



# *EM1100*

## *OWNERS MANUAL*



Remote Controllable  
with **SURGE<sup>X</sup>** Surge Protection



## Installation

The Empower EM1100 is designed to be either modular or installed in a 19 inch equipment rack using the optional rack ears. To convert the EM1100 for rack mounting, remove the four screws in the corners of the front panel, discard the side bezels, then attach the rack ears using the same four screws.

## 120 Volt Connections

Connect power to the unit by plugging the cord into a 120 Volt, 15 Amp receptacle.

The EM1100 has a total of 8 receptacles: six switched, and two always on. While each receptacle has a maximum load rating of 15 amps, the total load of the unit must not exceed 15 amps. Plug the equipment cords into the always-on and switched receptacles as needed to power the equipment.

The always-on receptacles provide power as long as power is supplied to the unit. The switched outlets provide power only when the front panel switch is on and the remote control input is also activated. If you do not want to use the remote control input leave pins 1 & 2 jumpered together as shipped.

## Indicator Lights

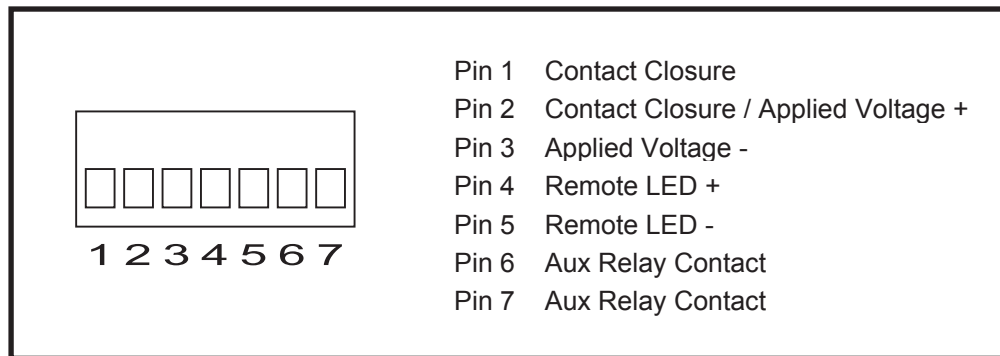
The EM1100 has three indicator lights on the front panel. The blue "Pure Power" light indicates that the power switch is turned on and power is applied to the unit. The green "Diagnostics" light indicates that power is applied to the unit and the internal surge protection circuitry is fully functional. The yellow "Switched Outlets" light indicates that the remote control is active and the rear switched receptacles are on.

***CAUTION: Do not repeatedly switch an EM1100 (off—on—off—on) with a heavy load connected. The ICE™ circuitry absorbs the inrush energy each time the unit is powered up and may overheat if this is done too many times in a short period of time. Wait one minute between repeated switching.***

## Remote Connection

Remote control connections should be wired to the green 7-pin plug-in Phoenix terminal block on the rear of the unit next to the power cord. The terminal block is provided in the accessory bag included in the shipping box. After you have made the connections to the terminal block, plug it into the connector on the rear of the unit. Never solder (tin) wires before inserting in a terminal block – solder creeps and you will eventually have loose connections!

The connections are as follows:



## Remote Control Input

Control of the switched receptacles can be accomplished by using a switch (contact closure), another Empower product such as the EM2100, or by an applied voltage (5 to 30 volts DC). When using a switch, choose a switch with gold contacts for the best long-term reliability.

Connections are made to terminal block pins 1, 2 & 3 as follows:

- Connect switch contacts, a contact closure, or Empower control to pins 1 and 2.
- Or:
- Connect an applied DC voltage to pins 2 and 3. The positive must be connected to pin 2 and the negative must be connected to pin 3.

## Remote Indicator LED

Connecting the Remote LED is optional. When an LED is connected to pins 4 and 5 it will indicate when the switched receptacles are on. 10mA of current is available at this output, but you **must use a series resistor**. For most LEDs a 1K resistor will provide suitable brightness. If you need less brightness use a larger value of resistor, and if you need more brightness use a smaller value of resistor.

- Connect the LED positive wire to Pin 4
- Connect the LED negative wire to pin 5

## Auxiliary Relay Contacts

The auxiliary relay contacts, pins 6 & 7, provide a way to cascade units or to provide confirmation feedback to a central controller. When the switched receptacles are on, the aux relay contacts are closed. There is a ½ second delay before the aux relay closes which gives time for the Inrush Current Elimination (ICE™) circuit to operate. This short delay in combination with the ICE™ makes it unnecessary to sequence on several large loads (such as amplifiers) because of inrush current. EM1100s, when cascaded, can turn on a bank of large amplifiers with no inrush current, and therefore no risk of blowing a circuit breaker.

To cascade two or more EM1100s, connect the aux relay contacts of one unit to the contact closure input of the next unit.

To provide confirmation feedback, connect the aux relay contacts to an input on the central controller.

The relay contacts are rated for 1 amp at 30 V DC.