



SPS –48V Slimline Power Shelf

Models: J2007003L051C-52C



Initial shelf (L051C) includes controller slot. Install immediately below distribution shelf, if present.
Expansion shelf (L052C) includes cables and hardware to attach to an adjacent shelf.
No vertical spacing is required. Provide 2 inch minimum clearance at back of shelf for rectifier airflow.
Refer to *Slimline Power System Brochure* for details and accessories.

Tools required:

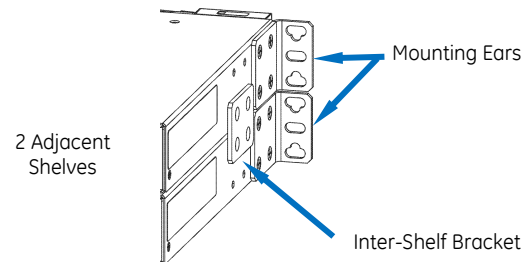
Wire cutters and strippers
Cable crimpers

Torque wrench - 0-65 in-lb (0-10Nm)
Sockets - 5/16", 7/16, etc.

Screwdrivers - Phillips #1 and #2, Flat small

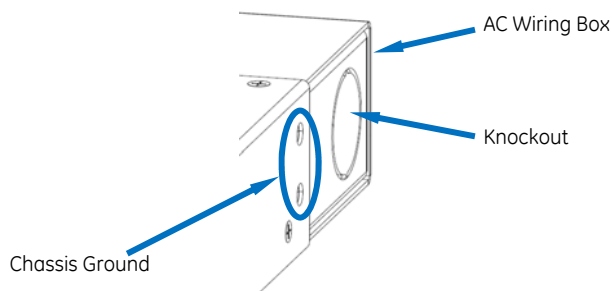
Step 1 - Mount Shelf

1. Reposition mounting ears as required - 4 screws each.
Torque to 25 in-lb (2.8Nm) - Phillips screwdriver.
2. Install Inter-Shelf brackets between adjacent shelves (optional).
Torque to 25 in-lb (2.8Nm) - Phillips screwdriver.
3. 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 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 chassis ground cable.
Minimum 10 AWG wire is recommended.
Torque 10-32 screws to 30 in-lb (3.4Nm) - 5/16" socket.



Step 3 - Connect AC Input

Connect AC to the detachable input terminal block in wiring box.
Knockout for 3/4" conduit or cord grip.

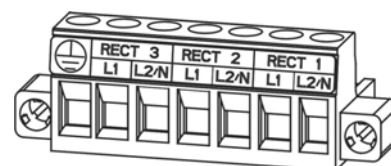
Cords available - see *Slimline Power System Brochure*.

External Feed Protector - see *Information: Rectifier Options*

- Vac - 120V~ / 200-240V~, 50-60Hz
- 12AWG max.
- Strip - 0.3" (7mm)
- Torque - 4.4 in-lb (0.5Nm)
- Pull on wires to verify connection.

Danger: Turn OFF and lock-out tag-out the AC source before making AC connections.
Follow all local and national wiring rules.

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 Output

Connections are under rear covers.

Bus Connection - to adjacent shelf

Install inter-shelf buses joining -48V and RETURN outputs of adjacent shelves.

Torque to 65 in-lb (7.3 Nm)

Cable Connection

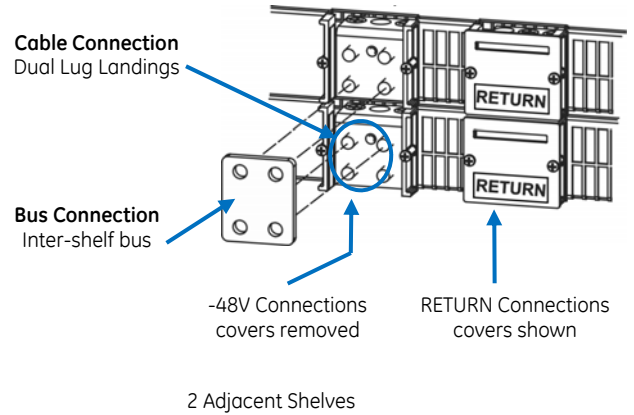
Lug Landings - 2 x 1/4" on 5/8" center, 0.7" (18mm) max. tongue width.

Connect cables with suitable lugs to -48V and RETURN.

Torque to 65 in-lb (7.3 Nm)

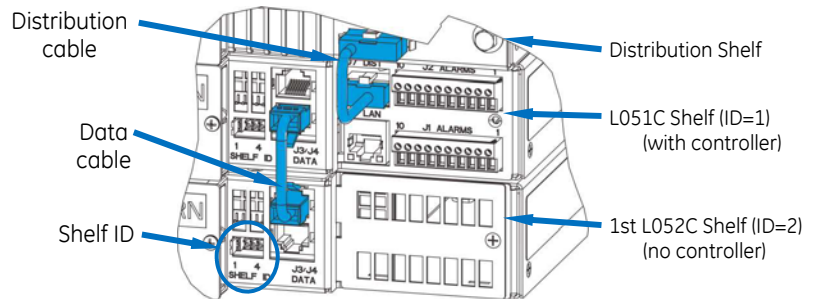
Caution: Verify battery voltage and polarity with a voltmeter before proceeding.

Note: RETURN must be externally connected to DC Reference (CO) ground.



Step 5 - Connect Shelf to Shelf Cables

Install Data cables between adjacent rectifier shelves - J3-4.
Install Distribution Cable between the distribution shelf and the adjacent L051C shelf - J7



Step 6 - Set Shelf ID Jumpers

Up to 4 Rectifier Shelves can be interconnected. Each Rectifier Shelf must have a unique ID.

L051C	L052C		
set to 1	1st set to 2	2nd set to 3	3rd set to 4

Step 7 - Set Controller Jumpers

- LAN port may be temporarily set to Local mode, but must be set to Network mode for remote monitoring.
- Alarm relays may be set to "Open on Alarm" or "Close on Alarm"



Step 8 - Install Controller

Slide controller into slot in L051C shelf.

Secure controller: Controllers with display snap into the shelf; controllers without display have a thumb screw.

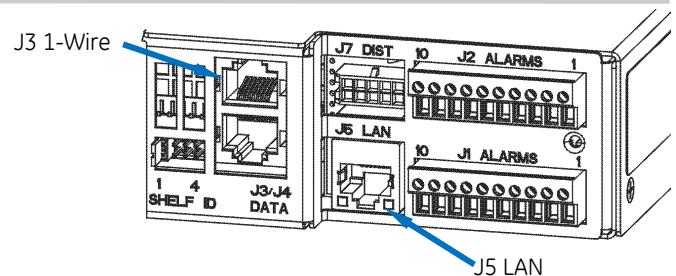
Step 9 - Install Alarm and LAN Cables

Connectors are on rear.

J1-2 Alarms - detachable block - Wire to office alarms and signals.

See *Information: Alarm Connections*.

J5 LAN - Connect to Ethernet network.



Step 10 - 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 upper DATA connector of L051C shelf..

Step 11 - 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 12 - 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 13 - Configure Controller per Galaxy Pulsar Edge Controller Quick Start Guide

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

Information: Controller - View and Change Parameters and Alarm Severity

View and change system parameters and alarm severity from the factory defaults via:

- A. Front Display - if equipped
- B. LAN port in Local mode via a laptop (web pages)
- C. LAN port in Network mode (web pages)
- D. Craft Port via laptop and EasyView2 software or HyperTerminal.

EasyView2 (GUI) software can be downloaded from www.gecriticalpower.com.

Information: Rectifier Options

Rectifiers single phase, hot-pluggable, fan-cooled		Input		Recommended AC Breaker	Output		
		Vac	A		A	Float Vdc	W
150027894	EP0500-UTEZ: 540W	100-120	6.5	10	48-58	540	10
CC109165602	EP1000-UTEZ: 1000W	100-120	12	15	48-58	1000	20
		200-240	6	10	48-58	1000	20
CC109165610	EP1600-UTEZ: 1600W	100-120	15	20	48-58	1200	24
		200-240	7.5	10	48-58	1600	32

1 Output Current at 54.5V. Outputs are power limited, not current limited.

Information: Alarm Connections

See the *Slimline Power System Brochure* for details.

Alarm connections are on the rear of the shelf - J1 is Alarm Outputs and J2 is Alarm Inputs.
Change alarm descriptions via LAN port (Web pages) or Craft port (EasyView2) when required.

Connector		J1 - Controller Variants			J2 - All Controllers
Pin	Controller	015R_D (5 Relays)	3C3R	9C0R_USB	All
		016R_DS (6Relays)	3 Inputs, 3 Relays,	9 Inputs, no Relays	
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 ²	Output: R1 = Rtn	Input: Door 2 Open	Input: AUX MAJ	
4	Output: PMN Rtn	Output: PMN Rtn	Input: Ext DC Fail 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 = FAJ ¹	
10	Output: PMJ	Output: PMJ	Input: External Fan Fail	Output: R4 = Rtn ^{1,2}	

1 Only with 6 relay controllers (...6R...).

2 Returns for R1 and R4 are bridged. Other returns are isolated.



Specifications and Application

- Specifications and Ordering Information – are in brochures listed in **Reference Documents**.
- 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 – Isolated Ground Plane (Isolated Bonding Network) or Integrated Ground Plane (Mesh-Bonding Network, or Common Bonding Network).
- Installation Environment - Network Telecommunication Facilities, OSP, or where NEC applies.
- DC Returns - 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 Controller Quick Start Guide
CC848815341	Pulsar Edge Controller Family Product Manual Slimline Power System Brochure

Notes

