Keor T EVO

THREE-PHASE UPS
from 10 to 60 kVA

GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

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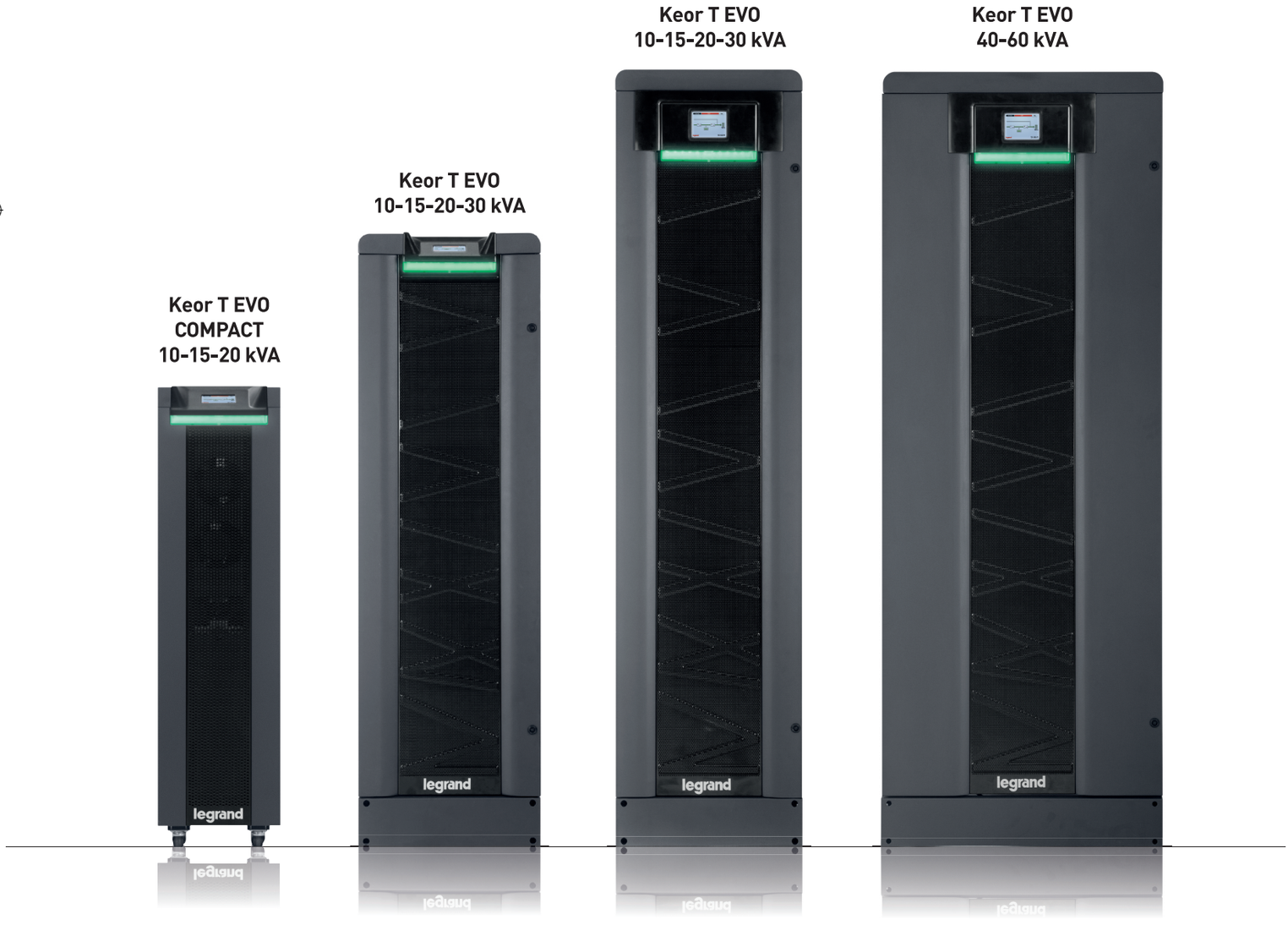
Keor T EVO

THREE-PHASE UPS

Keor T EVO has been designed with advanced technologies and the latest generationcomponents; 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 EVO supplies maximum protection and power quality for any type of IT load, tertiary application, lighting or building.



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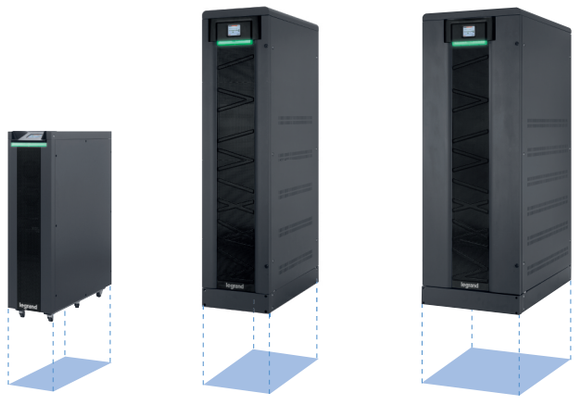
Easy Installation

- Easy installation guaranteed by front access to all wiring connections.
- Availability of standard configurations with batteries 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.



0,21 m²
(EVO COMPACT 20 kVA, 7')

0,32 m²
(EVO 30 kVA, 20')

0,54 m²
(EVO 60 kVA, 15')

Small Foot Print with Internal Batteries

Keor T EVO with internal batteries allows you to reach 60 kW with 15 minutes of backup time; this avoids the cost of an external battery cabinet, reduces the floor space and simplifies the installation.

PF=1 → VA=W

Keor T EVO is able to provide over 10% more active power than PF 0.9 UPS with same kVA Nominal power.

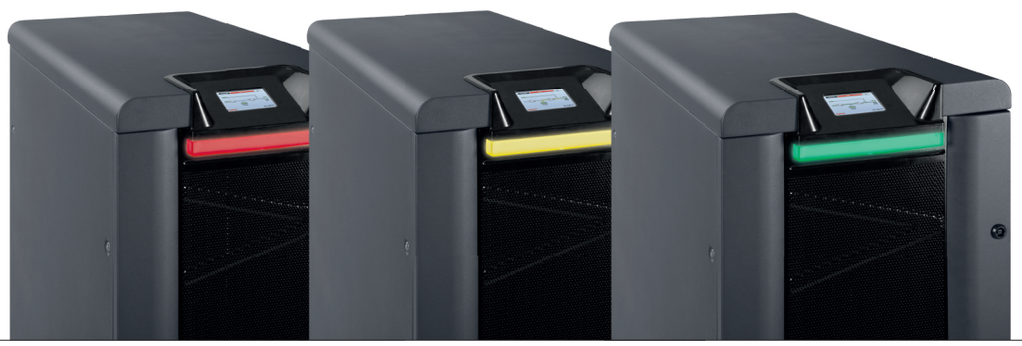
Reduction of Total Cost Ownership (TCO)

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
- High Efficiency due to 3 level IGBT topology
- Reduced dimensions and power use for air conditioning
- Low Output Total Harmonic Distortion (THDV)

Dual input

Keor T EVO 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.



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.

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Keor T EVO

EASY MANAGEMENT

User friendly touch screen control panel

Keor T EVO 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.

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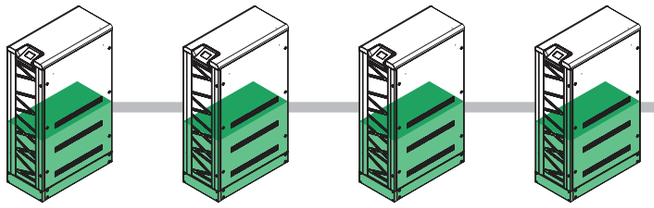
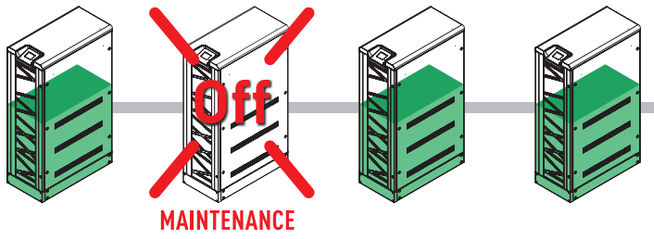
Scalable to increase the service continuity

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

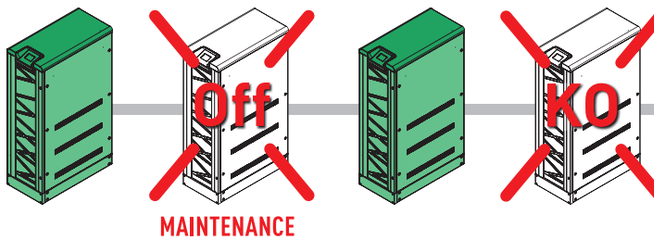
STANDARD WORKING CONDITION



AUTOMATIC LOAD RE-BALANCE IN MAINTENANCE CASE



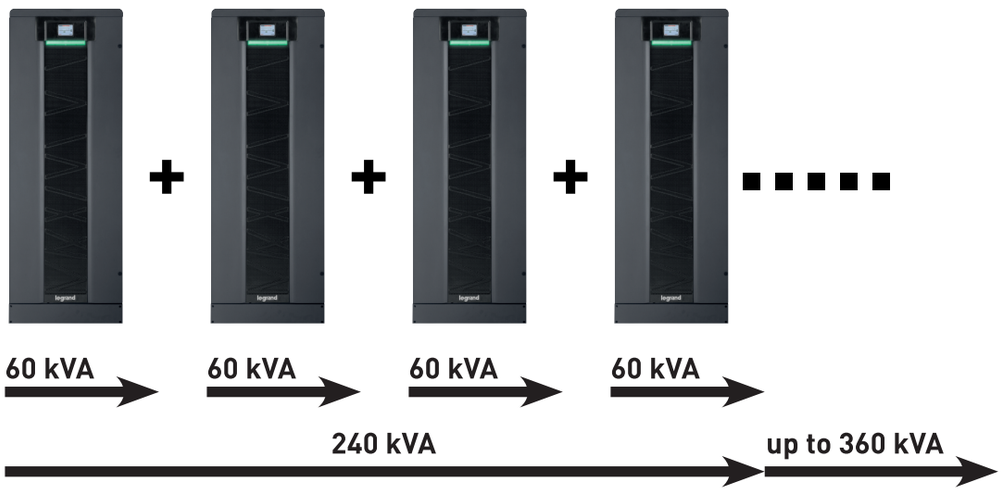
MAXIMUM AUTOMATIC LOAD BALANCE IN CASE OF FAILURE DURING MAINTENANCE



60 kVA 60 kVA 60 kVA 60 kVA

Parallelable to increase the power

Depending on the power demand, it is possible to connect Keor T EVO in parallel operation up to 6 units of the same power rating. This allows delivery of total power up to 360 kVA.



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Keor T EVO

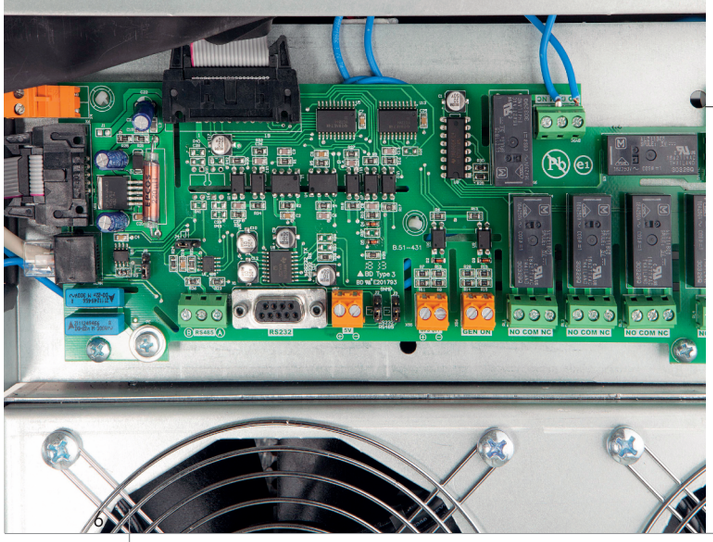
EXCLUSIVE CHARACTERISTICS

Internal battery up to 60 kVA

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

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
- EPO & GenSet and Remote Monitoring Panel
- USB Converter (optional)
- Internal SNMP solutions (optional)

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KEOR T EVO
COMPACT

High Power Density

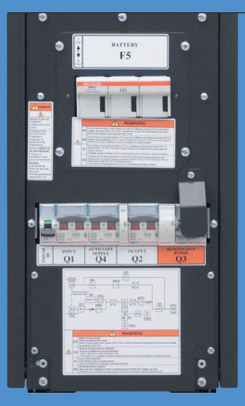
Compact dimensions and internal batteries

Keor T EVO 10-15-20 kW in compact version provides standard back up time, with foot print 35% smaller with the double of the power density compared the Keor T EVO of same nominal power but in standard cabinet version.

Parallel Configuration

Keor T EVO Compact can be connected in parallel, for Power or Redundancy, up to 4 Units.

Complete Distribution Panel with Embedded Manual bypass



Wheels for easy installation and maintenance

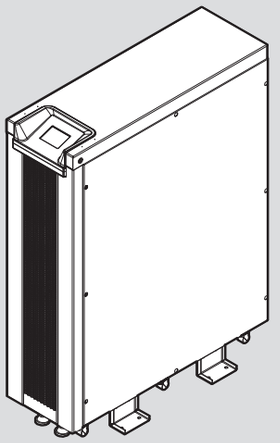
Floor fixing kit for secure installations

KEOR T EVO COMPACT

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

KEOR T EVO COMPACT 10-15-20

Keor T EVO COMPACT 10-15-20



Pack	Cat. Nos.	Keor T EVO compact			
		Nominal power kVA	Backup time (min.)	Dimensions H x W x D (mm)	Net weight (kg)
1	3 102 70	10	0	1020 x 265 x 800	78
1	3 102 71	10	10	1020 x 265 x 800	145
1	3 102 72	10	15	1020 x 265 x 800	168
1	3 102 73	15	0	1020 x 265 x 800	79
1	3 102 74	15	7	1020 x 265 x 800	163
1	3 102 75	15	10	1020 x 265 x 800	180
1	3 102 76	20	0	1020 x 265 x 800	84
1	3 102 77	20	6	1020 x 265 x 800	185

		Accessories
		Description
1	3 109 15	Parallel kit/UPS (PCB + 5 m cable)

NOTE: The stated back-up times in minutes are estimated and may vary according to the load characteristics, operating conditions and environment.

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KEOR T EVO COMPACT

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

Characteristics

General characteristics	Keor T EVO COMPACT 10	Keor T EVO COMPACT 15	Keor T EVO COMPACT 20
Nominal power (kVA)	10	15	20
Active power (kW)	10	15	20
Technology	On-line double conversion VFI-SS-111		
Waveform	Sinusoidal		
Architecture	Stand Alone or Distributed Parallel up to 4 units		
Input characteristics			
Input voltage	380, 400, 415 V Ph+N+PE		
Input frequency	45-65 Hz		
Input voltage range (Ph-Ph)	half load 208 -459 / full load 358-459V		
THD of input current	<5% 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 3F+N (Adjustable from Front Panel)		
Efficiency	up to 95%		
Efficiency in Eco mode	up to 98,5%		
Output frequency (nominal)	50 /60 Hz ±0,01% (Adjustable from Front Panel)		
Crest factor	up to 3:1		
THD of output voltage	<2% (at full linear load)		
Output power factor	1		
Output voltage tolerance	±1%		
Overload capability	10 min. 125%, 60 sec. 150%		
Bypass	Built-in Automatic and Maintenance By-pass		
Batteries			
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	Embedded		
Audible Alarm	Acoustic alarms and warnings		
Net Interface Slot	yes for optional SNMP card		
Emergency Power Off (EPO)	Yes		
Remote Management	Available		
Physical characteristics			
Dimensions H x W x D (mm)	1020 x 265 x 800		
Net Weight (kg)	78	79	84
Ambient conditions			
Operating temperature (°C)	0÷40		
Relative humidity (%)	20÷95% not condensing		
Protection index	IP20		
Acoustic Noise at 1m; 50%load (dBA)	< 51		
Compliance			
Reference product standards	EN 62040-1, EN 62040-2, EN 62040-3		

KEOR T EVO

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

KEOR T EVO 10-30

KEOR T EVO 10-30

KEOR T EVO 40-60

Keor T EVO

Pack	Cat. Nos.	Nominal power kVA	Backup time (min.)	Dimensions H x W x D (mm)	Net weight (kg)
1	3 110 20	10	0	1345 x 400 x 800	118
1	3 110 21	10	24	1345 x 400 x 800	253
1	3 110 22	10	37	1345 x 400 x 800	283
1	3 110 23	10	57	1650 x 400 x 800	406
1	3 110 24	15	0	1345 x 400 x 800	132
1	3 110 25	15	14	1345 x 400 x 800	267
1	3 110 26	15	22	1345 x 400 x 800	297
1	3 110 27	15	33	1650 x 400 x 800	420
1	3 110 28	20	0	1345 x 400 x 800	134
1	3 110 29	20	10	1345 x 400 x 800	269
1	3 110 30	20	15	1345 x 400 x 800	299
1	3 110 31	20	37	1650 x 400 x 800	494
1	3 110 32	30	0	1345 x 400 x 800	140
1	3 110 33	30	10	1345 x 400 x 800	305
1	3 110 34	30	13	1650 x 400 x 800	428
1	3 110 35	30	22	1650 x 400 x 800	488
1	3 110 36	40	0	1650 x 600 x 900	255
1	3 110 37	40	10	1650 x 600 x 900	539
1	3 110 38	40	15	1650 x 600 x 900	598
1	3 110 39	40	25	1650 x 600 x 900	748
1	3 110 40	60	0	1650 x 600 x 900	277
1	3 110 41	60	10	1650 x 600 x 900	620
1	3 110 42	60	15	1650 x 600 x 900	770

Keor T 208 V

Pack	Cat. Nos.	Nominal power kVA	Active Power kW	Dimensions H x W x D (mm)	Net weight (kg)
1	3 101 32	5	4,5	1345 x 400 x 800	118
1	3 101 33	7,5	6,75	1345 x 400 x 800	132
1	3 101 34	10	9	1345 x 400 x 800	134
1	3 102 78	15	13,5	1345 x 400 x 800	140
1	3 102 79	20	18	1650 x 600 x 900	255
1	3 102 96	30	27	1650 x 600 x 900	277
1	3 102 97	40	36	1650 x 600 x 800	315
1	3 102 98	50	45	1650 x 600 x 800	350
1	3 102 99	60	54	1650 x 793 x 800	430

Accessories

		Description
1	3 109 18	Battery cabinet empty (up to 60 blocks 55 Ah)
1	3 109 21	Internal cables kit for battery cabinet empty (for 34 blocks 55 Ah
1	3 109 11	Battery drawers kit for Keor T EVO 10-30 kVA (up to 60 blocks 7-9 Ah)
1	3 109 12	Battery drawers kit for Keor T EVO 40-60 kVA (up to 60 blocks 7-9 Ah)
1	3 109 13	Internal battery cables kit for battery drawers Keor T EVO 10-30 kVA
1	3 109 14	Internal battery cables kit for battery drawers Keor T EVO 40-60 kVA
1	3 109 16	Kit for both in & ext battery connections for 1345H*
1	3 109 15	Parallel kit/UPS (PCB + 5 m cable)*
1	3 110 46	Parallel connection cable
1	3 110 47	Temperature Probe

* Needed Only for 208 V version

NOTE: The stated back-up times in minutes are estimated and may vary according to the load characteristics, operating conditions and environment. For more battery cabinet solutions, please refer to the dedicated catalogue

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KEOR T EVO

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

Characteristics

Model 3Ph 400V (380-400-415V) 3Ph	Keor T EVO 10	Keor T EVO 15	Keor T EVO 20	Keor T EVO 30	Keor T EVO 40	Keor T EVO 60			
Nominal Power (kVA)	10	15	20	30	40	60			
Active Power (kW)	10	15	20	30	40	60			
3Ph version 208V (200-208-220V)	**Keor T 208V 5**	**Keor T 208V 7,5**	**Keor T 208V 10**	**Keor T 208V 15**	**Keor T 208V 20**	**Keor T 208V 30**	**Keor T 208V 40**	**Keor T 208V 50**	**Keor T 208V 60**
Nominal Power (kVA)	5	7,5	10	15	20	30	40	50	60
Active Power (kW)	4,5	6,75	9	13,5	18	27	36	45	54
General characteristics									
Technology	On-line double conversion VFI-SS-111								
Waveform	Sinusoidal								
Architecture	Stand Alone or Distributed Parallel up to 6 units (4 unit for compact version 10-15-20kW)								
Input Characteristics									
Input Voltage	400V (3Ph+N+PE)* / 200-208-220V (3Ph+N+PE)**								
Input Frequency	45-65 Hz								
Input Voltage Range (Ph-Ph)	±20%* / ±15%**								
THD of input current	<5% at full load								
Compatibility with Diesel Generators	Yes								
Input power factor	>0.99								
Output characteristics									
Output Voltage	380, 400, 415V (3Ph+N+PE)* / 200-208-220V (3Ph+N+PE)** (Adjustable from front panel)								
Efficiency	up to 96% *								
Efficiency in ECO mode	up to 98,5%								
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	< 2% at full linear load								
Output power factor	1* / 0,9**								
Output voltage tolerance	± 1%								
Overload Capability	10 min at 125%; 60 sec at 150%								
By-pass	Builtin Automatic and Mainteinance Bypass								
Batteries									
Battery type	VRLA – AGM Maintenance free								
Internal batteries	Yes						No		
Battery test	Yes 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* 1345 x 400 x 800**				1650 x 600 x 900		1650 x 600 x 980		1650 x 793 x 800
Dimensions battery cabinet H x W x D (mm)	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)	< 58				< 60		< 65		
Compliance									
Reference product standards	EN 62040-1, EN 62040-2, EN 62040-3								

* for 3Ph 400V Version
** for 3Ph 208V Version

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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

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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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