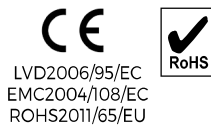




GUARDIAN ACCESS 19

MODELS GDN.S.48.M26 & GDN.S.48.MS31
5/6U Integrated DC Power System
-48VDC | 480A | 23kW

For 23" version
with 5/10 rectifiers
and 500A LVBD, see
separate datasheet.



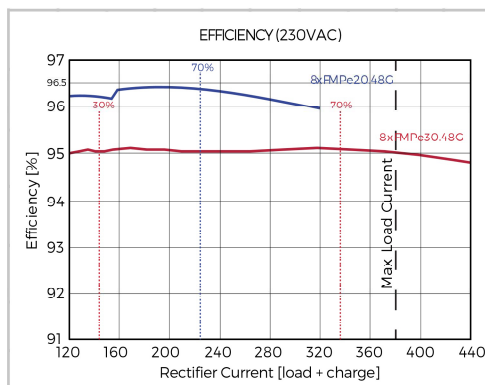
KEY FEATURES

- ◆ >96% Efficiency Rectifiers
- ◆ 480A / 23.2kW Total Capacity
- ◆ Remote Monitoring & Control
- ◆ Field Replaceable Controller
- ◆ Ethernet Comm. with SNMPv3
- ◆ 3 LED Alarm/Status Indicators
- ◆ Up to 10 Form-C Relay Alarms
- ◆ Up to 21 Load Breakers
- ◆ Up to 6 Battery Breakers
- ◆ LCD Display/Touchpad
- ◆ Easy Installation

SAFETY COMPLIANCE

UL60950-1 2nd Ed.
CSA22.2 No. 60950-1 2nd Ed.
EN60950-1 2nd Ed.

TWO-YEAR WARRANTY



DESCRIPTION

Guardian Access 19 are 5RU or 6RU high 19" rack-mounted, integrated DC power systems providing an output of -48VDC. These systems can accommodate up to four (5U) or eight (6U) Guardian family high efficiency hot-swap rectifiers. A load current of 400A is available with battery charge current up to 125A subject to an overall 480A. The rectifiers are internally fan cooled with speed control which is a function of load and temperature, keeping acoustic noise to a minimum.

The DC output circuits can provide up to 21 loads which utilize circuit breakers rated from 2A to 63A plus up to six 100A or 125A breakers that provide battery protection. A programmable low voltage battery disconnect (LVBD) is available with a 200A (MS31 5U only) or 400A contactor; while one or two partial load disconnects (PLD), rated at 125A or 200A and also programmable, can provide non-critical load shedding when operating on batteries.

The ACC Extended remote access controller monitors system parameters, controls rectifier output, and provides alarms for system failures. The Controller Module is also pluggable for easy field replacement in case of failure. There are 2 LED alarm indicators which indicate failures, (RED) Alarm and (YELLOW) Message. A third green LED indicates the controller is working properly. As standard four form-C relay outputs provide the alarms for remote use. An additional 6 can be included as an option. Two digital inputs and outputs are also provided as well as a microSD card slot that accepts an up to 4GB card which is sufficient for more than 20 years data logging.

The system can be programmed by means of a remote PC web page display. Communication is by Ethernet LAN with SNMPv3 including alarm trapping. It also has provision for temperature compensated charging of an external battery using a supplied TC probe. An LCD Display/Touchpad is included for local metering, status, and setup.

The Guardian Access is compatible with UNIPOWER's free [PowCom™ software](#) which offers local and remote management through an advanced Windows GUI.

www.unipowerco.com

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SYSTEM SPECIFICATION & CAPABILITY GUIDE

SYSTEM DESIGNATION	GUARDIAN ACCESS 19 - 1-M00026G / 1-MS0031G	
OUTPUT		
System Voltage	-48VDC nominal 53.5VDC float	
Maximum Capacity @ 120VAC nominal	Load	254A
	Battery	254A discharge 125A charge (s/w controlled)
Maximum Capacity @ 230/400VAC nominal	Load	400A
	Battery	400A discharge 125A charge (s/w controlled)
No. Rectifier Slots	4 or 8 (see configuration guide on page 5)	
DC DISTRIBUTION		
Loads Circuits	up to 21 x 18mm (2A to 63A - see configuration guide on page 5)	
Battery Circuits	1 to 6 x (100A or 125A)	
INPUT		
Voltage (nominal)	1-phase 100-120/200-240VAC (L + N + PE) 3-phase 230/400VAC (L1 L2 L3 + N + PE)	
Frequency	47-63Hz	
Maximum Input Current	160A @ 100-120VAC 135A @ 200-240VAC 45A per phase @ 400/230VAC	
Rectifier Power Factor	>0.98 (typical)	
Surge Protection	Optional (see configuration guide on page 5)	
MONITORING & CONTROL (ACC Extended Controller)		
Alarm Relays	4 standard, option for 10	
Local Interface	4 x 20 LCD, 4-key menu, USB / RS232, microSD card slot (4GB max.) for data logging	
Remote Interface	Ethernet / Modem using PowCom™ software package Ethernet port allows monitoring and control over a TCP/IP network. Web browser support + SNMPv3	
LED Indications	Green - System ON; Yellow - Message(s); Red LED - Alarm(s)	
External Digital I/O	2 x Inputs, 2 x Outputs (Open Collector)	
BATTERY MANAGEMENT		
Symmetry Inputs	6 or 12 (can be redefined as analog inputs up to 100VDC)	
Low Voltage Battery Disconnect (LVBD)	1 x 200A or 400A Programmable	
Partial Load Disconnect (PLD)	1 or 2 x 125A or 200A Programmable (Optional)	
Temperature Compensated Charging	Programmable	
COMPLIANCE		
EMC	EN 300 386 ; EN61000-6-3 (Emission) ; EN61000-6-2 (Immunity)	
Safety	IEC60950-1:2005 2 Ed. +A1:2009	
ENVIRONMENTAL		
Operating Temperature	-40°C to +55°C	
Storage Temperature	-40°C to +85°C	

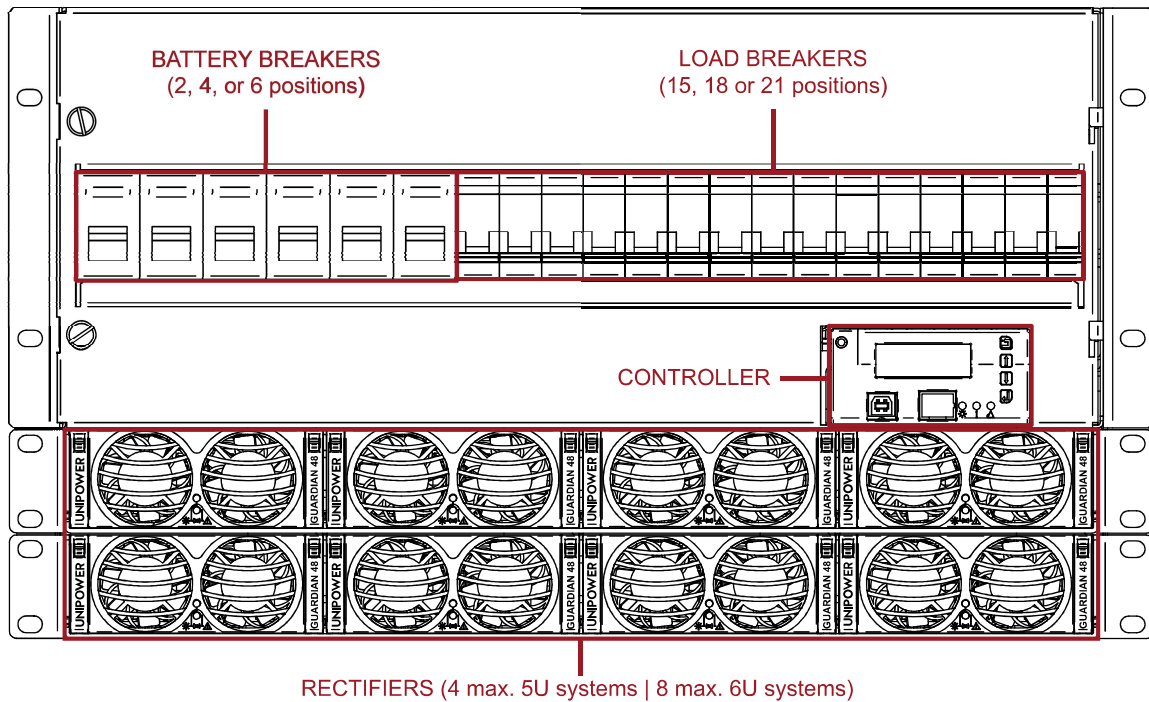
RECTIFIER MODULES vs. SYSTEM CAPACITIES

RECTIFIER MODULES						SYSTEM CAPACITY @ FLOAT			
MODEL NUMBER	EFFICIENCY ¹	INPUT VOLTAGE ²	INPUT CURRENT ³	OUTPUT POWER	OUTPUT CURRENT 48V / 53.5V	MAX. LOAD CURRENT 5RU ⁵		MAX. LOAD CURRENT 6RU ⁵	
						TOTAL	3+1	TOTAL	7+1
FMPe20.48G	>96.0%	85-180VAC	9.6A	1100W ⁴	22.9A / 20.6A ⁴	82A ⁴	62A ⁴	165A ⁴	144A ⁴
		180-275VAC	11.6A	2000W	41.7A / 37.4A	150A	112A	299A	262A
FMP25.48G	>92.5%	85-180VAC	14.4A	1400W ⁴	29.2A / 26.2A ⁴	105A ⁴	79A ⁴	210A ⁴	183A ⁴
		180-275VAC	16.8A	2500W	52.1A / 46.7A	187A	140A	374A	327A
FMPe30.48G	>95.0%	85-180VAC	15.7A	1700W ⁴	35.4A / 31.8A ⁴	127A ⁴	95A ⁴	254A ⁴	223A ⁴
		180-275VAC	17.0A	2900W	60.0A / 54.2A	217A ⁷	163A	400A	379A

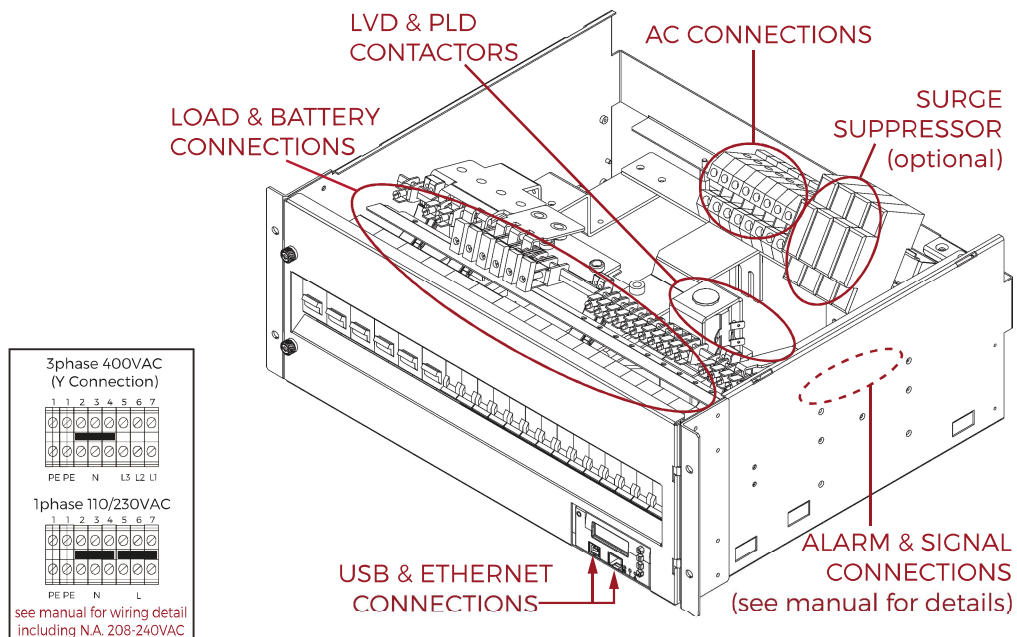
Notes:

- When operating at 230VAC.
- All models will operate over the full range, automatically limiting output current/power according to the actual input voltage range applied.
- Input currents shown are expected maximums at 85VAC/180VAC as appropriate
- Figures quoted are at 110VAC input. Derating is linear from 180VAC to 85VAC. See separate rectifier datasheets for details
- May required reduction in maximum charge current when batteries not fully charged.
- Rectifier model FMP25.48G is not a preferred model for new requirements. It remains available for existing programmes.
- Limited to 200A for 1-MS0031G.

FRONT PANEL DESCRIPTION



PERSPECTIVE FRONT VIEW

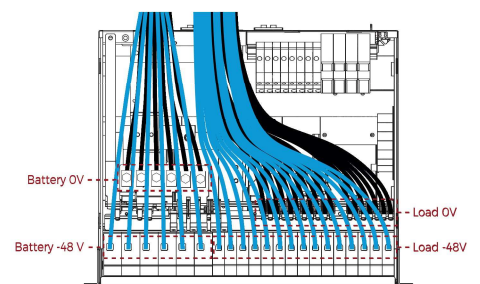
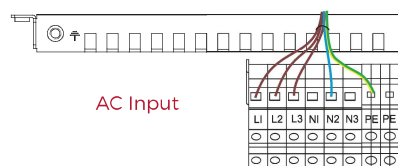


CABLE ROUTING

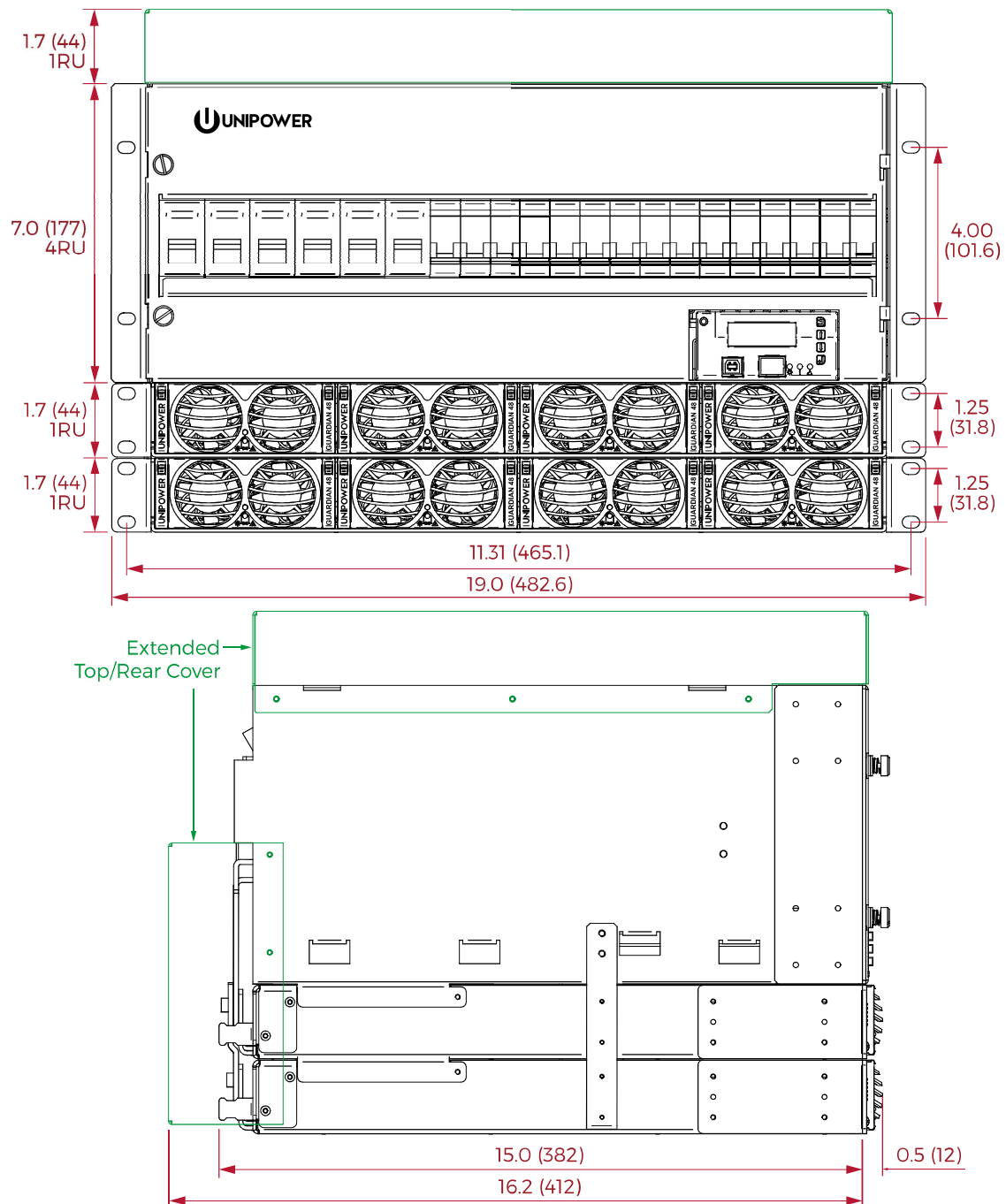
REAR VIEW



Covers Removed (M26 shown)



DETAILED DIMENSIONS - M26

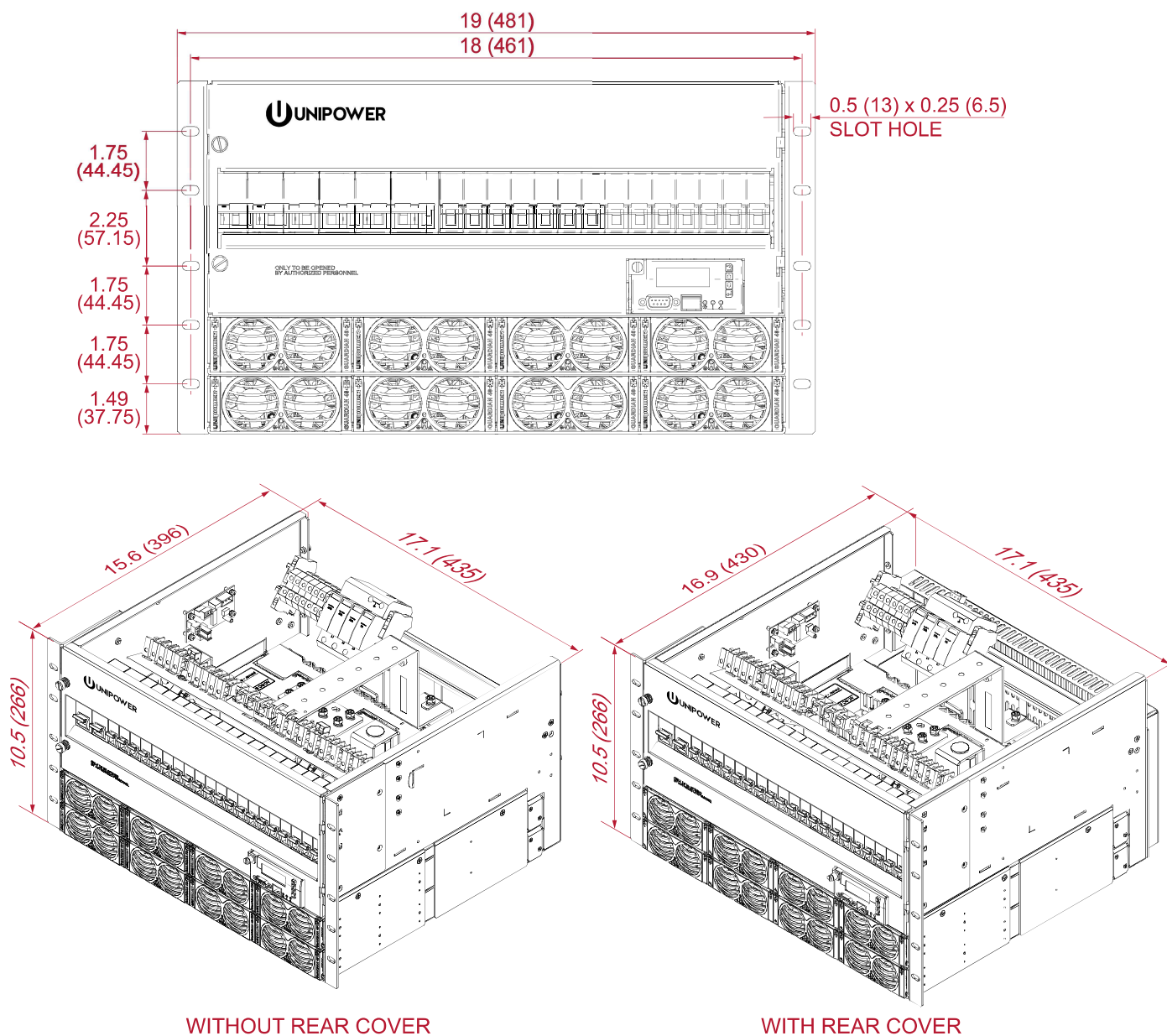


WEIGHTS & DIMENSIONS

UNIT	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit (Standard Cover)	19.00 (482.6)	5RU	15.0 (382)	57.2 lbs (26 kg) max.	23.4 (595)	17.9 (455)	1.91 (485)	61.6 lbs (28 kg) max.	1
System Unit (Extended Cover)		6RU 7RU	16.2 (412)						1
Rectifier Module	4.2 (107)	1.6 (41)	14.0 (355)	4.6 lbs (2.1 kg)	15.5 (394)	2.3 (58)	8.2 (208)	4.8 lbs (2.2 kg)	1

Dimensions in inches (mm)

DETAILED DIMENSIONS - MS31 (APAC version)



WEIGHTS & DIMENSIONS

UNIT	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit (No Rear Cover)	18.9 (481)	5RU 6RU	15.6 (396)	57.2 lbs (26 kg) max.	23.4 (595)	17.9 (455)	1.91 (485)	61.6 lbs (28 kg) max.	1
System Unit (Rear Cover)		6RU 7RU	16.9 (430)						1
Rectifier Module	4.2 (107)	1.6 (41)	14.0 (355)	4.6 lbs (2.1 kg)	15.5 (394)	2.3 (58)	8.2 (208)	4.8 lbs (2.2 kg)	1

Dimensions in inches (mm)

CONFIGURATION GUIDE

PLEASE COMPLETE THE BELOW TABLE AND SUBMIT TO UNIPOWER FOR VERIFICATION AND CONF. NO. ALLOCATION (This form is fully interactive and may be completed electronically OR it can be printed and complete by hand)			
STEP 1 - CUSTOMER DETAILS			
Company: _____ Address: _____ Zip Code: _____ Country: _____		Contact Name: _____ Email Address: _____ Telephone: _____ Quantity for quotation: _____	
STEP 2 - CHASSIS TYPE - Choose one version			
4 Rectifier Positions or 8 Rectifier Positions		4 Rectifiers ☐ OR 8 Rectifiers single input ☐ OR 8 Rectifiers dual input ☐	
STEP 3 - RECTIFIER MODULES - Choose one type only and enter quantity between 1 and 8 - dummies will be inserted into unused slots			
FMPe20.48 - 2000W / 40A - >96% Efficiency FMP20.38 - 2500W / 52A - >92% Efficiency FMPe30.48 - 2900W / 60A - >95% Efficiency		FMPe20.48 ☐ OR FMP20.48 ☐ OR FMPe30.48 ☐	
		Quantity _____	
STEP 4 - CONTROLLER & ALARM INTERFACE - Select desired controller and alarm interface			
ACC Extended with SD Card Slot (default configuration) ACC Extended without SD Card Slot		WITH SD card slot ☐ OR WITHOUT SD card slot ☐	
Alarm Interface - 4 Relays or 10 Relays or 10 Relays + PLD2		4 Relays ☐ OR 10 Relays ☐ OR 10 Relays + PLD2 ☐	
STEP 5 - LOW VOLTAGE BATTERY DISCONNECT (LVBD) - Select 2 breaker, 4 breaker or 6 breaker			
2 battery breaker positions (21 load breaker positions available) 4 battery breaker positions (18 load breaker positions available) 6 battery breaker positions (15 load breaker positions available)		2 positions ☐ OR 4 positions ☐ OR 6 positions ☐ (not available with PLD options)	
STEP 6 - BATTERY BREAKERS - Choose rating and quantity based on step 5 choice or NONE (Breakers MUST be identical rating)			
No Breakers (Not recommended) OR 100A x 1 or x 2 or x 3 or x 4 or x 5 or x 6 OR 125A x 1 or x 2 or x 3 or x 4 or x 5 or x 6 OR 125A 2-pole x 1 or x 2 or x 3		None ☐ OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐ OR Qty 4 ☐ OR Qty 5 ☐ OR Qty 6 ☐ OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐ OR Qty 4 ☐ OR Qty 5 ☐ OR Qty 6 ☐ OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐	
STEP 7 - PARTIAL LOAD DISCONNECT (PLD) - Select 125A or 200A or NO - PLD2 may only be selected with correct Alarm Interface			
125A or 200A PD1 (non-critical load / load shed disconnect)		125A ☐ OR 200A ☐ OR NO ☐	
125A or 200A PD2 (non-critical load / load shed disconnect)		125A ☐ OR 200A ☐ OR NO ☐	
STEP 8 - LOAD BREAKERS - Choose quantity for desired ratings, total 26, 23 or 20 positions based on step 5 selection. When the PLD options are not selected populate only LVBD 'critical' circuits column. The maximum allowed PLD breakers is 12. These are shared 6 each when two PLDs are specified. [Configuration will be checked by UNIPOWER]			
	LVBD CIRCUITS (Critical)	PLD CIRCUITS (non Critical)	
		PLD #1	PLD #2
2A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
4A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
6A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
10A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
16A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
20A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
25A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
32A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
40A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
50A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
63A single pole (1 position)	Quantity _____	Quantity _____	Quantity _____
STEP 9 - TEMPERATURE SENSOR - available for battery and ambient temperature measurement			
Temperature Sensors - 3m (~10ft) (1 x battery 1 x ambient)		NONE ☐ OR 1 ☐ OR 2 ☐	
STEP 10 - SYMMETRY CABLES (Choose maximum 4 total end measure OR 3 mid measure)			
Symmetry Cable - 1.9m (~6ft) - end measure		NONE ☐ Qty 1 ☐ Qty 2 ☐ Qty 3 ☐ Qty 4 ☐	
- 3.0m (~10ft) - end measure		NONE ☐ Qty 1 ☐ Qty 2 ☐ Qty 3 ☐ Qty 4 ☐	
OR - 2.3m (~7.2ft) - mid measure		OR NONE ☐ Qty 1 ☐ Qty 2 ☐ Qty 3 ☐	
STEP 11 - OPTIONS & ACCESSORIES (Select required items)			
Standard Cover Kit OR AluZinc Cover Kit		Standard ☐ OR AluZinc ☐	
Surge Protection Kit (factory fit)		NONE ☐ OR 1-phase ☐ OR 3-phase ☐	
STEP 12 - SUBMIT COMPLETED FORM TO UNIPOWER FOR CHECKING AND ALLOCATION OF CONFIGURATION PART NUMBER			
Configuration Part Number: _____ (leave blank for completion by UNIPOWER)			