



For 19" version
with 4/8 rectifiers
and 400A LVBD, see
separate datasheet.



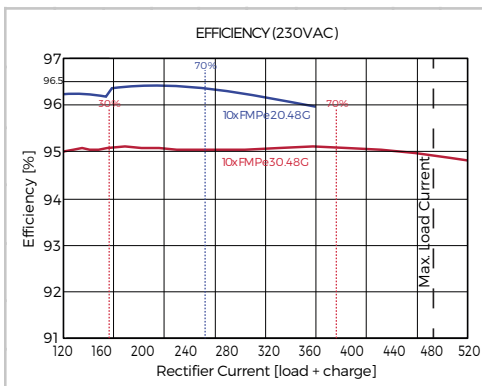
KEY FEATURES

- ◆ >96% Efficiency Rectifiers
- ◆ 500A / 26.8kW 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 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.

TWO-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 software controlled subject to an overall 542A. 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 rated from 2A to 63A plus up to six 100A or 125A breakers that provide battery protection. A programmable 500A low voltage battery disconnect (LVD) is standard 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.

SYSTEM SPECIFICATION & CAPABILITY GUIDE

| SYSTEM DESIGNATION | GUARDIAN ACCESS 19 - 1-M00024G | |
|---|---|--|
| OUTPUT | | |
| System Voltage | -48VDC nominal 53.5VDC float | |
| Maximum Capacity @ 120VAC nominal | Load | 318A |
| | Battery | 318A discharge s/w controlled charge |
| Maximum Capacity @ 230/400VAC nominal | Load | 500A |
| | Battery | 500A discharge s/w controlled charge |
| No. Rectifier Slots | 5 or 10 (see configuration guide on page 5) | |
| DC DISTRIBUTION | | |
| Loads Circuits | up to 26 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 | 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 (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 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 | |

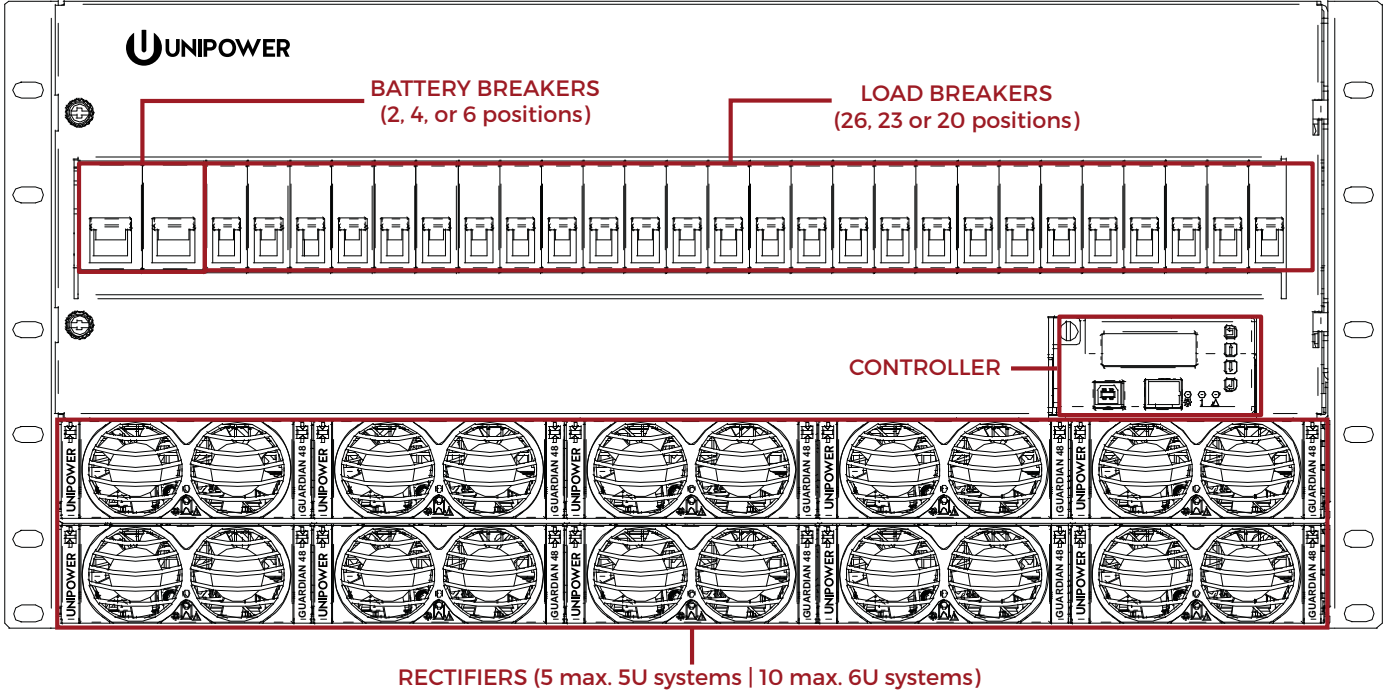
RECTIFIER MODULES vs. SYSTEM CAPACITIES

| RECTIFIER MODULES (float voltage 53.5V) | | | | | | SYSTEM CAPACITY | | | |
|---|-------------------------|----------------------------|----------------------------|--------------------|--------------------|-----------------------|-------------------|-----------------------|-------------------|
| MODEL NUMBER | EFFICIENCY ¹ | INPUT VOLTAGE ² | INPUT CURRENT ³ | OUTPUT POWER | OUTPUT CURRENT | MAX. LOAD CURRENT 5RU | | MAX. LOAD CURRENT 6RU | |
| | | | | | | TOTAL | 4+1 ⁵ | TOTAL | 9+1 ⁵ |
| FMPe20.48G | >96.0% | 85-180VAC | 9.6A | 1100W ⁴ | 20.6A ⁴ | 103A ⁴ | 82A ⁴ | 206A ⁴ | 185A ⁴ |
| | | 180-275VAC | 11.6A | 2000W | 37.4A | 187A ⁴ | 150A ⁴ | 374A ⁴ | 337A ⁴ |
| FMP25.48G | >92.5% | 85-180VAC | 14.4A | 1400W ⁴ | 26.2A ⁴ | 131A ⁴ | 105A ⁴ | 262A ⁴ | 236A ⁴ |
| | | 180-275VAC | 16.8A | 2500W | 46.7A | 187A ⁴ | 187A ⁴ | 467A ⁴ | 420A ⁴ |
| FMPe30.48G | >95.0% | 85-180VAC | 15.7A | 1700W ⁴ | 31.8A ⁴ | 234A ⁴ | 127A ⁴ | 318A ⁴ | 286A ⁴ |
| | | 180-275VAC | 17.0A | 2900W | 54.2A | 271A ⁴ | 217A ⁴ | 500A ⁴ | 488A ⁴ |

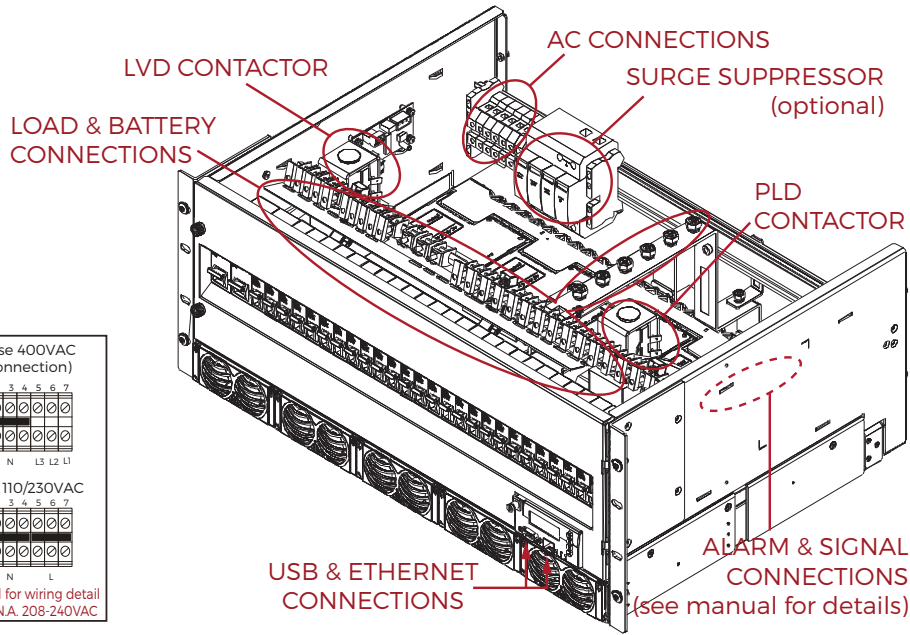
Notes:

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.
6. Rectifier model FMP25.48G is not a preferred model for new requirements. It remains available for existing programmes.

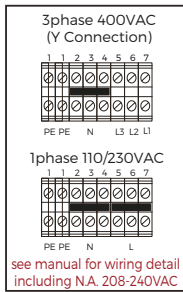
FRONT PANEL DESCRIPTION



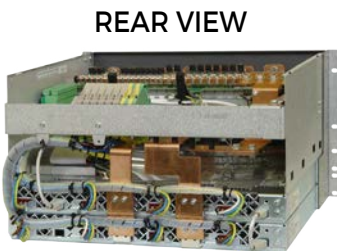
PERSPECTIVE FRONT VIEW



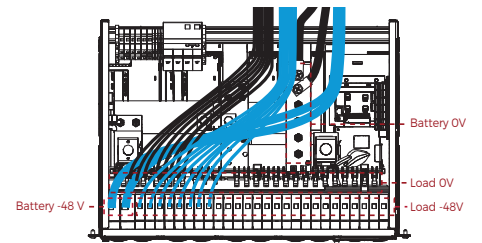
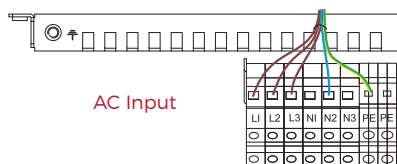
Note that the exact positioning of system components will vary for different configurations.



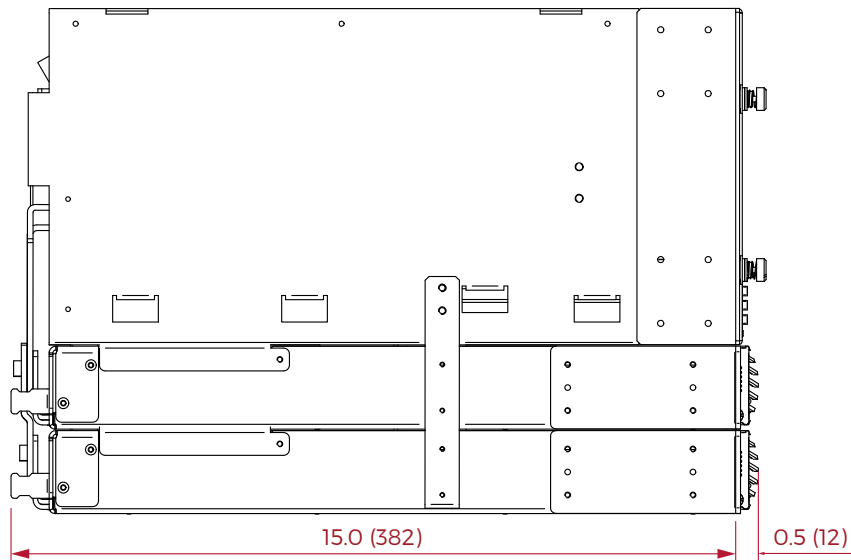
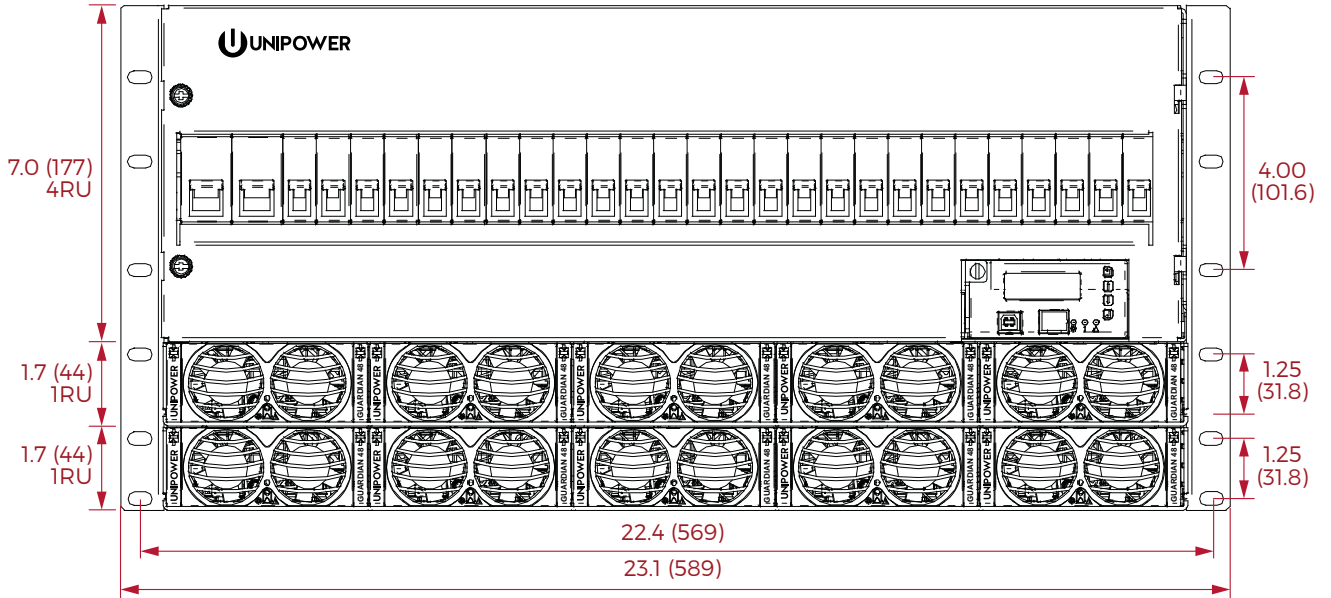
CABLE ROUTING



19" version Shown



DETAILED DIMENSIONS



WEIGHTS & DIMENSIONS

| UNIT | UNIT | | | | PACKAGED | | | | |
|------------------|-----------------|-------------|---------------|---------------------------|---------------|---------------|---------------|---------------------------|----------|
| | Width | Height | Depth | Weight | Width | Height | Depth | Weight | # in box |
| System Unit | 2319 (589.0) | 5RU 6RU | 15.0 (382) | 60 lbs (27 kg) max. | 273 (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)

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: _____ | | |
| Zip Code: _____ Country: _____ | Telephone: _____ | | |
| 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 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 - BATTERY LVD CONTACTOR (400A - Select 2 breaker (default), 4 breaker or 6 breaker (not available with LVLD options)) | | | |
| 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 | |
| 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 x1 or x2 or x3 or x4 or x5 or x6 OR 125A x1 or x2 or x3 or x4 or x5 or x6 OR 125A 2-pole x1 or x2 or x3 | | None OR Qty1 OR Qty2 OR Qty3 OR Qty4 OR Qty5 OR Qty6 OR Qty1 OR Qty2 OR Qty3 OR Qty4 OR Qty5 OR Qty6 OR Qty1 OR Qty2 OR Qty3 | |
| STEP 7 - PARTIAL LOAD DISCONNECT (PLD) - Select 125A or 200A or NO (default) - PLD2 may only be selected with correct Alarm Interface | | | |
| 125A or 200A PLD1 (non-critical load / load shed disconnect) 125A or 200A PLD2 (non-critical load / load shed disconnect) | | 125A OR 200A OR NO 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] | | | |
| | LVD 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 - 3.0m (-10ft) - end measure OR - 2.3m (-7.2ft) - mid measure | | NONE Qty1 Qty2 Qty3 Qty4 NONE Qty1 Qty2 Qty3 Qty4 OR NONE Qty1 Qty2 Qty3 | |
| STEP 11 - OPTIONS & ACCESSORIES (Select required items) | | | |
| Shelf Support Kit | | NONE OR YES | |
| 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: M00034G-_____ (leave blank for completion by UNIPOWER) | | | |