

# GUARDIAN ACCESS 19

MODELS GDN 19" 5U & GDN 19" 6U  
5/6U Integrated DC Power System  
-48VDC | 480A | 23.2kW

## INDUSTRIES & APPLICATIONS



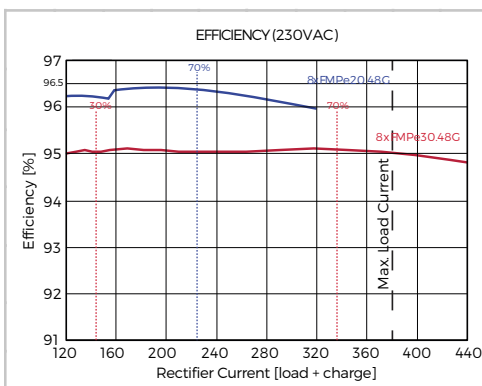
### KEY FEATURES

- ◆ >96% Efficiency Rectifiers
- ◆ 480A / 23.2kW Total Capacity
- ◆ Remote Monitoring & Control
- ◆ Field Replaceable Controller
- ◆ Ethernet Comm. with SNMPv3
- ◆ 3 LED Alarm/Status Indicators
- ◆ 4 or 10 Form-C Relay Alarms
- ◆ Up to 20 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 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 20 loads which utilize circuit breakers capacities from 2A to 150A plus up to six 100A or 300A breakers that provide battery protection. A programmable low voltage battery disconnect (LVBD) is available with a 200A (5RU systems) or 400A (6RU systems) contactor; while one optional partial load disconnects (PLD), rated at 125A (5RU systems) or 200A (6RU systems) 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.

[www.unipowerco.com](http://www.unipowerco.com)

## SYSTEM SPECIFICATION & CAPABILITY GUIDE

SYSTEM DESIGNATION	GUARDIAN ACCESS 19 - MS0031G	
<b>OUTPUT</b>		
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)	
<b>DC DISTRIBUTION</b>		
Loads Circuits	up to 20 (4A to 150A - see configuration guide on page 5)	
Battery Circuits	2, 4 or 6 x (100A, 125A, 200A, 250A or 300A)	
<b>INPUT</b>		
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)	
<b>MONITORING &amp; CONTROL (ACX Advanced Controller)</b>		
Alarm Relays	10 standard, option for 4 only	
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)	
<b>BATTERY MANAGEMENT</b>		
Symmetry Inputs	6 or 12 (can be redefined as analog inputs up to 100VDC)	
Low Voltage Battery Disconnect (LVBD)	1 x 200A (5RU systems) or 400A (6RU systems) Programmable	
Partial Load Disconnect (PLD)	1 x 125A (5RU systems) or 200A (6RU systems) Programmable (Optional)	
Temperature Compensated Charging	Programmable	
<b>COMPLIANCE</b>		
EMC	EN 300 386 ; EN61000-6-3 (Emission) ; EN61000-6-2 (Immunity)	
Safety	IEC60950-1:2005 2 Ed. +A1:2009	
<b>ENVIRONMENTAL</b>		
Operating Temperature	-40°C to +55°C	
Storage Temperature	-40°C to +85°C	

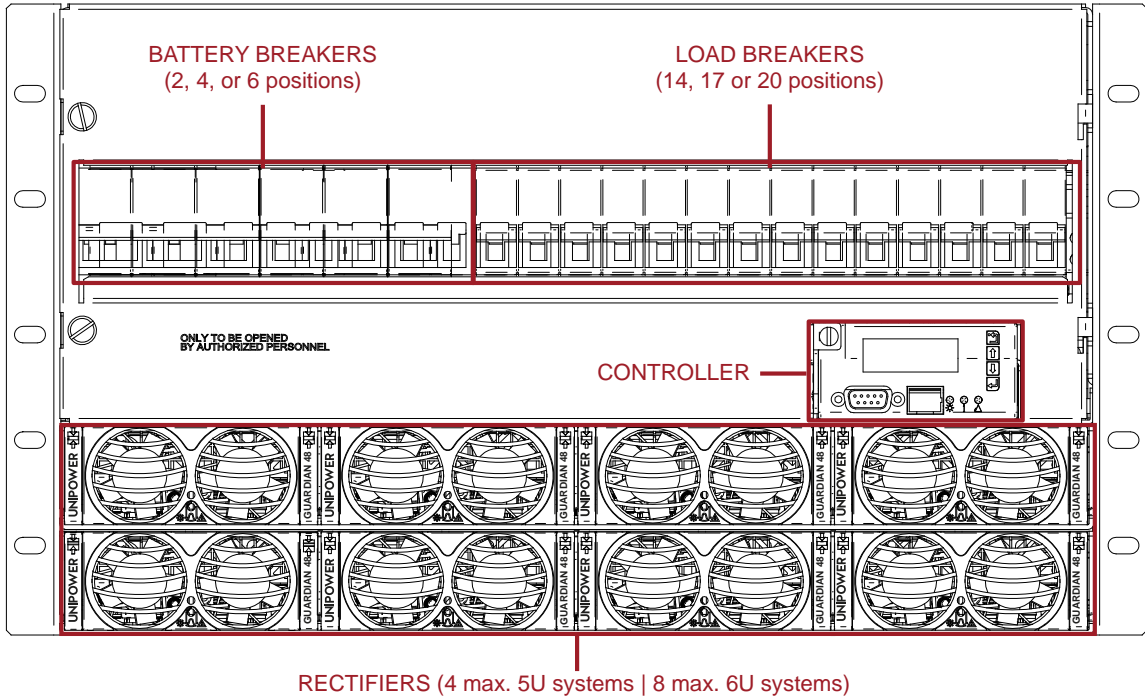
### RECTIFIER MODULES vs. SYSTEM CAPACITIES

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

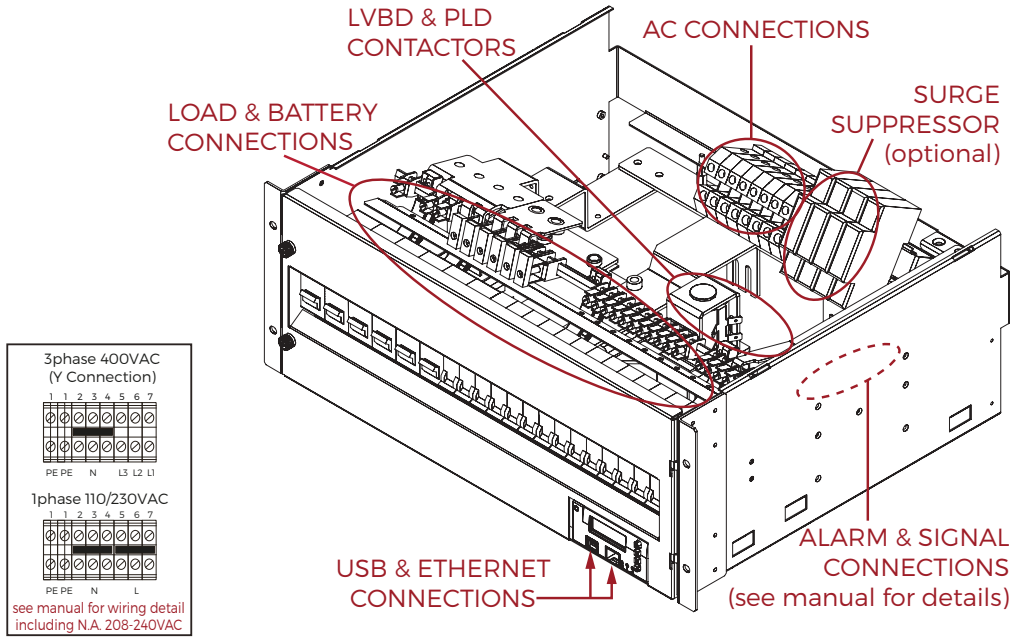
Notes:

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. Max Load Current for 5RU is limited to 200A.

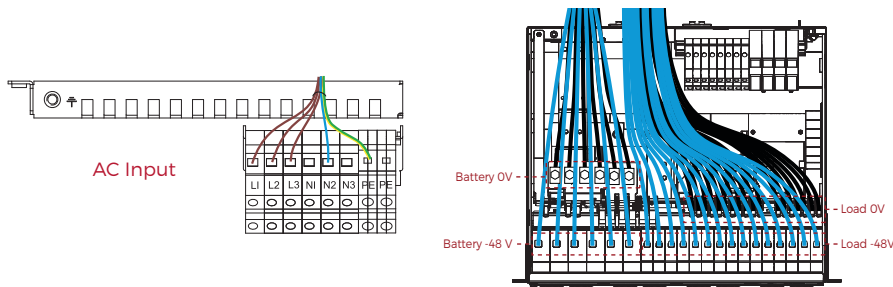
FRONT PANEL DESCRIPTION



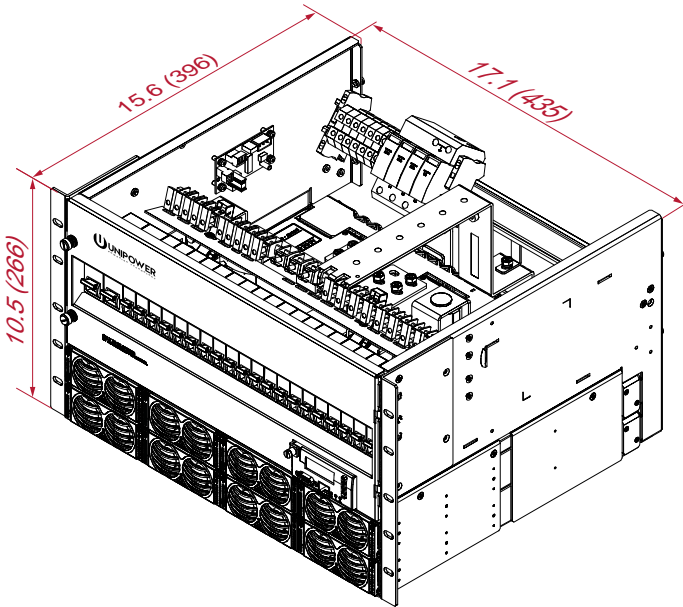
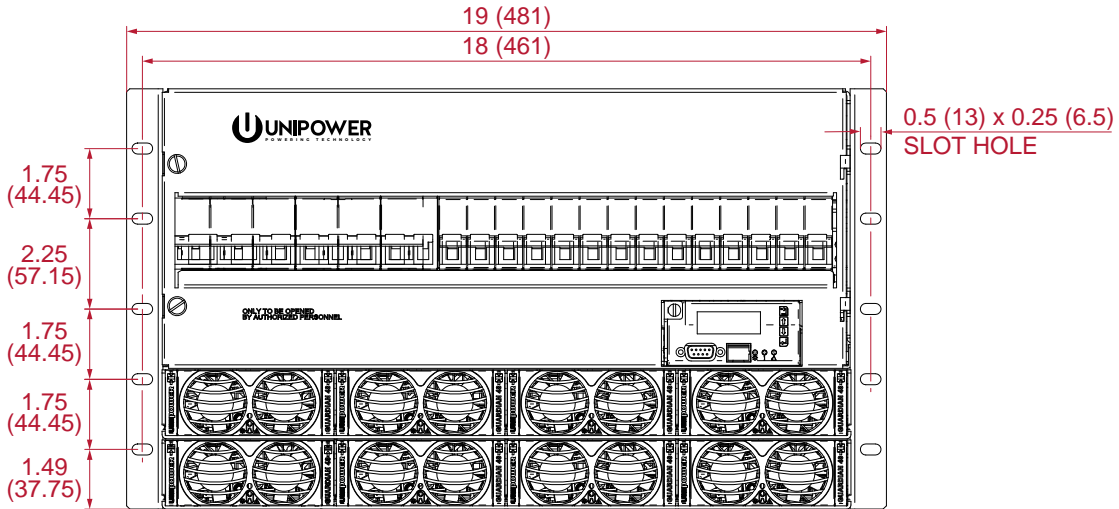
PERSPECTIVE FRONT VIEW



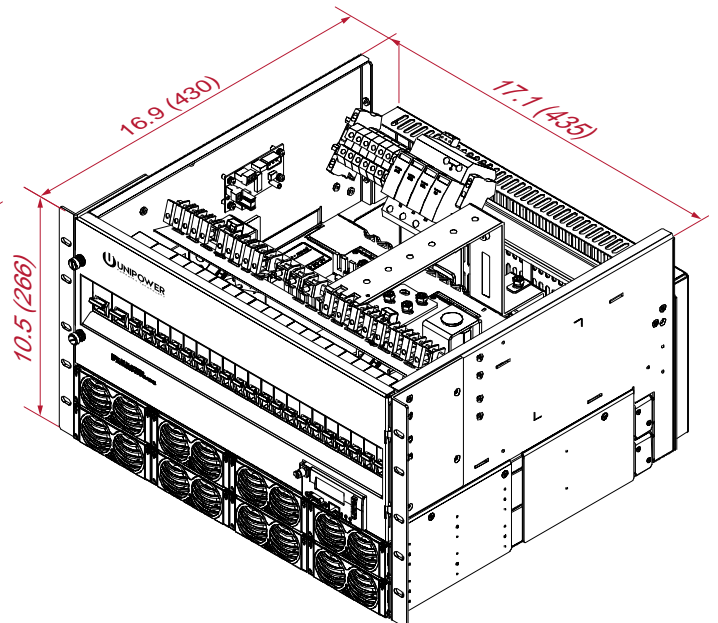
CABLE ROUTING



DETAILED DIMENSIONS



WITHOUT REAR COVER



WITH REAR COVER

### WEIGHTS & DIMENSIONS

UNIT TYPE	UNIT				PACKAGED				
	Width	Height	Depth	Weight	Width	Height	Depth	Weight	# in box
System Unit (No Rear Cover)	18.9 (481)	5RU	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)		5RU	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)

### PRE-CONFIGURED STOCK MODELS

(normally held in stock for immediate delivery)

ORDER CODE	DESCRIPTION
MS0031G*900081	5RU 4 Rectifier Position Chassis with Standard Input ACX Controller 10 alarm relays 100A Battery Breaker (x4) Load Breakers: 63A (x3) / 50A (x3) / 32A (x3) / 25A (x2) / 20A (x2) / 16A (x2) / 10A (x2) 3m Temp. Sensor Cable (x1) 3m Symmetry Cable (x4)  [Rectifiers & Blanking Modules must be ordered separately.]
MS0031G*900082	6RU 8 Rectifier Position Chassis with Standard Input ACX Controller 10 alarm relays 100A Battery Breaker (x4) Load Breakers: 63A (x3) / 50A (x3) / 32A (x3) / 25A (x2) / 20A (x2) / 16A (x2) / 10A (x2) 3m Temp. Sensor Cable (x1) 3m Symmetry Cable (x4)  [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 blanking 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](mailto:customer.services@unipowerco.com) for verification and quotation.

## 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)		
<b>STEP 1 - CUSTOMER DETAILS</b>		
Company: _____ Address: _____ _____ Zip Code: _____ Country: _____	Contact Name: _____ Email Address: _____ Telephone: _____ Quantity for quotation: _____	
<b>STEP 2 - CHASSIS TYPE - Choose one version [Individual Input types available in North America / CALA region only]</b>		
4 Rectifier Positions with Standard Input OR Individual Inputs OR 8 Rectifier Positions with Standard Input OR Individual Inputs	4 Rectifiers - Standard OR 8 Rectifiers - Standard	OR 4 Rectifiers - Individual (NA/CALA) OR 8 Rectifiers - Individual (NA/CALA)
<b>STEP 3 - RECTIFIER MODULES - Choose one type only and enter quantity between 1 and 8 - dummies will be inserted into unused slots</b>		
FMPe20.48 - 2000W / 40A - >96% Efficiency FMP25.48 - 2500W / 52A - >92% Efficiency FMPe30.48 - 2900W / 60A - >95% Efficiency	FMPe20.48 OR FMP25.48 OR FMPe30.48	Quantity ____
<b>STEP 4 - ALARM INTERFACE - Select desired alarm interface</b>		
Alarm Interface - 4 Relays or 10 Relays	4 Relays    OR    10 Relays	
<b>STEP 5 - LOW VOLTAGE BATTERY DISCONNECT (LVBD) - Select 2, 4 (default) or 6 battery breaker positions</b>		
2 battery breaker positions (20 load breaker positions available) 4 battery breaker positions (17 load breaker positions available) 6 battery breaker positions (14 load breaker positions available)	2 positions OR 4 positions OR 6 positions	<b>[Consult Sales for availability]</b> Default <b>[Consult Sales for availability]</b>
<b>STEP 6 - BATTERY BREAKERS - Choose rating and quantity based on step 5 choice (Breakers MUST be identical rating)</b>		
100A (1 pole) - 2, 4 or 6 max. OR 125A (1 pole) - 2, 4 or 6 max. OR 200A (2-pole) - 1, 2 or 3 max. OR 250A (2-pole) - 1, 2 or 3 max. OR 300A (3-pole) - 1 or 2 max. (Not available in EMEA region)	Qty1    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 OR Qty 1    OR Qty 2    OR Qty 3 OR Qty 1    OR Qty 2	
<b>STEP 7 - PARTIAL LOAD DISCONNECT (PLD) - Select YES or NO</b>		
125A (5RU) or 200A (6RU) (non-critical load / load shed disconnect)	YES    OR    NO	
<b>STEP 8 - LOAD BREAKERS - Choose quantity for desired ratings, total 20, 17 or 14 positions based on step 5 selection. When the PLD option is not selected populate only the LVBD 'critical' circuits column. When the PLD option is selected the maximum number of 'critical' circuits is reduced to 9, 6 or 3 respectively. The maximum allowed PLD breakers is always 12. [Configuration will be checked by UNIPOWER]</b>		
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 positions) [load capacity 80A] 63A two pole (2 positions) [load capacity 100A] 50A three pole (3 positions) [load capacity 120A] 63A three pole (3 positions) [load capacity 150A]	<b>LVBD CIRCUITS (Critical)</b>  Quantity ____	<b>PLD CIRCUITS (non-Critical)</b>  Quantity ____
<b>STEP 9 - TEMPERATURE SENSOR - available for battery and ambient temperature measurement</b>		
None OR 3.0m (~10ft) [Preferred] OR 6.0m (~20ft)	NONE OR Qty 1    OR Qty 2 OR Qty 1    OR Qty 2	
<b>STEP 10 - SYMMETRY CABLES - choose none or type and length as desired. Quantity will be matched to battery breakers installed.</b>		
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	
<b>STEP 11 - SURGE PROTECTION - choose none or type desired. [Not available with 'Individual Inputs' chassis types (step 2).]</b>		
None OR 1-phase OR 3-phase	NONE    OR    1-phase    OR    3-phase	
<b>STEP 12 - SUBMIT COMPLETED FORM TO UNIPOWER FOR CHECKING AND ALLOCATION OF CONFIGURATION PART NUMBER</b>		
Configuration Part Number: MS0031G_____ (leave blank for completion by UNIPOWER)		