



LIBRA Online UPS

10-100 kVA three-phase / single-phase

10-800 kVA three-phase / three-phase



- + DATACENTRES
- + TELECOMMUNICATION DEVICES
- + MEDICAL DEVICES
- + EMERGENCY DEVICES
- + INDUSTRIAL APPLICATION
- + TRANSPORTATION



Smart Energy
Solutions

Product Overview



Libra Pro is available with a power range from 10 to 100kVA threephase/singlephase and 10 to 800kVA threephase/threephase, using double conversion on-line technology (VFI) with an inverter transformer for output galvanic isolation. The load is powered continuously by the inverter with a filtered, stabilised and regulated sinewave supply. The input and output EMI filters considerably increase the immunity of the load to mains disturbances and surges.

Standard Libra Pro is designed with thyristor's rectifier 6 Pulse up to 200kVA; to improve the input current distortion performance.

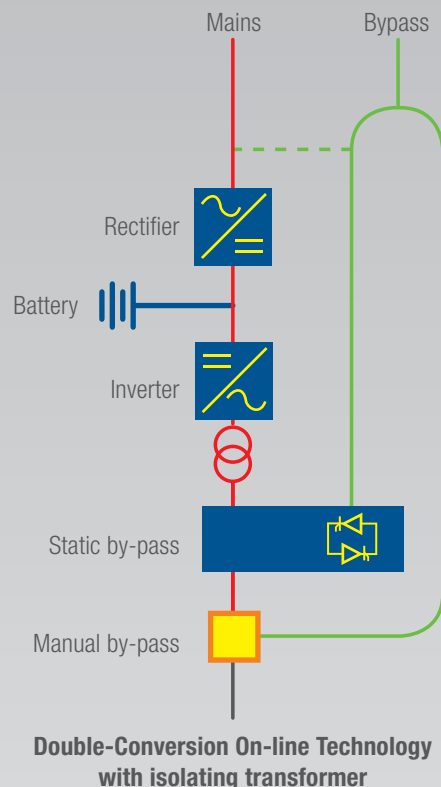
Libra Pro IGBT is a low impact source solution, because the rectifier has an IGBT technology with Power Factor Correction available from 100 to 800kVA.

Libra Pro guarantees the maximum protection for critical loads networks, security applications and industrial application thanks to its outstanding mechanical and electrical design.

- + **ISOLATING TRANSFORMER ON THE INVERTER**
- + **EXTREMELY HIGH SHORT-CIRCUIT CURRENT**
- + **SINUSOIDAL ABSORPTION (THDI% LESS THAN 3% FOR IGBT VERSION)**

Main Features

- + Reliable, filtered, stabilised and regulated sinewave output (double conversion on-line technology VFI according to EN50091-3 specifications with filters for atmospheric disturbance suppression)
- + High reliability: IGBT technology, full microprocessor control with no break – in static and manual transferring, high short-circuit current to ensure compatibility with the most difficult application (lighting, drives and industrial processes) and an isolating transformer on the inverter output
- + Low impact on the supply network: the input current distortion in Libra model from 100 to 800kVA IGBT is less than 3%. That reduces the resonance problems and the network disturbs. Besides it reduces also the design costs.
- + High level diagnostics: event log, states, measurements and alarms, available from the built-in LCD in several languages
- + Selectable power walk-in allows to limit the input rushing current
- + Maximum reliability and power availability (parallel up to 8 units for redundant (N+1) or parallel operation)
- + EPO (Emergency Power Off) input for UPS shut-down using remote emergency button
- + Front access
- + Smart battery system suitable for use with Sealed, Wet, Ni-Cd battery type
- + Back-feed protection fitted as standard



Specific Solutions

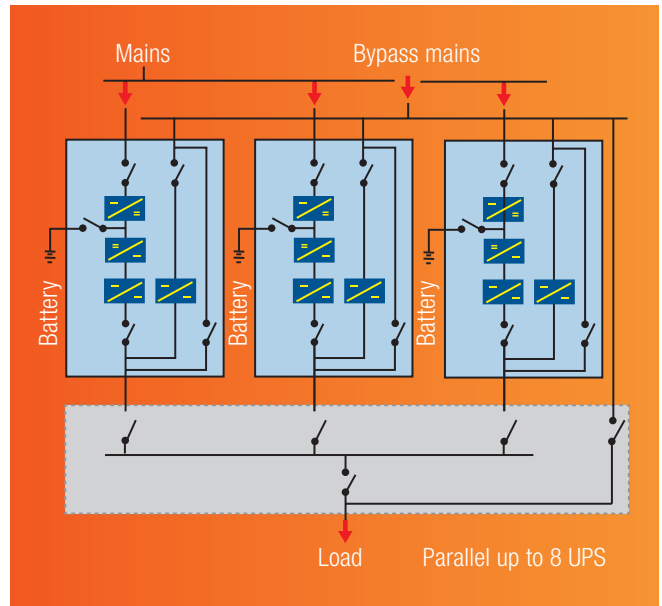
SIMPLIFIED MAINTENANCE

The wiring and all the electronic components are easily accessible from the front side. This allows to reduce the MTTR (Mean Time To Repair), that typically becomes less than 30 minutes. Almost all the main information, are available from the synoptic LCD. In addition the operating system parameters are software configurable by a local PC that allow to adjust or improve the operating specifications.

Libra Pro can be personalized.

The operation mode is selectable by LCD display for various configurations:

- **Single mode operation** - online
- **Parallel mode operation** up to 8 units
- **Ecomode** for energy saving - offline
- **Smart Active** - to adapt operation to the quality of main supply
- **Automatic Voltage Stabilizer** (with or without battery)
- **Frequency converter** (with or without battery)



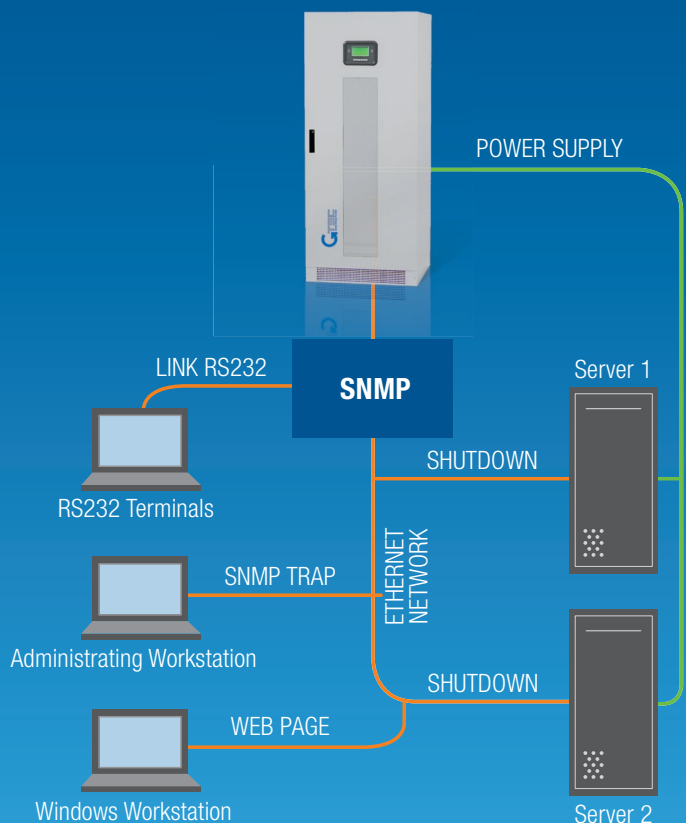
Advanced Communication

Remote maintenance possibilities

Advanced, multi-platform communication, for all operating system and network environments: UPSmod 5 supervision and shut-down software included, with SNMP agent, for Linux, Windows 95, 98, NT 4.0, 2000, Me, XP, Mac OSx, 9.x, and latest versions. Novell operating system. The UPS is equipped as standard with CD and cable for direct connection to the PC (Plug and Play). Can also provide shut-down software for: IBM AIX; Free BSD; BSDI UNIX; BSD/OS; Unixware; SCO Openserver; Solaris; SUN; DEC; Compaq True64; HP UNIX; SGI Irix MIPS; NCR UNIX.

- Double RS232 serial ports
- Network adapter slot for SNMP agent
- EPO (Emergency Power Off) shut down input contact
- SNMP card for Ethernet Network (optional)
- Remote LCD display panel (optional)
- Interfaces JBUS/ModBUS and ProfiBUS (optional)

DIRECT CONNECTION WITH ETHERNET NETWORK



Technical Specifications

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| MODEL | LB010MP ^(B) | LB015MP ^(B) | LB020MP ^(B) | LB030MP | LB040MP | LB060MP | LB080MP | LB100MP |
|-------------------------------------|---|------------------------|------------------------|---------|---------|--------------|---------|----------------------|
| Rated Power (kVA) | 10 | 15 | 20 | 30 | 40 | 60 | 80 | 100 |
| Efficiency | > 93% in AC/AC; up to 98% in Smart Active Mode | | | | | | | |
| Dimension (mm) LxDxH | 555x740x1400 | | | | | 800x740x1400 | | 800X 800X 1900 |
| Weight (kg) w/o batteries | 200 | 220 | 230 | 290 | 340 | 440 | 520 | 650 |
| Colour | Light Gray RAL 7035 (or RAL7016 on request) | | | | | | | |
| Protection Rating | IP20 | | | | | | | |
| Noise (dB at 1m) | 54 | | 62 | | | | 63 | |
| INPUT | | | | | | | | |
| Rated Voltage | 380-400-415Vac 3ph | | | | | | | |
| Voltage Tolerance | 300 ÷ 480 Vac | | | | | | | |
| Frequency | 45 ÷ 65 Hz | | | | | | | |
| Power walk-in | 0 ÷ 100% in 30sec. (selectable) | | | | | | | |
| Frequency Tolerance | ± 2% (selectable from 1% to 5%) | | | | | | | |
| Standard Features | Back Feed protection and splitted bypass line | | | | | | | |
| OUTPUT | | | | | | | | |
| Power (kVA) | 10 | 15 | 20 | 30 | 40 | 60 | 80 | 100 |
| Active Power (kW) | 9 | 13,5 | 18 | 27 | 36 | 54 | 72 | 90 |
| Nominal Voltage (V) | 220-230-240Vac 1phase | | | | | | | |
| Static Stability | ± 1% | | | | | | | |
| Dynamic Stability | ± 5% in 10msec | | | | | | | |
| Voltage Distortion | < 1% at linear load / < 3% at non-linear load | | | | | | | |
| Crest Factor | 3:1 | | | | | | | |
| Frequency stability on battery mode | 0.05% | | | | | | | |
| Frequency | 50 - 60 Hz (selectable) | | | | | | | |
| Overload Control | 110% for 60min.; 125% for 10min.; 150% for 1min. | | | | | | | |
| BATTERIES | | | | | | | | |
| Type | Pb Selead acid, Wet, Ni-Cd | | | | | | | |
| Ripple | < 1% | | | | | | | |
| Temperature Compens. | -500mV x °C | | | | | | | |
| Typical charging current | 0,2 x C10 | | | | | | | |
| N. cells for Pb Batteries | 192 | | | | | | | 198 |
| COMMUNICATION | | | | | | | | |
| Standard | Double RS232 ports with Monitoring Software CD; Dry contacts; 2 interface intellislots | | | | | | | |
| Remote Commands | EPO and INV. OFF | | | | | | | |
| Optional | SNMP card; JBUS/ModBUS converter RS485 port; Profibus converter; Multilicence | | | | | | | |
| ENVIRONMENTAL | | | | | | | | |
| Room Temperature | 0 ÷ 40 °C | | | | | | | |
| Humidity | < 95% (non-condensing) | | | | | | | |
| Compliance | Standards LV 2006/95/EC - 2004/108/EC - Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3; VFI-SS-111 Classified as IEC 62040-3 | | | | | | | |

(B) Available also with internal batteries.

Note: product specifications are subject to change without further notice.

Technical Specifications

| MODEL | LB010TP ^(B) | LB015TP ^(B) | LB020TP ^(B) | LB030TP | LB040TP | LB060TP | LB080TP | LB100TP | LB120TP | LB160TP | LB200TP | |
|-------------------------------------|---|------------------------|------------------------|---------|---------|--------------|---------|---------|--------------|---------|---------|--|
| Rated Power (kVA) | 10 | 15 | 20 | 30 | 40 | 60 | 80 | 100 | 120 | 160 | 200 | |
| Efficiency | > 93% in AC/AC; up to 98% in Smart Active Mode | | | | | | | | | | | |
| Dimension (mm) LxDxH | 555x740x1400 | | | | | 800x740x1400 | | | 800x800x1900 | | | |
| Weight (kg) w/o batteries | 210 | 220 | 230 | 280 | 330 | 450 | 600 | 640 | 650 | 770 | 810 | |
| Colour | Light Gray RAL 7035 (or RAL7016 on request) | | | | | | | | | | | |
| Protection Rating | IP20 | | | | | | | | | | | |
| Noise (dB at 1m) | 54 | | 60 | | 62 | | | 63 ÷ 68 | | | | |
| INPUT | | | | | | | | | | | | |
| Rated Voltage | 380-400-415Vac 3ph | | | | | | | | | | | |
| Voltage Tolerance | 300 ÷ 480 Vac | | | | | | | | | | | |
| Frequency | 45 ÷ 65 Hz | | | | | | | | | | | |
| Power walk-in | 0 ÷ 100% in 30sec. (selectable) | | | | | | | | | | | |
| Frequency Tolerance | ± 2% (selectable from 1% to 5%) | | | | | | | | | | | |
| Standard Features | Back Feed protection and splitted bypass line | | | | | | | | | | | |
| OUTPUT | | | | | | | | | | | | |
| Power (kVA) | 10 | 15 | 20 | 30 | 40 | 60 | 80 | 100 | 120 | 160 | 200 | |
| Active Power (kW) | 9 | 13,5 | 18 | 27 | 36 | 54 | 72 | 90 | 108 | 144 | 180 | |
| Nominal Voltage (V) | 380-400-415Vac 3phase | | | | | | | | | | | |
| Static Stability | ± 1% | | | | | | | | | | | |
| Dynamic stability | ± 5% in 10msec | | | | | | | | | | | |
| Voltage Distortion | < 1% at linear load / < 3% at non-linear load | | | | | | | | | | | |
| Crest Factor | 3:1 | | | | | | | | | | | |
| Frequency stability on battery mode | 0.05% | | | | | | | | | | | |
| Frequency | 50 - 60 Hz (selectable) | | | | | | | | | | | |
| Overload Control | 110% for 60min.; 125% for 10min.; 150% for 1min. | | | | | | | | | | | |
| BATTERIES | | | | | | | | | | | | |
| Type | Pb Selead acid, Wet, Ni-Cd | | | | | | | | | | | |
| Ripple | < 1% | | | | | | | | | | | |
| Temperature Compens. | -500mV x °C | | | | | | | | | | | |
| Typical charging current | 0,2 x C10 | | | | | | | | | | | |
| N. cells for Pb Batteries | 198 | | | | | | | | | | | |
| COMMUNICATION | | | | | | | | | | | | |
| Standard | Double RS232 ports with Monitoring Software CD; Dry contacts; 2 interface intellislots | | | | | | | | | | | |
| Remote Commands | EPO and INV. OFF | | | | | | | | | | | |
| Optional | SNMP card; JBUS/ModBUS converter RS485 port; ProfiBUS converter; Multilicence | | | | | | | | | | | |
| ENVIRONMENTAL | | | | | | | | | | | | |
| Room Temperature | 0 ÷ 40 °C | | | | | | | | | | | |
| Humidity | < 95% (non-condensing) | | | | | | | | | | | |
| Compliance | Standards LV 2006/95/EC - 2004/108/EC - Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3; VFI-SS-111 Classified as IEC 62040-3 | | | | | | | | | | | |

(B) Available also with internal batteries

Note: product specifications are subject to change without further notice.

Technical Specifications

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| MODEL | LB100GBT | LB120IGBT | LB160IGBT | LB200IGBT | LB250IGBT | LB300IGBT | LB400IGBT | LB500IGBT | LB600IGBT |
|-------------------------------------|---|-----------|---------------|-----------|---------------------------------|----------------|-----------|----------------|-----------|
| Rated power (kVA) | 100 | 120 | 160 | 200 | 250 | 300 | 400 | 500 | 600 |
| Efficiency | > 93% in AC/AC; up to 98,5% in Smart Active Mode | | | | | | | | |
| Dimension (mm) LxDxH | 800x850x1900 | | 1000x850x1900 | | | 1500x1000x1900 | | 2100x1000x1900 | |
| Weight (kg) w/o batteries | 730 | 785 | 865 | 990 | 1090 | 1550 | 1750 | 2525 | 2700 |
| Colour | Light Gray RAL 7035 (or RAL7016 on request) | | | | | | | | |
| Protection Rating | IP20 | | | | | | | | |
| Noise (dB at 1m) | 63 ÷ 68 | | | | 70 ÷ 72 | | | | |
| INPUT | | | | | | | | | |
| Rated Voltage | 380-400-415Vac 3ph | | | | | | | | |
| Voltage Tolerance | 300 ÷ 480 Vac (100% load) | | | | 240 ÷ 360 Vac (65% ÷ 100% load) | | | | |
| Frequency | 45 ÷ 65 Hz | | | | | | | | |
| Power Factor | > 0,99 | | | | | | | | |
| Current Distortion | < 3% THD1% | | | | | | | | |
| Power walk-in | 0 ÷ 100% in 30sec. (selectable) | | | | | | | | |
| Frequency Tolerance | ± 2% (selectable from 1% to 5%) | | | | | | | | |
| Standard Features | Back Feed protection and splitted bypass line | | | | | | | | |
| OUTPUT | | | | | | | | | |
| Power (kVA) | 100 | 120 | 160 | 200 | 250 | 300 | 400 | 500 | 600 |
| Active Power (kW) | 90 | 108 | 144 | 180 | 225 | 270 | 360 | 450 | 540 |
| Nominal Voltage (V) | 380-400-415Vac 3phase | | | | | | | | |
| Static Stability | ± 1% | | | | | | | | |
| Dynamic Stability | ± 5% in 10msec | | | | | | | | |
| Voltage Distortion | < 1% at linear load / < 3% at non-linear load | | | | | | | | |
| Crest Factor | 3:1 | | | | | | | | |
| Frequency stability on battery mode | 0.05% | | | | | | | | |
| Frequency | 50 - 60 Hz (selectable) | | | | | | | | |
| Overload Control | 110% for 60min.; 125% for 10min.; 150% for 1min. | | | | | | | | |
| BATTERIES | | | | | | | | | |
| Type | Pb Selead acid, Wet, Ni-Cd | | | | | | | | |
| Ripple | < 1% | | | | | | | | |
| Temperature Compens. | -500mV x °C | | | | | | | | |
| Typical charging current | 0,2 x C10 | | | | | | | | |
| N. cells for Pb Batteries | 240 | | | | | | | | |
| COMMUNICATION | | | | | | | | | |
| Standard | Double RS232 ports with Monitoring Software CD; Dry contacts (selectable); 2 interface intellislots | | | | | | | | |
| Remote Commands | EPO and INV. OFF | | | | | | | | |
| Optional | SNMP card; JBUS/ModBUS converter RS485 port; ProfiBUS converter; Multiilience | | | | | | | | |
| ENVIRONMENTAL | | | | | | | | | |
| Room Temperature | 0 ÷ 40 °C | | | | | | | | |
| Humidity | < 95% (non-condensing) | | | | | | | | |
| Compliance | Standards LV 2006/95/EC - 2004/108/EC - Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3; VFI-SS-111 Classified as IEC 62040-3 | | | | | | | | |

Note: product specifications are subject to change without further notice.

Technical Specifications

LIBRAPRO IGBT PF1

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| MODEL | LB100 IGBTPF1 | LB120 IGBTPF1 | LB160 IGBTPF1 | LB200 IGBTPF1 | LB250 IGBTPF1 | LB300 IGBTPF1 | LB400 IGBTPF1 | LB500 IGBTPF1 | LB600 IGBTPF1 | LB800 IGBTPF1 |
|-------------------------------------|--|------------------|------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|--------------------|
| Rated Power (kVA) | 100 | 120 | 160 | 200 | 250 | 300 | 400 | 500 | 600 | 800 |
| Efficiency | Up to 95% in AC/AC | | | | | | | | | |
| Dimension (mm) LxDxH | 800x850x1900 | | 1000x850x1900 | | | 1500x1000x1900 | | 2100x1000x1900 | | 3200x 1000x1900 |
| Weight (kg) w/o batteries | 890 | 900 | 975 | 1100 | 1300 | 1520 | 1670 | 2500 | 2830 | 3950 |
| Colour | RAL 7016 | | | | | | | | | |
| Protection Rating | IP20 (higher levels of protection on request) | | | | | | | | | |
| Noise (dB at 1m) | 65 | | 68 | | | 72 | | | | |
| INPUT | | | | | | | | | | |
| Rated Voltage | 400 Vac 3F-phase without neutral | | | | | | | | | |
| Voltage Tolerance | 360 - 480 Vac (100% load) | | | | | 240 - 480 Vac (65% load) | | | | |
| Frequency | 50 - 60 Hz | | | | | | | | | |
| Power walk-in | 0 - 100% in 30sec (selectable) | | | | | | | | | |
| Frequency Tolerance | From 45 to 65 Hz | | | | | | | | | |
| Standard Features | Back Feed protection and Splitted bypass line | | | | | | | | | |
| OUTPUT | | | | | | | | | | |
| Power (kVA) | 100 | 120 | 160 | 200 | 250 | 300 | 400 | 500 | 600 | 800 |
| Active Power (kW) | 100 | 120 | 160 | 200 | 250 | 300 | 400 | 500 | 600 | 800 |
| Nominal Voltage (V) | 400 Vac 3F + N (configurable from 380 to 415 V) | | | | | | | | | |
| Static Stability | ±1% | | | | | | | | | |
| Dynamic stability | ±5% | | | | | | | | | |
| Voltage Distortion | ≤ 1% at linear load | | | | | ≤ 3% at non-linear load | | | | |
| Crest Factor | 3 : 1 | | | | | | | | | |
| Frequency stability on battery mode | 0.05% | | | | | | | | | |
| Frequency | 50 - 60 Hz (selectable) | | | | | | | | | |
| Overload Control | 110% for 60 min; 125% for 10 min; 150% for 1 min | | | | | | | | | |
| BATTERIES | | | | | | | | | | |
| Type | Pb Selead acid, Wet, Ni-Cd | | | | | | | | | |
| Ripple | Approx 0 | | | | | | | | | |
| Temperature Compens. (V/°C) | -500mV x °C | | | | | | | | | |
| Typical charging current | 0,2 X C10 | | | | | | | | | |
| N. cells for Pb Batteries | from 222 to 258 | | | | | | | | | |
| COMMUNICATION | | | | | | | | | | |
| Standard | Double RS232 ports with Monitoring Software CD; Dry contacts (selectable); 2 interface intellislot | | | | | | | | | |
| Remote Commands | EPO and INV. OFF | | | | | | | | | |
| Optional | SNMP card; Jbus/ModBUS converter RS485 port; ProfiBUS converter; Multilicence | | | | | | | | | |
| ENVIRONMENTAL | | | | | | | | | | |
| Room Temperature | 0 ÷ 40 °C | | | | | | | | | |
| Humidity | <95% (non-condensing) | | | | | | | | | |
| Compliance | Standards LV 2006/95/EC - 2004/108/EC - Safety IEC EN62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3; VFI-SS-111 Classified as IEC 62040-3 | | | | | | | | | |

Available also with input filter for CLEAN version.

Note: product specifications are subject to change without further notice.

G-Tec Service

G-TEC Service, our technical assistance facility, employs highly trained engineers able to provide a reliable sales assistance service.

A dedicated **CALL CENTRE** for connection to the G-TEC Service organisation. G-TEC Service personnel are always on hand and happy to provide advice and assistance regarding the installation, maintenance, fault finding and repair of UPS equipment. G-TEC Service can provide assistance during commissioning and start-up of the UPS equipment on-site with additional training of site personnel during handover.

MAINTENANCE CONTRACTS can be provided by G-TEC Service Partners to minimise response times and reduce the cost of

repairs. Contracts range from periodic inspections to comprehensive cover including labour and materials.

FAST & READY: fast repair on site is guaranteed thanks to the use of state-of-the-art UPS technology and the professionalism of the G-TEC Service personnel and Authorised Assistance Centres.

G-TEC Service guarantees that failed parts are replaced with original ones and are tested and updated in order to maintain the safety, reliability and operating characteristics of the UPS system.



www.gtec-power.eu



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