



LVD2006/95/EC
EMC2004/108/EC
ROHS2011/65/EU



DESCRIPTION

KEY FEATURES

- ◆ >96% Efficiency Rectifiers
- ◆ 200A / 10.7kW Load 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 13 Load Breakers
- ◆ Up to 3 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

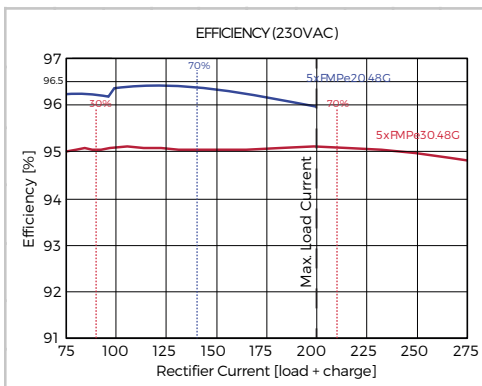
Guardian Access 3U is a 3RU high 19" rack-mounted, integrated DC power system providing an output of -48VDC. These systems can accommodate up to 5 Guardian family high efficiency hot-swap rectifiers. A total load current of 200A / 10.7kW is available with battery charge current up to 75A in addition. 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 13 loads which utilize circuit breakers rated from 4A to 150A plus up to three 80A, 100A or 125A breakers that provide battery protection. A programmable 125A or 200A low voltage battery disconnect (LVD) is standard while a partial load disconnect (PLD), rated at 125A and 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 3U is compatible with UNIPOWER's free [PowCom™ software](#) which offers local and remote management through an advanced Windows GUI.



SYSTEM SPECIFICATION & CAPABILITY GUIDE

SYSTEM DESIGNATION	GUARDIAN ACCESS 3U - 1-MS0027C	
OUTPUT		
System Voltage	-48VDC nominal 53.5VDC float	
Maximum Capacity @ 120VAC nominal	Load	175A
	Battery	175A discharge 75A charge (s/w controlled)
Maximum Capacity @ 230/400VAC nominal	Load	200A
	Battery	200A discharge 75A charge (s/w controlled)
No. Rectifier Slots	3 or 5 (see configuration guide on page 5)	
DC DISTRIBUTION		
Loads Circuits	13 x 13mm or 9 x 18mm (4A to 150A - see configuration guide on page 5)	
Battery Circuits	1 to 3 x (80A, 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	82A @ 100-120VAC 65A @ 200-240VAC 26A 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 (LVD)	1 x 200A or 125A Programmable	
Partial Load Disconnect (PLD)	1 x 125A 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	

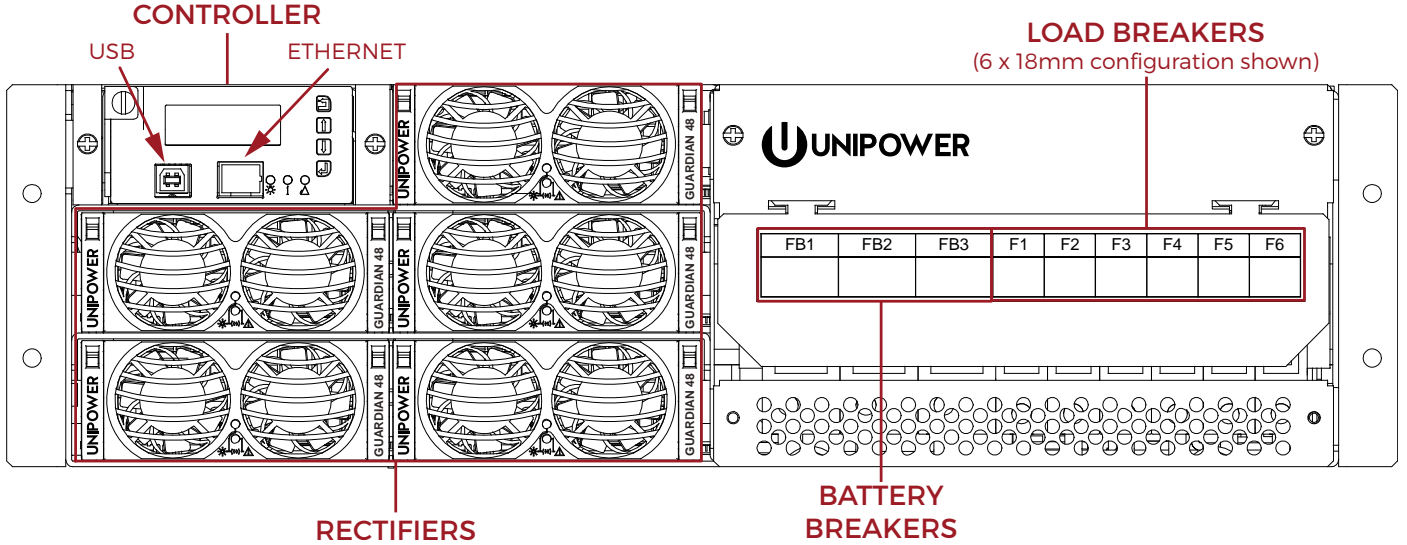
RECTIFIER MODULES vs. SYSTEM CAPACITIES

RECTIFIER MODULES						SYSTEM CAPACITY		
MODEL NUMBER	EFFICIENCY ¹	INPUT VOLTAGE ²	INPUT CURRENT ³	OUTPUT POWER	OUTPUT CURRENT	MAX. CHARGE CURRENT	MAX. LOAD CURRENT	
							TOTAL	4+1 ⁵
FMPe20.48C	>96.0%	85-180VAC	9.6A	1100W ⁴	20.6A ⁴	75A ⁴	103A ⁴	82A ⁴
		180-275VAC	11.6A	2000W	37.4A	75A	187A	150A
FMP25.48C	>92.5%	85-180VAC	14.4A	1400W ⁴	26.2A ⁴	75A ⁴	131A ⁴	105A ⁴
		180-275VAC	16.8A	2500W	46.7A	75A	200A	187A
FMPe30.48C	>95.0%	85-180VAC	15.7A	1700W ⁴	31.8A ⁴	75A ⁴	175A ⁴	140A ⁴
		180-275VAC	17.0A	2900W	54.2A	75A	200A	200A

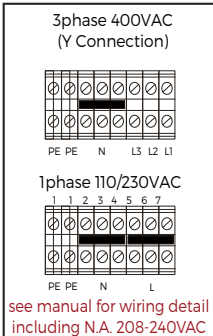
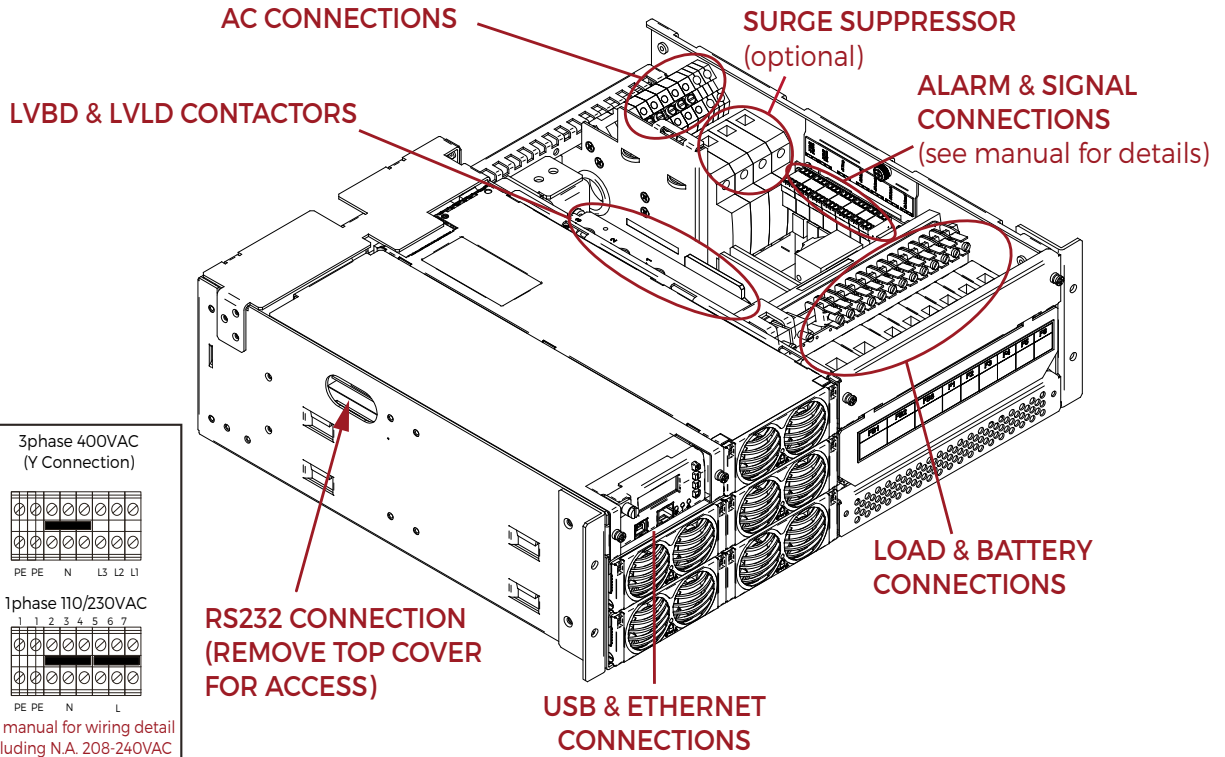
Notes:

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

FRONT PANEL DESCRIPTION



PERSPECTIVE FRONT VIEW



REAR VIEWS

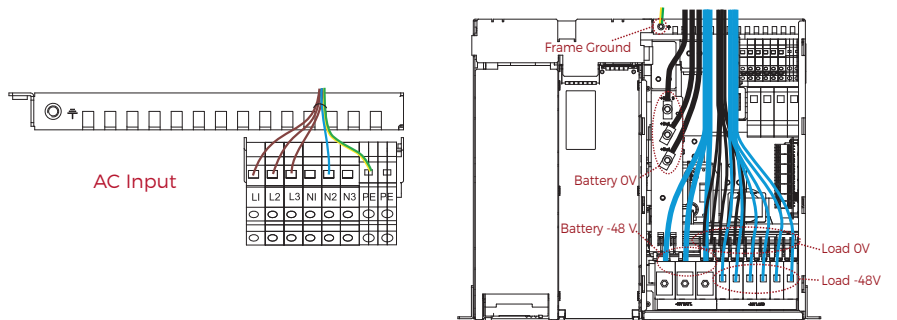


Standard Cover

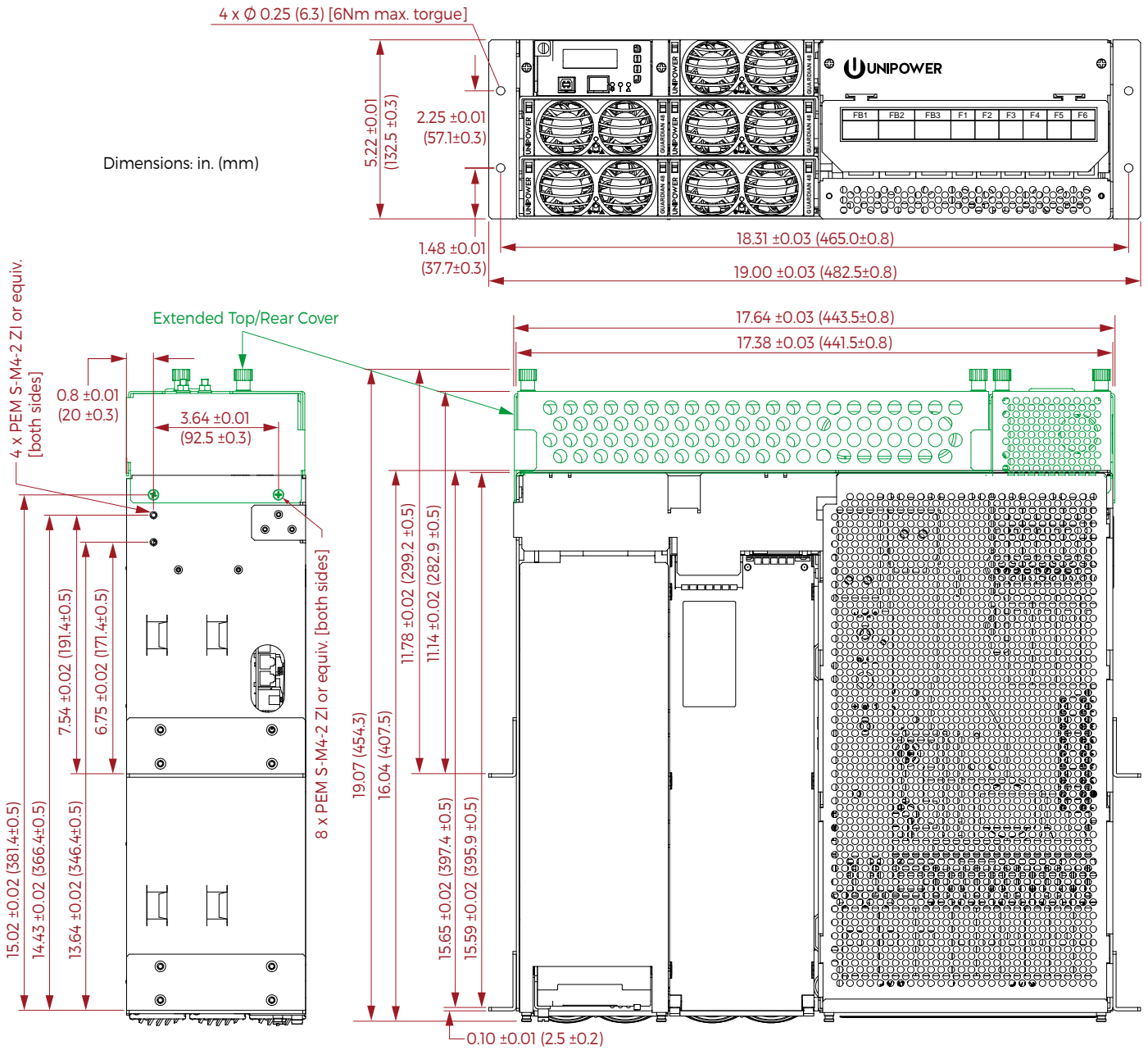


Extended Cover

CABLE ROUTING



DETAILED DIMENSIONS



WEIGHTS & DIMENSIONS

UNIT	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit (Standard)	19.00	5.22	16.04	39.6 lbs	22.6	10.2	19.3	46.2 lbs	1
	(482.5)	(132.5)	(407.5)	(18 kg)	(575)	(260)	(490)	(21 kg)	
System Unit (Extended Top)			19.07	44 lbs	22.6	10.2	22.4	50.6 lbs	1
			(454.3)	(20 kg)	(575)	(260)	(570)	(23 kg)	
Rectifier Module	4.2	1.6	14.0	4.6 lbs	15.5	2.3	8.2	4.8 lbs	1
	(107)	(41)	(355)	(2.1 kg)	(394)	(58)	(208)	(2.2 kg)	

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			
3 Rectifier Positions or 5 Rectifier Positions	3 Rectifiers OR 5 Rectifiers		
STEP 3 - RECTIFIER MODULES - Choose one type only and enter quantity between 1 and 5 - 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	Qty 1 OR Qty 2 OR Qty 3 OR Qty 4 OR Qty 5 OR Qty 1 OR Qty 2 OR Qty 3 OR Qty 4 OR Qty 5 OR Qty 1 OR Qty 2 OR Qty 3 OR Qty 4 OR Qty 5		
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	4 Relays OR 10 Relays		
STEP 5 - BATTERY LVD CONTACTOR - Select 125A or 200A (default)			
125A or 200A LVBD	125A OR 200A		
STEP 6 - DISTRIBUTION OPTIONS - Select one only			
1 x Battery Breaker + 9 x 18mm Load Breakers OR 1 x Battery Breaker + 13 x 13mm Load Breakers OR 2 x Battery Breaker + 8 x 18mm Load Breakers OR 2 x Battery Breaker + 11 x 13mm Load Breakers OR 3 x Battery Breaker + 6 x 18mm Load Breakers OR 3 x Battery Breaker + 9 x 13mm Load Breakers			
STEP 7 - BATTERY BREAKERS - Choose rating and quantity based on step 6 choice or NONE (Breakers MUST be identical rating)			
No Breakers (Not recommended) OR 80A x 1 or x 2 or x 3 OR 100A x 1 or x 2 or x 3 OR 125A x 1 or x 2 or x 3	None OR Qty 1 OR Qty 2 OR Qty 3 OR Qty 1 OR Qty 2 OR Qty 3 OR Qty 1 OR Qty 2 OR Qty 3		
STEP 8 - PARTIAL LOAD DISCONNECT (PLD) - Select YES or NO (default)			
125A PLD (non-critical load / load shed disconnect)	YES OR NO		
STEP 9 - LOAD BREAKERS - Choose quantity for desired ratings based on step 6 choice When the PLD option is not selected populate only LVD 'critical' circuits column. [Configuration will be checked by UNIPOWER]			
4A single pole (1 position) [available all options] 6A single pole (1 position) [available all options] 10A single pole (1 position) [available all options] 16A single pole (1 position) [available all options] 20A single pole (1 position) [available all options] 25A single pole (1 position) [available all options] 32A single pole (1 position) [available all options] 40A single pole (1 position) [available all options] 50A single pole (1 position) [available 18mm options only] 63A single pole (1 position) [available all options] 80A two pole (2 position) [available 13mm options only] 100A two pole (2 position) [available 13mm options only] 125A three pole (3 position) [available 13mm options only] 150A three pole (3 position) [available 13mm options only]	LVD CIRCUITS (Critical) Quantity ____	PLD CIRCUITS (non Critical) Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____ Quantity ____	
STEP 10 - TEMPERATURE SENSOR - available for battery and ambient temperature measurement			
Battery Temperature Sensor Ambient Temperature Sensor	NONE OR 3m (-10ft) OR 6m (-20ft) NONE OR 3m (-10ft) OR 6m (-20ft)		
STEP 11 - SYMMETRY CABLES (Choose maximum 4 total end measure OR 3 mid measure)			
Symmetry Cable - 1.9m (-6ft) - end measure - 3.0m (-10ft) - end measure - 6.0m (-20ft) - end measure OR - 2.3m (-7.2ft) - mid measure	NONE Qty 1 Qty 2 Qty 3 Qty 4 NONE Qty 1 Qty 2 Qty 3 Qty 4 NONE Qty 1 Qty 2 Qty 3 Qty 4 OR NONE Qty 1 Qty 2 Qty 3		
STEP 11 - OPTIONS & ACCESSORIES (Select required items)			
Standard Top/Rear Cover OR Extended Top/Rear Cover Surge Protection Kit (factory fit) RS232 Cable - 1m (-3ft) - RJ45 to DB9	Standard Top/Rear OR Extended Top/Rear NONE OR 1-phase OR 3-phase NONE OR YES		
STEP 12 - SUBMIT COMPLETED FORM TO UNIPOWER FOR CHECKING AND ALLOCATION OF CONFIGURATION PART NUMBER			
Configuration Part Number: 1-MS0027G _____ (leave blank for completion by UNIPOWER)			