

# Keor MOD Rack Independent

3 111 35 KEOR MOD RI Empty Frame with 2 PM slots / 2 battery drawers



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## 1. General Specifications

Keor MOD RI is design for rack independent application with simple and no risk 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. 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.

### 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.

### 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.

### 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.

### 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.

### 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)

### 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.

### 8. 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

Current:

- RMS value
- Peak value
- Crest Factor

# KEOR MOD RI 50 kVA

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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)  
 • 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 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"

## 2. Technical Specifications

### 1. General specifications

UPS Topology	Online double conversion VFISS111
Architecture of the UPS	Modular, Scalable, Redundant based on 25kW Power Modules
In/Out phase Configuratio	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	0ms

### 2. Input

Nominal Voltage	400V 3ph+N+PE
Voltage range	-20% +15%
Frequency	50 Hz o 60Hz (autosensing)
THDin	< 4%
Power Factor	> 0.99

### 3. Bypass

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

### 4. Output with mains (AC-AC)

Nominal Voltage	380, 400, 415V 3ph+N+PE
Nominal Power	50 KVA
Active Power	50 KW
Efficiency (AC to AC)	Up to 96,8%
Voltage variation (static)	± 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	125%, without transfer to bypass
60 sec	150%, without transfer to bypass

## KEOR MOD RI 25 kVA

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### 5. Output on batteries (DC-AC)

Nominal Voltage	400V 3ph+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%,

### 8. Enviromental specs

Noise Level @1m	50 - 65dBA
Working Temperature	from 0°C to +40°C
Stock Temperature	From -25°C to +55°C (excluded Batteries)
Humidity Range	0-95% not condensing
Protection Degree	IP20

### 6. Batteries

Type	VRLA Lead Acid, maintenance free (long-life on request)
Unit Voltage	12VDC
Nominal UPS Battery Voltage	± 264 (44 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	72 kg
Dimensions (HxW xD)	930 (21U) x 447 x 874mm
Colour	Ral 9003
Communication Interfaces	2 x RS485 ports (one for external accessories) 10 input floating contacts 8 output floating contacts 1 interface slot USB host port
Input/Output Connections	3Ph + N + PE
Power Modules	Up to 3 modules (1 slot for redundancy)
Internal Battery Slots	Up to 4 Battery drawers