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Keor MOD RI (Rack Independent) 50 kVA

Empty Frame with 3 PM slots / 4 battery drawers

Cat.No : 3 111 35

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1. CHARACTERISTICS

Keor MOD RI is design for rack independent application with simple and no risck integration for 19" rack cabinet. Keor MOD RI is the ideal solution for all critical computer applications such as EDGE DATA CENTRE.
The range includes just two frame configurations:
- up to 3 power modules with internal batteries (25 - 50 kVA N+1),
- up to 2 power modules (25 kVA N+1).

1.1 Modularity

The KEOR MOD RI UPS has a modular architecture, it means that it's composed by identical modules (25kW Three-phase power module) that, working in parallel, form the power section of the UPS. Each power module can be considered a complete three phase UPS who works in parallel with the others in order to supply the required power.
The power module can be divided in the following functional:
• Rectifier/PFC
• Inverter
• Battery Charger
• Command Logic circuit
• Automatic By-pass
It's possible to reach different power and redundancy levels according to the number of installed power module.

1.2 Scalability

The frame is designed to accept different number of power modules, this allows to create a huge range of configurations. It's possible to increase power directly on site easily, without changing settings nor adjustments. This operation can be lead without using any kind special equipment.

1.3 Redundancy

You can easily set up the KEOR MOD RI as a N+X power redundant system. We can reach redundancy thanks to the load sharing, the overall load is equally shared between the power modules and in case of failure the still working modules will back up the faulty one.

1.4 Architecture

The KEOR MOD RI UPS has three-phase input and output and it's possible manage the output phases in independent way thank to the parallel architecture. The nominal power available is determinate by the sum of the power module. For this reason the UPS is able, if properly sized, to supply the load in case of failure or replacement of one or more power modules.

1.5 Hot-Swap

The power modules of the KEOR MOD RI are totally independent. This architecture allows to disable a single power module managed for the replacement without switching off the others.
In case of fault or upgradable configuration the service technician can operate on the UPS which continues to guarantee high quality energy and protection to the load.

1.6 Dual Input

KEOR MOD RI is equipped with dual input connections, one for the rectifier and the other one for by pass. You can configure them as common (rectifier line and bypass line connected together) or as dual (rectifier line and bypass line splitted)

1.7 Batteries

Batteries are lead acid, sealed, free maintenance, valve regulated and arranged inside the battery slots; the battery strings is composed by 44 blocs (for cabinet with internal batteries) and can be composed by different number of blocks (44-52) for model with external batteries. Each battery set can be configured as Common or Separated.

2. TECHNICAL DATA

2.1 General characteristics

UPS Topology	Online double conversion VFI SS 111
Architecture of the UPS	Modular, Scalable, Redundant based on 25 kW power modules
In/Out phase configuration	Three-phase / Three-phase
Neutral	Three-phase / Three-phase
Switching technology	3 level IGBT
Bypass type	Static, electromechanical and maintenance bypass
Output waveform on mains run	Sinewave
Output waveform on battery run	Sinewave
Transfer time	0 ms
Communication interfaces	2 x RS 485 ports (one for external accessories) 10 inputs floating contacts 8 outputs floating contacts 1 interface slot USB host port
Input/Output connections	3-phase + N + PE
Power modules	Up to 3 modules (1 slot for redundancy)
Internal battery slots	Up to 4 battery drawers

2. TECHNICAL DATA (continued)

2.2 Input

Nominal voltage	400 V - 3-phase + N + PE
Voltage range	400 V - 20% + 15% (adjustable)
Neutral	50 Hz or 60 Hz (autosensing)
THDin	< 4 %
Power factor	> 0.99

2.3 By-pass

Nominal voltage	400V - 3-phase + N + PE
Voltage range	400 V - 20% + 15% (adjustable)
Frequency	50/60 Hz
Manual By-pass	Included
Transfer time	0 ms

2.4 Output with mains (AC-AC)

Nominal voltage	380, 400, 415 V - 3-phase + N + PE
Nominal power	50 kVA
Active power	50 kW
Efficiency (AC to AC)	Up to 96,8%
Voltage variation (	± 1%
THDv on nominal power (linear load)	< 3.3 %
Frequency	50 Hz or 60 Hz (selectable)
Frequency tolerance	Adjustable from +14% to 6% if synchronised with mains ± 0.1% if not synchronised with mains
Current crest factor	3 : 1 accordingly with IEC 62040 -3
Overload capability: 10 min 60 sec	 125 % without transfer to bypass 150 % without transfer to bypass

2.5 Output on batteries (DC-AC)

Nominal voltage	400V - 3-phase + N + PE
Nominal power	50 kVA
Active power	50 kW
Voltage variation (static)	± 1%
THDv on nominal power (linear load)	< 3.2 %
Frequency	50 Hz or 60 Hz (autosensing)
Frequency tolerance	± 1%
Current crest factor	3 : 1 accordingly with IEC 62040-3
Overload capability: 10 min	115 %

2.6 Batteries

Type	VRLA Lead Acid, maintenance free (long life on request)
Unit voltage	12 VDC
Nominal UPS battery voltage	± 264 (44 blocks)
Battery charger type	PWM high efficiency, one in each power module
Charging cycle	Advanced 4 stage charging
Max. charging current	5 A each power module

2.7 Mechanical characteristics

Dimensions (H x W x D) : 930 (21U) x 447 x 874 mm
Net weight without batteries : 72 kg
Colour: RAL 9003
IP 20

Operating temperature: from 0 °C to + 40 °C
Storage temperature: from -25 °C to + 55 °C (excluded batteries)
Humidity range: 0 - 95 % not condensing
Noise level at 1 m: 50 to 65 dBA

3. USER INTERFACE

Keor MOD RI is equipped with an innovative 10" touch screen user-friendly graphic user interface.

The display is housed in a retractable tray and is capable of reading real-time data regarding working conditions, efficiency, consumption, load variations, as well as input / output power, current, voltage, etc.

Input	Current :	RMS value Peak value Crest factor
	Voltage:	Ph-N RMS value Ph-Ph RMS value Bypass line voltage
	Power	Nominal (VA) Active (W) Power factor Frequency
Output	Output current	RMS value Peak value Crest factor
	Voltage	Ph-N RMS value Ph-Ph RMS value
	Power	Nominal (VA) Active (W) Power factor Frequency
Batteries	Voltage Capacity Current History data Residual capacity Charging status	
Miscellaneous	Internal Temperature Fan Speed HV DC BUS voltage	
Data Log.:	By-pass intervention Overheats Overloads Battery interventions Total discharge Events (info, warning, critical) Alarms	

3. USER INTERFACE (continued)

The UPS allows also the following settings by display:

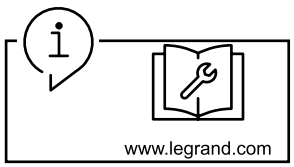
Output	Voltage Frequency Phases configuration
Input	Enable freq. synchronizing (PLL) Extended synchronizing range (Extended PLL)
By-pass	Enabling Forced DIP speed ECO Mode batteries Start up on battery Threshold value Auto restart Max. time on battery

4. STANDARDS AND REGULATIONS

The UPS KEOR MOD RI has the CE Mark accordingly with the EU Directives 2006 95 2004 108 and it comply with following standards
- EN 62040-1: General rules for electric safety
- EN 62040-2: Electromagnetic compatibility and immunity (EMC)
- EN 62040-3: Performances and testing rules

CE

5. OTHER INFORMATIONS



Installation and maintenance manual: mounting informations and maintenance guide available on e-catalogue

For further technical information, please contact Legrand technical support.
Unless otherwise indicated, data reported in this document refers exclusively to test conditions according to product standards.
For different conditions of use of the product, inside electrical equipment or in any different installation context, refer to the regulatory requirements of the equipment, local regulations and design specifications of the system.