Keor MP

THREE-PHASE UPS

60 kVA - 200 kVA

INNOVATION
*THAT **DRIVES***
*THE **FUTURE***

GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

SUSTAINABILITY

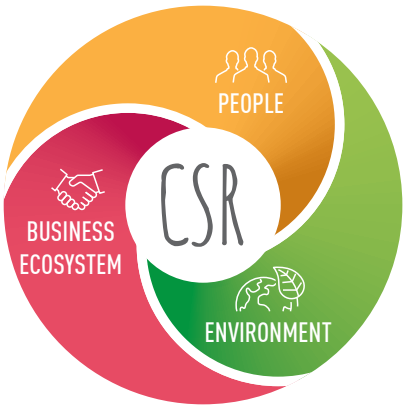
Corporate Social Responsibility

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.

UNLOCKING FUTURE POSSIBILITIES WITH Keor MP

Innovation is the cornerstone of our vision for a better future. It unlocks new possibilities, enabling us to enhance energy efficiency and improve system reliability. This unwavering commitment to innovation positions **Legrand** at the forefront of the power continuity industry.

With the introduction of the **Keor MP,** we extend this advantage to our customers, empowering them to remain ahead of the curve in their respective fields. A cutting-edge monolithic UPS system providing the reliability and efficiency necessary to meet the ever-growing demands of the future, today.


Keor MP
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EPO
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*INNOVATION THAT **DRIVES** THE **FUTURE***

Designed to drive the future with innovation, the **Keor MP** is a groundbreaking advancement in the power backup technology. This 3-phase online double conversion monolithic UPS, featuring a **module-based architecture** with **Three Level IGBT based Inverter technology** delivers **unparalleled efficiency of up to 96%** in a **compact design**.

Integrated with **Li-ion battery technology,** a footprint that is up to **43% smaller than conventional UPS systems** and rapid scalability of up to **1.2MW,** the Keor MP ensures you are always ready to meet future demands, today. Advanced features coupled with a design that adapts to the diverse and evolving requirements of multiple sectors, makes Keor MP the ultimate solution for today and tomorrow.

FUTURE READY
DESIGN

Module-Based Architecture for Low MTTR and High MTBF

Featuring a module-based architecture, the Keor MP significantly reduces Mean Time to Repair (MTTR). This allows for quick and efficient maintenance to ensure maximum operational uptime. It is engineered to provide redundancy with fault tolerance to enable seamless and reliable operations. The high MTBF further ensures consistent performance with minimal downtime.

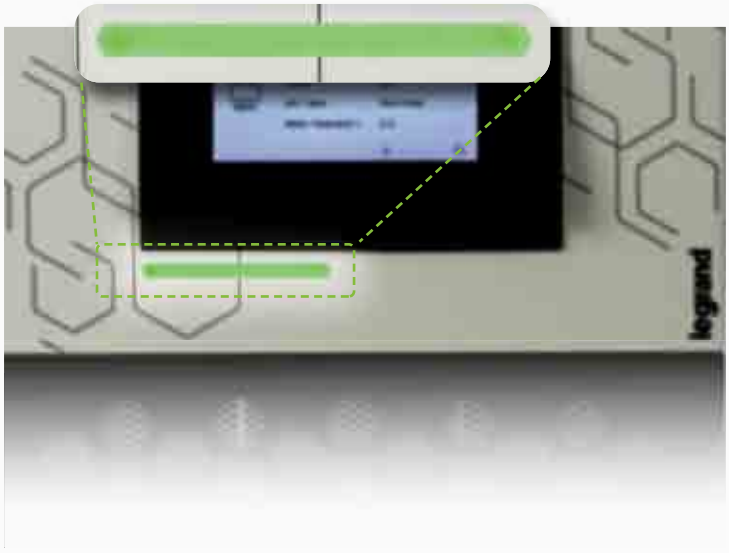
Li-Ion Battery Integration

The Keor MP is uniquely integrated with Li-Ion batteries in a way that allows for monitoring of the battery parameters and selecting the charging characteristics of the battery, from the UPS's screen itself. This ensures optimized battery management and efficient troubleshooting, thereby enhancing overall system performance and reliability.

FUTURE ENHANCED
INTERFACE & MONITORING

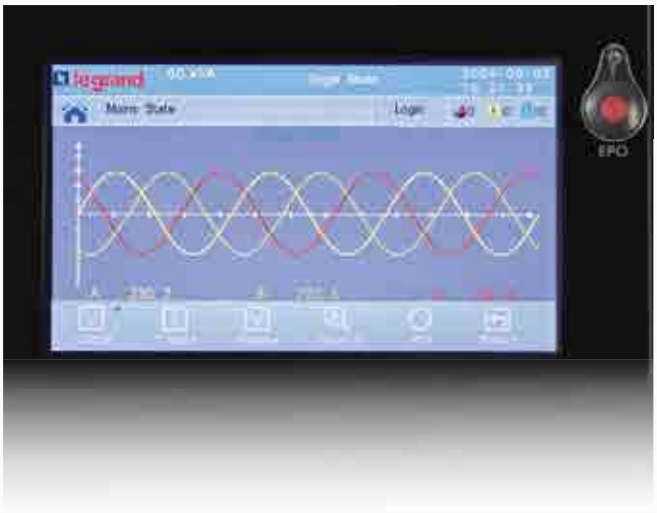
7" Multicolor Intuitive Touchscreen Display

The Keor MP features a user-friendly touchscreen display with graphical representations of system status and performance, ensuring instant visibility and seamless monitoring and control. Users can access real-time status indications, configure settings, and respond to alerts with ease.



Live Synoptic View for Real-Time Status Indication

With a LED status bar that provides clear real time indication for quick assessment and monitoring, Keor MP's live synoptic view ensures comprehensive status updates of the system's performance, enabling prompt detection and resolution of issues.



Real-Time Waveform Monitoring

Keor MP is designed to provide real-time waveform monitoring, assuring users of reliable power quality and uninterrupted business continuity, by promptly detecting and addressing any power anomalies.

Wide Communication Options

Supporting advanced communication protocols such as SNMP/BMS through RS 485, the Keor MP integrates smoothly into existing network environments. This capability enables remote monitoring, management, and seamless integration with Building Management Systems (BMS) for centralized control.

Dry Contact Cards for Signaling & Alerts

Integrated dry contact cards enable the Keor MP to send immediate signals and alerts for proactive maintenance and response to critical events. This enhances operational reliability by notifying users of any potential issues in real time.

FUTURE OPTIMIZED
TOTAL COST OF OWNERSHIP (TCO)

Three Level IGBT inverter Technology

Keor MP's unparalleled Three Level IGBT Inverter Technology reduces the switching losses significantly, through voltage reduction in IGBTs, diodes, and inductors, thereby lowering energy consumption which directly reduces total cost of ownership by minimizing operational expenses associated with power usage and maintenance.

Compact Footprint

The Keor MP drives future innovation with a compact footprint, effectively optimizing space utilization and reducing real estate costs. This efficiency in size not only maximizes available floor space but also integrates seamlessly into diverse environments, making it a practical choice for modern infrastructure needs without compromising on performance or reliability.

High Efficiency

Keor MP achieves up to 96% efficiency, even at lower loads, which not only significantly reduces operational costs but also aligns with sustainable energy goals.

Self-Loading Feature

The self-loading feature allows for on-site testing of UPS before connecting it to the load.

N + X Redundancy

Keor MP allows N+X redundancy up to six UPSs in parallel operation and is scalable up to 1.2MW, effectively reducing the risk of downtime.The Load Bus Synchronization (LBS) allows the UPS to be connected with two different sources.

FUTURE ENSURED
SAFETY & PROTECTION

Integrated Molded Case Circuit Breaker (MCCB)

The integrated Legrand's MCCB, offers best in class protection for the connected loads, ensuring safe operation, setting a benchmark in protection and performance standards in critical power applications.

Input Phase Sequence Correction

The Input Phase Sequence Correction feature in Keor MP enhances protection and safety allowing the UPS to function on mains power without going to the battery mode.

Back Feed Protection

Equipped with back-feed protection as per IEC 62040-1 UPS standard, Keor MP prevents the flow of energy back to the source and shields the bypass line from static switch failure, using special components that act like gates that stop unwanted voltages from causing harm or damaging equipment. If the UPS detects a back feed issue, it sends a signal to a protective device to cut off power, ensuring enhanced protection and added safety for both the users and the equipment.

Emergency Power Off

Keor MP's Emergency Power Off feature enhances safety and protection by providing a quick and reliable method to immediately shut down power in emergency situations, enhancing the safety & protection of the UPS and the load.

FUTURE RESILIENT
RELIABILITY

Unity Power Factor

Keor MP, with its unparalleled operating temperature without deration, delivers unity power factor even at 40 degrees Celsius, making it a dependable choice for continuous operations under the most demanding conditions.

Conformal Coated PCB

Enhances durability with a 75 µm coating, protecting critical components from environmental stressors.

Proactive Maintenance

Continuous monitoring of fans, capacitors, dust filters, and batteries enables timely maintenance and prevents operational disruptions.

FUTURE ADAPTABLE **FLEXIBILITY**

Dual Input

The dual input feature in Keor MP enhances its adaptability by enabling it to accept power from and switch seamlessly between two independent power sources. This flexibility not only maximizes uptime and operational continuity, but also allows the UPS to adapt to varying electrical conditions and infrastructure configurations making it a versatile choice for critical applications where consistent power availability is paramount.

Flexible DC Bus

The flexible DC bus with 3-stage charging (Nominal, Intermittent & Boost) in Keor MP optimizes battery performance by accommodating various DC input battery voltages and battery configurations and employing an efficient charging process. Its cold start feature adds flexibility by enabling the UPS to initiate and operate using battery power alone, ensuring continuous operation even in the absence of mains power.

High Input Voltage & Frequency Range

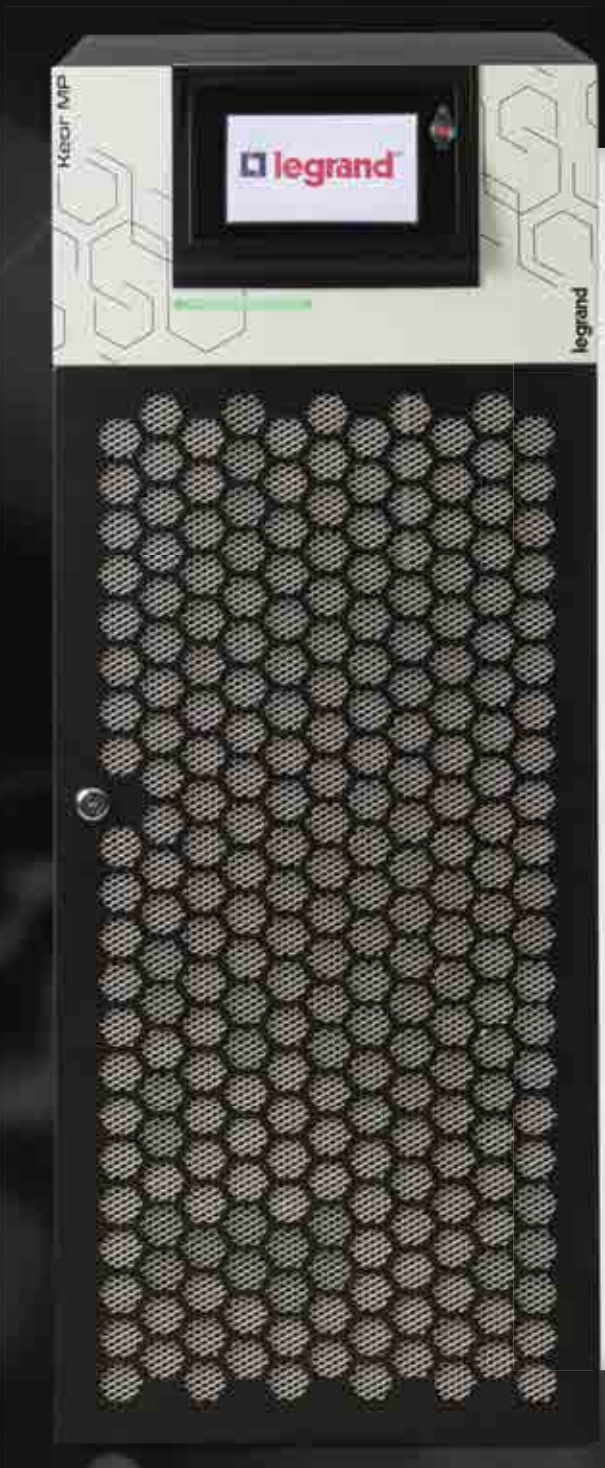
Keor MP operates effectively within a wide input voltage window of 310 – 480 V, and a frequency of 40 – 70 Hz, adding to its flexibility by adapting to various power conditions and sources without switching to battery power, thereby extending battery life.

Common Battery Bank

Keor MP features a common battery bank that can be shared between two units, optimizing resource utilization, and providing enhanced flexibility in configuring reliable power backup solutions tailored to diverse operational requirements.

Isolation Transformer

The Keor MP also offers an optional isolation transformer that safeguards critical equipment from low quality upstream power and enables its safe operation.



INNOVATION THAT DRIVES THE FUTURE ACROSS DIVERSE SECTORS

Our customers across these industries have achieved transformative results with the Keor MP—increased efficiency, reduced operational costs, enhanced reliability, and uninterrupted uptime. Explore how Keor MP can drive success in your organization.

IT & ITeS

Reliable power for enterprise offices, co-working spaces and data centers, ensuring uninterrupted operations.

Healthcare

Essential support for hospitals, pathology labs, diagnostic centers and polyclinics, maintaining critical medical services.

Commercial

Power solutions for malls and hospitality sectors, ensuring seamless customer experiences.

Infrastructure

Dependable UPS for ports and private airports, supporting essential operations.

Manufacturing

Uninterrupted power management for industrial applications like process and light industry, optimizing production efficiency.

Keor MP 60 kVA - 200 kVA

Three-Phase UPS

Characteristics

GENERAL SPECIFICATIONS	LGR 311235	LGR 311237	LGR 311239	LGR 311240	LGR 311241	LGR 311242
Nominal Power [kVA]	60	80	100	120	160	200
Active power (kW)	60	80	100	120	160	200
Possible Classification	True Online Double Conversion, VFI - SS - 111					
Possible configuration	3 phase + N + PE					
Specifications	Module-based Monolithic UPS with fault tolerance					
INPUT SPECIFICATIONS						
Input voltage	380-400-415 VAC					
Input voltage range	310~480 VAC at full load					
Input frequency	50 / 60 Hz (40 to 70 Hz)					
Input phases	3 phase + N + PE					
Input THDi (at rated linear load)	< 3%					
Input power factor	0.99					
OUTPUT SPECIFICATIONS						
Nominal Output voltage	380/400/415 VAC					
Output Voltage Regulation	±1 (Balanced Load)					
Output Power Factor	1					
Output frequency	50/60 Hz					
Crest Factor	3:1					
Output Voltage THD	<2% for Linear Load & < 4% for Non Linear load					
Efficiency at rated load	Up to 96%					
Efficiency on Eco mode	Up to 99%					
Permitted overload on mains (PF=1)*	≤110% @ 30 mins, ≤125% @ 10min, ≤150% @ 1min					≤110% @30min ≤125% @1min
Bypass	Inbuilt Static & Maintenance Bypass					
COMMUNICATION AND MANAGEMENT						
Cabinet displays	7" Touch screen color display cabinet and Multicolor status indicator (green/yellow/red)					
Communication ports	MODBUS RS485/Rs 232/USB/Ethernet/SNMP, & Dry Contacts (optional)					
Cold start	Yes					
Maximum number of parallel chassis	Max 6 cabinets					
EPO	Yes					
Alarm & Signals	Configurable acoustic alarms and signals					
Temperature Sensor	Yes, optional					
Safety and Protection	Overload, Short circuit, Back feed port available (external connectional optional) all MCCBs, Over & Low voltage, Fast acting fuses					
BATTERIES						
Battery type/range voltage	VRLA, Ni Cd & Li-ion					
Nominal Battery Voltage	432 VDC~600 VDC					
Charging mode	3 stage advanced cycle					
MECHANICAL CHARACTERISTICS						
Overall Net weight (Kgs)	110	140	160	170	205	220
Frame Dimensions (W X D X H) in mm	250 x 850 x 1000	442 x 850 x 1200				
Ingress Protection	IP20					
Color Shade	RAL 9005+9003					
Cable entry	60-160 kVA rear bottom entry, 200 kVA front & rear bottom entry					
AMBIENT CONDITIONS						
Operating Temperature	0 - 40 °C					
Operating Humidity	20% - 95% non-condensing					
Operating Altitude	Upto 1000 mean sea level w/o deration					
Storage Temperature	20 - 55 °C					
Maximum noise audible at 1m [dBA]	58	60	62	62	63	66
CONFORMITY						
Safety	IEC 62040-1					
EMC	IEC 62040-2					
Performance	IEC 62040-3					
Environmental	IEC 62040-4					
Declarations	RoHS / REACH					

* at 30 Deg C

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

FUTURE-READY
SUPPORT AND SERVICES

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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