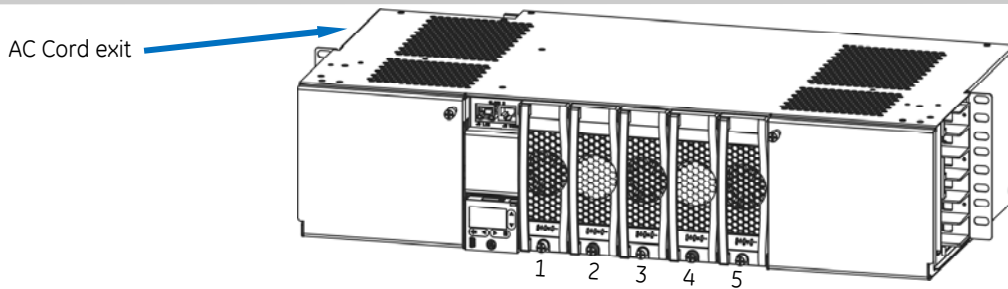




SPS –48V Slimline Power Shelf

Models: 150037632 J2007003L230



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 - 0-65 in-lb (0-10Nm)

Screwdrivers - Philips #1 and #2, Flat small

Cable crimpers

Sockets - 5/16", 7/16, etc.

Step 1 - Mount Shelf

Attach shelf to the frame using a minimum of four screws (two on each side) - 12-24 (provided).

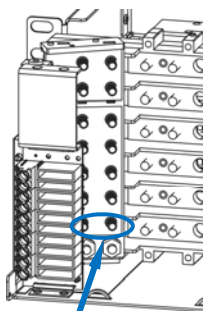
Torque to 35 in-lb (4Nm) - 5/16" socket.

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

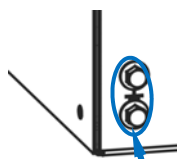
- Lug Landings: #10 double-hole on 5/8-inch center (lugs not provided)
- 10 AWG recommended

Note: Some applications may rely on frame mounting screws for chassis ground omitting the shelf ground cable.

1. Connect Chassis and DC Reference Grounds
Torque 10-32 nuts and screws to 30 in-lb (4Nm) - 3/8" and 5/16" sockets



DC Reference (CO) Ground (behind left door) 3/8" socket



Chassis Ground (right rear) 5/16" socket

Step 3 - Connect AC Input Cords

AC cords are fixed, blunt cut, and exit the shelf at the rear of the left side.

- Vac - 120V~ or 208-240V~, 50-60Hz
- Recommended breakers - 30A

Danger: Ensure AC power is OFF and use appropriate lock-out tag-out procedures before continuing with AC connections. Follow all local and national wiring rules when connecting to AC mains.

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

1. Connect the two AC cords to two AC breakers.

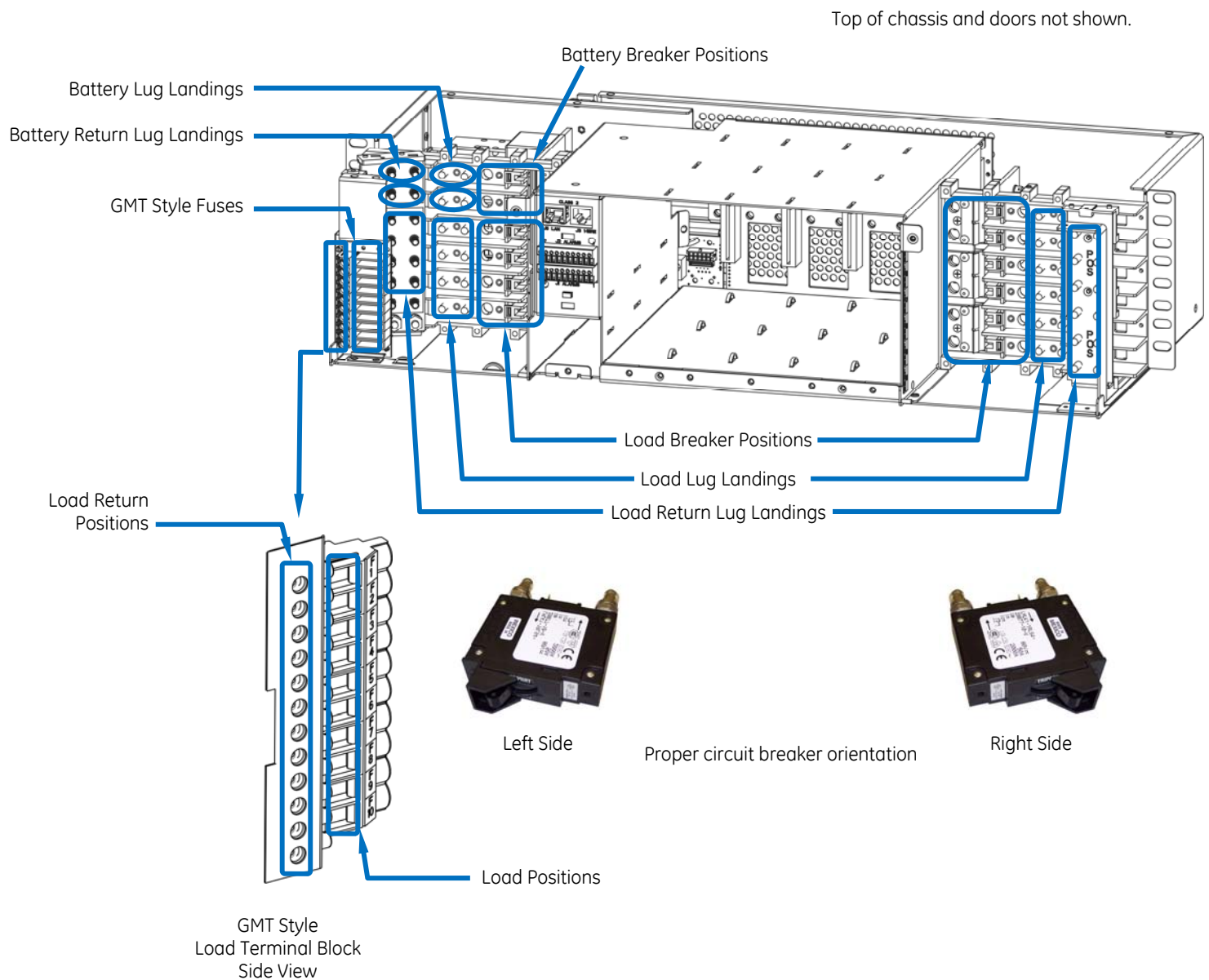
Wires	120Vac Input	208-240Vac Input
Green	Ground	Ground
White or Blue	Neutral	Breaker L1
Black or Brown	Breaker	Breaker L2

Step 4 - Connect DC Outputs and Batteries

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

- **10 Load Fuse Connections (GMT Style)** - lug-less terminal blocks
 - 10 AWG max. • Strip 0.3" (8 mm) • Torque to 5 in-lb (0.55 Nm)
- **10 Load Circuit Breaker Connections** - double hole lug landings - #10-32 studs on 5/8" centers (lugs not provided)
 - Tongue width 0.68" maximum • Torque to 30 in-lb (3.4 Nm) - 3/8" socket
- **2 Battery Circuit Breaker Connections** - double hole lug landings - #10-32 studs on 5/8" centers (lugs not provided)
 - Tongue width 0.68" maximum • Torque to 30 in-lb (3.4 Nm) - 3/8" socket

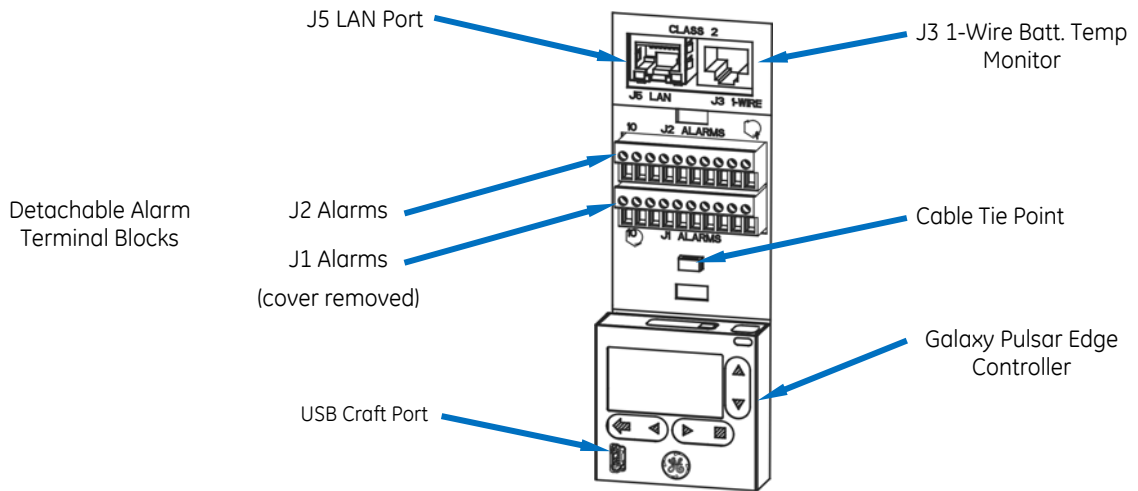
1. Connect DC Outputs and Batteries
2. Install breakers and fuses
 - Orient breakers as shown below.
 - Battery Breakers have Yellow handles.
3. Identify all circuit breaker and fuse loads on the labels located on the inside of the distribution doors.



DC Output and Battery Connections

SPS J2007003 L230 - Quick Start Guide

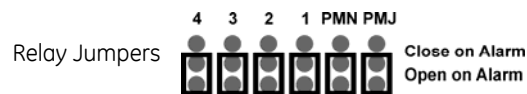
Document 850042347 r01 2014 September



Signal Connections

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

1. Set Jumpers - LAN Port and Relay



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

Step 7 - Install Signal and Communications Cables

Connectors are on front.

See *Information: Alarm Connections* for Details

1. J1-2 Alarms and Inputs - Connect to office alarms and signals.
 - Cover - squeeze top to bottom to remove and to replace.
 - Detachable Alarm Terminal Blocks.
 - 16 AWG max. • Strip 0.35" (9 mm) • Torque to 2 in-lb (0.25 Nm) - pull wire to verify • Secure wires to with cable tie.
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. J3 1-Wire - Connect to 1-Wire Battery Temp and Voltage Monitor daisy-chain

Step 9 - Install Rectifiers

NOTE: Do not install an EP1000 or EP1600 rectifier in the right most position (position 5) at 100-120Vac.

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

1. Verify shunt size is set to 166A, 50mV.
2. Verify and edit controller basic configuration parameters per site engineering instructions.

Information: Alarm Connections

Alarm connections are on the front of the shelf - J1 and J2. The blocks may be detached from J1 and J2 for wiring.

Change alarm descriptions via LAN port (Web pages) or Craft port (EasyView2) when required.

Connector Pin	J1 - Controller Variants			J2 - All Controllers ¹	
	Controller	0I5R - 5 Alarm Relays 0I6R - 6 Alarm Relays	3C3R - 3 Alarm Relays, 3 Inputs	9C0R - 9 Inputs	All
1		Output: R3 = Rtn	Input: PBT/TR	Input: Door Open	Input: SPD Fail
2		Output: R2 = Rtn	Input: Hi Ext. Temp.	Input: Surge Protect Fail	--
3		Output: R1 = Rtn	Output: R1 = Rtn	Input: Door 2 Open	Input: AUX MAJ
4		Output: PMN Rtn	Output: PMN Rtn	Input: Ext DC Gail Major	Input: Air Cond. Fail
5		Output: PMJ Rtn	Output: PMJ Rtn	Input: Ext DC Fail Minor	Input: Door Open
6		Output: R3 = ACF	Input: RTNS	Input: Returns	-48V
7		Output: R2 = RFA	Input: Cust. Alrm 1	Input: Retrieve Generator	-48V
8		Output: R1 = BD	Output: R1 = BD	Input: Battery Fail	-48V
9		Output: PMN	Output: PMN	Input: Air Conditioner Fail	Output: R4 ¹
10		Output: PMJ	Output: PMJ	Input: External Fan Fail	Output: R4 = Rtn ¹

1 Relay R4 only with 0I6R controllers.

Specifications and Application

- Specifications and ordering information are in the *Slimline Power System Ordering Brochure* available at www.gecriticalpower.com
- External Surge Protective Device (SPD) is 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 (Mesh-Bonding 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.





Notes



Notes

