



Infinity S 19" Universal Power Shelf

Models: J5964803 L209-L216



Universal Power Shelves accept +24V and -48V rectifiers and converters.

Primary shelf (L209, L211, L213, & L215) includes controller slot. Install shelf immediately below distribution, if used.

Expansion shelf (L210, L212, L214, & L216) includes cables and hardware to connect to an adjacent shelf.

No vertical spacing is required. Provide 2 inch minimum clearance at back of shelf for rectifier airflow.

Refer to *Infinity S Flex Power System Brochure* for details and accessories.

Tools required:

Wire cutters and strippers

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

Screwdrivers - Phillips #1 and #2, Flat small

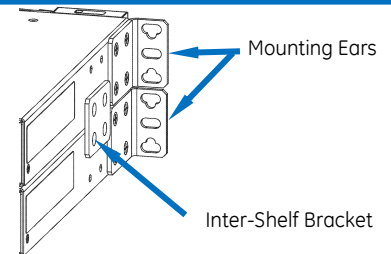
Cable crimpers

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

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.

2 Adjacent
Shelves



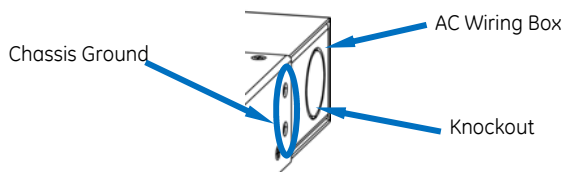
Step 2 - Connect Chassis Ground

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

External Feed Protector - see *Information: Rectifier Options*

Danger: Turn OFF and lock-out tag-out the AC source before making AC connections.

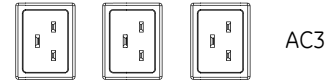
Follow all local and national wiring rules.

List	AC Input	Rectifiers per Feed	AWG max
211, 212	AC3 - IEC320 C20 Receptacles- 1-phase	1	-
215, 216	AC5 - Terminal Block - 1-phase	1	10
213, 214	AC6 - Terminal Block - 3-phase delta	3	6
209, 210	AC7 - Terminal Block - 3-phase wye	3	6

AC Cords - AC3

AC receptacles for each rectifier are on the rear (no AC wiring box).

Connect 120V~ / 200-240V~ , 50-60Hz AC cords with C19 receptacle to each shelf AC connector - see *Information: AC Cord Options*.

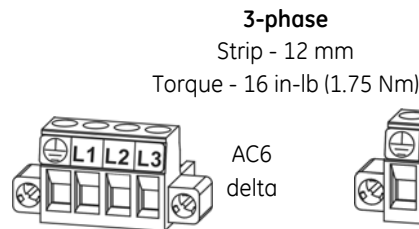
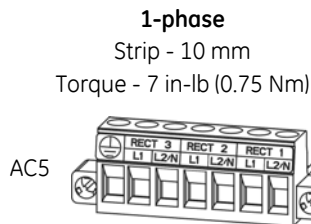


AC Terminal Block - AC5, AC6, AC7

AC terminal block is in the AC box on the rear.

Connect 120V~ / 200-240V~ / 277V~, 50-60Hz AC to the detachable input terminal block in wiring box - knockout for 3/4" conduit or cord grip.

1. Strip and Torque - see below
2. Pull on wires to verify secure connection.



Step 4 - Connect DC Output

Connections are on the rear under covers.

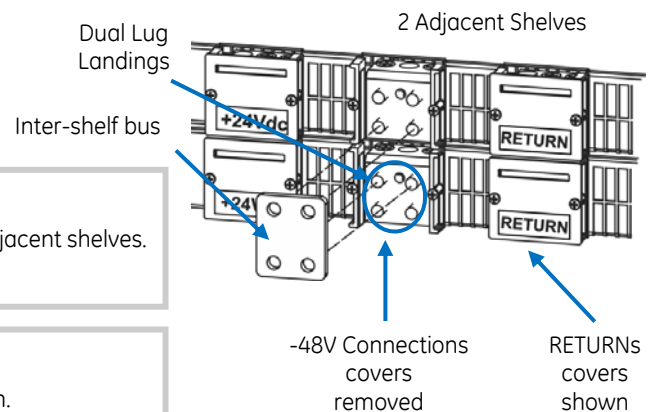
Note: Single voltage systems require +24V OR -48V connections.
Dual voltage systems require +24V AND -48V connections.

Bus Connection - to adjacent shelf

Install inter-shelf buses joining +24V, -48V, and RETURN outputs of adjacent shelves.
Torque to 65 in-lb (7.3 Nm)

Cable Connection - to stand-alone shelf

Lug Landings - 2 x 1/4" on 5/8" center, 0.7" (18mm) max. tongue width.
Connect cables with suitable lugs to +24V, -48V, and RETURN.
Torque to 65 in-lb (7.3 Nm)

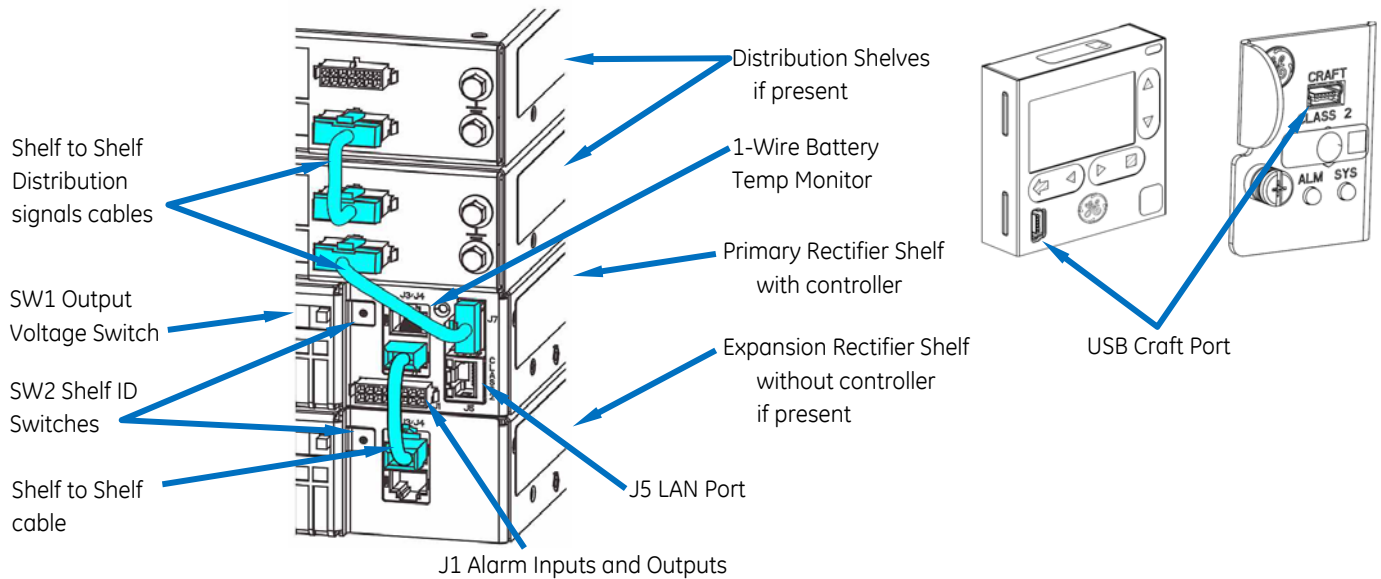


CAUTION: Verify battery voltage and polarity with a voltmeter before proceeding.

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

Note: External DC protectors must be installed in the non-grounded (non-RETURN) side of the DC path.





Signal Connections and Shelf ID Switches

Step 5 - Set Controller Jumpers - Primary Shelf Only

Set LAN Port and Relay per Galaxy Pulsar Edge Controller Quick Start Guide

Step 6 - Install Controller - Primary Shelf Only

Install Controller in shelf controller slot per Galaxy Pulsar Edge Controller Quick Start Guide

Step 7 - Set Shelf Switches

Shelf Switches are on rear - figure above.

SW1 - Set Rectifier output voltage for shelf: 48V or 24V.

SW2 - Set Shelf Number: 1 for 1st shelf, 2 for 2nd shelf, etc.

Note: ID conflict alarm will occur if two shelves are set to same number.

Step 8 - Install Signal and Communications Cables

Connectors are on rear - figure above.

1. J1 Alarms - office alarms and signals. See *Information: Alarm Connections*.
2. J3-4 Shelf-to-Shelf communication - Connect adjacent shelves. Connect 1-Wire Battery Temp and Voltage Monitor (optional).
3. J5 LAN - Connect to Ethernet network.
4. J7 Distribution Panel signals - Connect to Distribution Panel if present.

Step 9 - 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 J3/J4 connector on Rectifier Shelf with controller.

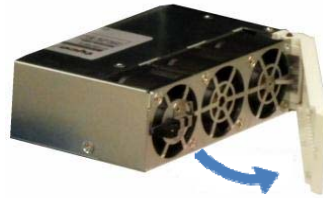


Step 10 - Install Rectifiers and Converters

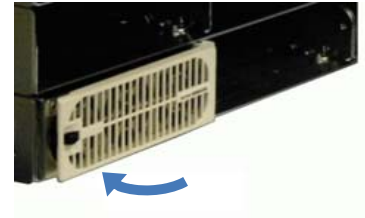
Slide the unit into the slot approximately 3/4 of the way.



Open the faceplate by sliding the faceplate latch to the left until the faceplate releases and swings outward.



Slide the unit into the slot until it engages with the back of the shelf. Swing the faceplate closed to fully seat the unit. Verify the faceplate is latched.





Step 11 - Initial Start Up

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



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

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

Information: Rectifier and Converter Options

Rectifier		Input	Output DC		Recommended AC Breaker			
			Voltage	Current	1-Phase		3-phase	
					AC3	AC5	AC6 - delta	AC7 - wye
 -48V blue	NE075AC48ATEZ	ac 277 Vac	48Vdc	75A		25A	--	25A ¹
		ac 208-240 Vac	48Vdc	75A		30A	50A	30A ²
		ac 110 Vac	48Vdc	25A	20A	20A		
	NE050AC48ATEZ NE50ECO48ATEZ	ac 208-240 Vac	48Vdc	50A	20A	20A	40A	20A ²
		ac 110 Vac	48Vdc	22A	20A	20A		
 +24V Orange	NE0100AC24ATEZ NE100ECO24ATEZ	ac 208-240 Vac	24Vdc	100A	20A	20A	40A	20A ²
		ac 110 Vac	24Vdc	44A	20A	20A		

1. 480 Vac Line to Line
2. 380 Vac Line to Line

Converter		Input DC		Output DC	
		Voltage	Current ³	Voltage	Current
 -48V blue	NE030DC48A	24Vdc	81A max	48Vdc	75A
	NE040DC48A	24Vdc	108A max	48Vdc	50A
 +24V Orange	NE075DC24A	48Vdc	54A max	24Vdc	100A

3. Maximum current at full load and end of discharge voltage (21Vdc or 42Vdc)

Information: AC Cord Options

IEC Style AC Cords 12 AWG		
Part Number	Plug	Length
CC848847368	No plug	8 ft
CC848850792	5-15P	8 ft
CC848850801	5-20P	8 ft
CC848850826	6-15P	8 ft
CC848850834	6-20P	8 ft
850044361	L5-15P	15 ft
850044362	L5-20P	15 ft
CC848895961	L6-20P	15 ft



Information: Alarm Connections

See the *Infinity S-Flex Power System Brochure* for details.

Alarm connections are on the rear of the shelf.

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

Pin	Color	Signal ¹	Standard Factory Default ²
1	Black	User Configurable Alarm Input	Door Open
2	White	User Configurable Alarm Input	Aux Major
3	Red/Black	PTC ³ Protected VBUS-/ABS	Alarm Battery Supply (ABS)
4	Orange	Power Major Relay Return	PMJ Return
5	Orange/Black	Power Minor Relay Return	PMN Return
6	Red/White	Relay 1 Return	BD/VLV Return
7	White/Black	Relay 2	AC Fail (ACF)
8	Blue/Red	Relay 3 and Relay 4 Return	FAJ and Relay 4 Return
9	Red	User Configurable Alarm Input	SPD Fail
10	Green	User Configurable Alarm Input	AC Fail
11	Blue	Relay 4	Relay 4
12	Green/Black	Power Major Relay	PMJ
13	Blue/Black	Power Minor Relay	PMN
14	Green/White	Relay 1	BD/VLV
15	White/Red	Relay 2 Return	ACF Return
16	Orange/Red	Relay 3	Fuse Alarm Major (FAJ)

1 Relays 1—4 are user configurable.

2 Customer specific factory defaults - see the Quick Start Guide Supplement.

3 Positive Temperature Coefficient resistor protected battery voltage provides up to 0.5A for external alarm circuits.

Alarm Cables—Reference Only.

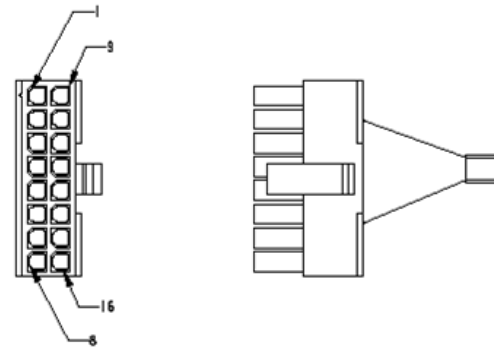
See *Infinity S Flex Power System Brochure* for details.

CC848890161 5 ft

CC848890178 15 ft

CC848890186 50 ft

CC848890194 150 ft



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 Quick Start Guide
CC848815341	Pulsar Edge Controller Family Product Manual Infinity S Flex Power System Brochure

Notes



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