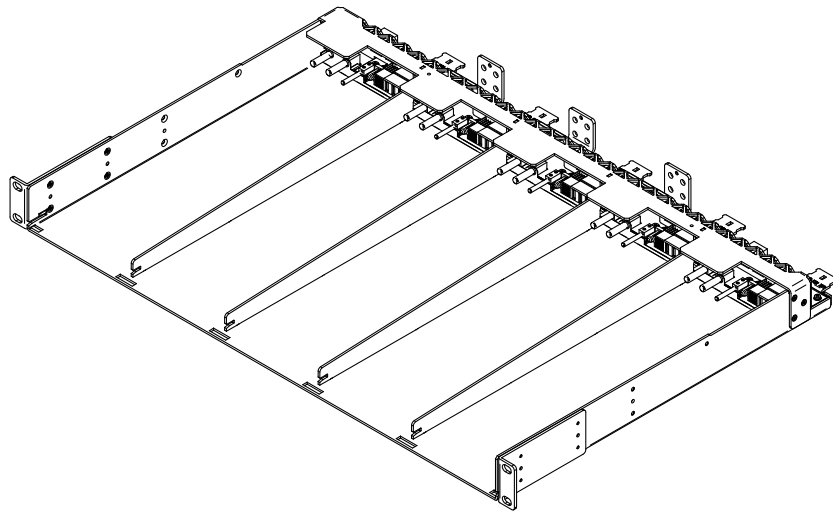
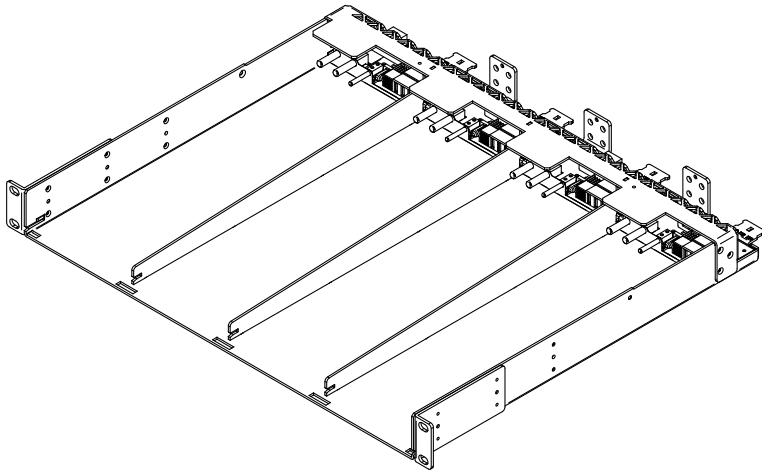




# Dual Voltage Guardian Power Shelves XG1900 / XG2300

## Quick Install Guide



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## START HERE

This guide includes the basic steps for installation of a Guardian Rectifier Shelf. Guardian Rectifier shelves are available in 19 or 23 inch configurations, this guide describes the installation procedure for both configurations into an existing power system setup.

These two shelves have dual output 24V or 48V.

The graphics shown in this installation guide are for the 19 inch version of the shelf. The 19 and 23 inch versions are similar, the 23 inch version is with one more rectifier position.

### Disclaimer

UNIPOWER is not responsible for system problems that are the result of incorrect installation or modification of the instructions provided in this guide.

### WARNING!

There are potential hazards related to this installation. It is strongly recommended to turn off the Power System before performing this installation.

## 1 Mounting the Shelf

It is recommended that the rectifier shelf has a minimum of 5cm between the back of the rectifier shelf and any solid obstruction to allow for air flow out the back of the rectifier (mounting hardware not provided). Each piece of equipment has mounting brackets that may be adjusted for different front to back depths.

Position the rectifier shelf in the 19 or 23 inch rack and secure with 4 mounting screws. Torque according to rack manufacturers specifications.

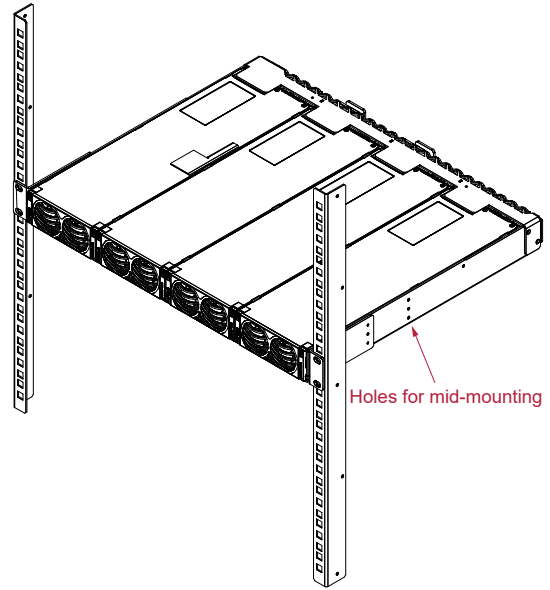
### NOTE

If more than one shelf is being mounted or if the shelf is being mounted below other equipment, it is recommended that mounting is performed starting with the bottom shelf.

### NOTE

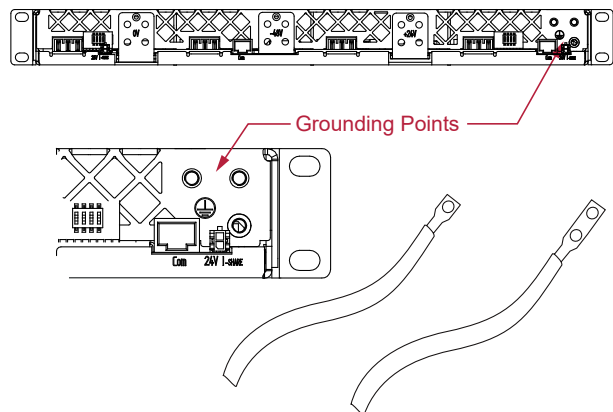
Prior to mounting, verify that all intended cabling is of sufficient length for all connections.

The mounting ears may also be removed and reinserted for mid-mounting of the shelf. There are guide and mounting holes on each side of the shelf for this purpose.



## 2 Grounding

The rectifier shelf should be bonded to the building principal ground busbar. Refer to the NEC, CEC or any local codes for how to bond Telecom DC power equipment to the building ground. The rectifier shelf has two M5 size grounding screws on the rear of the shelf for the purpose of connecting it to the building ground. Use a suitable cable lug and cable to ground to the central office/building ground plane or to the rack the rectifier shelf is being installed into.



Use either a single hole cable lug or a double hole lug to connect the grounding cables to the shelf.

### 3 AC Connections

**WARNING!**

The system operates at AC voltages that can produce fatal electrical shock. Installation personnel should observe all safety precautions.

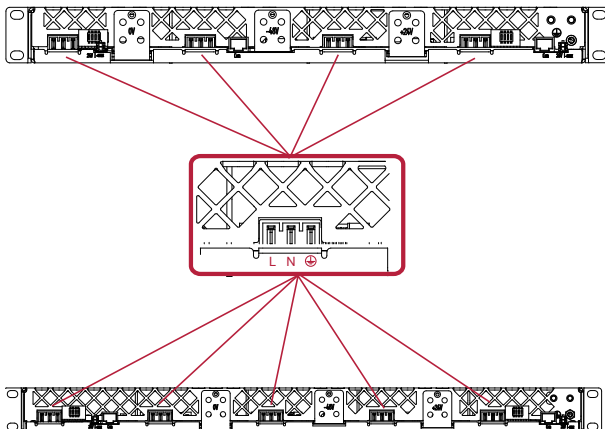
**WARNING!**

A qualified electrician should perform all AC connections per the latest issue of the National Electrical Code (NEC).

**NOTE:**

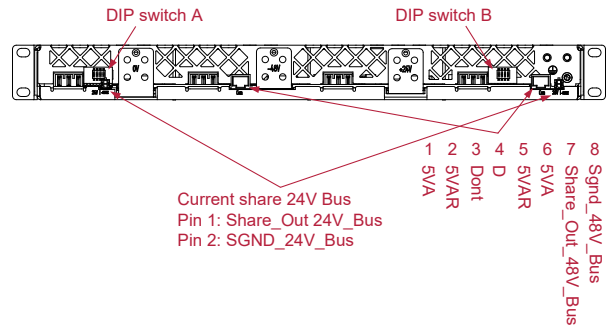
Installers are responsible for determining proper wire size. The size is based on the power system configuration and other requirements such as UL, NEC or other local codes.

1. Ensure that the input circuit breakers are OFF or removed and the cords are not connected to the outlet.
2. Each rectifier position has separate inputs for AC, located directly behind each rectifier.
3. From left to right (seen from the rear) the connections for each position are L (L1), N (L2) and GND. Use a 6.3mm Faston with crimp sleeves for each connection point.
4. There are cable reliefs next to the mains connection points. Strap the mains wires to these to minimize stress to the Fastons.
5. The wiring should be guided below the cable reliefs and out to either side so that the wires are not obstructing the airflow out from the rear of the rectifiers.



### 4 Communication and Current Sharing

There are two 8-pin connectors on the rear of the shelf to be used for communication and current sharing between rectifiers and rectifier shelves if more than one shelf is installed. The connectors are parallel and either one may be used. There are also two 2-pin connectors on the rear of the shelf used for 24V current sharing between rectifiers.



Use a standard 8 pin (RJ45) patch cable and plug to connect to the communication and 48V current sharing connectors.

Use a standard 2-pin link cable and plug to connect to either of the 24V current sharing connectors between shelves.

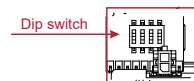
**WARNING!**

SGND\_48V\_Bus and SGND\_24V\_Bus cannot be connected as it will cause damage.

### 5 Subrack Address Settings

DIP switches are used for addressing the shelf positions and have to be set for controller supervision to function properly.

The switches can each address 4 bit binary addresses, which means up to 16 shelves can be used. Addressing is performed by setting each of the 4 bits on the DIP switch in either ON or OFF position.



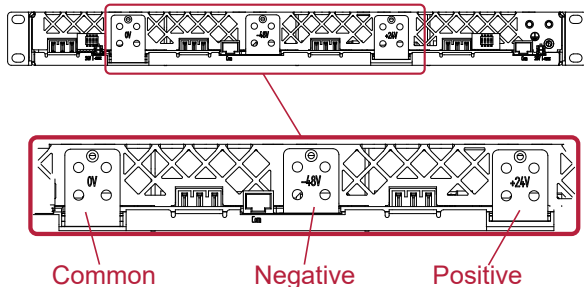
DIP SWITCH A				DIP SWITCH B				XG2300G	
S1	S2	S3	S4	S1	S2	S3	S4	Address	Shelf
0	0	0	0	0	0	0	0	1-5	1st
1	0	0	0	1	0	0	0	6-10	2nd
0	1	0	0	0	1	0	0	11-15	3th
1	1	0	0	1	1	0	0	16-20	4th
0	0	1	0	0	0	1	0	21-25	5th
1	0	1	0	1	0	1	0	26-30	6th
0	1	1	0	0	1	1	0	31-35	7th
1	1	1	0	1	1	1	0	36-40	8th
0	0	0	1	0	0	0	1	41-45	9th
1	0	0	1	1	0	0	1	46-50	10th
0	1	0	1	0	1	0	1	51-55	11th
1	1	0	1	1	1	0	1	56-60	12th
0	0	1	1	0	0	1	1	61-64	13th

DIP SWITCH A				DIP SWITCH B				XG1900G	
S1	S2	S3	S3	S1	S2	S3	S3	Address	Shelf
0	0	0	0	0	0	0	0	1-4	1st
1	0	0	0	1	0	0	0	5-8	2nd
0	1	0	0	0	1	0	0	9-12	3th
1	1	0	0	1	1	0	0	13-16	4th
0	0	1	0	0	0	1	0	17-20	5th
1	0	1	0	1	0	1	0	21-24	6th
0	1	1	0	0	1	1	0	25-28	7th
1	1	1	0	1	1	1	0	29-32	8th
0	0	0	1	0	0	0	1	33-36	9th
1	0	0	1	1	0	0	1	37-40	10th
0	1	0	1	0	1	0	1	41-44	11th
1	1	0	1	1	1	0	1	45-48	12th
0	0	1	1	0	0	1	1	49-52	13th
1	0	1	1	1	0	1	1	53-56	14th
0	1	1	1	0	1	1	1	57-60	15th
1	1	1	1	1	1	1	1	60-64	16th

## 6 DC Busbars

The rectifier shelf has DC output busbars on the rear to connect to load or surrounding equipment. There are four 5mm holes in each busbar to make connections.

Use ALL 8 supplied screws to connect the DC busbars for proper connection.

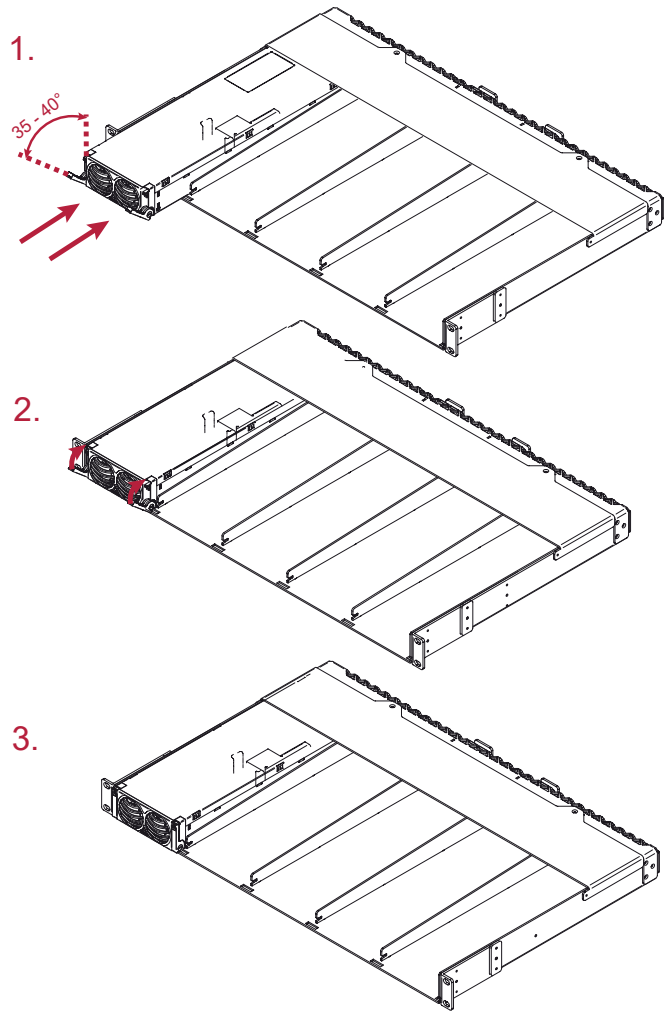


## 7 Rectifier Installation

Rectifiers should be installed starting from the left most position in the shelf.

1. Ensure that the rectifier handle is in the Open position (35-40 degree angle) and place the rectifier into the correct mounting slot on the shelf.
2. Slide the rectifier until it contacts with the interface connection at the rear of the shelf.
3. Fully insert the rectifier by pushing the rectifier handles towards the shelf. The handles will move towards the shelf and lock the unit into position.

Repeat the procedure for all rectifiers to be installed in the shelf.



## Technical Support

For technical support or feedback, please visit [www.unipowerco.com/contact/](http://www.unipowerco.com/contact/) for the correct phone number for your region.

Alternatively, email:

[technical.support.repair@unipowerco.com](mailto:technical.support.repair@unipowerco.com)