

KEOR MOD+ 420 kVA



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1. GENERAL FEATURES

Keor Mod+ is a three-phase modular UPS system featuring 60 kW hot-swappable power modules.

It is fully front-accessible for operation and maintenance, requiring only rear clearance, with no space needed on the sides. Each power module is equipped with independent logic control, and the system incorporates a centralized static bypass with a dual SPS redundant board.

1.1 Key configurable options:

- Grounding: TNC / TNS / IT (optional with external transformer)
- Cable entry: top or bottom
- Dual distribution switches: output & manual bypass; optional input & STS bypass switches
- Advanced redundancy: +1 in a fully stacked frame
- Common or separate inputs for rectifier and bypass lines

1.2 Application

Solution designed for Infra, IT, Data Centre, non-critical health care, Process /Light industrial and Mission critical applications

2. RANGE

Cat. no.	LGR311412	LGR311410
Description	Cabinet A	Power module
Power (KW)	420	60
No. of modules	7	-
Max. cabinets / Modules for paralleling	4 / 28 nos.	-
Vertical redundancy	N+1	-

3. TECHNICAL FEATURES

■ 3.1 General characteristics

Nominal power [kVA]	420
Active power [kW]	420
Classification	True on-line double conversion, VFI SSS III
UPS's architecture	Three phase modular UPS, scalable and redundant

■ 3.1 General characteristics

In/Out phase configuration	3 Phase + N + G	
Neutral	Passing straight from input to output	
Transfer time	0 Ms	
Paralleling	Up to 28 power modules	
Overall efficiency AC ~ AC	25%	Up to 95%
	50%	Up to 96%
	75%	Up to 95.5%
	100%	Up to 95.0%
Efficiency on eco mode	Up to 99%	
Max heat loss BTU/Hr	420 kW @ 68,242	

■ 3.2 Input specifications

Operating voltage [Vac]	380/400/415	
Input voltage range L-L	240 ~ 480 Vac < 50% load; 320 ~ 480 Vac for rated load	
Input frequency [Hz]	50 / 60	
Input frequency range [Hz]	40 ~ 70	
THD input current full load (linear at THDv <0.5%)*	100%	≤ 3%
	75%	≤ 5%
	50%	≤ 6%
	25%	≤ 10%
Input power factor at linear load	At 25% ≥ 0.98, 50% - 100 % ≥ 0.99	
Maximum input current [A] [L-L] at 100% load w/o charging	In Min voltage (320)	790 A
	In Nom voltage (400)	638 A
	In Max voltage (480)	532 A

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3. TECHNICAL FEATURES (continued)

■ 3.3 Output specifications

Topology	DSP based 3 level IGBT inverter		
Output power factor @ 40 °C	1		
Output phases	3Ph + N + G		
Nominal output voltage	380/400/415 V		
Output voltage tolerance	Balanced load [%]	± 1%	
	Unbalanced load [%]	± 3%	
	On battery	± 1%	
	Dynamic step load	Fully in compliance with IEC 62040 - 3	
	Recovery time		
Output frequency [Hz]	50/60		
Voltage harmonics	<1.5% For linear load & < 4% for non linear load		
Permitted overload on Inverter mode	≤110% @ 60min, 111% to 125% @ 10min, 126% to150% @ 1min,		
Nominal current at output (Tri-phase) [A]	380/400/415 V	638/606/584 A	
Output load P.F handling	0.7 lag to 0.8 lead		
Crest factor	3:1		
Short circuit capability	300% for 60 ms		

■ 3.4 Bypass specifications

Bypass	Hot swappable static bypass module (switch optional)
	Inbuilt maintenance bypass switch
Nominal voltage [V]	380/400/415 V
Voltage range [%]	± 20%
Frequency [Hz]	50/60
Frequency range [Hz]	±1 Hz (± 2 Hz/± 4 Hz optional)
Bypass input	Passing through or dual selectable
Transfer time	In mains Synch 0 ms
Overload capability [%]	110% for 60 mins, 150% for 60 secs & 300% for 100 ms
Back feed protection	Circuit Inbuilt, connected with external device

■ 3.5 Batteries

Battery type	VRLA, NiCd & Li-ion
Nominal DC voltage	408 Vdc ~ 480 Vdc
Battery charging	3 Stage advance charging
Max charging current	18 A per module

■ 3.6 Communication and monitoring

Display	10" Touch screen multicolor
Cabinet status bar	Multicolor LED Red, Yellow, Green
Power module LED indicator	Independent LED's each one

■ 3.6 Communication and monitoring

Connectivity	SNMP (optional)
	Modbus + RS 485 (inbuilt Stnd)
	RS 232
	RJ 45 Ethernet
	PFC's 4 for input (optional)
	PFC 2 external connectivity & 2 for Output
	6 external connectivity (Inbuilt Stnd)
	Temperature + humidity sensor (optional with EMD)
Cold start	Available
EPO switch on frame	Yes

■ 3.7 Physical characteristics

Frame net weight (Kg) including switches*	310
Frame dimensions (W x D x H) (mm) including isolator	600 x 1100 x 2010
Power module dimensions (W x D x H) (mm)	438 x 750 x 130 / 3U
Net weight of power module	44 Kg
Static module dimensions (W x D x H) (mm)	438 x 600 x 174 / 4U
Static module weight (KG)	25
Protection index (IP)	IP20
Color shade	RAL9003 + RAL 9005
Paint & thickness	Powder coated (80 micron)
Sheet & thickness	Load bearing 2 mm, sides and door 1.2 mm
Cable entry	Bottom rear, top (optional)
Distribution switches	420 kW - output & MBS inbuilt. Input & STSB optional in external cabinet

■ 3.8 Ambient conditions

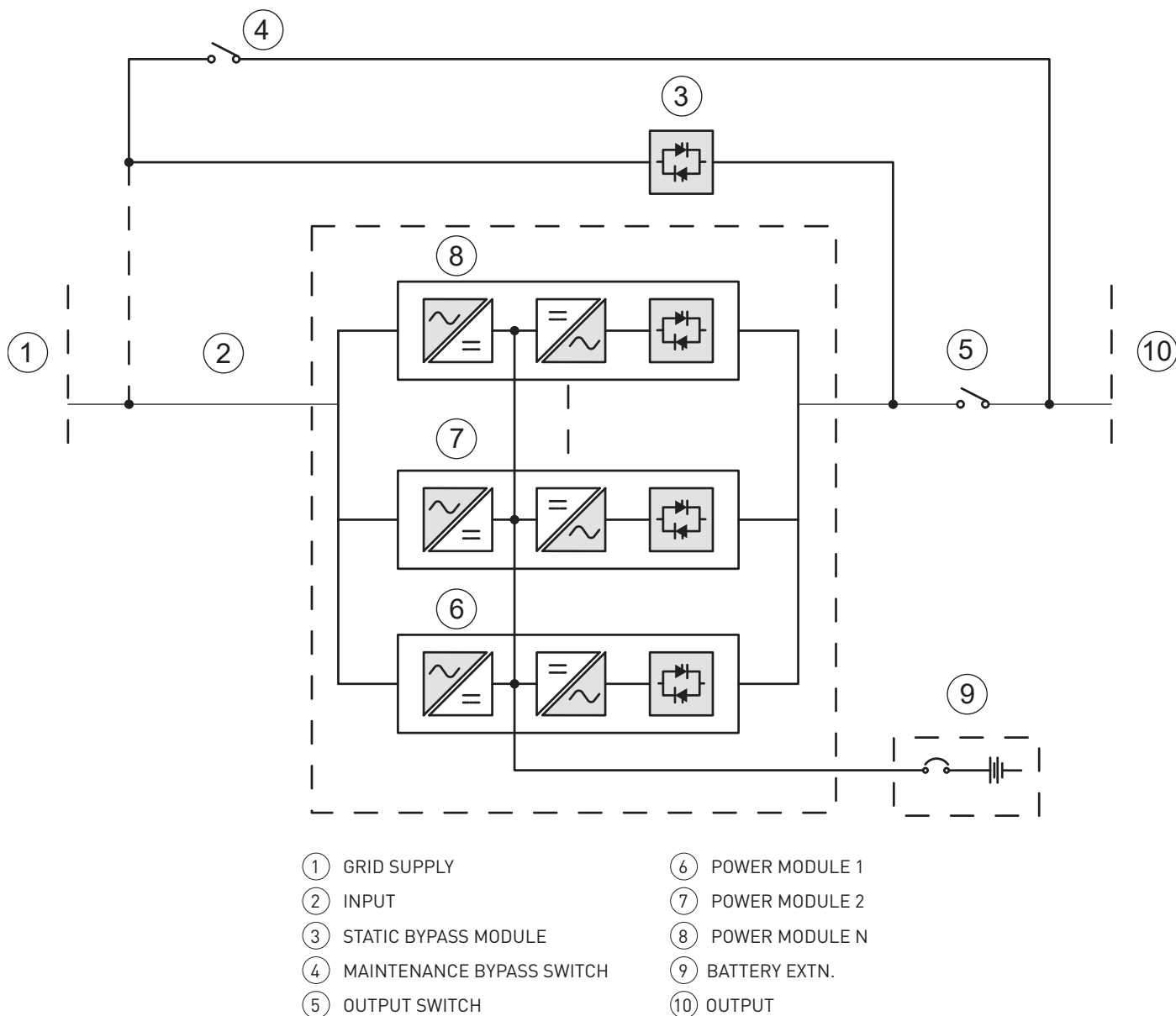
Operating temperature	0 °C - 40 °C
Operating humidity	0% - 95% non-condensing
Operating altitude	1000 mtr. above MSL, above suitable deration applicable
Storage temperature	-15° C to 50° C
Maximum noise audible at 1m [dBA]	75

■ 3.9 Conformity and standards**

General rules for electric safety	IEC 62040-1
Electromagnetic compatibility and immunity (EMC)	IEC 62040-2
Performances and testing rules	IEC 62040-3
Environmental	IEC 62040-4 & PEP
Declarations	ROHS / REACH

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4. Block diagram



5. Key features

- Two units share a common battery bank.
- Dust filters.
- Top entry Panel for 420 kVA Cable and Switch Termination
- LBS sync cable.
- Microswitch for hot swap and plug (module embedded or through display).
- Module-wise data monitoring through HMI.
- Module-wise indication.
- Input phase sequence protection and correction as default.
- Event logs for 500 events with date and time stamp.
- Waveform monitoring of output voltage and current.
- Variable speed fans, DC operated and of replaceable type.
- Dynamic password.
- Sleep mode (module-wise).
- Self-loading / capacity test.
- Predictive ageing of critical components (the maintenance time period is settable on the LCD display).

* On linear load.

** Under progress.

Note: Specifications are subject to change without prior notice due to continuous product improvements and development.