

INDUSTRIES & APPLICATIONS



Telecom



Cable



Utilities



Government



Industrial



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



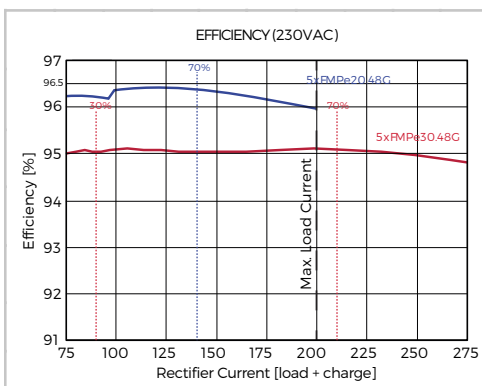
KEY FEATURES

- ◆ >96% Efficiency Rectifiers
- ◆ 300A / 14.5kW Total Capacity
- ◆ Remote Monitoring & Control
- ◆ Field Replaceable Controller
- ◆ Ethernet Comm. with SNMPv3
- ◆ 3 LED Alarm/Status Indicators
- ◆ 4 or 10 Form-C Relay Alarms
- ◆ Up to 9 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.

THREE YEAR WARRANTY



DESCRIPTION

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 is available with battery charge current up to 100A 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 9 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 200A low voltage battery disconnect (LVBD) is included as standard; while an optional partial load disconnect (PLD), rated at 125A and also programmable, can provide non-critical load shedding when operating on batteries.

The ACX Advanced 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 - MS0027G	
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 100A charge (s/w controlled)
No. Rectifier Slots	3 or 5 (see configuration guide on page 6)	
DC DISTRIBUTION		
Loads Circuits	1 to 9 (4A to 150A - see configuration guide on page 6)	
Battery Circuits	1 to 3 x (80A, 100A or 125A)	
INPUT		
Voltage (nominal)	1-phase 100-120/200-240VAC (L + N + PE) 2-phase 200-240VAC (L1 + L2 + 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 6)	
MONITORING & CONTROL (ACX Advanced 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 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	

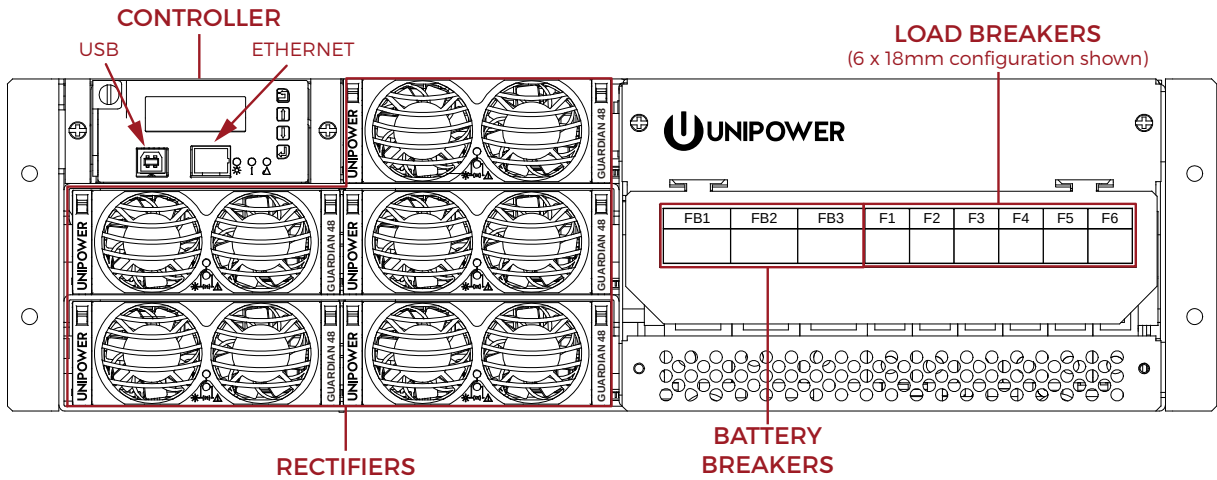
RECTIFIER MODULES vs. SYSTEM CAPACITIES

RECTIFIER MODULES						SYSTEM CAPACITY @ FLOAT		
MODEL NUMBER	EFFICIENCY ¹	INPUT VOLTAGE ²	INPUT CURRENT ³	OUTPUT POWER	OUTPUT CURRENT 48V / 53.5V	MAX. CHARGE CURRENT	MAX. LOAD CURRENT ⁵	
							TOTAL	4+1
FMPe20.48G	>96.0%	85-180VAC	9.6A	1100W ⁴	22.9A / 20.6A ⁴	75A ⁴	103A	82A ⁴
		180-275VAC	11.6A	2000W	41.7A / 37.4A	100A	187A	150A
FMP25.48G	>92.5%	85-180VAC	14.4A	1400W ⁴	29.2A / 26.2A ⁴	75A ⁴	131A	105A ⁴
		180-275VAC	16.8A	2500W	52.1A / 46.7A	100A	200A	187A
FMPe30.48G	>95.0%	85-180VAC	15.7A	1700W ⁴	35.4A / 31.8A ⁴	75A ⁴	175A	140A ⁴
		180-275VAC	17.0A	2900W	60.0A / 54.2A	100A	200A	200A

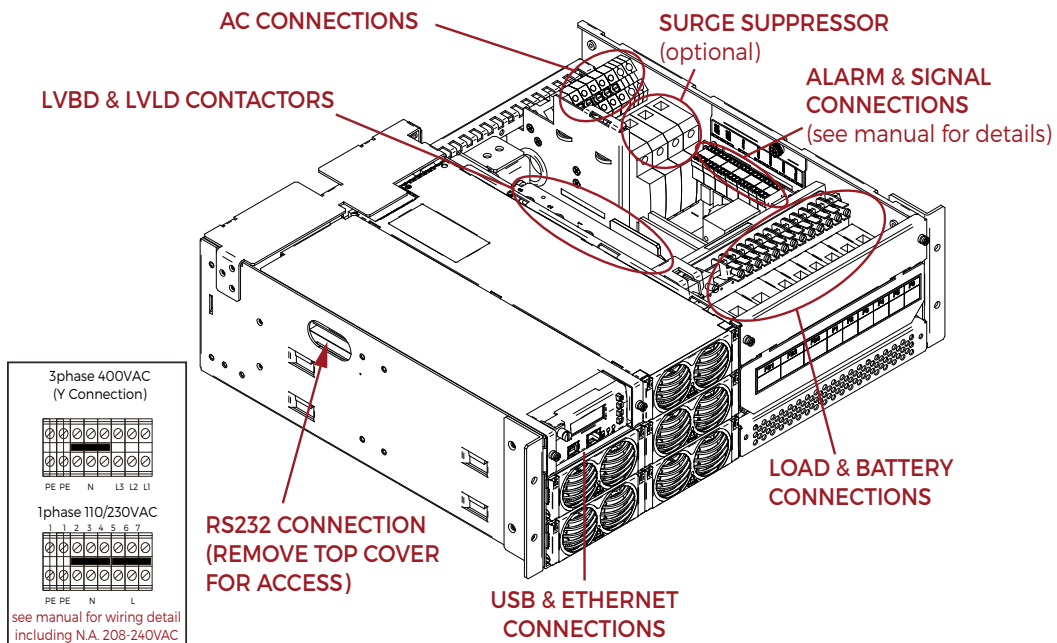
Notes:

- 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 require reduction in maximum charge current when batteries not fully charged.

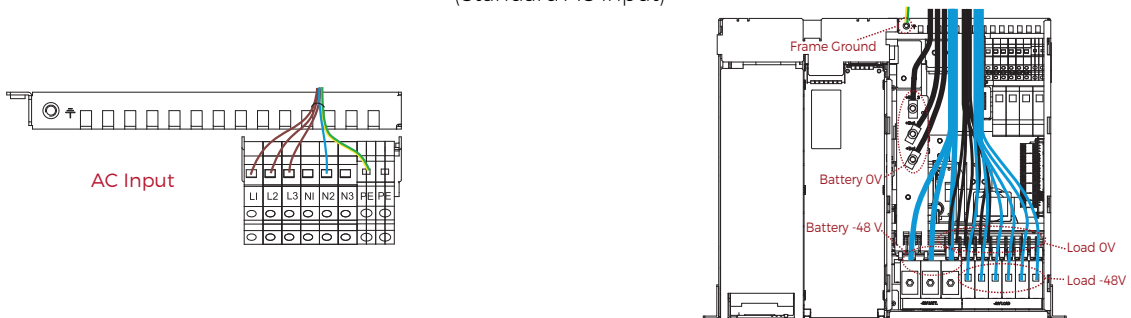
FRONT PANEL DESCRIPTION



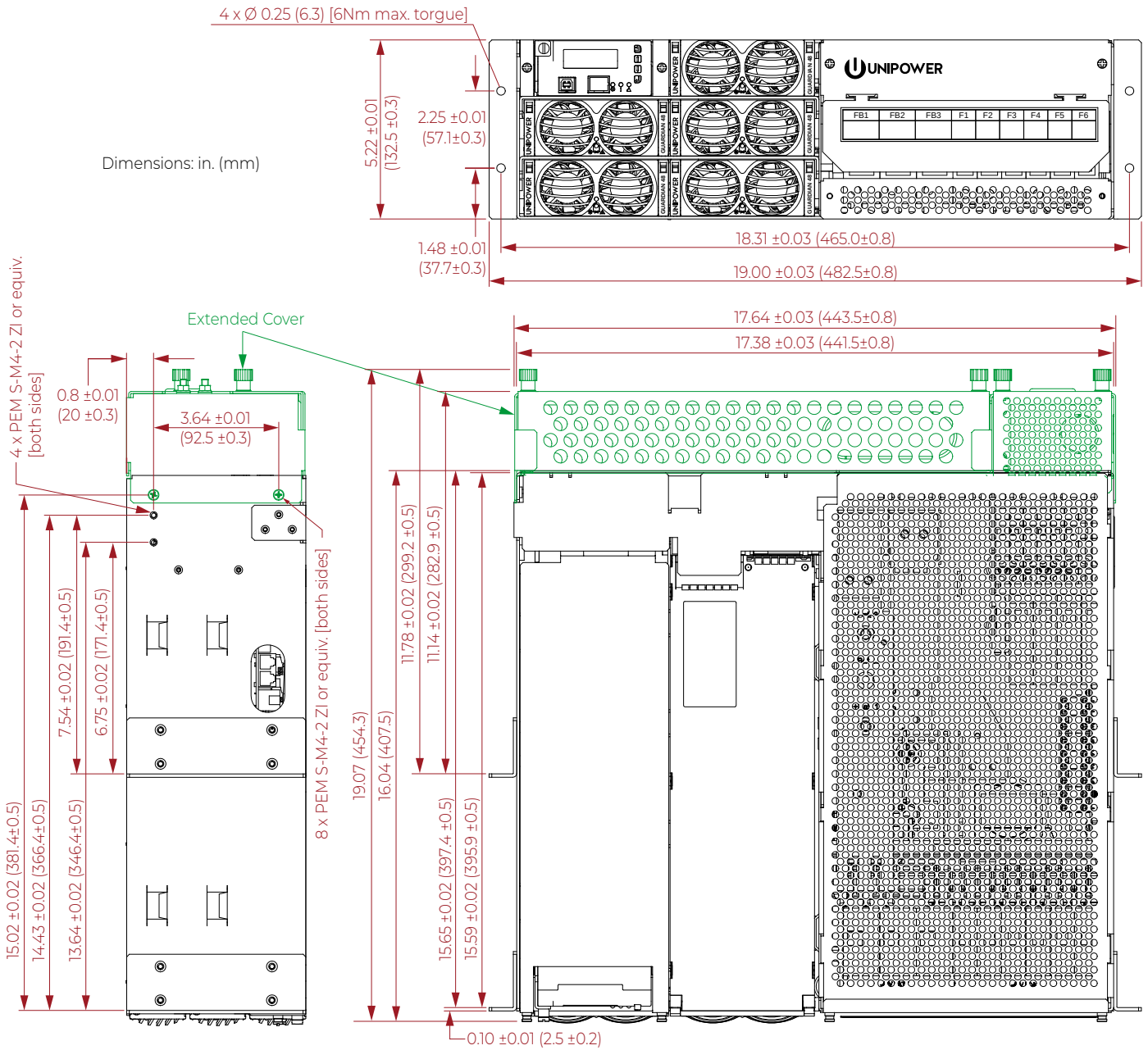
PERSPECTIVE FRONT VIEW



CABLE ROUTING (Standard AC Input)



DETAILED DIMENSIONS



REAR VIEWS

Standard Cover - used on Standard Input Units



Extended Cover - used on Individual In



WEIGHTS & DIMENSIONS

UNIT TYPE	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit (Standard)	19.00 (482.5)	5.22 (132.5)	16.04 (407.5)	39.6 lbs (18 kg)	22.6 (575)	10.2 (260)	19.3 (490)	46.2 lbs (21 kg)	1
System Unit (Extended Top)			19.07 (454.3)	44 lbs (20 kg)	22.6 (575)	10.2 (260)	22.4 (570)	50.6 lbs (23 kg)	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)

PRE-CONFIGURED STOCK MODELS

(normally held in stock for immediate delivery)

ORDER CODE	DESCRIPTION
MS0027G*900041	3 Rectifier Position Chassis - Standard Input ACX Advanced Controller 4 Alarm Relays 100A Battery Breaker (x2) Load Breakers (18mm): 63A (x2) / 32A (x2) / 20A (x2) / 10A (x2) 3m Temp. Sensor Cable (x1) 3m Symmetry Cable (x2) Standard Cover Kit [Rectifiers & Blanking Modules must be ordered separately.]
MS0027G*900042	5 Rectifier Position Chassis - Standard Input ACX Advanced Controller 4 Alarm Relays 100A Battery Breaker (x2) Load Breakers (18mm): 63A (x2) / 32A (x2) / 20A (x2) / 10A (x2) 3m Temp. Sensor Cable (x1) 3m Symmetry Cable (x2) Standard Cover Kit [Rectifiers & Blanking Modules must be ordered separately.]
FMPe20.48G	Rectifier module - 42 Amp [IMPORTANT - install only the same type and rating rectifiers in each systems.]
FMP25.48G	Rectifier module - 52 Amp [IMPORTANT - install only the same type and rating rectifiers in each systems.]
FMPe30.48G	Rectifier module - 60 Amp [IMPORTANT - install only the same type and rating rectifiers in each systems.]
XGB-01-G	Rectifier dummy module [Must be ordered to fill unused rectifier positions.]

For configurations when the pre-configured stock models do not suit the requirement please complete the "non-stock configuration guide" on the next page and email to customer.services@unipowerco.com for verification and quotation.

NON-STOCK CONFIGURATION GUIDE

(normally configured from stock 'base' units)

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: _____
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STEP 2 - CHASSIS TYPE - Choose one version

3 Rectifier Positions with Standard AC Input OR 5 Rectifier Positions with Standard AC Input OR 5 Rectifier Position with Individual AC Inputs for each position	3 Rectifier Positions - Standard OR 5 Rectifier Positions - Standard OR 5 Rectifier Positions - Individual (NA/CALA only)
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STEP 3 - RECTIFIER MODULES - Choose one type only and enter quantity between 1 and 3 or 5 - blanking modules will be inserted into unused slots

FMPe20.48 - 2000W / 40A - >96% Efficiency FMP25.48 - 2500W / 52A - >92% Efficiency FMPe30.48 - 2900W / 60A - >95% Efficiency	<table style="width: 100%; text-align: center;"> <tr> <td>Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> <td>OR Qty 4</td> <td>OR Qty 5</td> </tr> <tr> <td>OR Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> <td>OR Qty 4</td> <td>OR Qty 5</td> </tr> <tr> <td>OR Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> <td>OR Qty 4</td> <td>OR Qty 5</td> </tr> </table>	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
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 - ALARM INTERFACE - Select desired alarm interface [Individual Input Chassis has 10 relay interface by default]

Alarm Interface - 4 Relays OR 10 Relays	4 Relays OR 10 Relays
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STEP 5 - PARTIAL LOAD DISCONNECT (PLD) - Select YES or NO

125A (non-critical load / load shed disconnect)	YES OR NO
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STEP 6 - DISTRIBUTION OPTIONS - Select one only

1 x Battery Breaker Position + 9 x Load Breaker Positions OR 2 x Battery Breaker Positions + 8 x Load Breaker Positions OR 3 x Battery Breaker Positions + 6 x Load Breaker Positions	<table style="width: 100%;"> <tr> <td style="width: 33%;">1 + 9</td> <td>[Consult Sales for availability]</td> </tr> <tr> <td>OR 2 + 8</td> <td>[Standard configuration]</td> </tr> <tr> <td>OR 3 + 6</td> <td>[Consult Sales for availability]</td> </tr> </table>	1 + 9	[Consult Sales for availability]	OR 2 + 8	[Standard configuration]	OR 3 + 6	[Consult Sales for availability]
1 + 9	[Consult Sales for availability]						
OR 2 + 8	[Standard configuration]						
OR 3 + 6	[Consult Sales for availability]						

STEP 7 - BATTERY BREAKERS - Choose rating and quantity based on step 6 choice or NONE (Breakers MUST be identical rating)

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	<table style="width: 100%;"> <tr> <td style="width: 33%;">OR Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> </tr> <tr> <td>OR Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> </tr> <tr> <td>OR Qty 1</td> <td>OR Qty 2</td> <td>OR Qty 3</td> </tr> </table>	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
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 - LOAD BREAKERS - Choose quantity for desired ratings - maximum positions dependent on choice made at step 6

When the PLD option is not selected populate only LVBD 'critical' circuits column. [Configuration will be checked by UNIPOWER]

Two and three pole options are configured to support a single load at the load capacity indicated. 4A single pole (1 position) [load capacity 4A] 6A single pole (1 position) [load capacity 6A] 10A single pole (1 position) [load capacity 10A] 16A single pole (1 position) [load capacity 16A] 20A single pole (1 position) [load capacity 20A] 25A single pole (1 position) [load capacity 25A] 32A single pole (1 position) [load capacity 32A] 40A single pole (1 position) [load capacity 40A] 50A single pole (1 position) [load capacity 50A] 63A single pole (1 position) [load capacity 63A] 50A two pole (2 position) [load capacity 80A] 63A two pole (2 position) [load capacity 100A] 50A three pole (3 position) [load capacity 120A] (available in EMEA only) 63A three pole (3 position) [load capacity 150A]	LVBD CIRCUITS (Critical) Reduce total by no. selected for PLD Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 9 Max.) Quantity ____ (1 to 4 Max.) Quantity ____ (1 to 4 Max.) Quantity ____ (1 to 3 Max.) Quantity ____ (1 to 3 Max.)	PLD CIRCUITS (non Critical) Min. 2, Max. 4 Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (2, 3 or 4) Quantity ____ (1 or 2) Quantity ____ (1 or 2) Quantity ____ (1 ONLY) Quantity ____ (1 ONLY)
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STEP 9 - TEMPERATURE SENSOR - available for battery and ambient temperature measurement

None OR 3.0m (~10ft) [Preferred] OR 6.0m (~20ft)	NONE OR Qty 1 OR Qty 2 OR Qty 1 OR Qty 2
--	--

STEP 10 - SYMMETRY CABLES - choose none or type and length as desired. Quantity will be matched to battery breakers installed.

None OR - End Measure (3-wire 4 block) 3.0m (~10ft) [Preferred] OR - End Measure (3-wire 4 block) 6.0m (~20ft) OR - Mid Measure (1-wire 2 block) 3.1m (~10ft) [Preferred] OR - Mid Measure (1-wire 2 block) 6.0m (~20ft)	NONE OR End Measure 3.0m OR End Measure 6.0m OR Mid Measure 3.1m OR Mid Measure 6.0m
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STEP 11 - SURGE PROTECTION KIT

1-phase or 3-phase [not available with individual AC input configurations]	NONE OR 1-phase OR 3-phase
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STEP 12 - SUBMIT COMPLETED FORM TO UNIPOWER FOR CHECKING AND ALLOCATION OF CONFIGURATION PART NUMBER

Configuration Part Number: MS0027G_____ (leave blank for completion by UNIPOWER)
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