87045 LIMOGES Cedex
Numéro de téléphone (+33) 05 55 06 87 87 - Fax : (+33) 05 55 06 88 88

KEOR MOD 25 - 125 kW

3 104 80 KEOR MOD Empty Cabinet with 5 PM slots / 10 battery slots
3 106 75 25KW Power Module

1. General Specifications

The Legrand KEOR MOD, is an high efficiency UPS on line double conversion with PWM Hi-Frequency technology. It has passing trough neutral and Modular Architecture with the possibility to have N+X redundancy, also parallelable with other units. The nominal power is from 25 up to 125kW.

1. Modularity

The KEOR MOD 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 (like Decentralized network) in order to supply the required power.

The power module can be divided in the following functional blocs:

• 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.

2. Scalability

The cabinet 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.

3. Redundancy

You can easily set up the KEOR MOD as a N+X power redundant system. Redundancy level is defined according to how many 25kW power modules are installed inside the cabinet. 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.

4. Architecture

The KEOR MOD 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.

5. Hot-Swap

The power modules of the KEOR MOD 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 (on power module itself) service technician can operate on the UPS which continues to guarantee high quality energy and protection to the load.

6. Dual Input

KEOR MOD 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)

7. Batteries

Batteries are lead-acid, sealed, free maintenance, valve regulated and arranged inside the battery slots; the battery strings is composed by 48 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.

In option a LI-ION battery system solution can be provided for small back up times needs.

Built-in battery monitoring and battery protection mode, allowing operation with all common types of batteries.

8. User Interface

Keor MOD is equipped with an innovative 10" touch screen user-friendly graphic user interface; the UPS 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

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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

Misc.:
• Internal Temperature
• Fan Speed
• HV DC BUS Voltage

Data Log.:
• By-pass intervention
• Overheats
• Overloads
• Battery interventions
• Total discharge
• Events (info, warning, critical)
• Store: ≥ 300 event ID
• Alarms

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

The UPS KEOR MOD 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”

2. Technical Specifications

1. General specifications

UPS Topology	True Online double conversion VFI SS 111
Architecture of the UPS	Modular, Scalable, Redundant based on 25kW Power Modules Parallelable up to 24 PM
In/Out phase Configuration	Three phase / Three Phase
Neutral	Neutral Passing through
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	0ms

2. Input

Nominal Voltage	400V 3ph+N+PE
Voltage range	-20% +15%
Frequency	50 Hz o 60Hz (autosensing)
THDin	< 3%
Power Factor	> 0.99

3. Bypass

Nominal Voltage	400V 3ph+N+PE
Voltage Range	400V -20% +15% (adjustable)
Frequency	50/60Hz from +/- 0.5Hz to +/- 7Hz
Manual Bypass	Included
Transfer time	0ms

4. Output with mains (AC-AC)

Nominal Voltage	380, 400, 415V 3ph+N+PE
Nominal Apparent Power	25 to 125KVA
Active Power	25 to 125KW
Efficiency (AC to AC)	Up to 96,8%
Voltage variation (static)	± 1%
THDv on nominal power (linear load)	< 0,5%
THDv on nominal power (not linear load P.F.=1)	< 1%
Frequency	50 Hz or 60 Hz (selectable)
Frequency tolerance	± 0,1% not synchronized with main / from +/- 1% to +/- 14% selectable with main supply
Current Crest Factor	3 :1 accordingly with IEC 62040-3
Overload Capability: 10 min 60 sec Short Circuit	 125%, without transfer to bypass 150%, without transfer to bypass Icc = 3 In

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5. Output on batteries (DC-AC)

Nominal Voltage	400V 3ph+N+PE
Nominal Apparent Power	25 to 125KVA
Active Power	25 to 125KW
Voltage variation (static)	± 1%
THDv on nominal power (0% - 100% / 100% - 0%load)	± 1%
THDv on nominal power (linear load)	< 0,5%
THDv on nominal power (not linear load)	< 1%
Frequency	50 Hz or 60 Hz (autosensing)
Frequency tolerance	± 1%
Current Crest Factor	3 :1 accordingly with IEC 62040-3
Overload Capability: 10 min 60 sec Short Circuit	 125% 150% Icc = 3 In

6. Batteries

Type	VRLA Lead Acid, maintenance free (long-life on request)
Unit Voltage	$12V_{DC}$
Nominal UPS Battery Voltage	+/- 264V to +/- 312V (44-52 blocks)
Battery charger type	PWM hi efficiency, one in each power module
Charging Cycle	Advanced 4-stage charging
Max Charging Current	5 A each power module

7. Mechanical and Miscellaneous

Net Weight w/o Batteries	205 kg
Dimensions (W x D x H)	582 x 1000 x 1990mm (42U)
Colour	RAL 9003 gloss30 RAL 9017 gloss80 (front door is shared in 2 colors)
Communication Interfaces	USB Host x 1 RS485 (user) x 1 RS485 (maintenance)(USB UART) x 1 Free Contact input x 11 Free Contact output x 8 SNMP Slot x 1
Input/Output Connections	3Ph + N + PE
Power Modules	Up to 5 modules (25KW each one)
Internal Battery Slots	Up to 5 Battery Kit

8. Environmental specs

Noise Level @1m	< 80dBA
Working Temperature	from 0°C to +40°C
Stock Temperature	from -20°C to +50°C (excluded Batteries)
Humidity Range	0-95% not condensing
Protection Degree	IP20