Keor XPE

SCALABLE HIGH-POWER UPS

from 600 kVA to 2.1 MVA

GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

SUSTAINABILITY

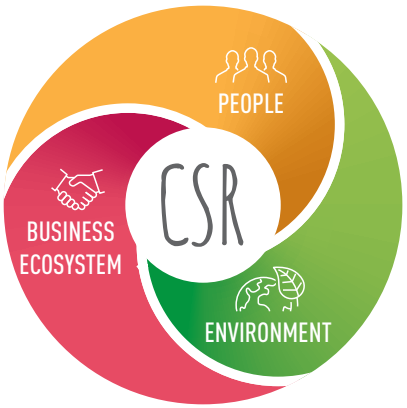
Corporate Social Responsibility

Green management and sustainable supply chain: these concepts are part of Legrand's Corporate Social Responsibility, which is the company's commitment to drawing up a strategy and implementing it with practical actions aimed at socially responsible behaviour towards everything around it, such as people, things and environment.
CSR involves the management of human resources, the organization and division of labour and the management of natural resources. CSR aims to assess the impact that the company's actions and decisions have internally, but also externally, on the stakeholders and the environment.

BUSINESS ECOSYSTEM
or how Legrand interacts ethically with the whole ecosystem of its activities.

PEOPLE
or how Legrand engages with all of its employees and stakeholders.

ENVIRONMENT
or how Legrand intends to limit the Group's environmental impact.



Circular economy

We are committed to creating a system that involves all stakeholders to share values, objectives and actions in order to control and reduce the environmental impact of all our economic and production processes, reduce waste and environmental impact and transform what would once have been defined as «waste» into new resources. Controlling these aspects has an impact on the entire life cycle of the product, starting from the design of new concepts and new specifications for the materials the UPS is made of; this is possible through responsible design and procurement processes (so-called «green procurement»), with a strong focus on research and the use of innovative materials from the circular economy and alternative raw materials. When a product ends its life, all these materials can become high value-added resources that can be used in other production cycles.

Digitalization

New information technologies allow us to reduce the use of several paper documents in favor of the digital format: in this way the information is always and everywhere accessible from a PC or smartphone and at the same time we can avoid the felling of many trees.
Digitization also becomes an important driver of the circular economy, since it allows the use of tools for performance data analysis and preventive diagnostics, both useful for optimizing the life cycle and durability of the product.

Efficiency

Our R&D team is constantly working on the development of increasingly efficient UPSs that allow high and incremental performance with minimum energy dissipation; with regard to CO_2 emissions, we are implementing processes and products that represent an improvement in the percentage of carbon footprint compared to the past.
But efficiency is not only synonymous with high performance.
For us, efficiency also means ecodesign: this implies that the UPS is designed to be easily repaired, maintained and it's easy to separate its components.
This means increasing the durability of our UPSs and the possibility of reusing and recycling them at the end of their life.

L'EPD/PEP

For each product family we draw up an EPD (Environmental Product Declaration) or PEP (Profil Environnemental Produit) in line with ISO 14025: it is a declaration that is a sort of environmental photograph of the product.
The EPD is drawn up according to the concept of Life Cycle Assessment: it examines the environmental impact of a product throughout its life cycle, from the development of product specifications to the choice of materials to be used and the end-of-life destination of the product itself.

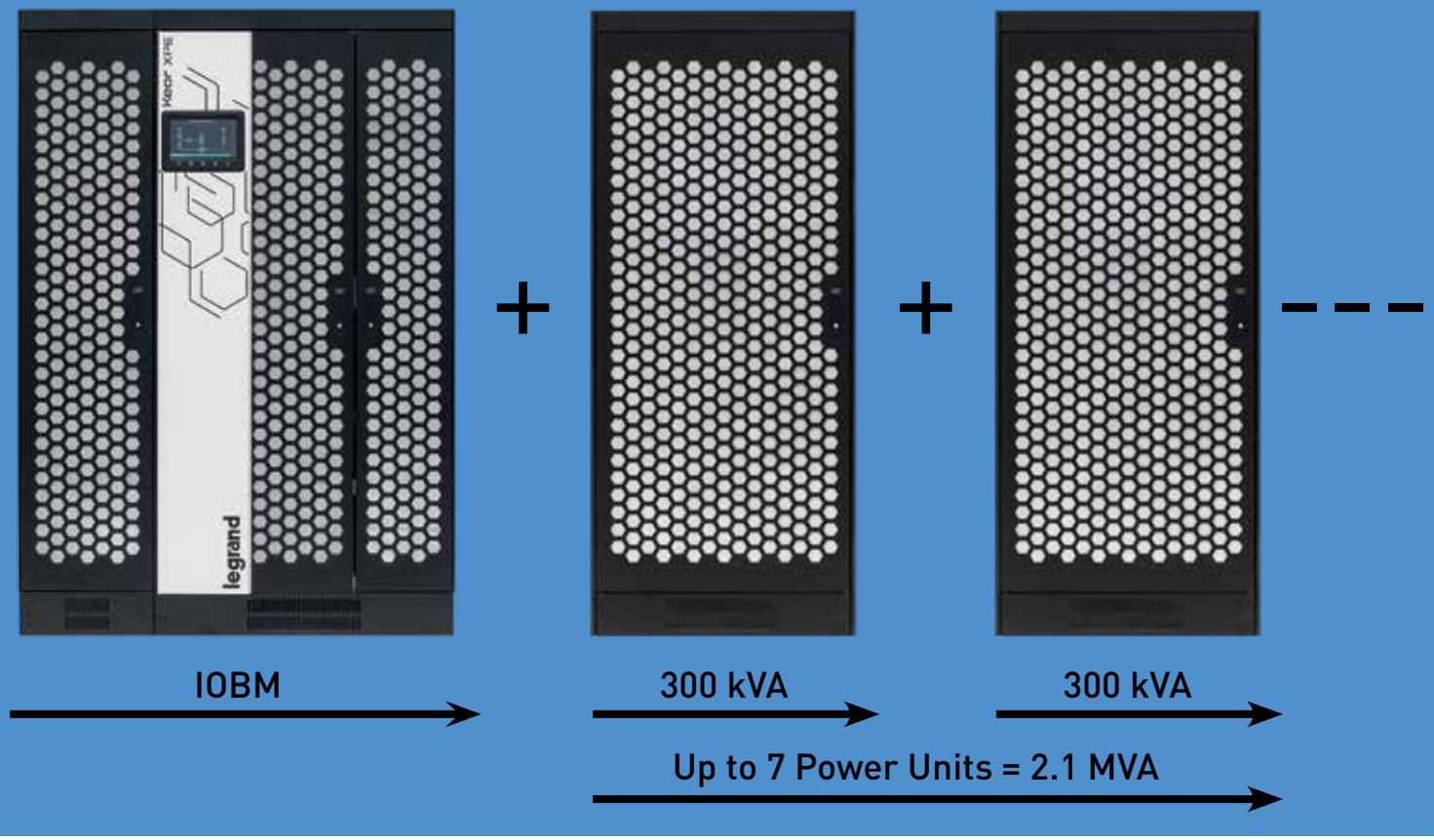
Keor XPE

SCALABLE ARCHITECTURE

Keor XPE is a complete Scalable UPS System based on 250 kVA or 300 kVA power units up to 2.1 MVA.
Power units, each one with its individual logic control, can be combined with others to reach the needed power, or implement redundant configurations.
Power expansion can be easily carried out at a later stage by installing additional power units.
Keor XPE is the ideal solution for datacenter and large power critical applications (tertiary, hospital, industry, transport) where continuity of service, high quality power supply and reduced consumption are required.

Keor XPE is a modular UPS system according to your power needs.
Up to 7 power units can be added to the main bypass module (IOBM), each of 250 or 300 kVA.

From 600 kVA to 2.1 MVA



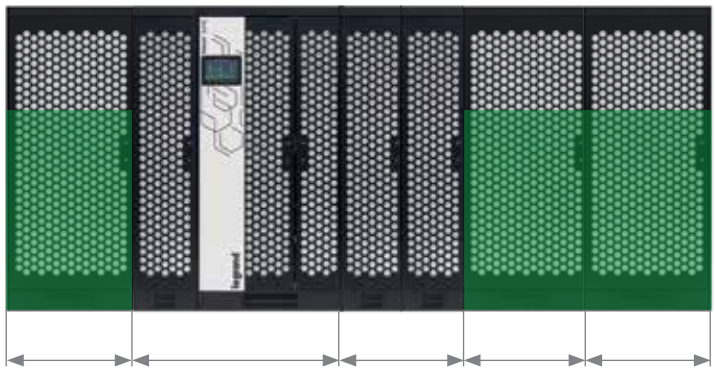
Smart Display

The centralized 10'' touch screen display, with intuitive and user friendly interface, allows to the user to fully monitor and control both the overall system and the single power units.
The display also provides full diagnostics, systems logs and a wide set of advanced settings and fine tuning functions in 10 different languages.

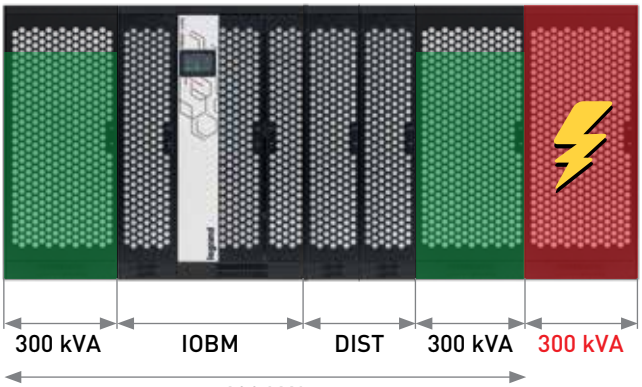
Keor XPE

Redundancy and Hot Service

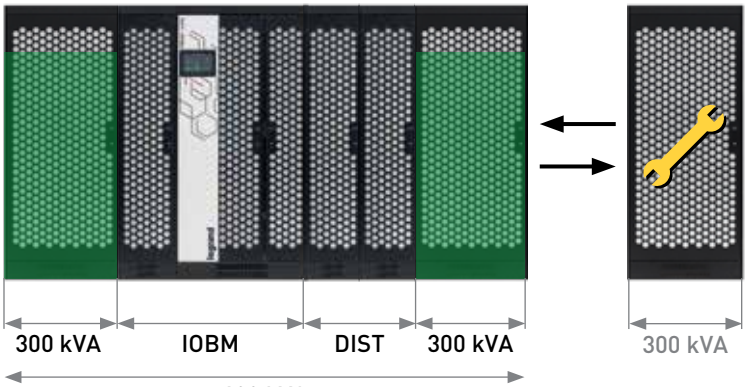
In case of redundant configurations, **Keor XPE** is hot serviceable for each of its components, as standard.
As optional, the power units can be connected, removed or replaced while the rest of the system is continuously feeding and protecting the critical load.



Run in Redundancy



Run in Failure



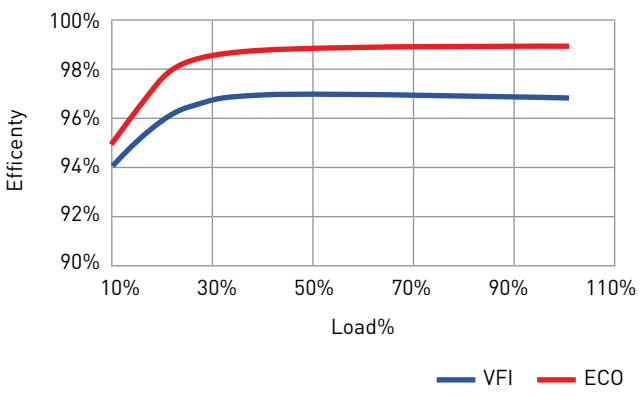
Repair/Replacement

High reliability and availability

The possibility to keep two independent **Keor XPE** in synchro allows to supply 2 independent and redundant lines in order to reach the highest availability level, typical of hyper critic datacenter.

Infrastructure integration

The versatility of **Keor XPE** allows you to choose between different grounding systems, upper or lower input lines, cable or busbar connections, centralized or distributed batteries and much more. All of these features make **Keor XPE** exceptionally suitable and adaptable for integration into a wide range of infrastructures. **Keor XPE** can be perfectly integrated with the offer of the Legrand Group.



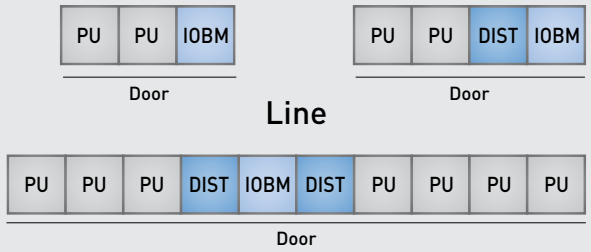
High efficiency and low TCO

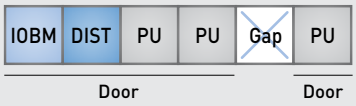
High efficiency and low TCO **Keor XPE** is specially designed to reduce losses and lower the management costs.
Transformer free technology, 3 level converters, high efficiency even at low load level, combined with optimized ventilation and smart battery management ensure maximum protection at minimum consumption.

Keor XPE

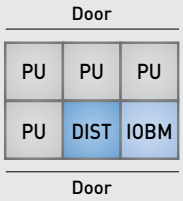
Flexible design and physical layouts

Keor XPE meets your diverse business needs, either to grow or to revamp your mission-critical applications. In fact, the flexibility of **Keor XPE** permits the realization of different architectural layouts: in-line, back to back, L-shape, U shape. It is also possible to keep a gap between the different cabinets that are part of the system.

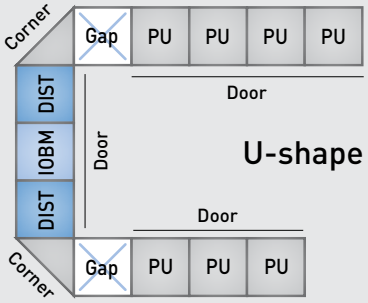




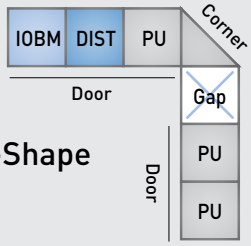
Gap



Back to Back



U-shape



L-Shape

PU = Power Units
IOBM = In/Out-Bypass Module
DIST = Distribution Cabinet

In/Out-Bypass Module

Power Units Up to 7 Units

Distribution Cabinet (Optional)

Only 3 main components

To create and customize the system, you only need to combine three types of units, choosing their number, order and physical layout within the room.

Possible configurations

- TNC/TNS groundind system
- Dual/Single input
- Top/Bottom entry line
- Cable/Busbar connection
- Centralized/Distributed battery
- Lithium battery compatible
- Icw 50-100 kA short circuit capability
- Various layouts

Full communication interfaces

- USB-RS232
- ModBus 485 (optional accessory)
- SNMP net card (optional accessory)
- EPO contact
- Dry contacts port
- Backfeed contact
- External bypass contact
- External battery switch contact
- GenSet friendly
- Battery temperature sensor

CONFIGURATION EXAMPLE: KEOR XPE 1 MVA N+1 HOT SWAP

PU 250 kVA | PU 250 kVA | DIST CAB | IOBM 1000 kVA | DIST CAB | PU 250 kVA | PU 250 kVA | PU 250 kVA

Keor XPE 600 kVA – 2.1 MVA

In/Out-Bypass Module

Power Units Up to 7 Units

Distribution Cabinet (Optional)

Characteristics

- OnLine Double Conversion VFI SS 111
- 3Level IGBT Transformer Free
- Output Power Factor 1 without derating up to 40°C in continuous operation mode (VFI)
- Configurable internal redundancy (N+1 or N+X).
- Hot maintainable modules
- Hot Scalability (optional)
- Up to 96.4% VFI efficiency even at low power
- ECO mode up to 99% efficiency.
- Embedded BackFeed Protection
- Automatic battery test function.
- Genset compatibility with adaptive Ramp-In
- Compact footprint.
- Low audible noise.
- Synch 2N

UPS XPE Components

Model	Nominal power (kVA)	Active power (kW)	Dimensions W x D x H (mm)
POWER UNIT	250	250	880x979x2100
POWER UNIT	300	300	880x979x2100
IOBM 600	600	600	1002x979x2100
IOBM 750	750	750	1450x979x2100
IOBM 900-1000	1000	1000	1500x979x2100
IOBM 1200-1500	1500	1500	1850x1000x2100
IOBM 1800-2100	2100	2100	2300x1200x2100
DISTRIBUTION CABINET*	2 lines 300 kW		350x979x2100
DISTRIBUTION CABINET*	3 lines 300 kW		350x979x2100
DISTRIBUTION CABINET*	4 lines 300 kW		350x979x2100
DISTRIBUTION CABINET*	5 lines 300 kW		350x979x2100

*** for hot scalability**

Optionals

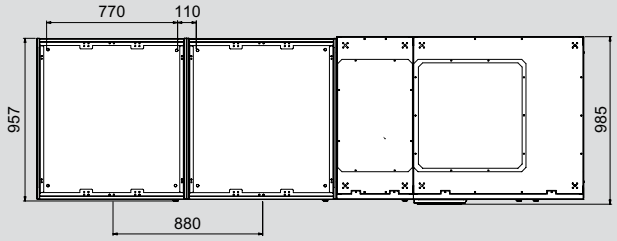
Description
Future Scalability
Hot Scalability
Input Line: Dual/Single
Connection Entrance: Bottom/Top
Connection Type: Cable/Busbar
Grounding System: TNC/TNS
Icw limitation kit
Battery set: Centralized/Distributed
Central or side IOBM
Special distribution kits for customized Cabitets Layouts
IP21 Kit

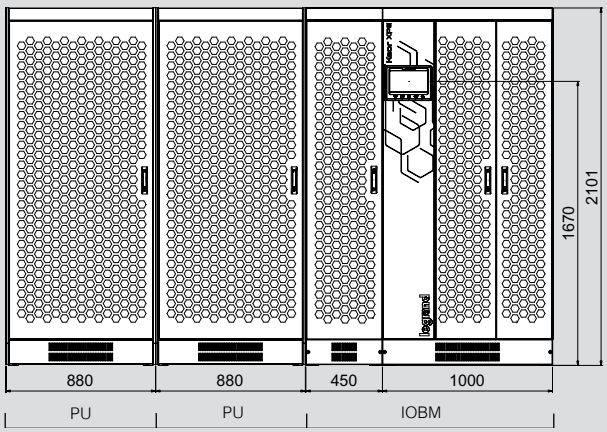
Accessories

Description
Battery Cabinets
Battery fuse switch box
Synch Box
MODBUS RS485 Card
Net Interface Ethernet Cards

For configuration details and accessories, please contact Legrand.

Dimensions





Keor XPE 600 kVA – 2.1 MVA

Scalable UPS - Online three-phase double conversion VFI

Characteristics

General specifications	IOBM 600	IOBM 750	IOBM 900	IOBM 1000	IOBM 1200	IOBM 1250	IOBM 1500	IOBM 1800	IOBM 2100
Nominal Power = Active Power (kW)	600	750	900	1000	1200	1250	1500	1800	2100
Power Unit power (kW)	300	250	300	250	300	250	300	300	300
Number of Power Units (+1 if Redundant)	2+1	3+1	3+1	4+1	4+1	5+1	5+1	6+1	7
Technology	On-line double conversion VFI-SS-111								
Architecture	Decentralized Logic, Centralized Static Bypass, Scalable, Redundant, Hot Service (Hot Plug Optional)								
Input									
Input Voltage	400 Vac 3-phase (rectifier), 380/400/415 Vac 3-phase (Bypass)								
Input Frequency	50/60 Hz; range 45-65 Hz								
Input Voltage Range (Ph-Ph)	-20%, +15% (rectifier); ±10% (bypass)								
THD of input current	< 3%								
Compatibility with Diesel Generators	Yes								
Input power factor	> 0.99								
Output									
Output Voltage	380, 400, 415V (3Ph+N+PE)								
Efficiency Online	up to 96.4%								
Efficiency in GREEN mode	up to 99%								
Output frequency (nominal)	50 /60 Hz (Adjustable from front panel)								
Output frequency tolerance	±0,1%Synch with Mains; ±0,01% Free Run								
Crest Factor	up to 3:1								
THD of output voltage	< 1% at full linear load								
Output power factor	0.7 leading to 0.5 lagging without derating								
Output voltage Regulation VFI	Static ± 1%; Dynamic Class1 IEC/EN62040-3								
Overload Capability	Inverter: 125% for 5 min, 150% for 30 sec;								
Bypass									
Type	Static Automatic no break, Manual Bypass optional								
Input Voltage	380-400-415V ± 20%; (3Ph+N+PE)								
Input Frequency	50-60Hz ± 10%								
Nominal Current (A)	870	1090	1304	1450	1739	1810	2175	2609	3044
Max Icw	50 kA as per IEC 62040-1 (100 kA Optional)								
DC Characteristics									
Battery/Storage Compatibility	VRLA, NiCd, Li-Ion								
Battery Connection	Distribuited or Centralized								
Communication and management									
Control Panel Display	10'' Touch screen, 1024x600 pixels								
Communication ports	Serial RS232 and USB; ModBus-RTU (RS485). Net Card Slot (SNMP & ModBus-TCP/IP) (Optional)								
Input signal ports and aux.contact.	Remote emergency power off (REPO), diesel mode, Temperature Probe, battery circuit breaker. Auxiliary contact of external circuit breakers: battery, external maintenance bypass, output remote transfer to bypass mode								
Output signal ports	5 dry contacts, external BackFeed								
Physical characteristics									
Connection Lines	Hardwired 3PH TNC or TNS Output, rectifier and bypass (single input as optional)								
Cennection Entrance and Type	Bottom (top as optional), cable (busbars as optional)								
Transport Packaging	"Carton Boxes on Pallets. SeaBag and Woden Box (Optional) "								
Color	RAL9003 (White) on Front Door of IOBM; RAL 9005 (Black) Body and Side panels all cabinets								
UPS dimensions WxDxH (mm)*	2770x970x 2100	4090x970x2100		4970x980x 2100	5370x980x 2100	6250x980x2100		7580x1200x 2100	8460x1200x 2100
UPS weight (kg)*	2250	3150	3300	4000	4250	4900	5200	6400	7300
Environmental conditions									
Operating Temperature (°C)	0 - 40 °C (Recommended temperature for longer Battery Life: 20-25°C)								
Relative Humidity Range	20-95% (Non-Condensing)								
Protection degree	IP20 (IP21 Optional)								
Acoustic Noise at 1m (dBA)	< 65								
Estimated content of circular economy derived materials%)	**≃ 20%**								
Recyclability rate calculated using the method described in technical report IEC/TR 62635 (%)**	**≃ 60%**								
Compliance									
Reference product standards	IEC/EN 62040-1, IEC/EN 62040-2, IEC/EN 62040-3								

*** The weights and dimensions depend on the chosen configuration and refer to the complete basic system (no redundant, no hot-scalable).**
**** This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life of this product.**

CUSTOMER SERVICES

Reliable

Directly present in more than 70 countries and servicing its products in more than 150 countries worldwide, a team of qualified engineers is available to support your UPS system to ensure power quality and availability to the most critical loads.

Excellent

Legrand's competitive edge lies in its ability to provide high value-added UPS systems and services for both end users and business partners.
For Legrand, creating value means coming up with solutions for lower energy consumption, but also integrating product design into the overall development process. With around 200 000 catalogue items, the Group also provides all products required for electrical and digital building installations, particularly as integrated systems, finding solutions to fit everyone's needs.

Tailor-made

Legrand offers a complete range of specific solutions and services to meet customer requirements:
- Technical pre-sales support at the project design stage
- Factory acceptance test
- Supervision of installation, testing and commissioning, site acceptance test
- Operator training
- Site audit
- Warranty extension
- Annual maintenance contract
- Fast intervention on emergency call

SUPPORT

SITE INSPECTION, INSTALLATION SUPERVISION.
We perform a comprehensive check of the UPS environment to ensure safety and fault-free operation.
Our technical experts give manufacturer's recommendations to the site engineer or electrical contractors, and supervise the UPS installation before load power-up.

SITE TEST, COMMISSIONING.
Our Service Engineers conduct rigorous site tests and full setting-up of the UPS system before going live. They also perform site acceptance tests according to your requirements.
Commissioning operations for all UPS are carried out by qualified engineers to guarantee seamless start-up.
After the final handing over of the UPS system, a Test and Commissioning report is delivered to you.

TRAINING

We offer on-site training to ensure your equipment's safe and efficient operation.
Troubleshooting courses are also available in our plants for intensive hands-on practice on UPS training equipment.

MAINTENANCE

PREVENTIVE MAINTENANCE
Electronic equipment and power systems, such as UPS, contain life-limited components and parts that must be replaced according to the manufacturer's specifications.
To ensure optimal performance and to protect your critical application from potential downtime, it is crucial to perform preventive maintenance operations on a regular basis and replace parts when needed. Our Service Contracts include cleaning, IR thermography, measurements, functional tests, event log and power quality analysis, battery health check, hardware and software upgrades, and technical reports.
A Preventive Maintenance Plan is one of the most cost-effective actions that can preserve your initial investment and ensure your business continuity.

CORRECTIVE MAINTENANCE, EMERGENCY CALL
In the event of an Emergency Call, our worldwide service network, with engineers and spare-parts stocks strategically located as close as possible to your site, guarantees a fast intervention time with 24/7/365 assistance.
After connecting his laptop to your UPS, very powerful diagnostic software helps our engineer to identify the fault, thus ensuring short MTTR (Mean Time To Repair).
Corrective actions are performed such as part replacement, adjustments and upgrades to return the UPS system back to normal operation.

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