

# KEOR T

THREE-PHASE  
UPS  
from 10 to 60 kVA



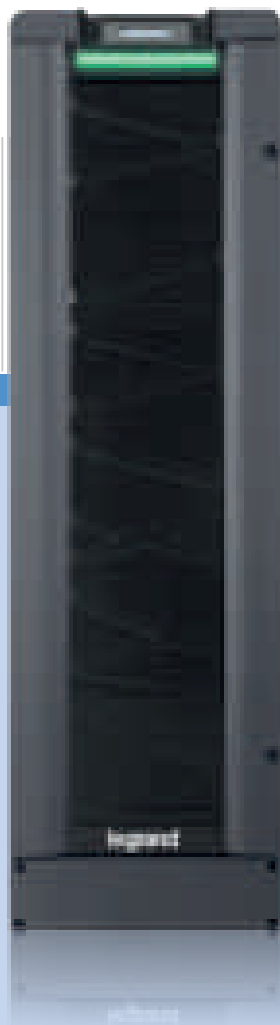
# KEOR T

## THREE-PHASE UPS

KEOR T has been designed with advanced technologies and the latest generation components; realized to satisfy both users and installers for operational needs and performance. These UPS aim to be functional, safe and very easy to install and use.

Legrand has studied the best way to reconcile high-tech performance and ease of use, making user friendly technologically advanced products. KEOR T supplies maximum protection and power quality for any type of IT load, tertiary application, lighting or building.

10-15-20-30 kVA



10-15-20-30 kVA



40-60 kVA

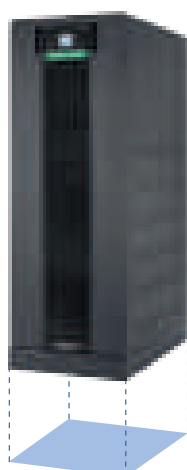


## Easy Installation

- Easy installation guaranteed by front access to all wiring connections.
- Availability of standard configurations with batteries or isolation transformers inside the UPS.
- Designed to easily connect an additional battery cabinet to obtain long back-up time.
- Standard internal backfeed protection which provides easy installation without additional cost in UPS supply switchboard.



**0,32 m<sup>2</sup>**  
(30 kVA, 20')



**0,54 m<sup>2</sup>**  
(60 kVA, 14')

## Small Foot Print with Internal Batteries

KEOR T UPS present the only 60 kVA on the market with internal batteries, this saving the cost of the battery cabinet and valuable floor space, and simplifying installation.

## Reduction of Total Cost Ownership (TCO)

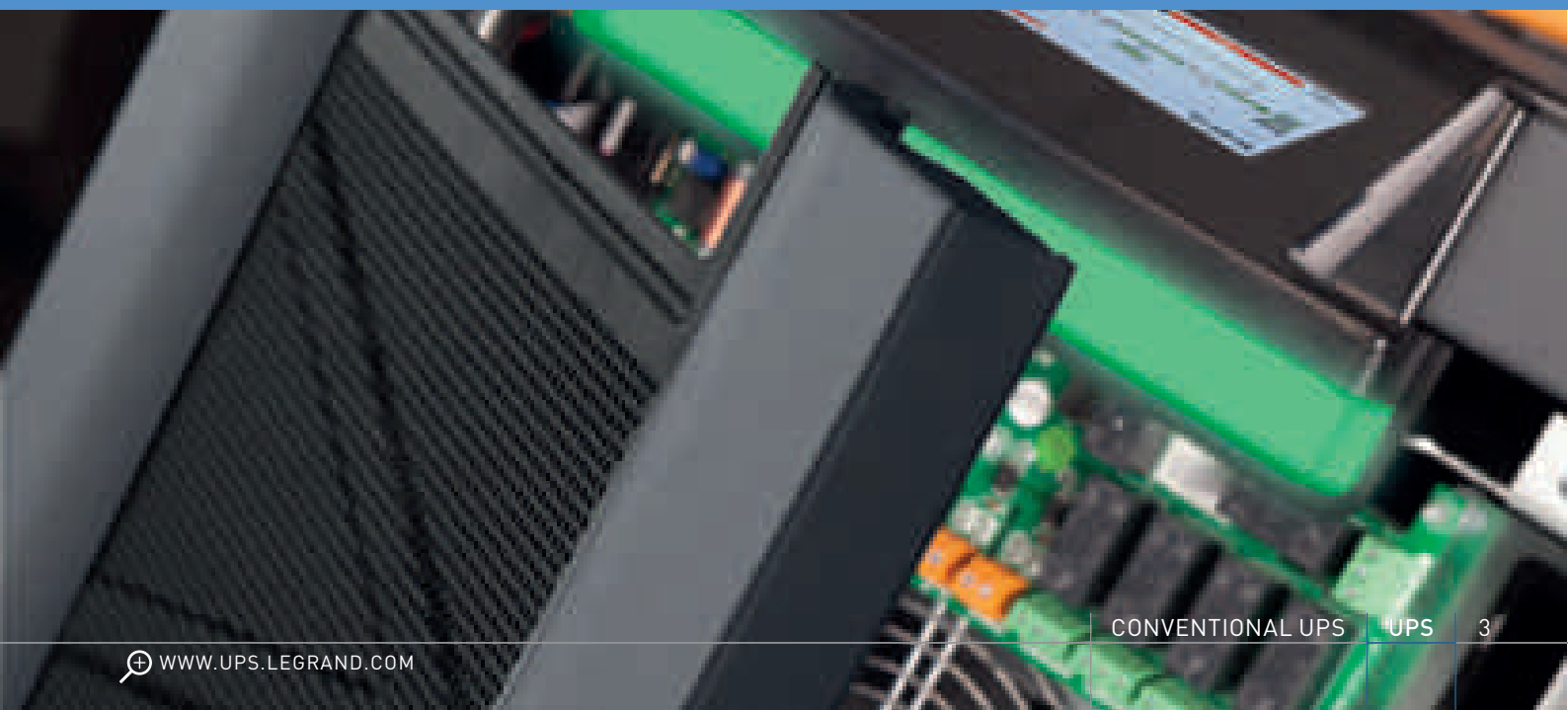
Thanks to its design features and the high level of efficiency (up to 96% thanks to 3-Level technology), there is a drastic reduction of TCO, even from the installation phase; the key factors that allow you to gain these advantages are:

- Transformerless Design
- Significant reduction in power loss due to 3 level IGBT topology
- Reduced dimensions and power use for air conditioning
- Low Output Total Harmonic Distortion (THDV)



## Dual input

KEOR T UPS can be powered from two separate AC supply sources: the dual input configuration can be selected at installation by simply removing a linking connector from its input terminal.



# KEOR T

## EASY MANAGEMENT

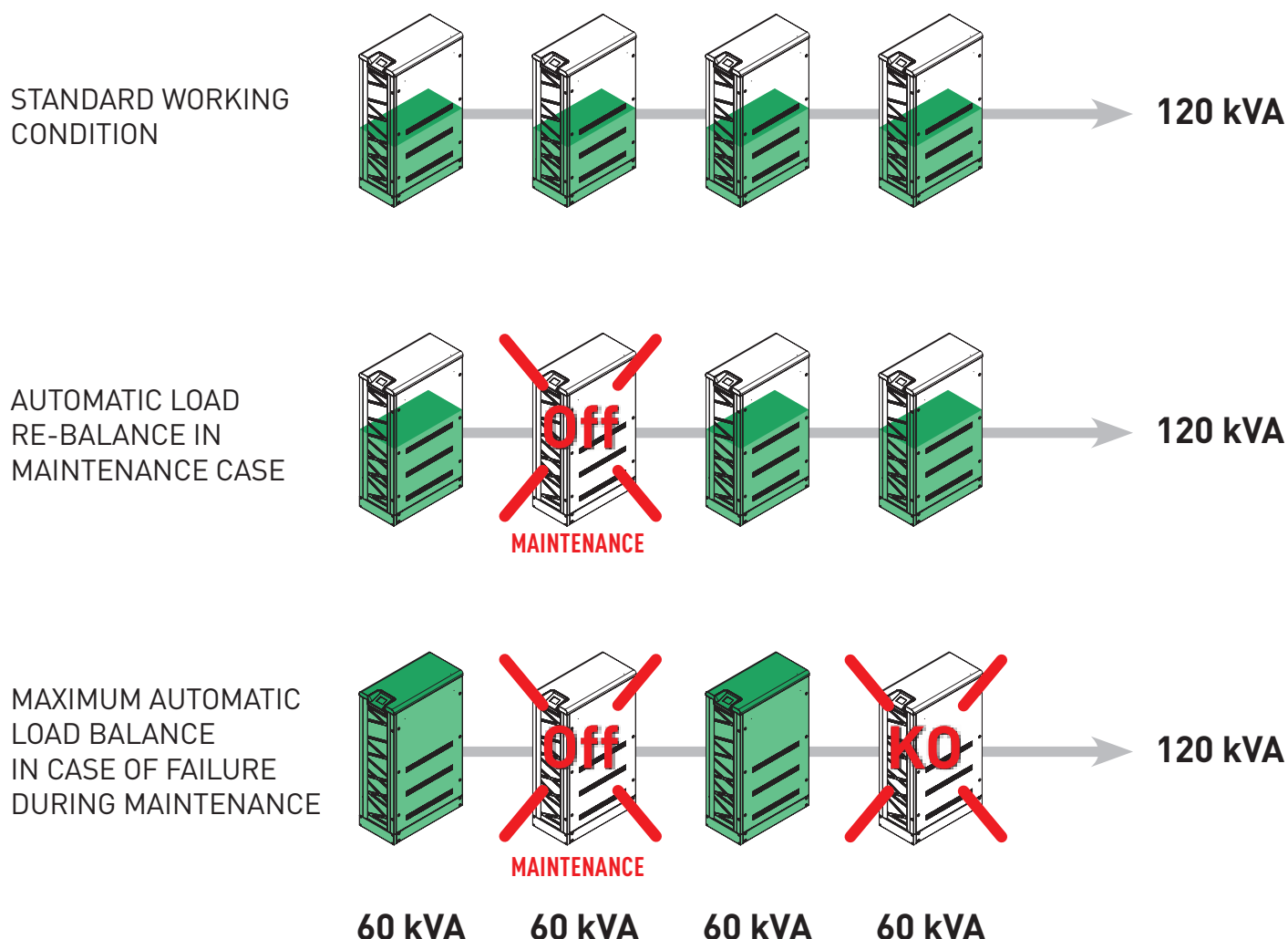


### User friendly touch screen control panel

KEOR T is equipped with a touch screen graphic display that provides information, measurements, status and alarms of the UPS in different languages; the intuitive graphical icons allow you to browse through the various screens easily and quickly. In just a few steps you have access to all the operating parameters of the system. You can also configure and set the parameters to adapt the UPS to various operating modes in order to optimize your critical load supply.

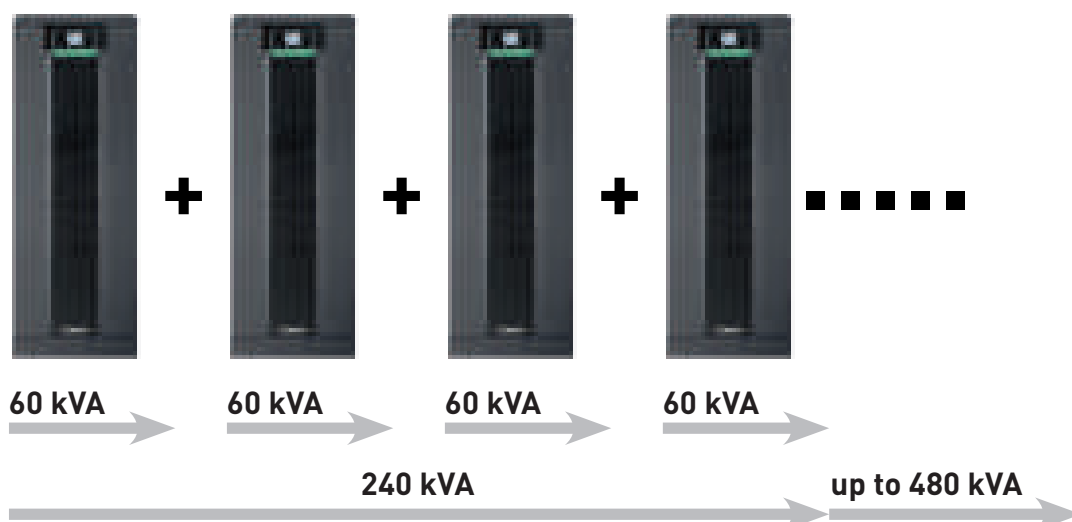
## SCALABLE TO INCREASE THE SERVICE CONTINUITY

The parallel connections between the UPS's allow different levels of redundancy hence the maximum continuity of service.



## PARALLELEABLE TO INCREASE THE POWER

Depending on the power demand, it is possible to connect in parallel operation up to 8 units of the same power rating. This allows delivery of total power up to 480 kVA.



# KEOR T

## EXCLUSIVE CHARACTERISTICS

### **Multicolor LED Bar**

The LED bar is highly visible even from a distance, allowing instant visual communication of the UPS status. This allows significant time savings in the event of a failure or diagnosis and considerably reassures the user.



## Internal battery up to 60kVA

With battery pack installed inside the UPS cabinet, NO additional battery cabinets are needed, hence a smaller footprint.

## Isolation Transformer Option

Instead of batteries, an isolation transformer can be mounted inside the UPS cabinet upon request.

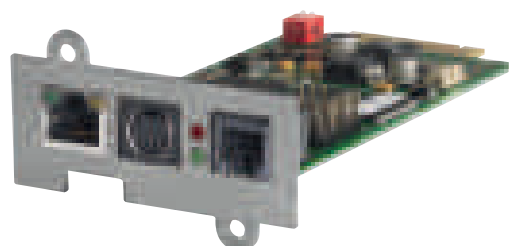
## Safe and fast battery installation

The Battery drawers system allows:

- safe physical transport of battery and fast mounting on site
- safe and easy connection of individual battery strings outside of the cabinet
- lower UPS downtime for battery replacement.

## Communication features

- Standard RS232
- ModBus
- Programmable dry contacts
- EP0 & GenSet and Remote Monitoring Panel
- USB Converter (optional)
- Internal SNMP solutions (optional)

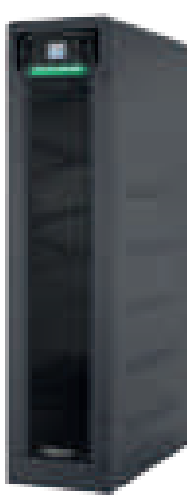


# KEOR T

## UPS - Three-phase On-line double conversion VFI



KEOR T10-30



KEOR T10-30



KEOR T40-60

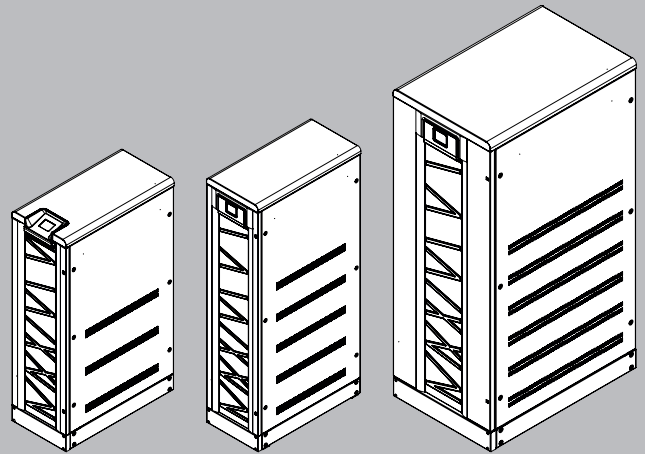
| Pack | Cat. Nos.       | UPS                  |                       |                              |                    |
|------|-----------------|----------------------|-----------------------|------------------------------|--------------------|
|      |                 | NOMINAL POWER<br>kVA | BACKUP TIME<br>(MIN.) | DIMENSIONS<br>H x W x D (mm) | NET WEIGHT<br>(KG) |
|      | <b>3 102 00</b> | 10                   | 0                     | 1345 x 400 x 800             | 118                |
|      | <b>3 102 01</b> | 10                   | 24                    | 1345 x 400 x 800             | 253                |
|      | <b>3 102 02</b> | 10                   | 35                    | 1345 x 400 x 800             | 283                |
|      | <b>3 102 03</b> | 10                   | 56                    | 1650 x 400 x 800             | 406                |
|      | <b>3 102 04</b> | 15                   | 0                     | 1345 x 400 x 800             | 132                |
|      | <b>3 102 05</b> | 15                   | 12                    | 1345 x 400 x 800             | 267                |
|      | <b>3 102 06</b> | 15                   | 20                    | 1345 x 400 x 800             | 297                |
|      | <b>3 102 07</b> | 15                   | 33                    | 1650 x 400 x 800             | 420                |
|      | <b>3 102 08</b> | 20                   | 0                     | 1345 x 400 x 800             | 134                |
|      | <b>3 102 09</b> | 20                   | 8                     | 1345 x 400 x 800             | 269                |
|      | <b>3 102 10</b> | 20                   | 14                    | 1345 x 400 x 800             | 299                |
|      | <b>3 102 11</b> | 20                   | 36                    | 1650 x 400 x 800             | 494                |
|      | <b>3 102 12</b> | 30                   | 0                     | 1345 x 400 x 800             | 140                |
|      | <b>3 102 13</b> | 30                   | 8                     | 1345 x 400 x 800             | 305                |
|      | <b>3 102 14</b> | 30                   | 13                    | 1650 x 400 x 800             | 428                |
|      | <b>3 102 15</b> | 30                   | 20                    | 1650 x 400 x 800             | 488                |
|      | <b>3 102 16</b> | 40                   | 0                     | 1650 x 600 x 900             | 255                |
|      | <b>3 102 17</b> | 40                   | 8                     | 1650 x 600 x 900             | 539                |
|      | <b>3 102 18</b> | 40                   | 13                    | 1650 x 600 x 900             | 598                |
|      | <b>3 102 19</b> | 40                   | 22                    | 1650 x 600 x 900             | 748                |
|      | <b>3 102 20</b> | 60                   | 0                     | 1650 x 600 x 900             | 277                |
|      | <b>3 102 21</b> | 60                   | 8                     | 1650 x 600 x 900             | 620                |
|      | <b>3 102 22</b> | 60                   | 14                    | 1650 x 600 x 900             | 770                |

### OPTIONS

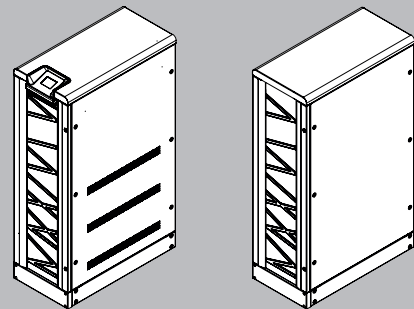
#### DESCRIPTION

- Empty battery cabinet with cables and protection
- Batteries 5 years / 10 years life time in cabinets or racks
- Battery monitoring system
- Output isolation transformer
- External maintenance by-pass for parallel systems
- Remote control panel

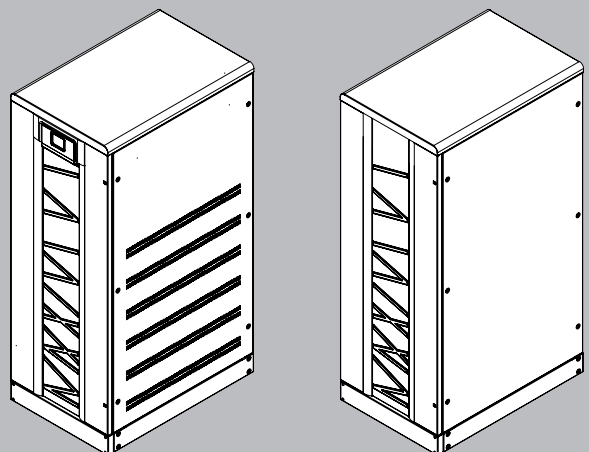
### KEOR T 10-15-20-30-40-60 WITH INTERNAL BATTERIES



### KEOR T 10-15-20-30 WITH EXTERNAL BATTERY CABINET



### KEOR T 40-60 WITH EXTERNAL BATTERY CABINET



NOTE: The backup time, expressed in minutes, are measured under optimum operating conditions.



# KEOR T

## UPS - Three-phase On-line double conversion VFI

| Model                                     | KEOR T10                                                                                                      | KEOR T15 | KEOR T20 | KEOR T30 | KEOR T40         | KEOR T60 |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------|----------|----------|------------------|----------|
| General characteristics                   |                                                                                                               |          |          |          |                  |          |
| Nominal power (kVA)                       | 10                                                                                                            | 15       | 20       | 30       | 40               | 60       |
| Active power (kW)                         | 9                                                                                                             | 13,5     | 18       | 27       | 36               | 54       |
| Technology                                | On-line double conversion VFI-SS-111                                                                          |          |          |          |                  |          |
| Waveform                                  | Sinusoidal                                                                                                    |          |          |          |                  |          |
| Architecture                              | Stand Alone or Distributed Parallel up to 8 units                                                             |          |          |          |                  |          |
| Input characteristics                     |                                                                                                               |          |          |          |                  |          |
| Input voltage                             | 380, 400, 415 V 3Ph+N+PE                                                                                      |          |          |          |                  |          |
| Input frequency                           | 45-65 Hz                                                                                                      |          |          |          |                  |          |
| Input voltage range (Ph-Ph)               | half load 208 -467 / full load 312-467V                                                                       |          |          |          |                  |          |
| THD of input current                      | <3% at full load*                                                                                             |          |          |          |                  |          |
| Compatibility with diesel generators      | Configurable for synchronization between the input and output frequencies, even for high frequency variations |          |          |          |                  |          |
| Input power factor                        | > 0,99                                                                                                        |          |          |          |                  |          |
| Output characteristics                    |                                                                                                               |          |          |          |                  |          |
| Output voltage                            | 380, 400, 415 V 3Ph+N (Adjustable from Front Panel)                                                           |          |          |          |                  |          |
| Efficiency                                | up to 96%                                                                                                     |          |          |          |                  |          |
| Efficiency in Eco mode                    | up to 98,5%                                                                                                   |          |          |          |                  |          |
| Output frequency (nominal)                | 50 /60 Hz ±0,01% free run (Adjustable from Front Panel)                                                       |          |          |          |                  |          |
| Crest factor                              | 3:1                                                                                                           |          |          |          |                  |          |
| THD of output voltage                     | <2% (at full linear load)                                                                                     |          |          |          |                  |          |
| Output power factor                       | 0,9                                                                                                           |          |          |          |                  |          |
| Output voltage tolerance                  | ± 1%                                                                                                          |          |          |          |                  |          |
| Bypass                                    | Built-in Automatic and Maintenance By-pass                                                                    |          |          |          |                  |          |
| Isolation Transformer                     | Transformerless Design. Optional Internal Isolation Transformer on request                                    |          |          |          |                  |          |
| Batteries                                 |                                                                                                               |          |          |          |                  |          |
| Backup time extension                     | Scalable with additional battery cabinets                                                                     |          |          |          |                  |          |
| Battery type                              | VRLA - AGM Maintenance-free                                                                                   |          |          |          |                  |          |
| Internal Battery                          | Yes                                                                                                           |          |          |          |                  |          |
| Battery Test                              | Automatic or manual                                                                                           |          |          |          |                  |          |
| Battery Recharge Profile                  | IU (DIN41773)                                                                                                 |          |          |          |                  |          |
| Communication and management              |                                                                                                               |          |          |          |                  |          |
| LCD Display                               | Touch screen, LED bar status, live synoptic view for real time                                                |          |          |          |                  |          |
| Communication Ports                       | RS232, GenSet, Programmable 4 Relay Contacts, ModBus                                                          |          |          |          |                  |          |
| Back Feed Protection                      | Internal Back Feed Protection Device is Standard                                                              |          |          |          |                  |          |
| Audible Alarm                             | Acoustic alarms and warnings                                                                                  |          |          |          |                  |          |
| Net Interface Slot                        | optional SNMP card                                                                                            |          |          |          |                  |          |
| Emergency Power Off (EPO)                 | Yes                                                                                                           |          |          |          |                  |          |
| Remote Management                         | Available                                                                                                     |          |          |          |                  |          |
| Physical characteristics                  |                                                                                                               |          |          |          |                  |          |
| Dimensions H x W x D (mm)                 | 1345/1650 x 400 x 800                                                                                         |          |          |          | 1650 x 600 x 900 |          |
| Dimensions battery cabinet H x W x D (mm) | 1345 x 600 x 800                                                                                              |          |          |          | 1650 x 800 x 900 |          |
| Ambient conditions                        |                                                                                                               |          |          |          |                  |          |
| Operating temperature (°C)                | 0÷40                                                                                                          |          |          |          |                  |          |
| Relative humidity (%)                     | 20÷95% not condensing                                                                                         |          |          |          |                  |          |
| Protection index                          | IP20                                                                                                          |          |          |          |                  |          |
| Noise at 1 m (dBA)                        | < 55                                                                                                          |          |          |          |                  |          |
| Compliance                                |                                                                                                               |          |          |          |                  |          |
| Reference product standards               | EN 62040-1, EN 62040-2, EN 62040-3                                                                            |          |          |          |                  |          |

\* 40-60 kVA



# 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 24/7/365 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.



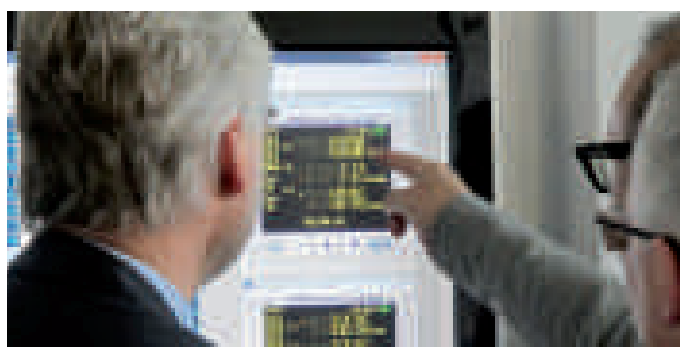
### SITE TEST, COMMISSIONING.

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 KEOR T 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

### 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 KEOR T, 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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AD-EXLG/UPS-KT14B/GB - 2014/01

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