

*Working in Power*

# AP160LCD

online UPS

- LOCAL AREA NETWORKS (LAN)
- SERVERS
- DATA CENTERS
- INTERNET CENTERS (ISP/ASP/POP)
- INDUSTRIAL PLCS
- EMERGENCY DEVICES (LIGHTS/ALARM)
- ELECTRO-MEDICAL DEVICES
- TELECOMMUNICATIONS DEVICES
- INDUSTRIAL APPLICATIONS

# AP160LCD

**G-Tec** is proud to introduce the superior AP160LCD, with its compact format and best-in-class is the ideal solution for standard 19" rack cabinet.

It's designed to deliver clean; safe and regulated power supply to protect your critical mission equipment so as to safeguard your valuable equipment and critical data from any abnormal power disturbances, such as surges, spikes, blackouts and lightning strikes.

**AP160LCD** Rack Mount UPS make use of the unique AC-DC conversion circuitry to prevent line power failure, power sags, power surges, brownouts, line noise and high voltage spikes, frequency variation, switching transients and line harmonic distortion.

**AP160LCD** is a true online UPS providing power factor correction, frequency conversion, unlimited external battery connectability with own KS version, internal automatic bypass. The capability of redundant power configuration is offered by the G-Tec AP128M, which is the modular and scalable solution.

With the use of the outstanding IGBT as the power conversation component, the operating frequency of the Inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of UPS. Also, high switching frequency reduces UPS noise as well.

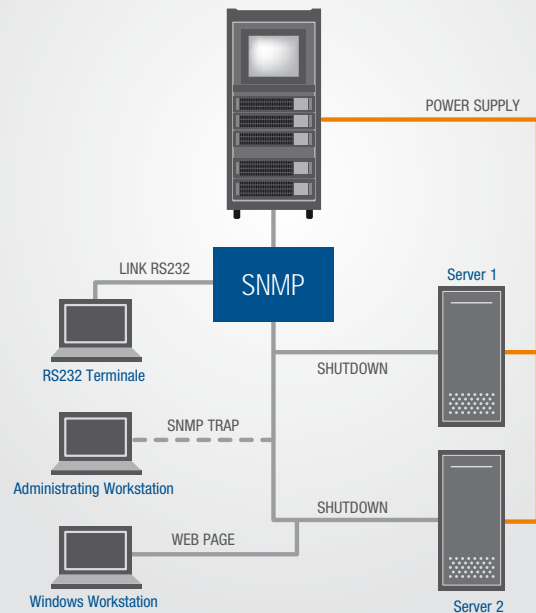


## *Design Features:*

- Microprocessor Control Guarantees High Reliability
- PWM Technology with IGBTs
- Wide Input Voltage Range, up to 115V to 300V
- Communication Ports is provided, SMART RS232 and Intelligent Slot for AS-400, or SNMP Card to ease the control and monitor of UPS
- Free Download power monitoring software from the internet for Monitoring UPS Status
- External Battery Socket Available for Extended Backup Time
- Cold Start Function
- Auto Self-testing of Inverter and Battery when turning on the UPS to achieve optimum performance
- Modular design for 1kVA to 3kVA which helps in faster MTTR
- DSP technology for 6kVA which can integrate all intelligent functions, less components and parts which helps to reduce UPS size and weight. Also, UPS efficiency and power density increase
- Two step charging system is available for 6kVA. It helps to reduce the charging time to recover the battery energy
- Standard compliance:
  - EN62040-1-1 2003: Safety
  - EN50091-2: Class B Conducted emission
  - EN61000-3-2 Harmonic Current (1kVA to 3kVA)
  - EN61000-4-3 Level 3 immunity: Electro Static Discharge (ESD)
  - EN61000-4-3 Level 2 immunity: electromagnetic fields
  - EN61000-4-4 Level 3 immunity: transient over voltages (BURST)
  - EN61000-4-5: Level 3 immunity: current surges (SURGE)
  - EN61000-2-2 : immunity to low frequency signals



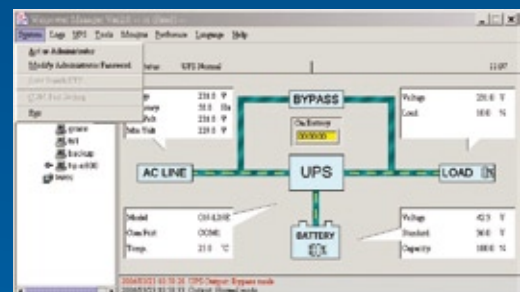
## Direct Connection with Ethernet Network



## Communication and Power Management Solutions

WinPower CD is packed with UPS, and can also be downloaded from the Internet. It has the function of remote monitor and control UPS through LAN, warning notifications through broadcast and mobile phone, multi-shutdown PCs, and schedule UPS self-test. This unique software provides complete power protection for computer system during power failure. The software supports lots of O/S including Windows family, Linux, Sun Solaris 7/8/9, Compaq True64, FreeBSD, IBM Aix 4.3x, 5.1x, and HP-UX 11.x. More than that, to offer increased benefits for our customers, we have also released USB version MAC version on the Internet.

- Power flow display for monitoring UPS status
- Scheduled system shutdown/restart
- Scheduled UPS test
- Warning notification via E-mail / Pager
- Warning notification via Broadcast
- Password security protection
- Remote Monitor / Control via LAN
- Multi-language versions: English, Germanic, French, Italian, Spanish, Portuguese and Chinese
- Selectable User Interface (Background)
- UPS Parameter setting
- Record logs for analysis
- Multi-OS supported: Windows Family, Linux, Sun Solaris 7/8/9, IBM AiX 4.3x, 5.1x, Compaq True64, FreeBSD, HP-UX 11.x and MAC



SNMP Network Card allows management of UPS across LAN using any of the main network communication protocols - TCP/IP and network interface via SNMP.



# TECHNICAL **ASSISTANCE** SERVICE

**UPService**, our technical assistance facility uses highly trained engineers to provide a reliable and competent technical support and after-sales service.

UPService can provide customers with:

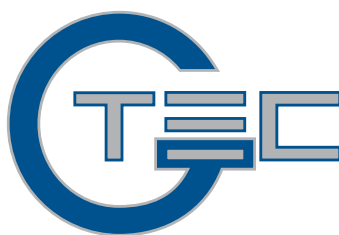
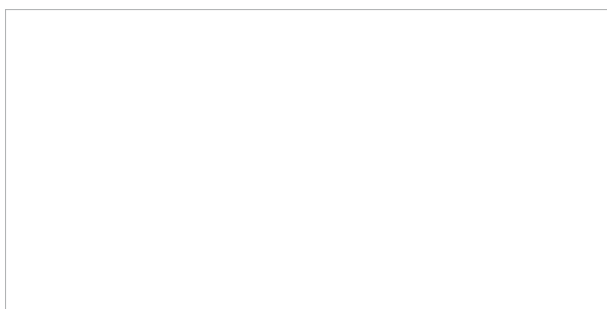
- A dedicated CALL CENTRE for connection to the UPService organisation. UPService personnel are always available and ready to provide advice and assistance regarding UPS installation, maintenance, fault finding and repair.
- FAST & READY A fast repair on site is guaranteed through the use of state-of-the-art UPS technology and the professionalism of the UPService personnel and Authorised Assistance Centres. UPService guarantees that failed parts are replaced with original ones, tested and updated in order to maintain the safety, reliability and operating characteristics of the UPS.
- COMMISSIONING AND START-UP UPService can provide assistance during commissioning and startup of the UPS equipment on-site with additional training during handover to site personnel. UPService engineers can also verify site suitability, analyse and advise on potential problems, and disconnect and relocate equipment. UPService recommend that all hardwired installations are commissioned by UPService engineers.
- MAINTENANCE CONTRACTS can be provided by UPService to minimise response times and repair costs. Contracts range from periodic inspections to comprehensive cover including labour and materials.
- UPService organises regular TECHNICAL TRAINING COURSES for UPS operators and installers.



# TECHNICAL **ASSISTANCE** SERVICE

# AP160LCD

TECHNICAL SPECIFICATION				
MODEL	AP160LCD 1K	AP160LCD 2K	AP160LCD 3K	AP160LCD 6K
Power Rating	1kVA / 0,7kW	2kVA / 1,4kW	3kVA / 2,1kW	6kVA / 4,2kW
INPUT				
Voltage	220V / 230V / 240V			
AC High/Low Volt threshold (Dependent on output load percentage)	0% to 60% load - Battery backup at AC mains 110V±5V 60% to 70% load - Battery backup at AC mains 120V±5V 70% to 80% load - Battery backup at AC mains 140V±5V 80% to 100% load - Battery backup at AC mains 160V±5V Normalise when AC mains 175V±5V Input high voltage - Battery backup at AC mains 300V±5V Normalise when AC mains 285V±5V			Battery backup at low mains: 176V±3% Return from low mains: 185V±3%  Battery backup at high mains: 276V±3% Return from high mains: 266V±3%
Frequency	50/60Hz ±5%			
Power Factory	≥0,95			≥0,98
BATTERY / CHARGER				
Type	Sealed lead acid maintenance free type			
Backup Time at Typical Load	8 mins	12 mins	8 mins	10 mins
Optional EX charger current (without battery fitted)	7Adc	9,6Adc		4,2Adc
OUTPUT				
Voltage	220V / 230V / 240V			
Voltage stability	±2%			
Crest Factor	3:1			
Voltage Distortion	≤3%			
Frequency (synchronise mode)	50/60Hz ± 5%			
Frequency (battery mode)	50/60Hz ± 0,2%			50/60Hz ± 0,05%
Output waveform	Sinusoidal			
Overload	110% ~ 150% for 30sec before transfer to bypass; >150% for 300ms transfer to bypass			
Efficiency	>85%		>88%	>88%
DISPLAY / INTERFACE				
Status & Indications	Input Healthy / Battery Discharge / Inverter Operation / Bypass Operation / UPS Fault Load Level Status / Battery Capacity Status/Measures			
Audible alarm	Yes			
Control	UPS On/Off switch; Bypass Transfer / Re-transfer button			
Communication Software	RS232 Serial port. Software support: Windows 98/NT/2K/XP/2003ME; Linux; Sun Solaris			
Optional	SNMP Card for Power Management from SNMP Manager and Web browser			
PHYSICAL DATA SHEET				
Dimension LxDxH (mm)	482x450x2U (With Battery)	482x450x2U (UPS) 482x450x2U (Batt.)		482x608x3U (UPS) 482x608x3U (Batt.)
Weight with battery (kg)	17	11 (UPS) 28 (Batt.)	12(UPS) 28 (Batt.)	19 (UPS) 65 (Batt.)
Weight with EX charger, no battery (kg)	9	12	16	20
Operating Environment	0°C ~ 40°C			
Relative Humidity	20% ~ 90% (Non-Condensing)			
Audible Noise level (at 1m)	<45 dBA	<50 dBA		<55 dBA



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