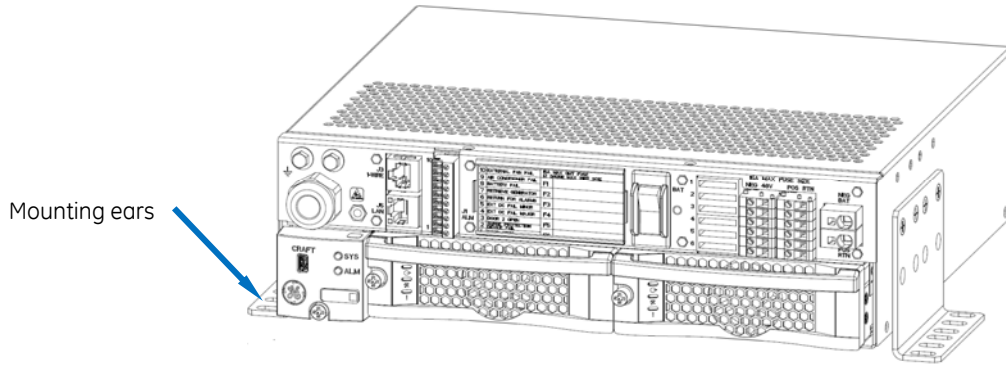




SPS –48V Slimline Power Shelf

Models: J2007003L202, 150027893 with LVBD
J2007003L202X, 150033772 without LVBD



No vertical spacing is required, allow a minimum 2 inch clearance at back of shelf for rectifier airflow.
Refer to *Slimline Power System Brochure* for details and accessories.

Tools required:

Wire cutters and strippers	Torque wrench - 0-40 in-lb (0-5 Nm)	Screw Drivers - Phillips and Flat
Cable crimpers	Sockets - 5/16"	

Step 1 - Mount Shelf

1. Reposition mounting ears to front for rack mounting, as required - 4 screws each.
Torque to 25 in-lb (2.8 Nm) - Phillips screwdriver.
2. Attach shelf to the frame using a minimum of four screws (two on each side) - 12-24 (provided).
Torque to 35 in-lb (4 Nm) - 5/16" socket.

Step 2 - Connect DC Reference (CO) Ground and Chassis Ground

Lug Landings: #10 double-hole on 5/8-inch center (lugs not provided)
Some applications may rely on frame mounting screws for shelf ground omitting the shelf ground cable.
Minimum 10 AWG wire is recommended.
Torque 10-32 screws to 30 in-lb (3.4 Nm) - 5/16" socket.

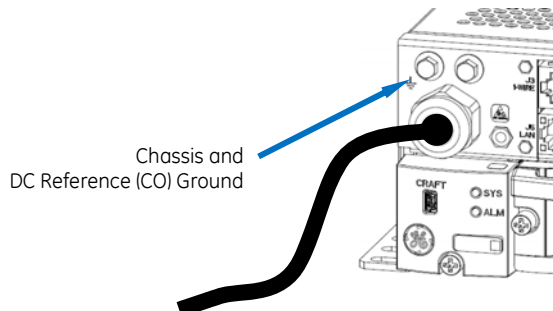
Notes: 1. DC Reference (CO) Ground is required. 2. DC Output Return (POS RTN) is internally connected to the chassis.

Step 3 - Connect AC Input cord

Shelf is equipped with 1 AC cord - 14 AWG, 5-15P plug.
110VAC: Plug cord into 110VAC outlet.
220VAC: Remove plug from cord end and terminate cable as required.
Recommended breaker

110-120V	208-240V
15A	10A

Caution: Route AC cables to avoid contact with sharp or rough surfaces that may damage insulation and cause a short circuit.



Step 4 - Connect DC Outputs and Batteries

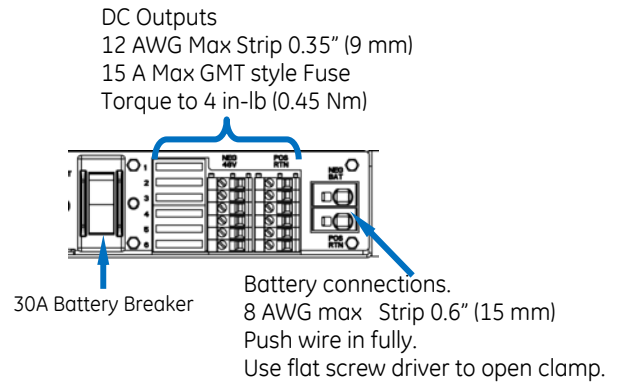
Battery Connections: I

1. Insert stripped wire firmly into block until fully seated
 2. Pull wire to verify proper insertion
- Insert small flat screwdriver into opening to left of wire entry to release wire.

CAUTION: Verify battery voltage and polarity with a voltmeter before proceeding.

DC Outputs:

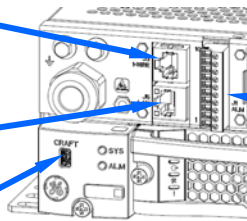
1. Insert stripped wire into block
2. Torque to 4 in-lb (0.45 Nm)



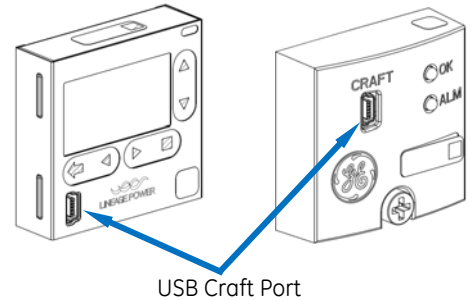
J3 1-Wire Battery Temp Monitor

J5 LAN Port

USB Craft Port



J1 Alarm connections Detachable Block



Signal Connections

Step 5 - Set Jumpers - LAN Port and Relay per Galaxy Pulsar Edge Controller Quick Start Guide

Step 6 - Install Controller per Galaxy Pulsar Edge Controller Quick Start Guide

Step 7 - Install Signal and Communications Cables

Connectors are on rear.

1. J1 Alarms and Inputs - Connect to office alarms and signals.
See *Information: Alarm Connections* for Details
2. J5 LAN - Connect to Ethernet network.

Step 8 - Install 1-Wire Battery Temp and Voltage Monitor per Galaxy Pulsar Edge Controller Quick Start Guide - Optional

1. Connect 1-Wire Battery Temp and Voltage Monitor to J3

Step 9 - Install Rectifiers

Firmly push the rectifier into the rectifier slot.
Tighten the thumb screw until the rectifier is seated.

NOTE: When installing a rectifier in a powered system the RUN LED on the rectifier will blink until communication with the controller is established.



Step 10 - Initial Start Up

Verify that all AC, DC and Alarm connections are complete and secure. Turn on AC input breakers. If there are no alarms, make required adjustments to the default settings on the controller for this installation.

Step 11 - Configure Controller per Galaxy Pulsar Edge Controller Quick Start Guide

Verify and edit controller basic configuration parameters per site engineering instructions.

Information: Rectifier Options

Rectifiers single phase, hot-pluggable, fan-cooled		Input		Recommended AC Breaker	Output ¹		
		Vac	A		Float Vdc	W	A ¹
CC109163176	EP0500_U: 500W	100-120	8	20A ²	24-30	500	21
		200-240	4	10A	24-30	500	21

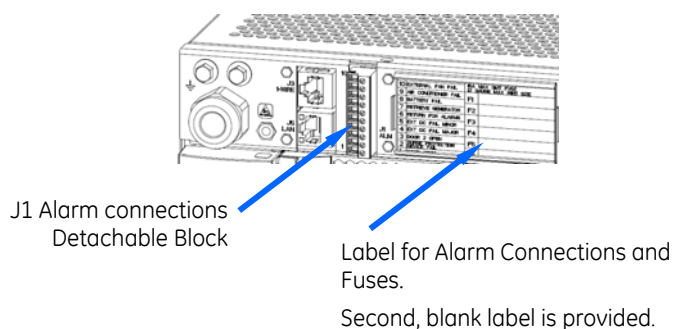
- 1 Output Current at 54.5V. Outputs are power limited, not current limited.
- 2 15A recommended for 110-120Vac.

Information: Alarm Connections

Alarm connections are on the front of the shelf - J1. The block may be detached from J1 for wiring. Insert stripped wires into block. Tighten screw. Pull wire to verify.

Change alarm descriptions via LAN port (Web pages) or Craft port (EasyView2) when required. Mark changed alarm descriptions on blank label provided.

PIN	015R_D Controller USB, Display, 5 Alarm Relays	9C0R Controller USB, No Display, 9 Inputs
1	Output: R3 = Rtn	Input: Door Open
2	Output: R2 = Rtn	Input: Surge Protect Fail
3	Output: R1 = Rtn	Input: Door 2 Open
4	Output: PMN Rtn	Input: Ext DC Gail Major
5	Output: PMJ Rtn	Input: Ext DC Fail Minor
6	Output: R3 = ACF	Input: Returns
7	Output: R2 = RFA	Input: Retrieve Generator
8	Output: R1 = BD	Input: Battery Fail
9	Output: PMN	Input: Air Conditioner Fail
10	Output: PMJ	Input: External Fan Fail



Specifications and Application

- Specifications and ordering information are in the Slimline Power System Brochure available at www.gecriticalpower.com
- External Surge Protective Devices (SPDs) - are required on all AC inputs. Equipment Safety is Approved in IEC 60664-1 Installation Category II environments.
- Equipment and subassembly ports: 1. are suitable for connection to intra-building or unexposed wiring or cabling; 2. can be connected to shielded intra-building cabling grounded at both ends.
- Grounding / Bonding Network - Connect to an Isolated Ground Plane (Isolated Bonding Network) or an Integrated Ground Plane (MeshBonding Network or Common Bonding Network).
- Installation Environment - Install in Network Telecommunication Facilities, OSP, or where NEC applies.
- Battery return may be either Isolated DC return (DC-I) or Common DC return (DC-C).

Reference Documents

These documents are available at www.gecriticalpower.com.

Document	Title
850035894	Galaxy Pulsar Edge Quick Start Guide
CC848815341	Pulsar Edge Controller Family Product Manual
	Slimline Power System Brochure



Safety Statements

- Do not install this equipment over combustible surfaces.
- Rules and Regulations - Follow all national and local rules and regulations when making field connections.
- Compression Connectors
 - U. S. or Canada installations - use Listed/Certified compression connectors to terminate Listed/Certified field-wire conductors.
 - All installations - apply the appropriate connector to the correct size conductor as specified by the connector manufacturer, using only the connector manufacturer's recommended or approved tooling for that connector.
- Electrical Connection Securing: Torque to the values specified on labels or in the product documentation.
- Cable Dress - dress to avoid damage to the conductors and undue stress on the connectors.
- Circuit Breakers and Fuses
 - Use only those specified in the equipment ordering guide.
 - Size as required by the National Electric Code (NEC) and/or local codes.
Safety Tested Limits - Refer to the equipment ratings to assure current does not exceed:
Continuous Load (List 1) - 60% of protector rating
Maximum Load (List 2 - typically end of discharge) - 80% of protector rating.
 - GMT Style Fuses - Use only fuses provided with safety caps.
- Field-wired Conductors - Follow all National Electric Code (NEC) and local rules and regulations.
 - Insulation rating: 90°C minimum; 105°C (minimum) if internal to enclosed equipment cabinets.
 - Size AC field-wired conductors with 75°C ampacity (NEC) equal to or greater than their panel board circuit breaker rating.
- AC and DC input disconnect/protection - Provide accessible devices to remove input power in an emergency.
- Alarm Signals - Provide external current limiting protection. Rating 60V, 0.5A unless otherwise noted.
- Grounding - Connect the equipment chassis directly to ground. In enclosed equipment cabinets connect to the cabinet AC service ground bus. In huts, vaults, and central offices connect to the system bonding network.

Precautions

- Install, service, and operate equipment only by professional, skilled and qualified personnel who have the necessary knowledge and practical experience with electrical equipment and who understand the hazards that can arise when working on this type of equipment.
- Disconnect batteries from outputs and/or follow safety procedures while working on equipment. Batteries may be connected in parallel with the output of the rectifiers. Turning off the rectifiers will not necessarily remove power from the bus.
- Do not disconnect permanent bonding connections unless all power inputs are disconnected.
- Verify that equipment is properly safety earth grounded before connecting power. High leakage currents may be possible.
- Exercise care and follow all safety warnings and practices when servicing this equipment. Hazardous energy and voltages are present in the unit and on the interface cables that can shock or cause serious injury. When equipped with ringer modules, hazardous voltages will be present on the ringer output connectors.
- Use the following precautions in addition to proper job training and safety procedures:
 - Use only properly insulated tools.
 - Remove all metallic objects (key chains, glasses, rings, watches, or other jewelry).
 - Follow Lock Out Tag Out (LOTO) procedures: customer specified, site specific, or general as appropriate.
Disconnect all power input before servicing the equipment. Check for multiple power inputs.
 - Wear safety glasses.
 - Follow Personal Protective Equipment requirements: customer specified, site specific, or general as appropriate.
 - Test circuits before touching.
 - Be aware of potential hazards before servicing equipment.
 - Identify exposed hazardous electrical potentials on connectors, wiring, etc.
 - Avoid contacting circuits when removing or replacing covers;
 - Use a personal ESD strap when accessing or removing electronic components.
- Personnel with electronic medical devices need to be aware that proximity to DC power and distribution systems, including batteries and cables, typically found in telecommunications utility rooms, can affect medical electronic devices, such as pacemakers. Effects decrease with distance.

