ 2 mm	20	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	2	A4
Bi30R-W30-DAP6X-H1141 14045	Dynamic Output	≥ 3 mm	30	3-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP67	PA 12	POM	N/A	YE	- -	D	2	A4

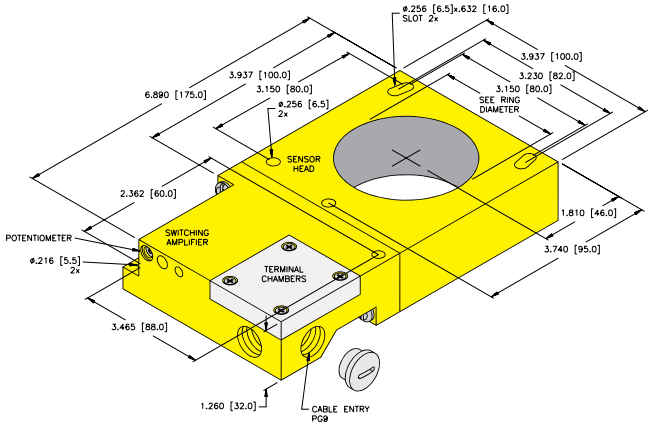
We reserve the right to make technical alterations without prior notice.

Plastic Housing Sensors with a Large Diameter Ring and 3 or 4-Wire DC Output

Housing Style	Dimension Drawings

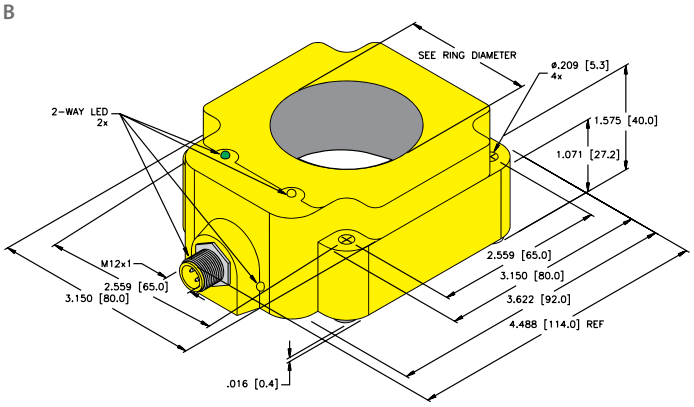


A



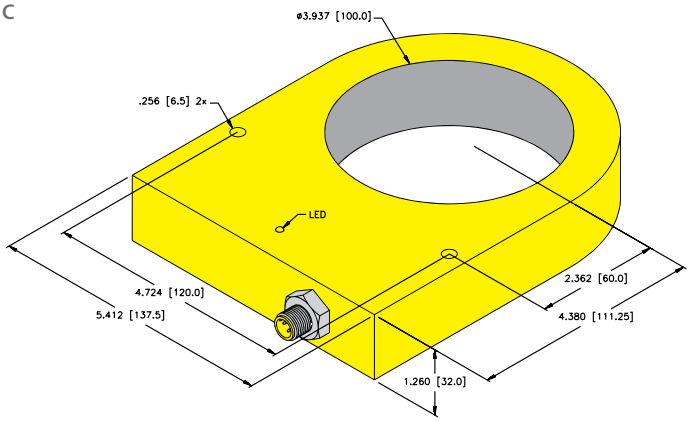
32 mm - Rectangular, Ring Sensor, Terminal Chamber

B



80 mm - Rectangular, Ring Sensor, M12 Eurofast Connector

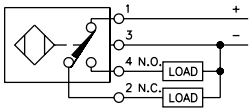
C



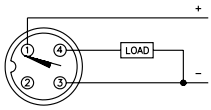
100 mm - Rectangular, Ring Sensor, M12 Eurofast Connector

Wiring Diagrams/Mating Cordsets

1

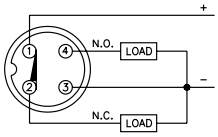


2



Mating Cordset: RK 4T-*

3



Mating Cordset: RK 4.4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Ring Sensors

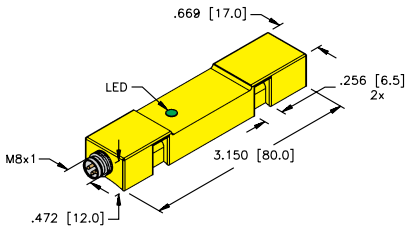
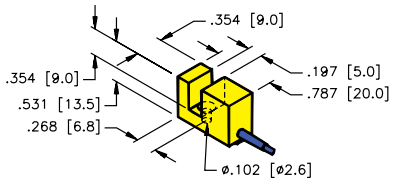
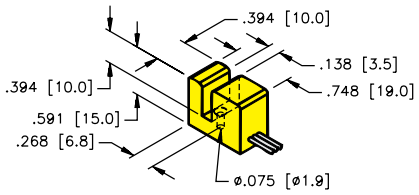
Plastic Housing Sensors with a Large Diameter Ring and 3 or 4-Wire DC Output

Part Number/ ID Number	Features	Minimum Target Diameter	Ring Diameter (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni20R-S32SR-VP44X 1440001	Static Output	≥ 0.4 mm	20	4-wire DC PNP	10-55 VDC	8	≤200	-25 to +70	IP67	ABS	ABS	N/A	YE	A	1	A4
Ni40R-S32SR-VP44X 1440005	Static Output	≥ 1 mm	40	4-wire DC PNP	10-55 VDC	8	≤200	-25 to +70	IP67	ABS	ABS	N/A	YE	A	1	A4
Ni65R-S32SR-VP44X 1440008	Static Output	≥ 12 mm	65	4-wire DC PNP	10-55 VDC	8	≤200	-25 to +70	IP67	ABS	ABS	N/A	YE	A	1	A4
Bi50R-Q80-AP6X2-H1141 1407530	Static Output	≥ 8 mm	50	3-wire DC PNP	10-30 VDC	10	≤200	-25 to +70	IP67	PBT	PA 66	GN	YE	B	2	A4
Bi65R-Q80-AP6X2-H1141 1407531	Static Output	≥ 10 mm	65	3-wire DC PNP	10-30 VDC	10	≤200	-25 to +70	IP67	PBT	PA 66	GN	YE	B	2	A4
Ni100R-S32XL-VP44X-H1141 1510301	Static Output	≥ 10mm	100	4-wire DC PNP	10-55 VDC	8	≤200	-25 to +70	IP67	POM	POM	N/A	YE	C	3	A4

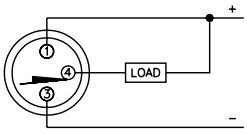
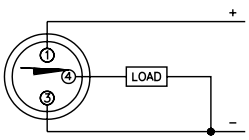
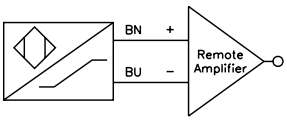
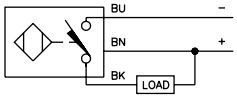
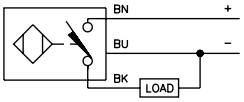
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Tube and Slot Sensors

Plastic Housing Sensors with Cable or Connector

Housing Style	Dimension Drawings
	A  Tube Sensing Nonembeddable, M8 Picofast Connector
B  9 mm - Slot Sensor, Potted-In Cable	C  10 mm - Slot Sensor, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: PKG 3M-*	2  Mating Cordset: PKG 3M-*	3 
4 	5 	

A1 — 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Tube and Slot Sensors

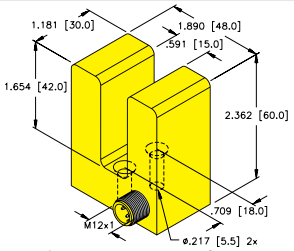
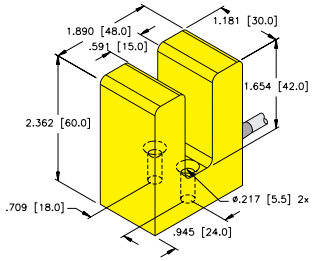
Plastic Housing Sensors with Cable or Connector

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni20U-TS12-AN6X2-V1131 1625822	Uprox+	20	3-wire DC NPN	10-30 VDC	8	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	- -	A	1	A4
Ni20U-TS12-AP6X2-V1131 1646640	Uprox+	20	4-wire DC PNP	10-30 VDC	8	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	- -	A	2	A4
Si5-K09-Y1 0.5M 10240		5	2-wire DC NAMUR	5-30 VDC	5000	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	0.5M/PVC	B	3	A1
Si3.5-K10-AN7 17190		3.5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PBT	PBT	N/A	N/A	2M/PVC	C	4	A4
Si3.5-K10-AP6X 1650001		3.5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	C	5	A4
Si3.5-K10-Y1 10365		3.5	2-wire DC NAMUR	5-30 VDC	3000	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	2M/PVC	C	3	A1

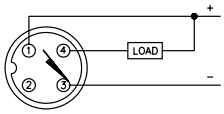
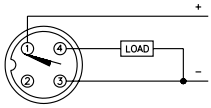
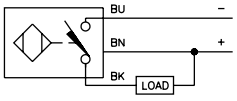
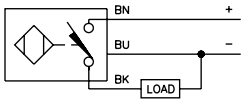
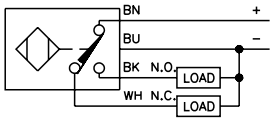
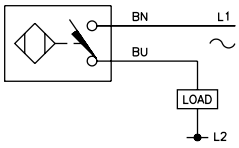
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Slot Sensors

Plastic Housing Sensors with Cable or Connector

Housing Style	Dimension Drawings
	A  30 mm - Slot Sensor, M12 Eurofast Connector
B  30 mm - Slot Sensor, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4T-*	2  Mating Cordset: RK 4T-*	3 
4 	5 	6 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Slot Sensors

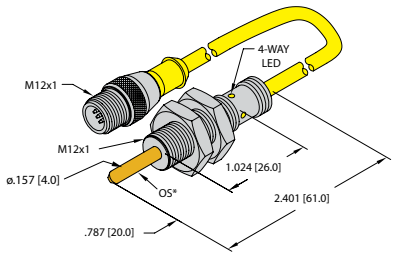
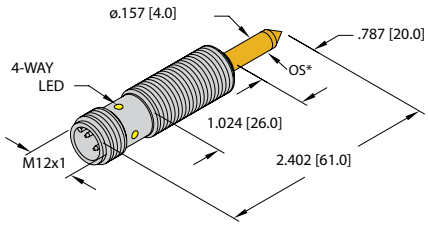
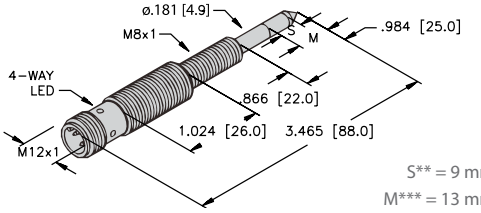
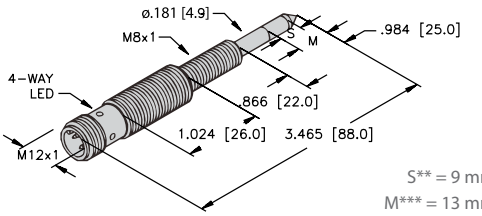
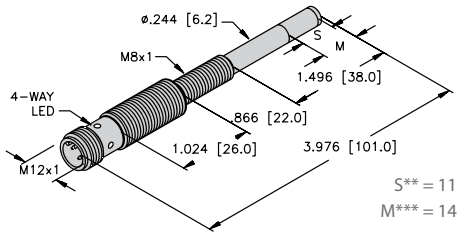
Plastic Housing Sensors with Cable or Connector

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Si15-K30-AN6X-H1141 1605107		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	A	1	A4
Si15-K30-AP6X-H1141 1605007		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	A	2	A4
Si15-K30-AN6X 1605003		15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	3	A4
Si15-K30-AP6X 1605001		15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	4	A4
Si15-K30-VP6 1605030	Comp. Outputs	15	4-wire DC PNP	10-30 VDC	350	≤200	-25 to +70	IP67	PBT	PBT	N/A	N/A	2M/PVC	B	5	A4
Si15-K30-AZ3 13069		15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	N/A	N/A	2M/PVC	B	6	A6

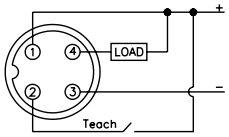
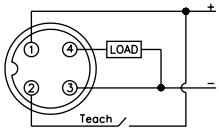
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Weld Nut Sensors

Threaded Metal Barrel with Smooth Sensing Probe and 3-Wire DC Output

Housing Style	Dimension Drawings
	A  Nut Sensor, 5-12 mm Diameter Nut, Potted-In Cable
B  Nut Sensor, 5-12 mm Diameter Nut, M12 Eurofast Connector	C  S** = 9 mm M*** = 13 mm Nut Sensor, 6-12 mm Diameter Nut, M12 Eurofast Connector
D  S** = 9 mm M*** = 13 mm Nut Sensor, 6-12 mm Diameter Nut, M12 Eurofast Connector	E  S** = 11 mm M*** = 14 mm Nut Sensor, 10-20 mm Diameter Nut, M12 Eurofast Connector

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: RK 4.4T-*	 Mating Cordset: RK 4.4T-*

A24 — **3-wire DC Nut Detection Sensor (AP, AN)**

Ripple:	≤10%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA		

Note:
OS* The optimal sensitive area for the 4.0 mm diameter probes has a width of 0.5 mm and is laser-engraved on the tip of the probe, 11.9 mm above the M12 thread.
S** Sensitive area: Within this area the sensor signal changes when assembly parts are changed.
M*** Maximum area: The maximum signal intensity is reached if the sensitive area is completely covered.

Optional teach adapter available, part number VB2-SP1.

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Weld Nut Sensors

Threaded Metal Barrel with Smooth Sensing Probe and 3-Wire DC Output

Part Number/ ID Number	Features	Nut Diameter	Output	Voltage	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
NIMFE-EM12/4.0L61-UP6X-0.3XYE-RS4/S1182 1600623	Titanium Nitride	5-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	0.3M/ TPE	A	2	A24
NIMFE-EM12/4.0L61-UN6X-0.3XYE-RS4/S1182 1600624	Titanium Nitride	5-12 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	0.3M/ TPE	A	1	A24
NIMFE-EM12/4.0L61-UP6X-H1141/S1182 1600621	Titanium Nitride	5-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	B	2	A24
NIMFE-EM12/4.0L61-UN6X-H1141/S1182 1600622	Titanium Nitride	5-12 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	B	1	A24
NIMFE-M12/4.6L88-UN6X-H1141 1600610		6-12 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	CPB	GN	YE	- -	C	1	A24
NIMFE-EMT12/4.6L88-UN6X-H1141 1600618	PTFE Coated	6-12 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	C	1	A24
NIMFE-EM12/4.6L88-UN6X-H1141/S1182 1600617	Titanium Nitride	6-12 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	C	1	A24
NIMFE-M12/4.6L88-UP6X-H1141 1600608		6-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	CPB	GN	YE	- -	C	2	A24
NIMFE-EMT12/4.6L88-UP6X-H1141 1600619	PTFE Coated	6-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	C	2	A24
NIMFE-EM12/4.6L88-UP6X-H1141/S1182 1600620	Titanium Nitride	6-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	C	2	A24
NIMFE-EM12/4.9L88-UP6X-H1141/S1182 1600616	Titanium Nitride	6-12 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	D	2	A24
NIMFE-M12/6.2L101-UN6X-H1141 1600611		10-20 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	CPB	GN	YE	- -	E	1	A24
NIMFE-EMT12/6.2L101-UN6X-H1141 1600615	PTFE Coated	10-20 mm	3-wire DC NPN	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	E	1	A24
NIMFE-M12/6.2L101-UP6X-H1141 1600609		10-20 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	CPB	GN	YE	- -	E	2	A24
NIMFE-EMT12/6.2L101-UP6X-H1141 1600613	PTFE Coated	10-20 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	E	2	A24
NIMFE-EM12/6.2L101-UP6X-H1141/S1182 1600612	Titanium Nitride	10-20 mm	3-wire DC PNP	10-30 VDC	≤200	-25 to +70	IP67	SS	GN	YE	- -	E	2	A24

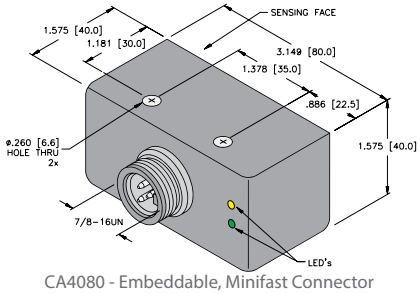
We reserve the right to make technical alterations without prior notice.

Rectangular Metal Housing with AC or DC Outputs and Integral Connector

Housing Style	Dimension Drawings

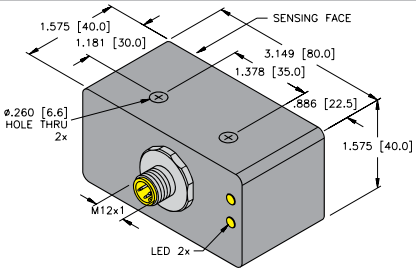


A



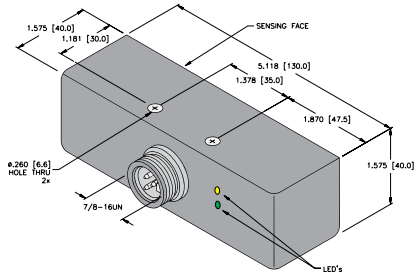
CA4080 - Embeddable, Minifast Connector

B



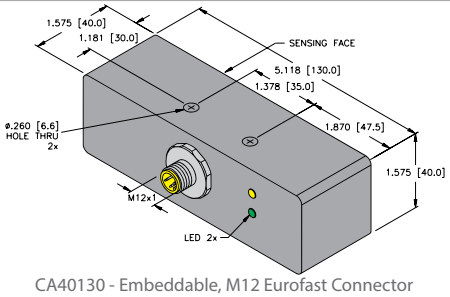
CA4080 - Embeddable, M12 Eurofast Connector

C



CA40130 - Embeddable, Minifast Connector

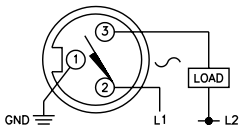
D



CA40130 - Embeddable, M12 Eurofast Connector

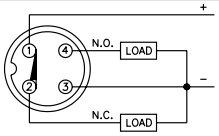
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RKM 30-*M

2



Mating Cordset: RK 4.4T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Edge Detection Sensors

Rectangular Metal Housing with AC or DC Outputs and Integral Connector

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20-CA4080-ADZ30X2-B1131 4283400		20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	TS	SF	GN	YE	A	1	A5
Bi20-CA4080-VP4X2-H1141 1625591		20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	TS	SF	GN	YE	B	2	A4
BI20-CA4080-VP4X2-H1141/S1009 1625590	250 ms Off Delay	20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	TS	SF	GN	YE	B	2	A4
Bi20-CA40130-ADZ30X2-B1131 4283503		20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	TS	SF	GN	YE	C	1	A5
BI20-CA40130-ADZ30X2-B1131/S1009 4283597	250 ms Off Delay	20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	TS	SF	GN	YE	C	1	A5
Bi20-CA40130-VP4X2-H1141 4283599		20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	TS	SF	GN	YE	D	2	A4

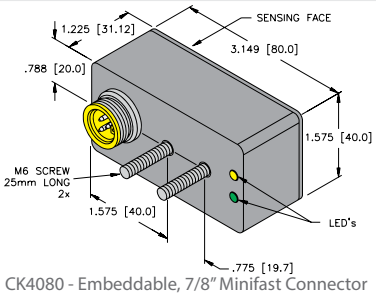
We reserve the right to make technical alterations without prior notice.

Rectangular Plastic Housing with AC or DC Outputs and Integral Connector

Housing Style	Dimension Drawings

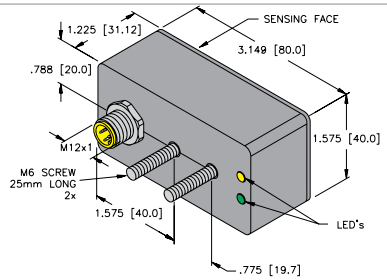


A



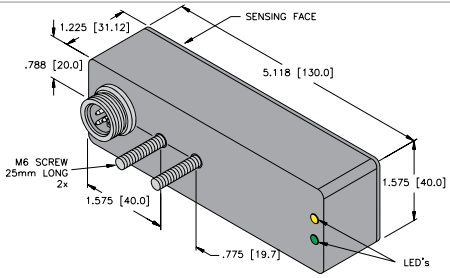
CK4080 - Embeddable, 7/8" Minifast Connector

B



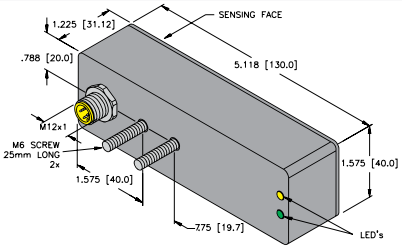
CK4080 - Embeddable, M12 Eurofast Connector

C



CK40130 - Embeddable, 7/8" Minifast Connector

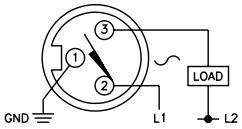
D



CK40130 - Embeddable, M12 Eurofast Connector

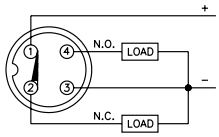
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RKM 30-*M

2



Mating Cordset: RK 4.4T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

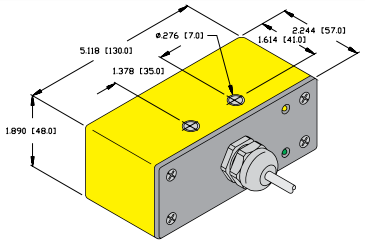
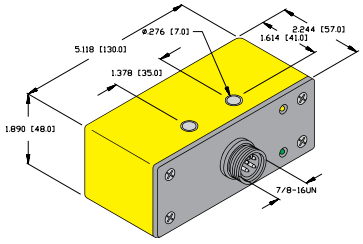
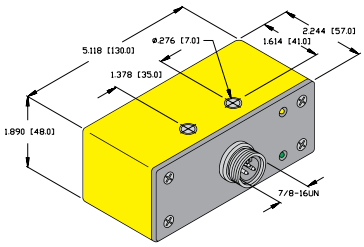
Specialty Sensors | Edge Detection Sensors

Rectangular Plastic Housing with AC or DC Outputs and Integral Connector

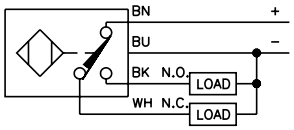
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20-CK4080-ADZ30X2-B1131 4283493		20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	PBT	PBT	GN	RD	A	1	A5
BI20-CK4080-ADZ30X2-B1131/S1009 4283495	250 ms Off Delay	20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	PBT	PBT	GN	RD	A	1	A5
Bi20-CK4080-VP4X2-H1141 4283491		20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A4
BI20-CK4080-VP4X2-H1141/S1009 4283496	250 ms Off Delay	20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A4
Bi20-CK40130-ADZ30X2-B1131 4283589		20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	C	1	A5
BI20-CK40130-ADZ30X2-B1131/S1009 42835953	250 ms Off Delay	20	2-wire AC/DC	20-250 VAC/10-300 VDC	30/100	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	C	1	A5
Bi20-CK40130-VP4X2-H1141 42835911		20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	PBT	PBT	GN	YE	D	2	A4
BI20-CK40130-VP4X2-H1141/S1009 42835963	250 ms Off Delay	20	4-wire DC PNP	10-65 VDC	100	≤400	-25 to +70	IP67	PBT	PBT	GN	YE	D	2	A4

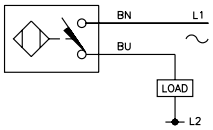
We reserve the right to make technical alterations without prior notice.

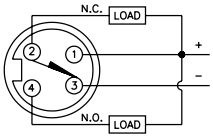
Rectangular Plastic Housing with AC or DC Outputs and Integral Connector

Housing Style	Dimension Drawings
	A  Q130 - Nonembeddable, Potted-In Cable
B  Q130 - Nonembeddable, 7/8" Minifast Connector	C  Q130 - Nonembeddable, 7/8" Minifast Connector

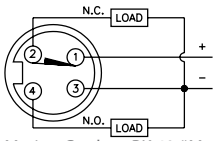
Wiring Diagrams/Mating Cordsets

1 

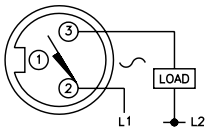
2 

3 

Mating Cordset: RK 40-*M

4 

Mating Cordset: RK 40-*M

5 

Mating Cordset: RK 30-*M

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

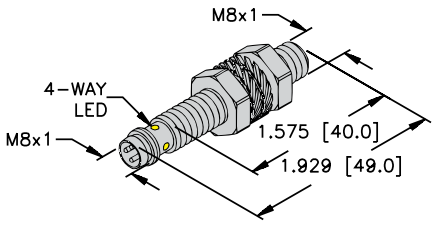
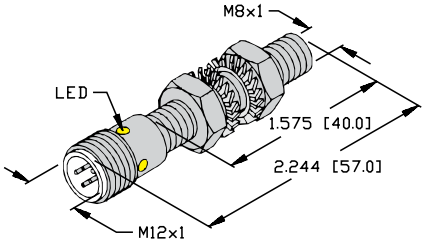
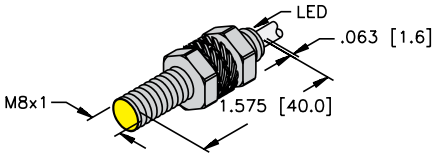
Specialty Sensors | Can Sensors

Rectangular Plastic Housing with AC or DC Outputs and Integral Connector

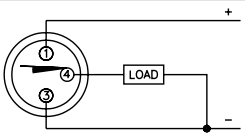
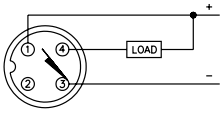
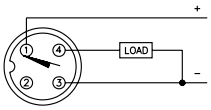
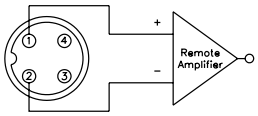
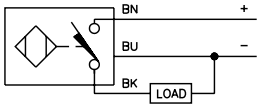
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni30-Q130-VP4X2 15179	Comp. Output	30	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ PVC	A	1	A4
Ni30-Q130-ADZ30X2 42095		30	2-wire AC/DC	20-250 VAC/10-300 VDC	30	≤400/300	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ PVC	A	2	A5
Ni30-Q130-VN4X2-B2141 15180	Comp. Output	30	4-wire DC NPN	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	3	A4
Ni30-Q130-VP4X2-B2141 1518001	Comp. Output	30	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	4	A4
Ni30-Q130-ADZ30X2-B1131 42100		30	2-wire AC/DC	20-250 VAC/10-300 VDC	30	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	- -	C	5	A5

We reserve the right to make technical alterations without prior notice.

Threaded Metal Barrels Designed to Sense a Magnetic Field

Housing Style	Dimension Drawings
	A  8 mm - Barrel, M8 Picofast Connector
B  8 mm - Barrel, M12 Eurofast Connector	C  8 mm - Barrel, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: PKG 3M-*	2  Mating Cordset: RK 4T-*	3  Mating Cordset: RK 4T-*
4  Mating Cordset: RK 4.21T-*	5 	

A25 — 3-wire DC Magnetic Barrel (AP, AN)

Ripple:	≤10%	Temperature Drift:	≤±15%
Differential Travel (Hysteresis):	1-10%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
	≥170 mA on 150 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
No-Load Current:	≤15 mA	Repeatability:	≤0.3% of Full Scale
Off-State (Leakage) Current:	≤0.1 mA		

A27 — 2-wire DC Namur Magnetic Barrel (Y1)

Differential Travel (Hysteresis):	1-10%	Temperature Drift:	≤±10%
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated Current Consumption:	≤1.2 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≥2.1 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote	>1.2 to <2.1 mA,	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Amplifier:	typ. 1.55 mA ON/1.75 mA OFF	Repeatability:	≤0.3% of Full Scale

Note:
Use with Turck actuation magnet to achieve longest switching distance.
See page I18 for part numbers and details.

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Inductive Magnetic Sensors

Threaded Metal Barrels Designed to Sense a Magnetic Field

Part Number/ ID Number	Features	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
BIM-EG08-AP6X-V1131 4621314	Up to 78 mm Range	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	- -	A	1	A25
BIM-EG08-AN6X-H1341 4621301	Up to 78 mm Range	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	- -	B	2	A25
BIM-EG08-AP6X-H1341 4621311	Up to 78 mm Range	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	- -	B	3	A25
BIM-EG08-Y1X-H1341 1074001	Up to 78 mm Range	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	SS	PA 12	N/A	YE	- -	B	4	A27
BIM-EG08-AP6X 4621310	Up to 78 mm Range	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	5	A25

We reserve the right to make technical alterations without prior notice.

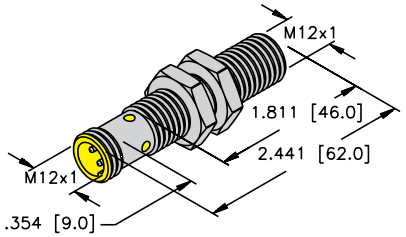
Specialty Sensors | Inductive Magnetic Sensors

Threaded Metal Barrels Designed to Sense a Magnetic Field

Housing Style	Dimension Drawings

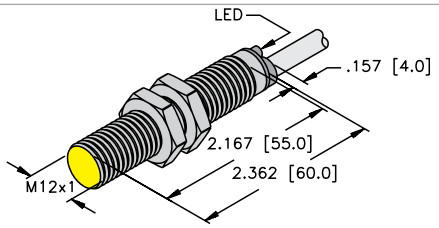


A



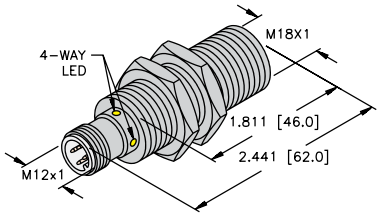
12 mm - M12 Eurofast Connector

B



12 mm - Potted-In Cable

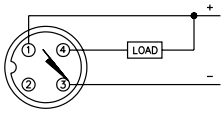
C



18 mm - M12 Eurofast Connector

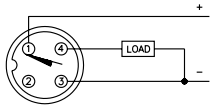
Wiring Diagrams/Mating Cordsets

1



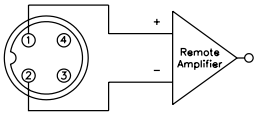
Mating Cordset: RK 4T-*

2



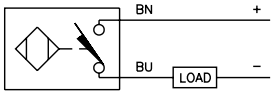
Mating Cordset: RK 4T-*; P-RKGV 4.43T-1699XL-*

3

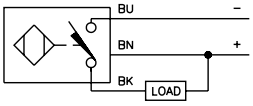


Mating Cordset: RK 4.21T-*

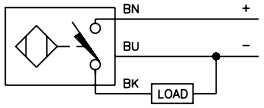
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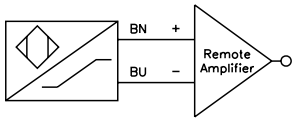
5



6



7



A25 — 3-wire DC Magnetic Barrel (AP, AN)

Ripple:	≤10%	Temperature Drift:	≤±15%
Differential Travel (Hysteresis):	1-10%	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
	≥170 mA on 150 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
No-Load Current:	≤15 mA	Repeatability:	≤0.3% of Full Scale
Off-State (Leakage) Current:	≤0.1 mA		

A26 — 2-wire DC Magnetic Barrel (AG)

Ripple:	≤10%	Temperature Drift:	≤±15%
Differential Travel (Hysteresis):	1-10%	Off-State (Leakage) Current:	≤0.8 mA
Voltage Drop Across Conducting Sensor:	≤4.2 V Polarized	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤0.3% of Full Scale

A27 — 2-wire DC Namur Magnetic Barrel (Y1)

Differential Travel (Hysteresis):	1-10%	Temperature Drift:	≤±10%
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated Current Consumption:	≤1.2 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≥2.1 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote	>1.2 to <2.1 mA,	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Amplifier:	typ. 1.55 mA ON/1.75 mA OFF	Repeatability:	≤0.3% of Full Scale

Note:
Use with Turck actuation magnet to achieve longest switching distance.
See page I18 for part numbers and details.

We reserve the right to make technical alterations without prior notice.

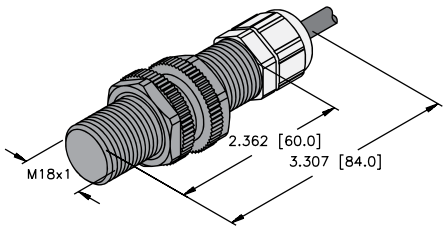
Specialty Sensors | Inductive Magnetic Sensors

Threaded Metal Barrels Designed to Sense a Magnetic Field

Part Number/ ID Number	Features	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
BIM-M12E-AN4X-H1141 1579914	Up to 90 mm Range	3-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A25
BIM-EM12E-AP4X-H1141 1579915	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	SS	POM	N/A	YE	A	2	A25
BIM-M12E-AP4X-H1141 1579913	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A25
BIM-M12E-AP6X-H1141/S1751 4681289	FM Approved	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A25
BIM-M12E-Y1X-H1141 1074003	Up to 90 mm Range	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A27
BIM-M12E-AG4X 44302	Up to 90 mm Range	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	4	A26
BIM-M12E-AN4X 1579912	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	5	A25
BIM-EM12E-AP4X 1579918	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	SS	POM	N/A	YE	B	6	A25
BIM-M12E-AP4X/S90 1579911	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	6	A25
BIM-EM12E-Y1X 1070036	Up to 90 mm Range	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	SS	POM	N/A	YE	B	7	A27
BIM-M12E-Y1X 1074002	Up to 90 mm Range	2-wire DC NAMUR	5-30 VDC	1000	Remote	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	7	A27
BIM-EM18M-AP4X-H1141 1579933	Up to 90 mm Range	3-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	SS	POM	N/A	YE	C	2	A25

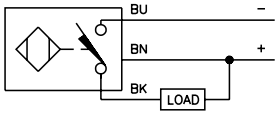
We reserve the right to make technical alterations without prior notice.

Threaded Plastic Barrel Sensors with Cable for Underwater Applications

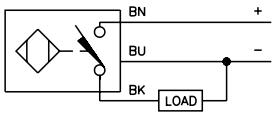
Housing Style	Dimension Drawings
	A  18 mm - Embeddable, Full Threading, Potted-In Cable

Wiring Diagrams/Mating Cordsets

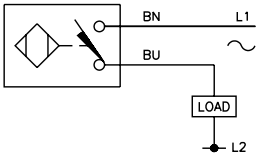
1



2



3



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Submersible Sensors

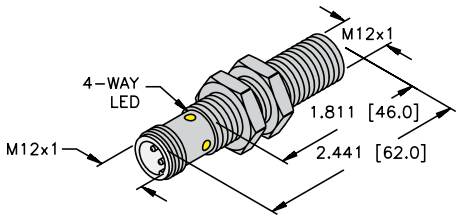
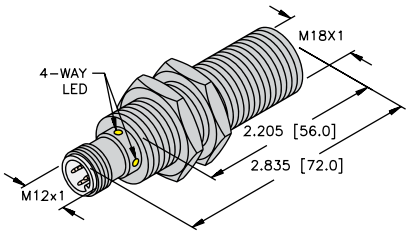
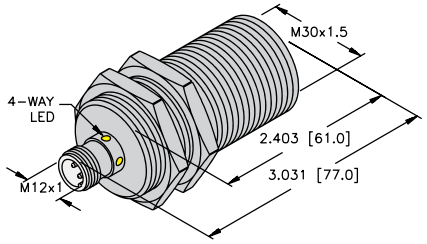
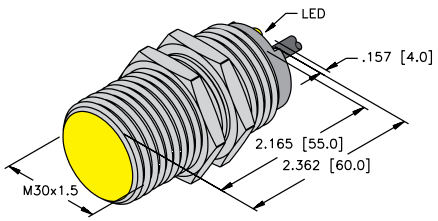
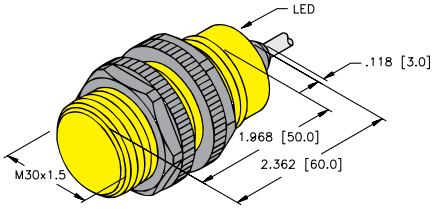
Threaded Plastic Barrel Sensors with Cable for Underwater Applications

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5-P18-AN6/S139-S1261 1650239	Submersible	5	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP68	POM	PA 12	N/A	N/A	2M/TPE	A	1	A4
Bi5-P18-AP6/S139-S1261 1650234	Submersible	5	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP68	POM	PA 12	N/A	N/A	2M/TPE	A	2	A4
Bi8U-P18-AP6/S139-S1261 1650230	Submersible, Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	POM	PA 12	N/A	N/A	2M/TPE	A	2	A4
Bi5-P18-AZ3/S139-S1261 1384307	Submersible	5	2-wire AC	20-250 VAC	20	≤400	-25 to +70	IP68	POM	PA 12	N/A	N/A	2M/TPE	A	3	A6

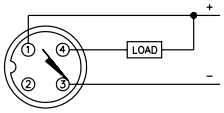
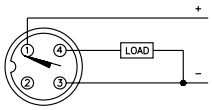
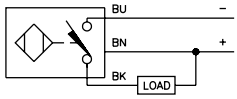
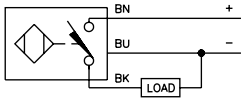
We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Selective Metal Sensors

Threaded Barrel Sensors Designed to Sense Nonferrous Metals Only

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Quick Disconnect
B  18 mm - Embeddable, M12 Eurofast Quick Disconnect	C  30 mm - Embeddable, M12 Eurofast Quick Disconnect
D  30 mm - Embeddable, Potted-In Cable	E  30 mm - Embeddable, Potted-In Cable, Partial Threading

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 	
Mating Cordset: RKV 4T-*	Mating Cordset: RKV 4T-*		

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Selective Metal Sensors

Threaded Barrel Sensors Designed to Sense Nonferrous Metals Only

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi3NF-EM12HE-AP6X2-H1141 1615001	Senses nonferrous metals only	3	3-wire DC PNP	10-30 VDC	3000	≤200	0 to +60	IP67	SS	SF	GN	YE	- -	A	2	A4
Bi5NF-EM18HE-AN6X2-H1141 1615004	Senses nonferrous metals only	5	3-wire DC NPN	10-30 VDC	2500	≤200	0 to +60	IP67	SS	SF	GN	YE	- -	B	1	A4
Bi5NF-EM18HE-AP6X2-H1141 1615000	Senses nonferrous metals only	5	3-wire DC PNP	10-30 VDC	2500	≤200	0 to +60	IP67	SS	SF	GN	YE	- -	B	2	A4
Bi10NF-EM30HE-AN6X2-H1141 1615005	Senses nonferrous metals only	10	3-wire DC NPN	10-30 VDC	2000	≤200	0 to +60	IP67	SS	SF	GN	YE	- -	C	1	A4
Bi10NF-EM30HE-AP6X2-H1141 1615002	Senses nonferrous metals only	10	3-wire DC PNP	10-30 VDC	2000	≤200	0 to +60	IP67	SS	SF	GN	YE	- -	C	2	A4
Bi10NF-M30-AN6X 16161	Senses nonferrous metals only	10	3-wire DC NPN	10-30 VDC	500	≤200	0 to +60	IP67	CPB	PA 12	N/A	YE	2M/ PVC	D	3	A4
Bi10NF-M30-AP6X 16061	Senses nonferrous metals only	10	3-wire DC PNP	10-30 VDC	500	≤200	0 to +60	IP67	CPB	PA 12	N/A	YE	2M/ PVC	D	4	A4
Bi10NF-S30-AN6X 16215	Senses nonferrous metals only	10	3-wire DC NPN	10-30 VDC	2000	≤200	0 to +60	IP67	PA 12	PA 12	N/A	YE	2M/ PVC	E	3	A4
Bi10NF-S30-AP6X 16115	Senses nonferrous metals only	10	3-wire DC PNP	10-30 VDC	2000	≤200	0 to +60	IP67	PA 12	PA 12	N/A	YE	2M/ PVC	E	4	A4

We reserve the right to make technical alterations without prior notice.

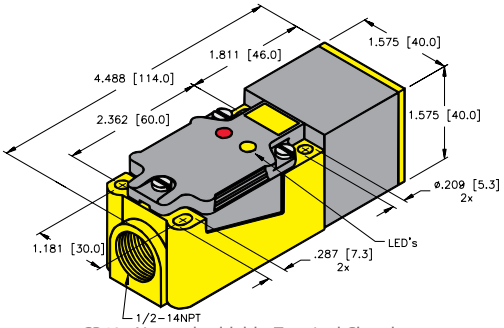
Specialty Sensors | Selective Metal Sensors

Rectangular and Barrel Sensors Designed to Sense Nonferrous or Ferrous Metals Only

Housing Style	Dimension Drawings

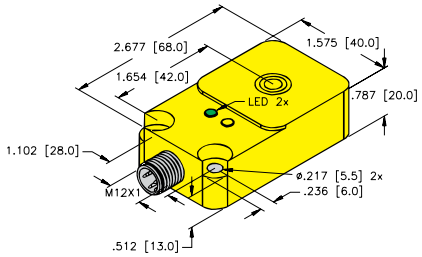


A



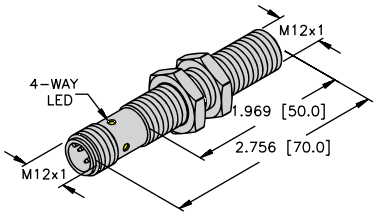
CP40 - Nonembeddable, Terminal Chamber

B



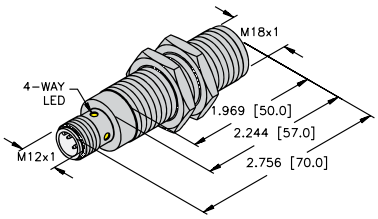
Q20 - Nomembeddable, M12 Eurofast Quick Disconnect

C



12 mm - Embeddable, M12 Eurofast Quick Disconnect

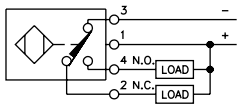
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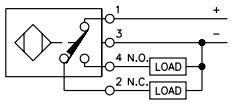
18 mm - Embeddable, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

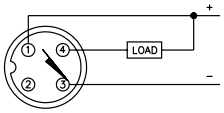
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2

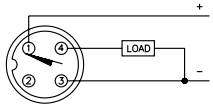


3



Mating Cordset: RK 4T-*

4



Mating Cordset: RK 4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

A28 — **3-wire DC Ferrous Only Sensing (AP)**

Ripple:	≤10%	Temperature Drift:	≤±10%
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2.5 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤20 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Selective Metal Sensors

Rectangular and Barrel Sensors Designed to Sense Nonferrous or Ferrous Metals Only

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni20NF-CP40-VN4X2 15282	Senses nonferrous metals only	20	4-wire DC NPN	10-65 VDC	100	≤200	0 to +60	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20NF-CP40-VP4X2 15082	Senses nonferrous metals only	20	4-wire DC PNP	10-65 VDC	100	≤200	0 to +60	IP67	PBT	PBT	GN	YE	A	2	A4
Ni25NF-Q20-AN6X2-H1141 1602710	Senses nonferrous metals only	25	3-wire DC NPN	10-30 VDC	25	≤200	0 to +60	IP67	PBT	PBT	GN	YE	B	3	A4
Bi2.5FE-EM12FE-AP6X-H1141 1615011	Senses ferrous metals only	2.5	3-wire DC PNP	10-30 VDC	1000	≤100	-25 to +70	IP67	SS	SS	N/A	YE	C	4	A28
Bi4.5FE-EM18FE-AP6X-H1141 1615012	Senses ferrous metals only	4.5	3-wire DC PNP	10-30 VDC	1000	≤100	-25 to +70	IP67	SS	SS	N/A	YE	D	4	A28

We reserve the right to make technical alterations without prior notice.

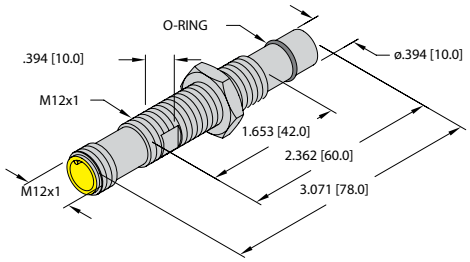
Specialty Sensors | High Pressure

Partially Threaded Metal Barrel Pressure Resistant Sensors

Housing Style	Dimension Drawings

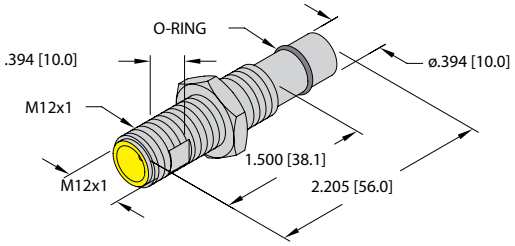


A



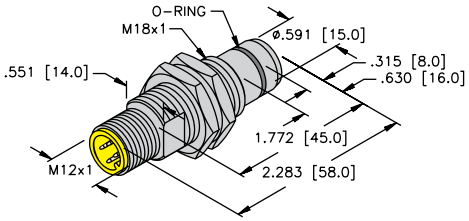
12 mm - Embeddable, M12 Eurofast Connection, Pressure Resistant Barrel Sensor

B



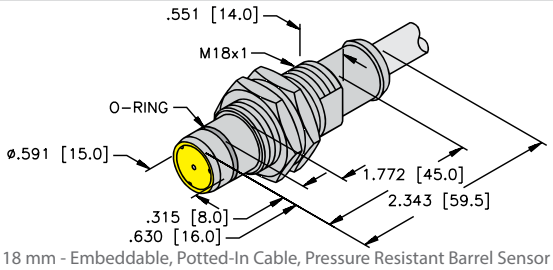
12 mm - Embeddable, M12 Eurofast Connection, Pressure Resistant Barrel Sensor

C



18 mm - Embeddable, M12 Eurofast Connection, Pressure Resistant Barrel Sensor

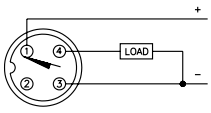
D



18 mm - Embeddable, Potted-In Cable, Pressure Resistant Barrel Sensor

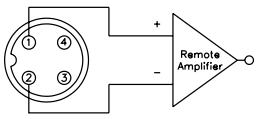
Wiring Diagrams/Mating Cordsets

1



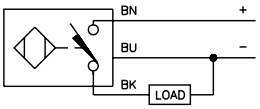
Mating Cordset: RKV 4T-*

2



Mating Cordset: RKV 4.21T-*

3



A1 — 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-Activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

A29 — 3-wire DC High Pressure (AP)

Ripple:	≤20%	Temperature Drift:	≤15%, ≤±10% (Ext. Range)
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤2 V, ≤1.8 V (Ext. Range)	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Shock:	30 g, 11 ms
No-Load Current:	≤10 mA, ≤15 mA (Ext. Range)	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Off-State (Leakage) Current:	≤0.1 mA	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | High Pressure

Partially Threaded Metal Barrel Pressure Resistant Sensors

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
BID1.5-G120KK-AP6-H1141 1682001	500 bar	1.5	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +80	IP68	SS	CER	N/A	N/A	- -	A	1	A29
BID1.5-G120-AP6-H1141 1682000	500 bar	1.5	3-wire DC PNP	10-30 VDC	600	≤200	-25 to +80	IP68	SS	CER	N/A	N/A	- -	B	1	A29
BID2-G180-AP6-H1141/S212 16885	500 bar static/350 bar dynamic	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +85	IP67	SS	PA 12	N/A	N/A	- -	C	1	A29
BID2-G180-Y0-H1141/S212 1088500	500 bar static/350 bar dynamic	2	2-wire Namur	5-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	N/A	- -	C	2	A1
BID2-G180-AP6/S212 1688003	500 bar static/350 bar dynamic	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +85	IP67	SS	PA 12	N/A	N/A	2M/TPU	D	3	A29

We reserve the right to make technical alterations without prior notice.

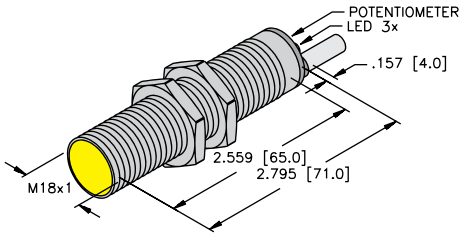
Specialty Sensors | Rotational Speed Monitor

Threaded Metal Barrel for Target Detection on a Spinning Shaft

Housing Style	Dimension Drawings

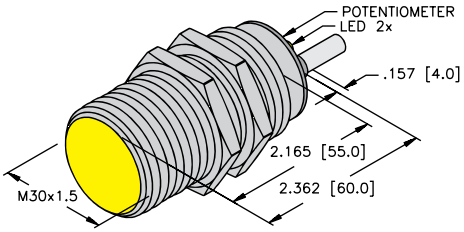


A



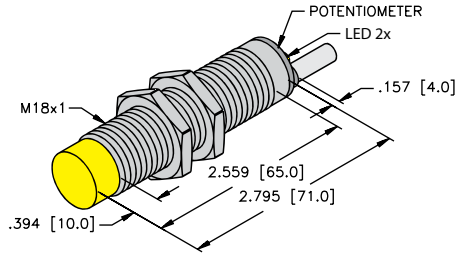
18 mm - Embeddable Rotational Speed Monitor, Potted-In Cable

B



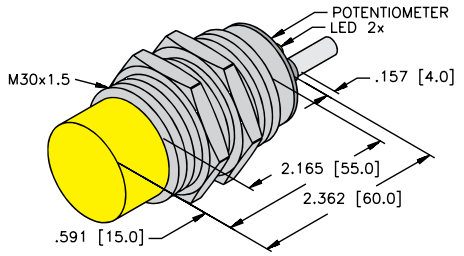
30 mm - Embeddable Rotational Speed Monitor, Potted-In Cable

C



18 mm - Nonembeddable Rotational Speed Monitor, Potted-In Cable

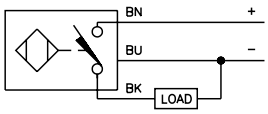
D



30 mm - Nonembeddable Rotational Speed Monitor, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Specialty Sensors | Rotational Speed Monitor

Threaded Metal Barrel for Target Detection on a Spinning Shaft

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
DBi5U-M18E-AP4X3 1582236	Rotational Speed Monitor	5	3-wire DC PNP	10-65 VDC	0.05-50	≤200	-30 to +85	IP67	CPB	PBT	EPTR	GN	YE/BU	2M/PVC	A	1	A4
DBi10U-M30-AP4X2 1582231	Rotational Speed Monitor	10	3-wire DC PNP	10-65 VDC	0.05-50	≤200	-30 to +85	IP67	CPB	PBT	EPTR	GN	YE/BU	2M/PVC	B	1	A4
DNI12U-M18E-AP4X3 1582235	Rotational Speed Monitor	12	3-wire DC PNP	10-65 VDC	0.05-50	≤200	-30 to +85	IP67	CPB	PBT	EPTR	GN	YE/BU	2M/PVC	C	1	A4
DNI20U-M30-AP4X3 1582233	Rotational Speed Monitor	20	3-wire DC PNP	10-65 VDC	0.05-50	≤200	-30 to +85	IP67	CPB	PBT	EPTR	GN	YE/BU	2M/PVC	D	1	A4

We reserve the right to make technical alterations without prior notice.

Notes

Notes

Analog Sensors Selection Guide

Embeddable/Nonembeddable Rectangular			
			
Housing	**8 mm**	**14 mm**	**20 mm**
Sensing Range	**7 mm**	**10 mm**	**15 mm**
Pages	**D5**	**D5**	**D5**

Embeddable/Nonembeddable Rectangular			
			
Housing	**40 mm**	**40 mm**	**80 mm**
Sensing Range	**15 - 25 mm**	**15 - 25 mm**	**50 mm**
Pages	**D7**	**D7**	**D7**

Embeddable/Nonembeddable Barrels				
				
Housing	**4 mm**	**5 mm**	**6.5 mm**	**8 mm**
Sensing Range	**1.5 mm**	**1.5 mm**	**1.5 mm**	**1.5 mm**
Pages	**D9**	**D9**	**D9**	**D9**

We reserve the right to make technical alterations without prior notice.

Analog Sensors Selection Guide

Embeddable/Nonembeddable Barrels			
			
Housing	**12 mm**	**12 mm**	**18 mm**
Sensing Range	**2 - 5 mm**	**2 - 5 mm**	**5 - 10 mm**
Pages	**D11**	**D11**	**D11**

Embeddable/Nonembeddable Barrels			
			
Housing	**18 mm**	**30 mm**	**30 mm**
Sensing Range	**5 - 10 mm**	**10 - 15 mm**	**10 -15 mm**
Pages	**D13**	**D13**	**D13**

Rings and Probe Style			
			
Housing	**14 mm**	**80 mm**	**18 mm**
Sensing Range	**20 mm**	**50 mm**	**40 - 70 mm**
Pages	**D15**	**D15**	**D15**

We reserve the right to make technical alterations without prior notice.

Analog Sensor Part Number Key



Mounting
B = embeddable
N = nonembeddable
W = position

Principle of Operation
I = inductive
IM = inductive magnet operated

Rated Operating Distance (mm)

Sensing Characteristics
R = ring sensor

Housing Material Modifier
E = stainless steel

Housing Style

Barrel - Metal
G = full threading, generally chrome plated brass
M = partial threading, chrome plated brass

Rectangular
Q = metal or plastic, various rectangular styles

Limit Switch
CK = Stubby®, short plastic, various rectangular styles
CP = Combiprox®, plastic housing, terminal chamber base with removable sensor

Ring
Q = small rectangular plastic housing, static output

Housing Diameter or Height (mm)

Secondary Barrel Modifier
E = extended barrel length

Output
LF = frequency output
LI(LU) = linear analog output current (LI, 15-30 VDC) or voltage (LU, 15-30 VDC)
LIU = linear analog output (current and voltage, 15-30 VDC)
SIU = analog output (non-linear)

Modifier

Number of LEDs
(blank) = no LEDs
X = 1 LED

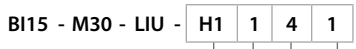
NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.

*See below for Wiring Options

We reserve the right to make technical alterations without prior notice.

Wiring Options*

A. Connectorized Sensor



Connector Family
H1 = Eurofast®, M12x1, metal or plastic, male
V1 = Picofast®, snap and M8x1, metal, male (Q08 snap only)

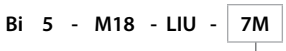
Connector/Sensor Transition
1 = straight

Number of Pins

Example:
1 = standard wiring

Factory Code

B. Potted Cable



Cable Length
Blank = 2 Meter cable
7M = 7 Meter cable

Analog Sensors

Common Applications for Linear Analog Sensors



Position Feeding Over an Angled Target

- Actuation over an angled surface
- Provide a 4-20 mA and/or 0-10 V output based upon target position



Eccentricity Sensing or Absolute Angle Positioning

- Sense pieces of different shapes and sizes (of ferritic or nonferritic materials)
- Provide analog feedback on rotary cam position applications



Direct Actuation

- The highest accuracy is achieved if the sensor is directly actuated by the target. In order to utilize the full measuring range, it is important to work with an appropriately sized target. This may also be a moving part of the machine.



Part Deflection

- Tensile stress control applications
- Measure the deflection of a metal target by using a guide mechanism and an analog sensor.



Probe Style Analog+ Proximity Sensor

- These sensors can be used to detect the depth of a blind hole or be used with a ring attached to a control arm that moves the ring over the probe



Identification and Sorting of Small Parts

- When screws, rivets, or other small objects fall through a ring style sensor, each part generates a characteristic output signal which can be easily identified



Position Control

- Position control can be easily accomplished by means of a cone shaped target. Measuring ranges can be adapted to specific sensing needs by using targets with an appropriate conical shape. These sensors enable precise and simple position detection, even if the targets feature a slight offset.



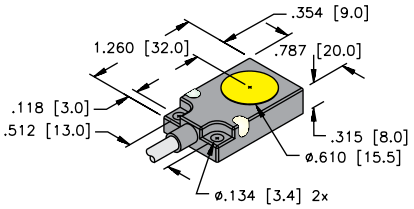
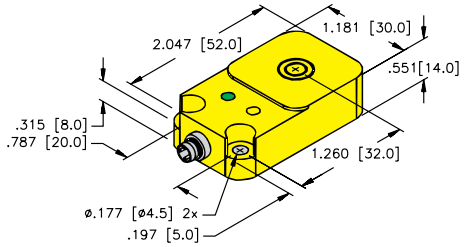
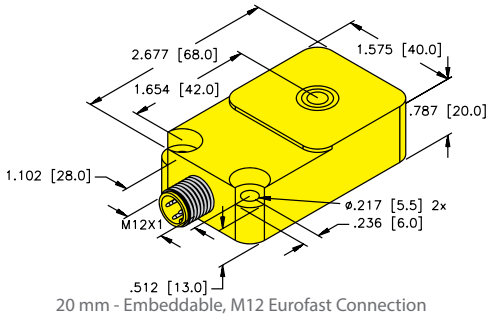
Thickness Measurement

- Detection and measurement of tools (drill bits, taps, etc.) can be accomplished to ensure proper size

We reserve the right to make technical alterations without prior notice.

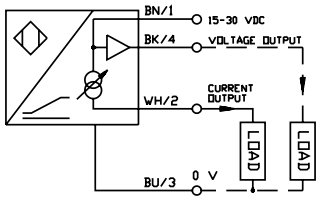
Analog Sensors | Q08, Q14, & Q20

Top Sensing Qpak Housing

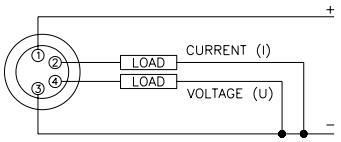
Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Potted-In Cable
B  14 mm - Embeddable, M8 Picofast Connection	C  20 mm - Embeddable, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1

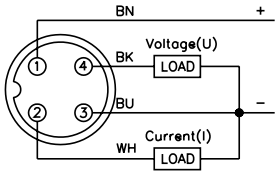


2



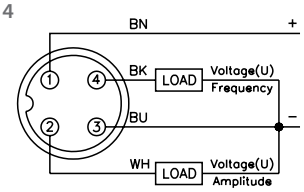
Mating Cordset: PKG 4M-*

3



Mating Cordset: RK 4.4T-*

4



Mating Cordset: RK 4.4T

A7 — 3 and 4-wire DC Analog - (LIU, SIU)

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L ≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B|
Temperature Drift:	±0.06% / °C		(0.5% after 30 min. warm up)
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

A8 — 3 and 4-wire DC Analog - (LU)

Ripple:	≤10%	Short-Circuit Protection:	Yes
No-Load Current:	≤8.0 mA	Wire-Break Protection:	Yes
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Shock:	30 g, 11 ms
Temperature Drift:	±0.06% / °C	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Reverse Polarity Protection:	Incorporated	Repeatability:	≤1% of measuring range |A-B|
Transient Protection:	Per EN 60947-5-2		(0.5% after 30 min. warm up)

We reserve the right to make technical alterations without prior notice.

Analog Sensors | Q08, Q14, & Q20

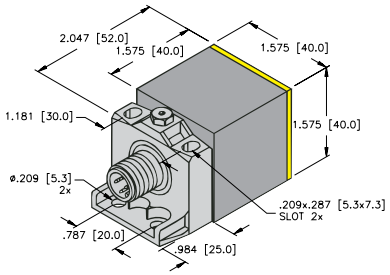
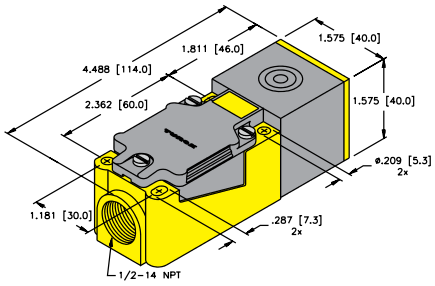
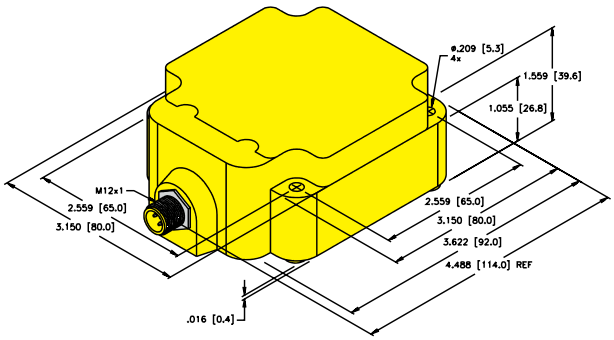
Top Sensing Qpak Housing

Part Number/ ID Number	Features	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi7-Q08-LIU 1534605		1-4	200	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	Zinc	PA 12	2M/ TPU	A	1	A7
Bi10-Q14-LIU-V1141 1534603		3-8	140	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.8, 5.6	PBT	PBT	- -	B	2	A7
Bi15-Q20-LIU-H1141 1534601		4-11	110	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.2, 4.4	PBT	PBT	- -	C	3	A7
Bi15-Q20-2LU-H1141/S950 1534611	All Metal Detection	N/A	110	N/A	4-wire DC Voltage	15-30 VDC	0-10 VDC Amplitude, 0-10 VDC Phase	-25 to +70	IP67	2.2	PBT	PBT	- -	C	4	A8

We reserve the right to make technical alterations without prior notice.

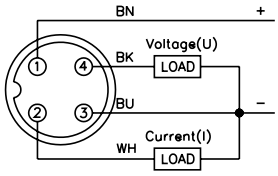
Analog Sensors | CK40, CP40, & Q80

Rectangular Housings with Long Range

Housing Style	Dimension Drawings
	A  40 mm - Embeddable and Non-embeddable, M12 Eurofast Connection
B  40 mm - Embeddable and Nonembeddable, Terminal Chamber	C  80 mm - Nonembeddable, M12 Eurofast Connector

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.4T-*

A7 — **3 and 4-wire DC Analog - (LIU, SIU)**

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B|
Temperature Drift:	±0.06% / °C		(0.5% after 30 min. warm up)
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

We reserve the right to make technical alterations without prior notice.

Analog Sensors | CK40, CP40, & Q80

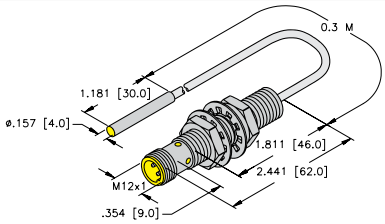
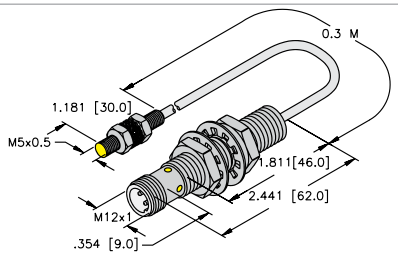
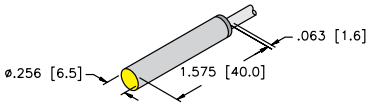
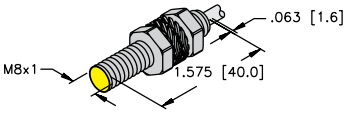
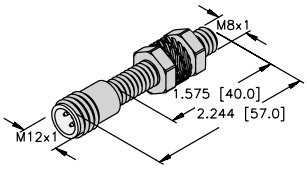
Rectangular Housings with Long Range

Part Number/ ID Number	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-CK40-LIU-H1141 1537890	4-11	110	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.2, 4.4	PBT	PBT	A	1	A7
Ni25-CK40-LIU-H1141 1537891	5-25	30	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	0.6, 1.2	PBT	PBT	A	1	A7
Ni25-CK40-LIU2-H1141 1537892	5-25	30	0.05	4-wire DC Current or Voltage	15-30 VDC	2-10 V/4-20 mA	-10 to +70	IP67	0.6, 0.96	PBT	PBT	A	1	A7
Bi15-CP40-LIU 1535700	4-11	110	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.2, 4.4	PBT	PBT	B	1	A7
Ni25-CP40-LIU 1535547	5-25	30	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	0.6, 1.2	PBT	PBT	B	1	A7
Ni50-Q80-LIU-H1141 1535545	10-50	30	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	0.6, 1.2	PBT	PBT	C	1	A7

We reserve the right to make technical alterations without prior notice.

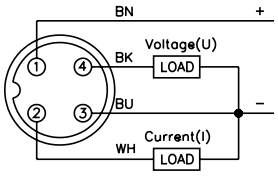
Analog Sensors | EH04, EG05, EH6.5, & EG08

Picoprox Barrel Styles

Housing Style	Dimension Drawings
	A  4 mm - Embeddable M12 Eurofast Connection
B  5 mm - Embeddable M12 Eurofast Connection	C  6.5 mm - Embeddable, Potted-In Cable
D  8 mm - Embeddable, Potted-In Cable	E  8 mm - Embeddable, M12 Eurofast Connection

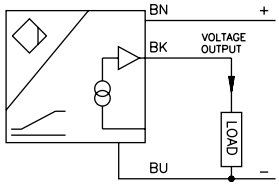
Wiring Diagrams/Mating Cordsets

1

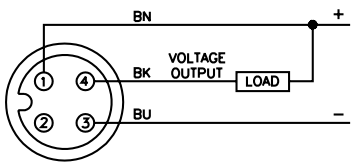


Mating Cordset: RK 4.4T-*

2



3



Mating Cordset: RK 4T-*

A7 — **3 and 4-wire DC Analog - (LIU, SIU)**

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L ≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B|
Temperature Drift:	±0.06% / °C		(0.5% after 30 min. warm up)
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

A8 — **3 and 4-wire DC Analog - (LU)**

Ripple:	≤10%	Short-Circuit Protection:	Yes
No-Load Current:	≤8.0 mA	Wire-Break Protection:	Yes
Load Resistance Voltage Output:	0-10 V/R_L≥4.7 kΩ	Shock:	30 g, 11 ms
Temperature Drift:	±0.06% / °C	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Reverse Polarity Protection:	Incorporated	Repeatability:	≤1% of measuring range |A-B|
Transient Protection:	Per EN 60947-5-2		(0.5% after 30 min. warm up)

We reserve the right to make technical alterations without prior notice.

Analog Sensors | EH04, EG05, EH6.5, & EG08

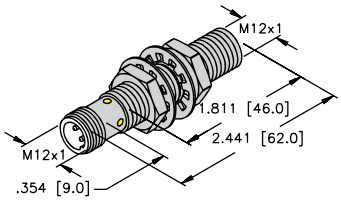
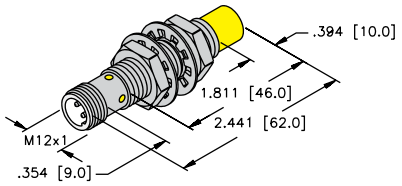
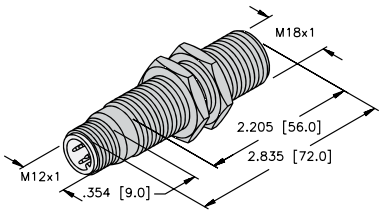
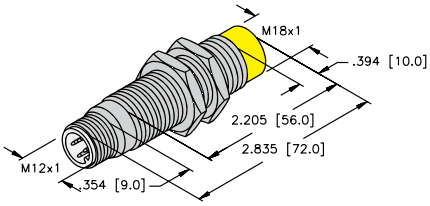
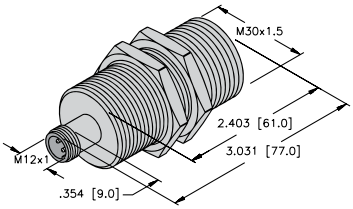
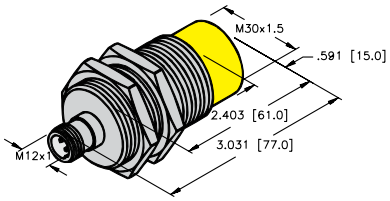
Picoprox Barrel Styles

Part Number/ ID Number	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-EH04-0.3-M12-SIU-H1141 1533001	0.1-1.5	200	N/A	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	SS	PA 12	A	1	A7
Bi1.5-EG05-0.3-M12-SIU-H1141 1533005	0.1-1.5	200	N/A	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	SS	PA 12	B	1	A7
Bi1.5-EH6.5-LU 1533002	0.25-1.25	200	0.03	3-wire DC Voltage	15-30 VDC	0-10 V	-10 to +70	IP67	4, N/A	SS	PA 12	C	2	A8
Bi1.5-EG08-LU 1533003	0.25-1.25	200	0.03	3-wire DC Voltage	15-30 VDC	0-10 V	-10 to +70	IP67	4, N/A	SS	PA 12	D	2	A8
Bi1.5-EG08-LU-H1341 1533004	0.25-1.25	200	0.03	3-wire DC Voltage	15-30 VDC	0-10 V	-10 to +70	IP67	4, N/A	SS	PA 12	E	3	A8

We reserve the right to make technical alterations without prior notice.

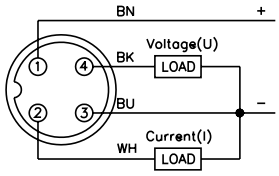
Analog Sensors | M12, M18, & M30

Threaded Barrel Styles with Connector

Housing Style	Dimension Drawings	
	A  12 mm - Embeddable M12 Eurofast Connection	B  12 mm - Nonembeddable M12 Eurofast Connection
C  18 mm - Embeddable M12 Eurofast Connection	D  18 mm - Nonembeddable M12 Eurofast Connection	E  30 mm - Embeddable, M12 Eurofast Connection
F  30 mm - Nonembeddable, M12 Eurofast Connection		

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.4T-*

A7 — **3 and 4-wire DC Analog - (LIU, SIU)**

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L ≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B|
Temperature Drift:	±0.06% / °C		(0.5% after 30 min. warm up)
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

We reserve the right to make technical alterations without prior notice.

Analog Sensors | M12, M18, & M30

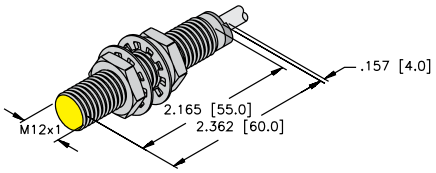
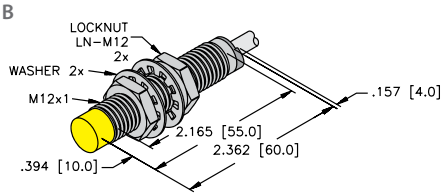
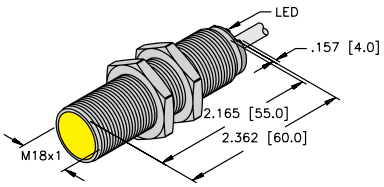
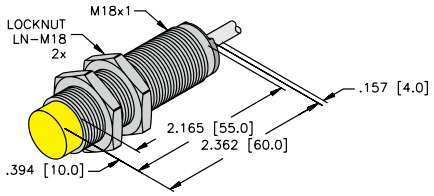
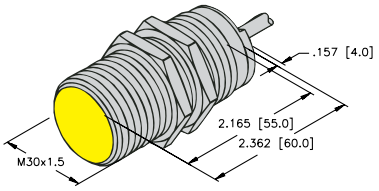
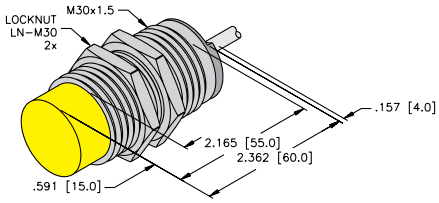
Threaded Barrel Styles with Connector

Part Number/ ID Number	Features	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-M12-LIU-H1141 1535533		1-2.5	200	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	A	1	A7
Bi4-M12-LIU-H1141 1535531	Ext. Range	0.5-3	200	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	A	1	A7
Ni5-M12-LIU-H1141 1535535		0.5-4	100	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	B	1	A7
Bi5-M18E-LIU-H1141 1536205		2-4	200	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	C	1	A7
Bi8-M18E-LIU-H1141 1535561	Ext. Range	1-5	200	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	C	1	A7
Ni8-M18E-LIU-H1141 1536302		1-5	100	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	D	1	A7
Ni10-M18E-LIU-H1141 1535562	Ext. Range	1-7	100	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	D	1	A7
Bi10-M30E-LIU-H1141 1537003		3-8	140	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.8, 5.6	CPB	PA 12	E	1	A7
Bi15-M30E-LIU-H1141 1535563	Ext. Range	2-10	140	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.8, 5.6	CPB	PA 12	E	1	A7
Ni15-M30E-LIU-H1141 1535564		2-12	60	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	1.2, 2.4	CPB	PA 12	F	1	A7

We reserve the right to make technical alterations without prior notice.

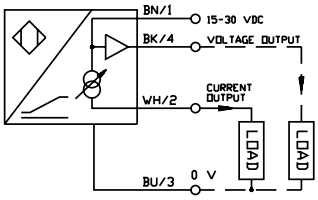
Analog Sensors | M12, M18, & M30

Threaded Barrel Styles with Cable

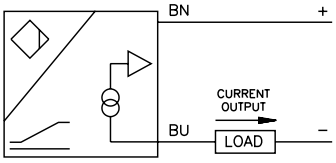
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, Potted-In Cable	B  12 mm - Nonembeddable, Potted-In Cable
C  18 mm - Embeddable, Potted-In Cable	D  18 mm - Nonembeddable, Potted-In Cable	E  30 mm - Embeddable, Potted-In Cable
F  30 mm - Nonembeddable, Potted-In Cable		

Wiring Diagrams/Mating Cordsets

1



2



A7 — 3 and 4-wire DC Analog - (LIU, SIU)

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L ≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B| (0.5% after 30 min. warm up)
Temperature Drift:	±0.06% / °C		
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

A9 — 2-wire DC Analog NAMUR - (LI-EXI)

Ripple:	≤10%	Temperature Drift:	≤±0.06% °C
Current Output:	4-20 mA	Shock:	30 g, 11 ms
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Power-On Effect:	Realized in Amplifier	Repeatability:	≤1% of measuring range |A-B| (0.5% after 30 min. warm up)
Reverse Polarity Protection:	Incorporated		
Wire-Break Protection:	No		
Transient Protection:	Realized in Amplifier		

We reserve the right to make technical alterations without prior notice.

Analog Sensors | M12, M18, & M30

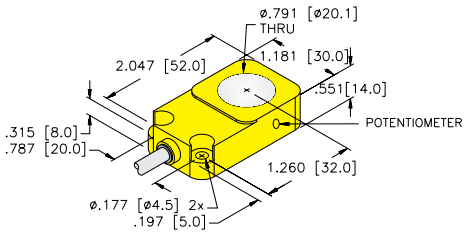
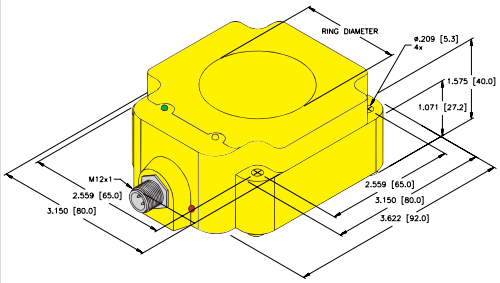
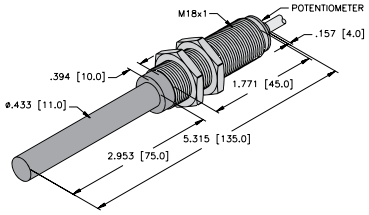
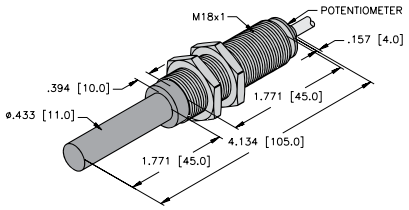
Threaded Barrel Styles with Cable

Part Number/ ID Number	Features	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-M12-LIU 1535532	Ext. Range	0.5-3	200	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	2M/ PVC	A	1	A7
Ni5-M12-LIU 1535536		0.5-4	100	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	2M/ PVC	B	1	A7
Bi5-M18-LIU 1536000		2-4	200	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	2M/ PVC	C	1	A7
Bi8-M18-LIU 1535538	Ext. Range	1-5	200	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	4, 8	CPB	PA 12	2M/ PVC	C	1	A7
Bi8-M18-LI-EXI 1535528	Ext. Range, Use Barriers IM33-11EX-HI or IM43-13-SR	1-5	200	0.05	2-wire DC Current	14-30 VDC	4-20 mA	-10 to +70	IP67	N/A, 8	CPB	PA 12	2M/ PVC	C	2	A9
Ni8-M18-LIU 1536100	Ext. Range	1-5	100	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	2M/ PVC	D	1	A7
Ni10-M18-LIU 1535540	Ext. Range	1-7	100	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2, 4	CPB	PA 12	2M/ PVC	D	1	A7
Bi10-M30-LIU 1535500		3-8	140	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.8, 5.6	CPB	PA 12	2M/ PVC	E	1	A7
Bi15-M30-LIU 1535543	Ext. Range	2-10	140	0.05	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	2.8, 5.6	CPB	PA 12	2M/ PVC	E	1	A7
Bi15-M30-LI-EXI 1535554	Ext. Range, Use Barriers IM33-11EX-HI or IM43-13-SR	2-10	140	0.05	2-wire DC Current	14-30 VDC	4-20 mA	-10 to +70	IP67	N/A, 4.48	CPB	PA 12	2M/ PVC	E	2	A9
Ni15-M30-LIU 1535300	Ext. Range	2-12	60	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/0-20 mA	-10 to +70	IP67	1.2, 2.4	CPB	PA 12	2M/ PVC	F	1	A7

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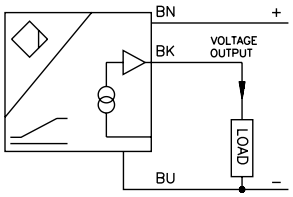
Analog Sensors | Q14, Q80, & M18

Probe and Ring Style Housings

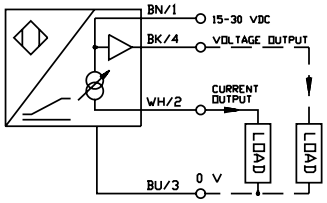
Housing Style	Dimension Drawings	
	A  14 mm - Embeddable, Ring Sensor, Potted-In Cable	B  80 mm - Embeddable, M12 Eurofast Connection
C  18 mm - Embeddable, Probe Style, Potted-In Cable	D  18 mm - Embeddable, Probe Style, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

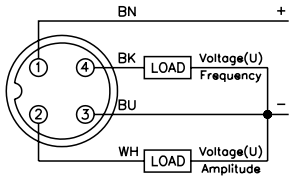
1



2



3



Mating Cordset: RK 4.4T

A7 — 3 and 4-wire DC Analog - (LIU, SIU)

Ripple:	≤10%	Transient Protection:	Per EN 60947-5-2
No-Load Current:	≤8.0 mA	Shock:	30 g, 11 ms
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Load Resistance Current Output:	0-20 mA/R_L ≤0.4 kΩ	Repeatability:	≤1% of measuring range |A-B|
Temperature Drift:	±0.06% / °C		(0.5% after 30 min. warm up)
LIU5:	4-20 mA, 0-10 V	Short-Circuit Protection:	Yes
LIU2:	4-20 mA, 2-10 V	Reverse Polarity Protection:	Incorporated

A8 — 3 and 4-wire DC Analog - (LU)

Ripple:	≤10%	Short-Circuit Protection:	Yes
No-Load Current:	≤8.0 mA	Wire-Break Protection:	Yes
Load Resistance Voltage Output:	0-10 V/R_L ≥4.7 kΩ	Shock:	30 g, 11 ms
Temperature Drift:	±0.06% / °C	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Reverse Polarity Protection:	Incorporated	Repeatability:	≤1% of measuring range |A-B|
Transient Protection:	Per EN 60947-5-2		(0.5% after 30 min. warm up)

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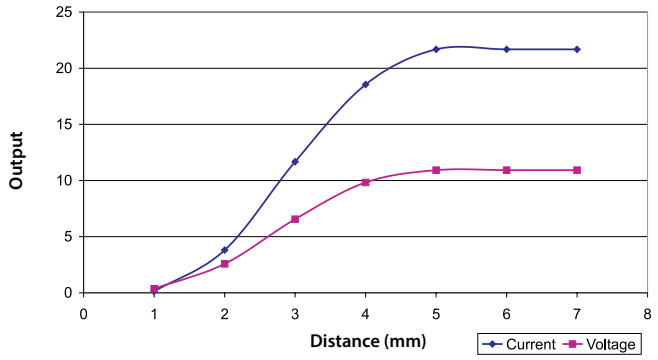
Analog Sensors | Q14, Q80, & M18

Probe and Ring Style Housings

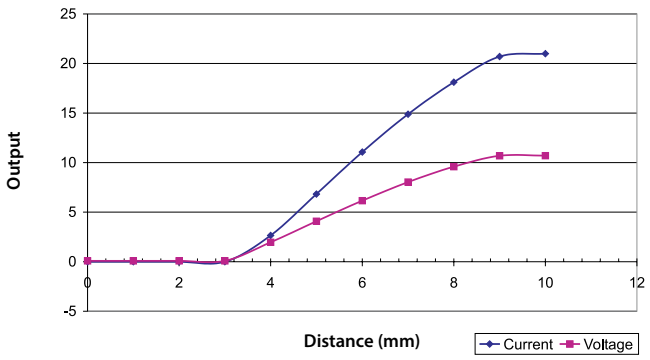
Part Number/ ID Number	Features	Measuring Range (mm)	Response Freq. (Hz)	Linearity Deviation (% of full scale)	Output	Voltage	Output Voltage/ Current	Operating Temp. (°C)	Protection	Slew Rate V/ms, mA/ms	Housing	Face	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi20R-Q14-LU 1535546		1-19	80	N/A	3-wire DC Voltage	15-30 VDC	0-10 V	-25 to +70	IP67	2.8, N/A	PBT	PBT	2M/ PVC	A	1	A8
Bi50R-Q80-2LU-H1141/S950 1534609	All Metal Detection	N/A	80	N/A	4-wire DC Voltage	15-30 VDC	0-10 VDC Amplitude, 1-10 VDC Phase	-25 to +70	IP67	1.6	PBT	PBT	- -	B	3	A8
Wi70-M18-LIU5 1536600		0-70	200	0.03	4-wire DC Current or Voltage	15-30 VDC	0-10 V/4-20 mA	-10 to +70	IP67	4, 6.4	CPB	PA 12	2M/ PVC	C	2	A7
Wi40-M18-LIU5 1536603		0-40	40	0.02	4-wire DC Current or Voltage	15-30 VDC	0-10 V/4-20 mA	-10 to +70	IP67	0.8, 1.2	CPB	PA 12	2M/ PVC	D	2	A7

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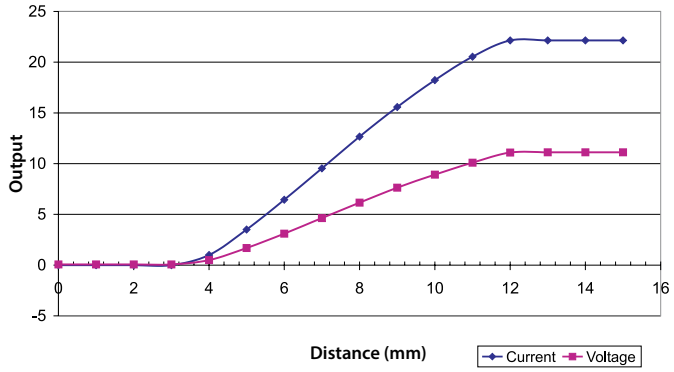
Bi7-Q08-LIU



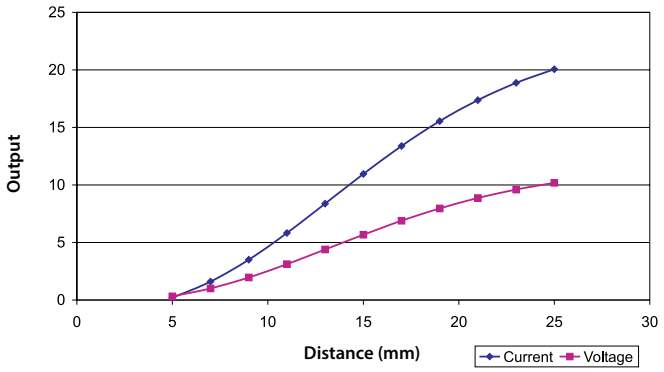
Bi10-Q14-LIU-H1141



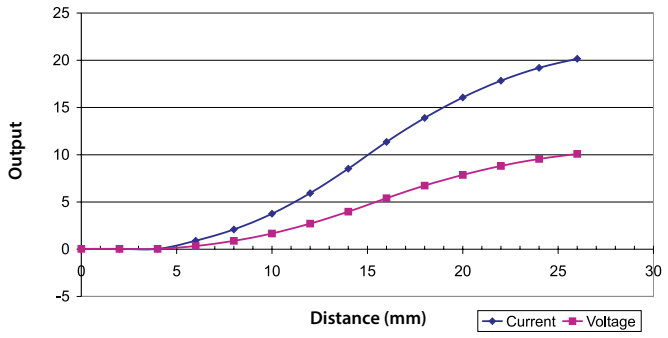
Bi15-Q20-LIU-H1141



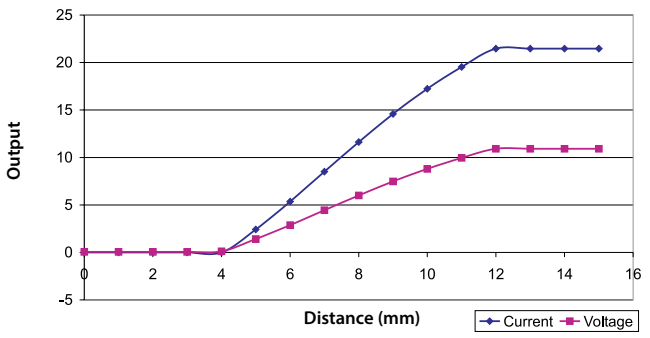
Ni25-CP40-LIU



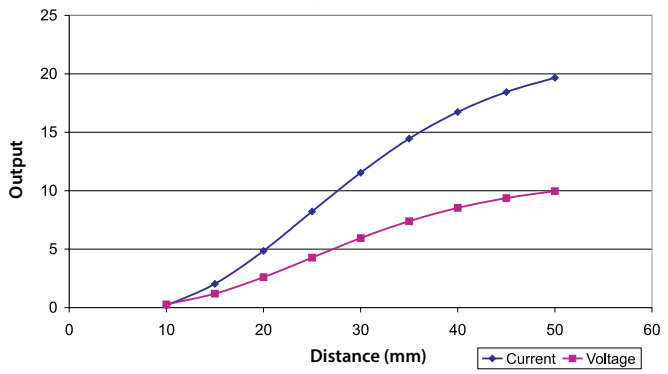
Ni25-CK40-LIU-H1141



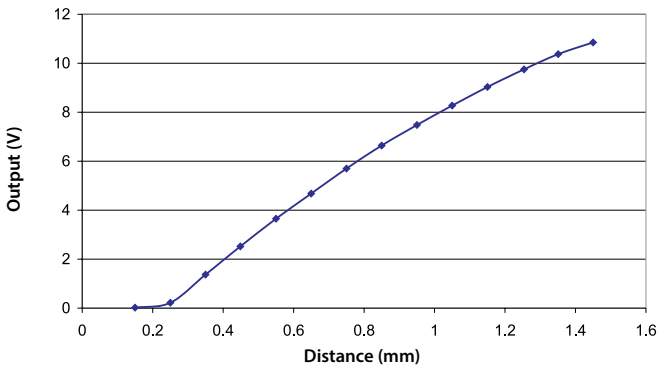
Bi15-CP40-LIU



Ni50-Q80-LIU-H1141



Bi1.5-EG08(EH6.5)-LU

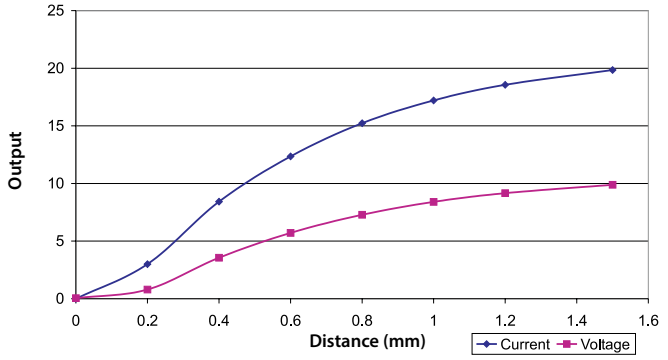


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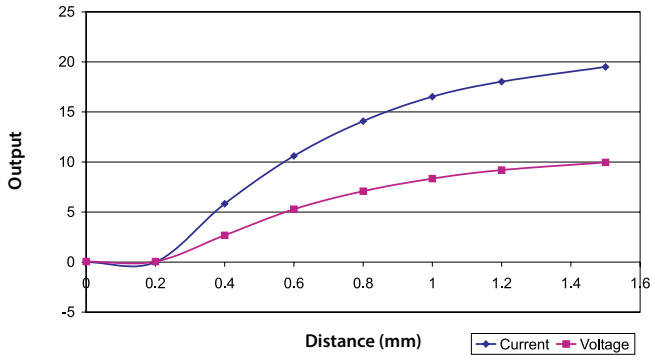
Analog Sensors

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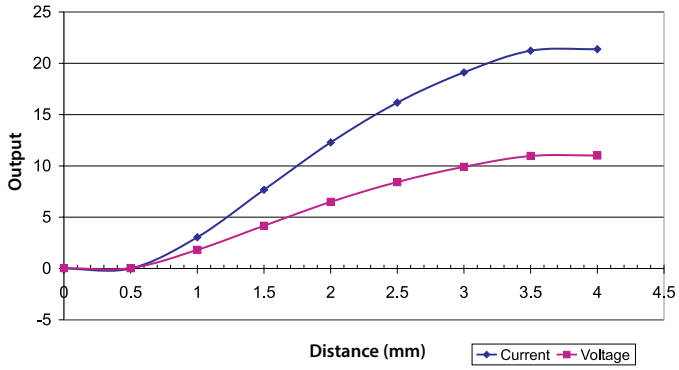
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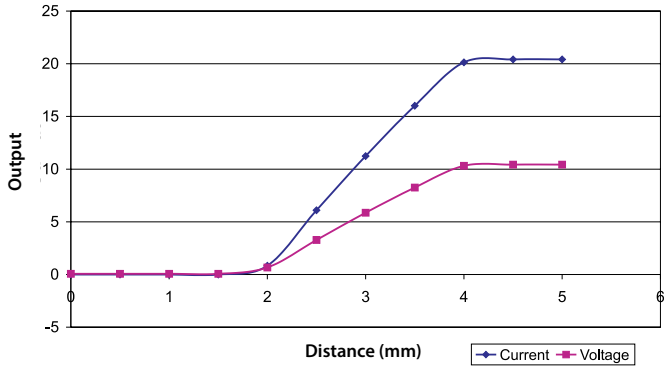
Bi1.5-EG05-0.3-M12-SIU-H1141



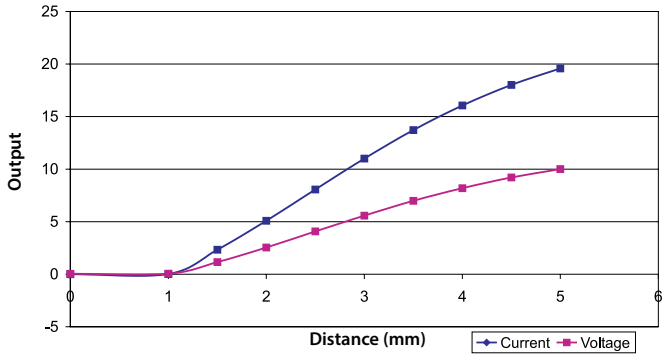
Bi4-M12-LIU...



Bi5-M18-LIU...



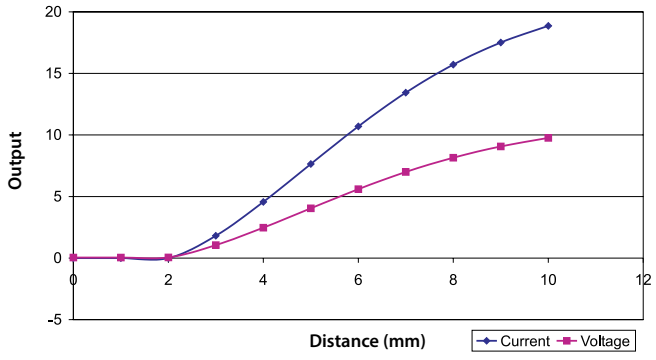
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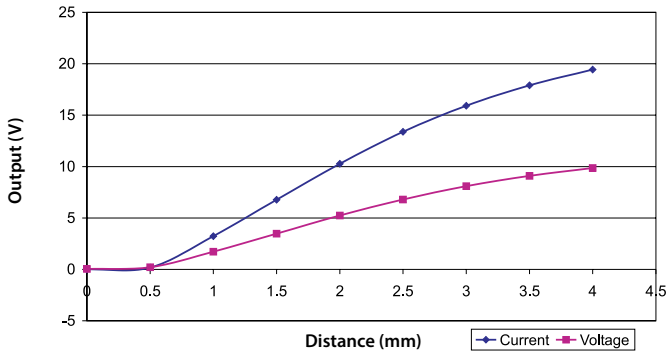
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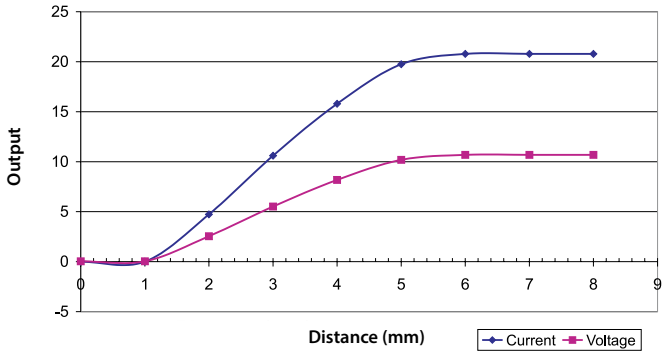
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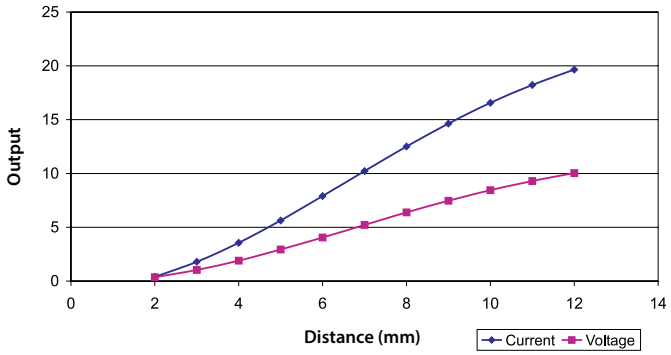
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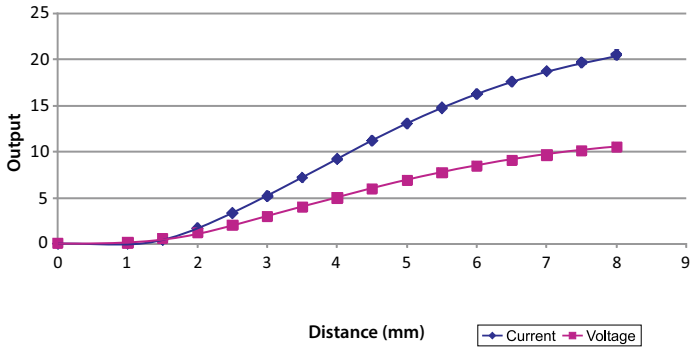
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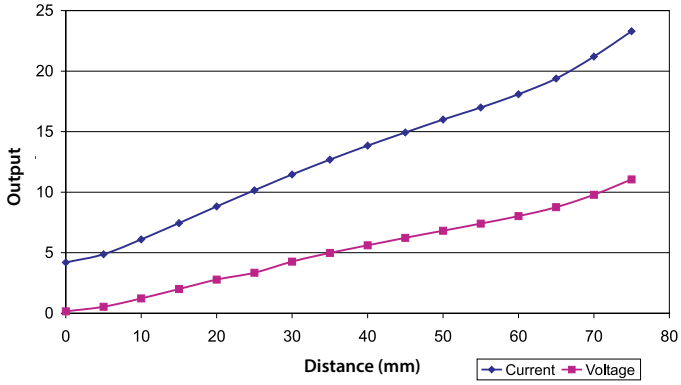
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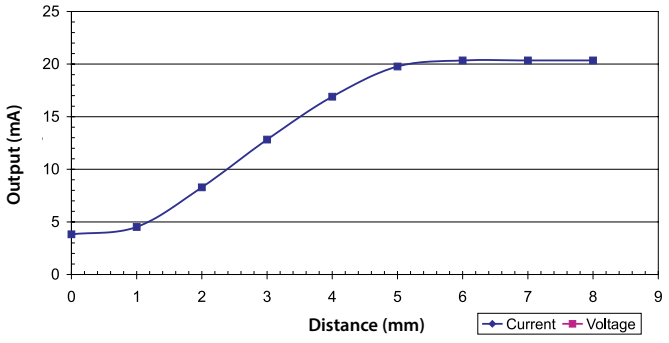
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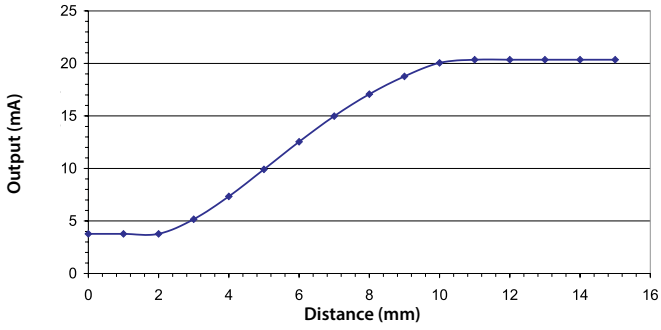
Wi70-M18-LIU5



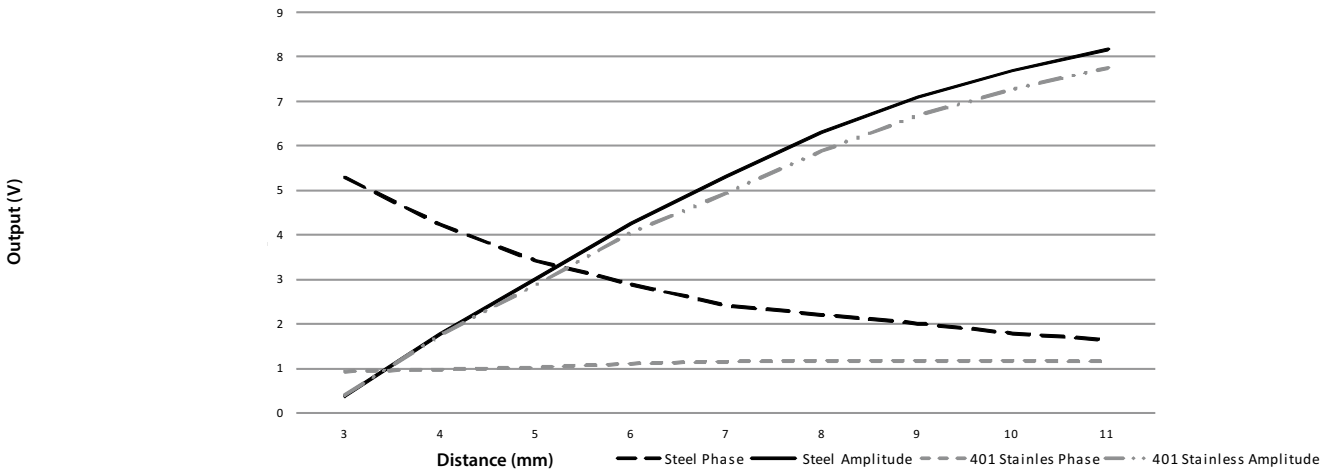
Bi 8-M18-Li Exi



Bi15-M30-LI-Exi



Bi15-Q20-2LU-H1141/S950



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