GUARDIAN ACCESS 23

MODELS GDN 23" 5U & GDN 23" 6U
5/6U Integrated DC Power System
-48VDC | 600A | 29kW

INDUSTRIES & APPLICATIONS

Telecom · Cable · Utilities · Government · Industrial

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

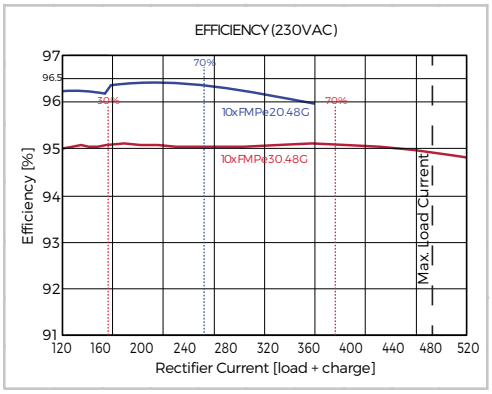
KEY FEATURES

- >96% Efficiency Rectifiers
- 600A / 29kW 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 26 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.

THREE YEAR WARRANTY



DESCRIPTION

Guardian Access 23 are 5RU or 6RU high 23" rack-mounted, integrated DC power systems providing an output of -48VDC. These systems can accommodate up to five (5U) or ten (6U) Guardian family high efficiency hot-swap rectifiers. A load current of 500A is available with battery charge current up to 145A subject to an overall 600A. 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 26 loads which utilize circuit breakers capacities from 2A to 150A plus up to six 100A to 300A breakers that provide battery protection. A programmable low voltage battery disconnect (LBVD) is available with a 500A contactor; while a partial load disconnects (PLD), rated at 125A or 200A 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 is compatible with UNIPOWER's free PowCom™ software which offers local and remote management through an advanced Windows GUI.

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SYSTEM SPECIFICATION & CAPABILITY GUIDE

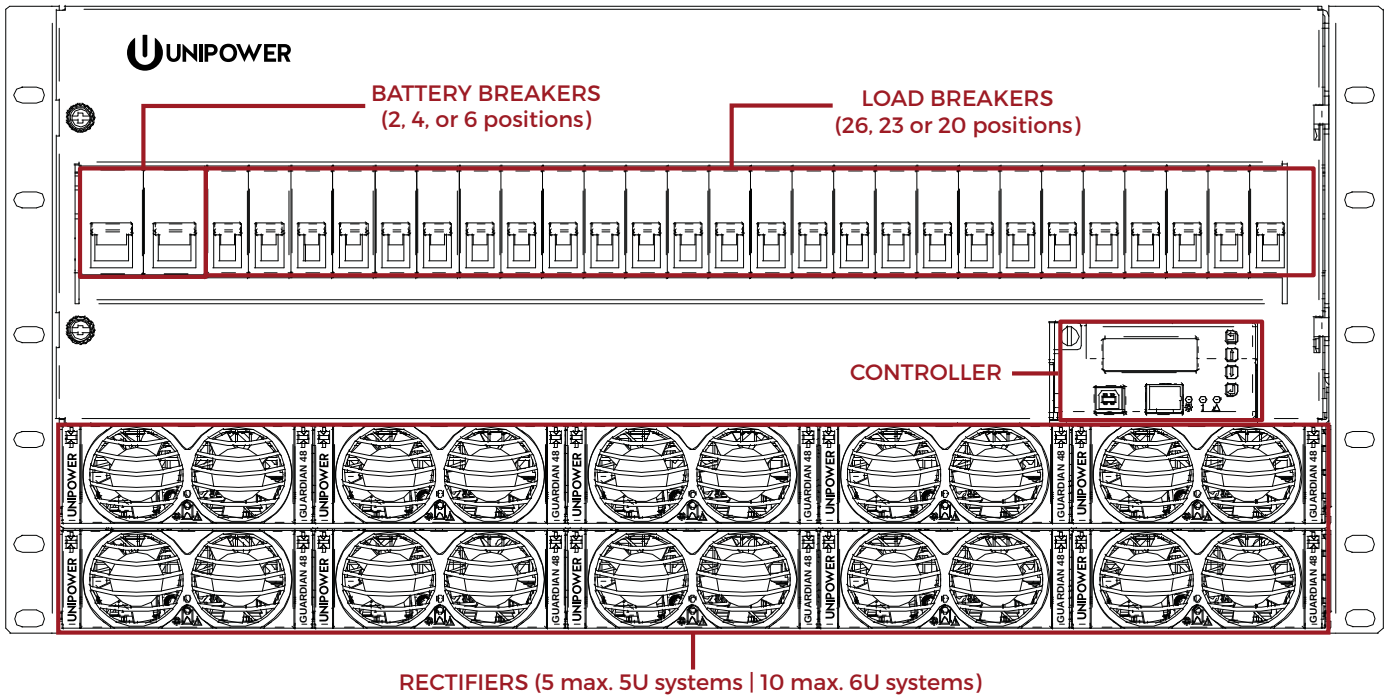
SYSTEM DESIGNATION	GUARDIAN ACCESS 23 - MS0032G	
OUTPUT		
System Voltage	-48VDC nominal | 53.5VDC float	
Maximum Capacity @ 120VAC nominal	Load	318A
	Battery	318A discharge | 145A charge (s/w controlled)
Maximum Capacity @ 230/400VAC nominal	Load	500A
	Battery	500A discharge | 145A charge (s/w controlled)
No. Rectifier Slots	5 or 10 (see configuration guide on page 5)	
DC DISTRIBUTION		
Loads Circuits	up to 26 x 18mm (2A to 150A - see configuration guide on page 5)	
Battery Circuits	2, 4 or 6 x (100A, 125A, 200A, 250A or 300A)	
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	200A @ 100-120VAC | 169A @ 200-240VAC | 56A per phase @ 400/230VAC	
Rectifier Power Factor	>0.98 (typical)	
Surge Protection	Optional (see configuration guide on page 5)	
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 (LVD)	1 x 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 (float voltage 53.5V)						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	4+1	TOTAL	9+1
FMPe20.48G	>96.0%	85-180VAC	9.6A	1100W[4]	22.9A / 20.6A[4]	103A[4]	82A[4]	206A[4]	185A[4]
		180-275VAC	11.6A	2000W	41.7A / 37.4A	187A	150A	374A	337A
FMP25.48G	>92.5%	85-180VAC	14.4A	1400W[4]	29.2A / 26.2A[4]	131A[4]	105A[4]	262A[4]	236A[4]
		180-275VAC	16.8A	2500W	52.1A / 46.7A	187A	187A	467A	420A
FMPe30.48G	>95.0%	85-180VAC	15.7A	1700W[4]	35.4A / 31.8A[4]	234A[4]	127A[4]	318A[4]	286A[4]
		180-275VAC	17.0A	2900W	60.0A / 54.2A	271A	217A	500A	488A

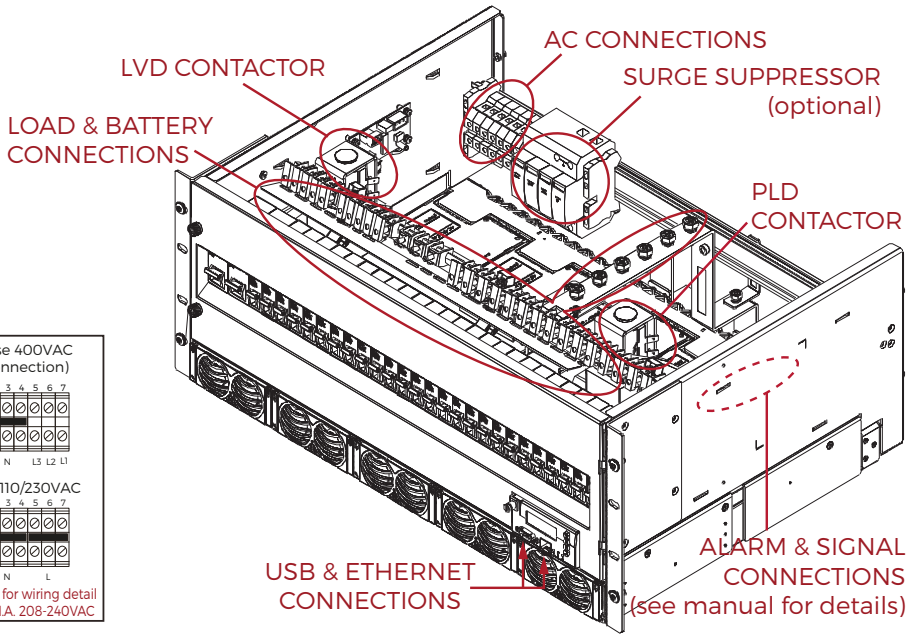
Notes:
1. When operating at 230VAC.
2. All models will operate over the full range, automatically limiting output current/power according to the actual input voltage range applied.
3. Input currents shown are expected maximums at 85VAC/180VAC as appropriate.
4. Figures quoted are at 110VAC input. Derating is linear from 180VAC to 85VAC. See separate rectifier datasheets for details.
5. May required reduction in maximum charge current when batteries not fully charged.

FRONT PANEL DESCRIPTION



PERSPECTIVE FRONT VIEW

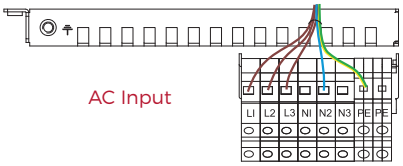
Note that the exact positioning of system components will vary for different configurations.

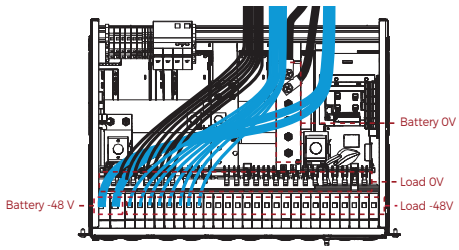


CABLE ROUTING

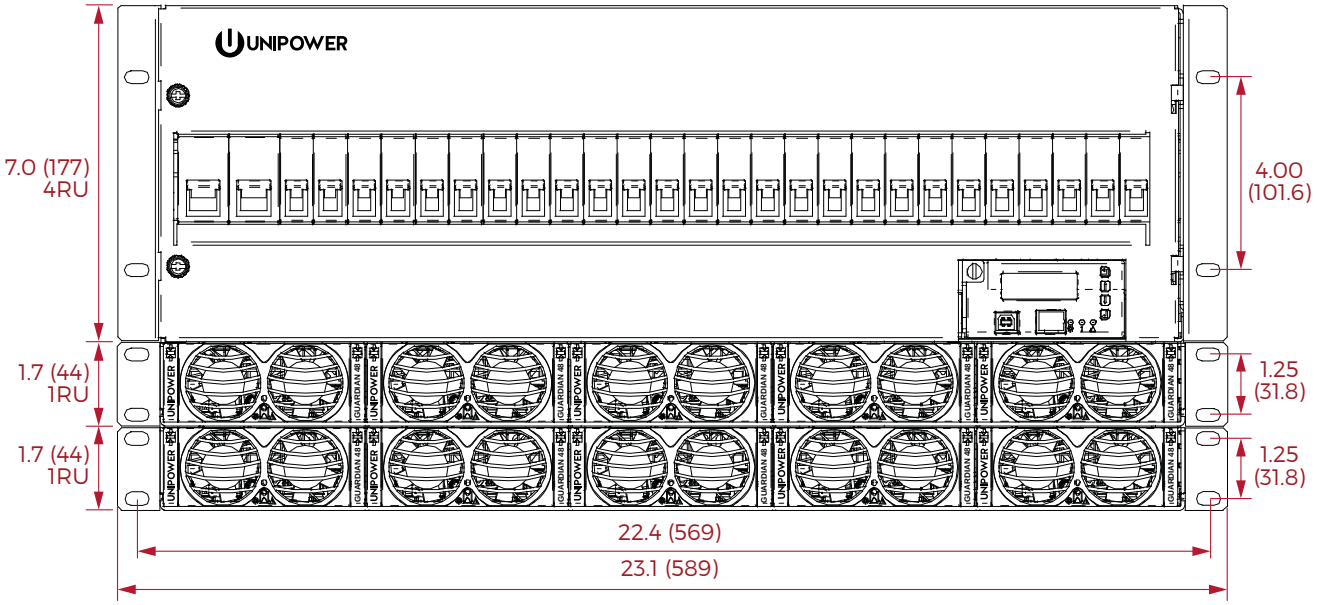
REAR VIEW

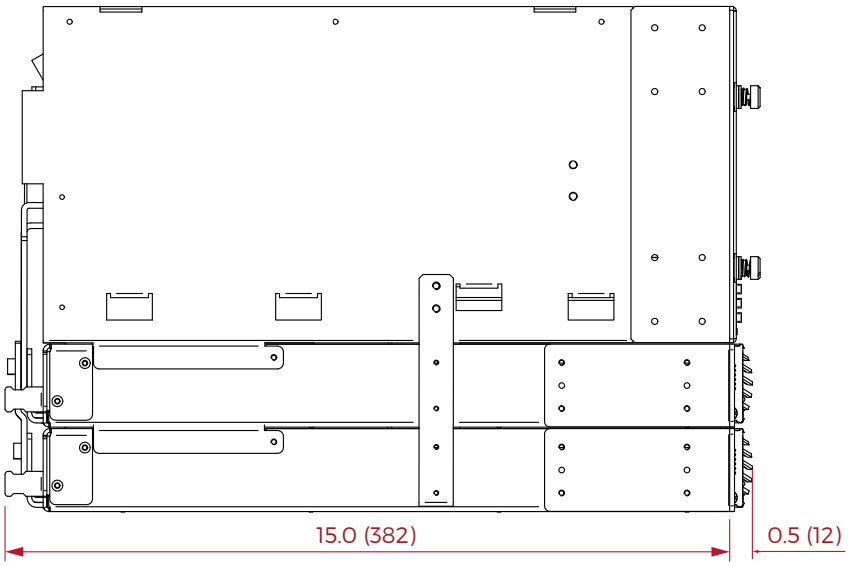
MS32 Version Shown





DETAILED DIMENSIONS - M24



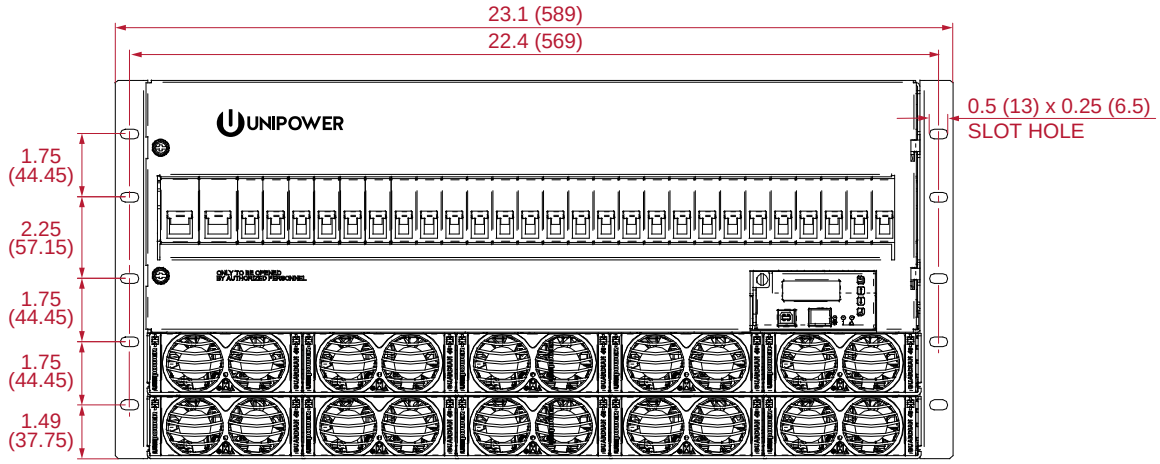


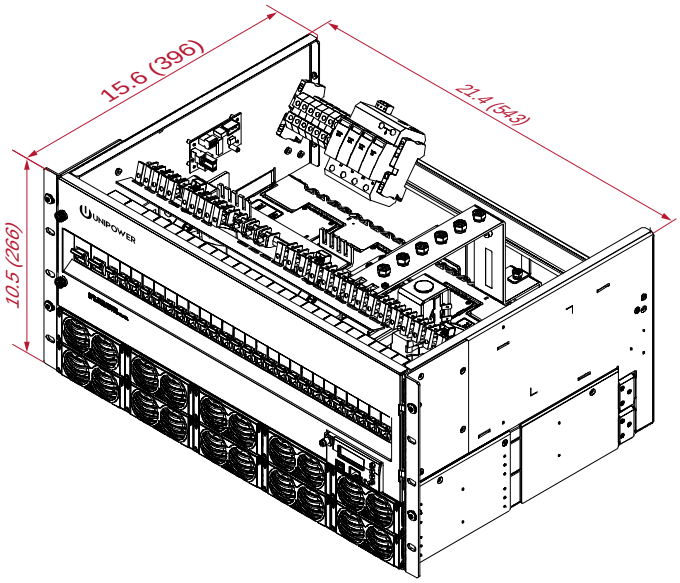
WEIGHTS & DIMENSIONS

UNIT	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit	23.19 (589.0)	5RU 6RU	15.0 (382)	60 lbs (27 kg) max.	27.3 (693)	18.7 (475)	18.9 (480)	64 lbs (29 kg) max.	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

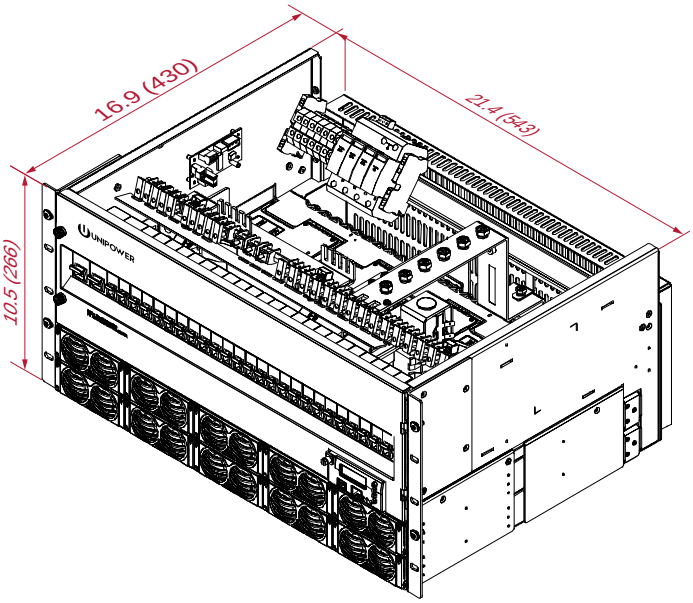
Dimensions in inches (mm)

DETAILED DIMENSIONS - MS32 (APAC version)





WITHOUT REAR COVER



WITH REAR COVER

WEIGHTS & DIMENSIONS

UNIT	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit	23.19 (589.0)	5RU 6RU	16.9 (430)	60 lbs (27 kg) max.	27.3 (693)	18.7 (475)	18.9 (480)	64 lbs (29 kg) max.	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)

UNIPOWER
POWERING TECHNOLOGY

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: _____	Contact Name: _____
Address: _____	Email Address: _____
_____	Telephone: _____
Zip Code: _____ Country: _____	Quantity for quotation: _____

STEP 2 - CHASSIS TYPE - Choose one version

5 Rectifier Positions or 10 Rectifier Positions	5 Rectifiers ☐ OR 10 Rectifiers single input ☐ OR 10 Rectifiers dual input ☐

STEP 3 - RECTIFIER MODULES - Choose one type only and enter quantity between 1 and 10 - 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 ☐ Quantity ____ OR FMPe30.48 ☐

STEP 4 - ALARM INTERFACE - Select desired alarm interface

Alarm Interface - 4 Relays or 10 Relays	4 Relays ☐ OR 10 Relays ☐

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)

100A (1 pole) - 2, 4 or 6 max.	Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐ OR Qty 4 ☐ OR Qty 5 ☐ OR Qty 6 ☐
OR 125A (1 pole) - 2, 4 or 6 max.	OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐ OR Qty 4 ☐ OR Qty 5 ☐ OR Qty 6 ☐
OR 200A (2-pole) - 1, 2 or 3 max.	OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐
OR 250A (2-pole) - 1, 2 or 3 max.	OR Qty 1 ☐ OR Qty 2 ☐ OR Qty 3 ☐
OR 300A (3-pole) - 1 or 2 max. (Not available in EMEA region)	OR Qty 1 ☐ OR Qty 2 ☐

STEP 7 - PARTIAL LOAD DISCONNECT (PLD) - Select 125A or 200A or NO (default)

125A or 200A (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 LVD '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]

Two and three pole options are configured to support a single load at the load capacity indicated.	LVBD CIRCUITS (Critical)	PLD CIRCUITS (non Critical)
2A single pole (1 position) [load capacity 2A]	Quantity ____	Quantity
4A single pole (1 position) [load capacity 4A]	Quantity ____	Quantity
6A single pole (1 position) [load capacity 6A]	Quantity ____	Quantity
10A single pole (1 position) [load capacity 10A]	Quantity ____	Quantity
16A single pole (1 position) [load capacity 16A]	Quantity ____	Quantity
20A single pole (1 position) [load capacity 20A]	Quantity ____	Quantity
25A single pole (1 position) [load capacity 25A]	Quantity ____	Quantity
32A single pole (1 position) [load capacity 32A]	Quantity ____	Quantity
40A single pole (1 position) [load capacity 40A]	Quantity ____	Quantity
50A single pole (1 position) [load capacity 50A]	Quantity ____	Quantity
63A single pole (1 position) [load capacity 63A]	Quantity ____	Quantity
50A two pole (2 position) [load capacity 80A]	Quantity ____	Quantity ____
63A two pole (2 position) [load capacity 100A]	Quantity ____	Quantity ____
50A three pole (3 position) [load capacity 120A]	Quantity ____	Quantity ____
63A three pole (3 position) [load capacity 150A]	Quantity ____	Quantity ____

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 ☐

STEP 11 - OPTIONS & ACCESSORIES (Select required items)

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: MS0032G_____ (leave blank for completion by UNIPOWER)

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