

CPS6000 Power System - 120A, Rear AC

- Models: 19", 3 Slot, CC109163721
 19", 3 Slot, LVBD, CC109163738
 23", 4 Slot, CC10916374623
 23", 4 Slot, LVBD, CC109163754



Install the shelf with a minimum gap of 3/4 inch above and below to allow proper airflow. Attach the CPS shelf to the frame using a minimum of four (two on each side) of the 12-24 screws included with the shelf.

Tools required:

- | | | |
|----------------------------|-------------------------------------|---|
| Wire cutters and strippers | Torque wrench - 0-240 in-lb (28 Nm) | Sockets - 5/16", 7/16, etc. |
| Cable crimpers | Heat shrink gun | Screwdrivers - Phillips #1 and #2, Flat small |
| Digital meter +/- 0.02% | | |

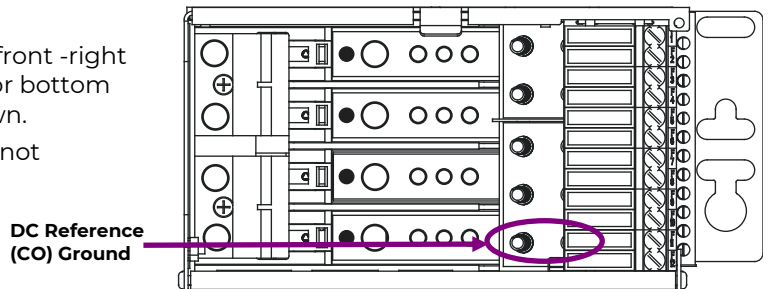
Step 1 - Connect DC Reference (CO) Ground

Connect DC Reference (CO) ground to the return bus - front -right side of the shelf behind the distribution panel. The top or bottom landing can be used. The cable can be routed up or down.

Lug landings: double #10-32 studs on 5/8" center. (Lug not provided)

Torque connections to 30 in-lb (3.4Nm).

Minimum 8 gage wire is recommended.



Step 2 - Connect AC Inputs

AC inputs terminate on the rear of the shelf behind the AC access panel. See table on page 6 for recommended external breaker size.

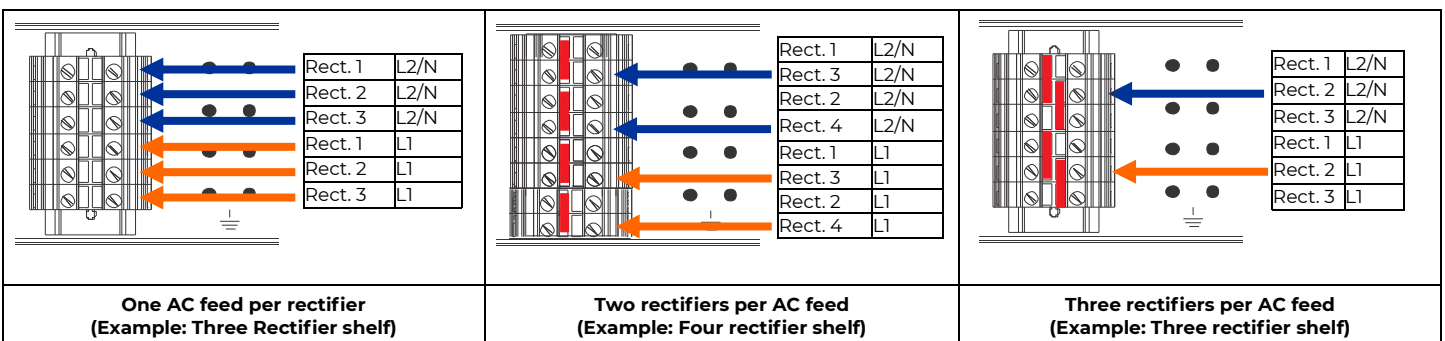
AC feeds may be 110Vac or 208/220Vac depending on the rectifier used.

See Information: Rectifier Options for recommended input breaker sizes.

Inputs can be arranged to feed one, two or three rectifiers, jumpers are provided. See diagram below.

Warning: Ensure AC power is OFF and use appropriate lock-out tag-out procedures before continuing with AC connections.

Warning: Follow all local and national wiring rules.



Step 3 - Connect DC Output - Loads and Batteries

Connect Loads

Loads connect to the twelve GMT fuses and the two lower circuit breaker positions.

Connections:

Fuse: Lug-less, max. wire size - 10 AWG.

Circuit Breaker: double #10-32 studs on 5/8" centers, max. tongue width 0.68".

Connect Batteries

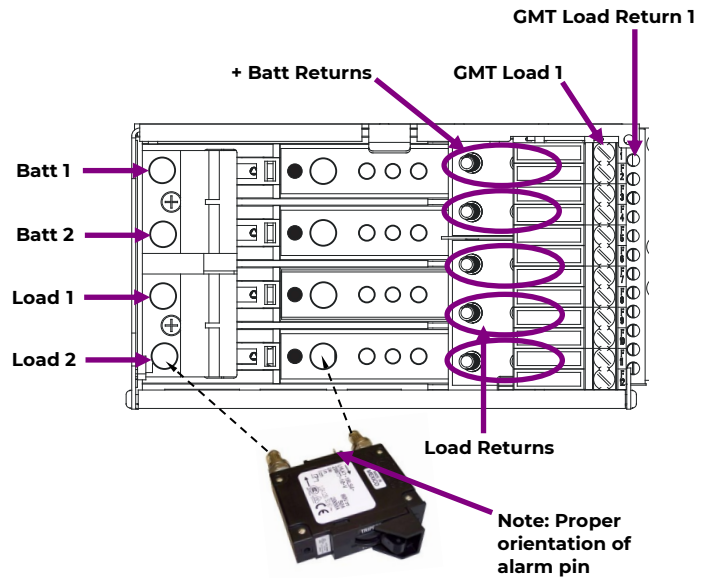
Batteries connect to the two upper circuit breaker positions.

Connections:

double #10-32 studs on 5/8" centers, Max. tongue width is 0.68".

Identify all circuit breakers and fuses on the label located on the inside of the distribution door.

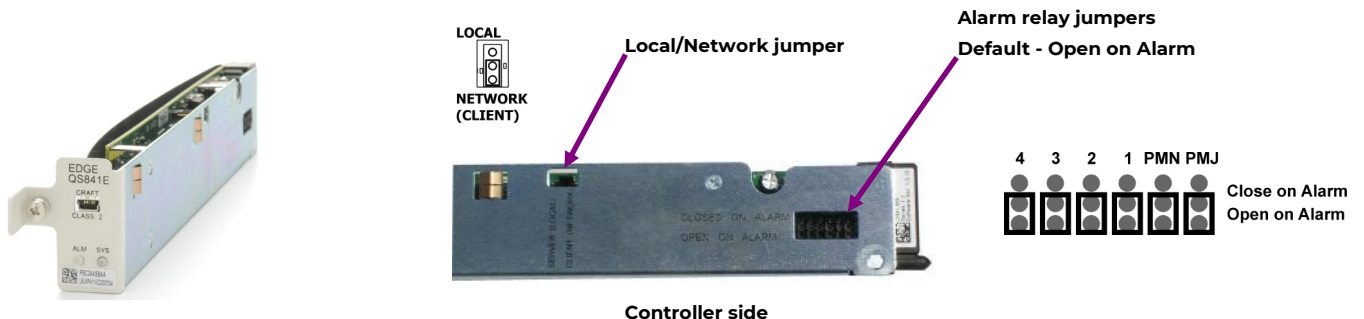
Low Voltage Battery Disconnect (LVBD), disconnects the two battery circuit breakers during low voltage or high temperature events. LVBD settings are factory configured. The settings can be field adjusted through the controller.



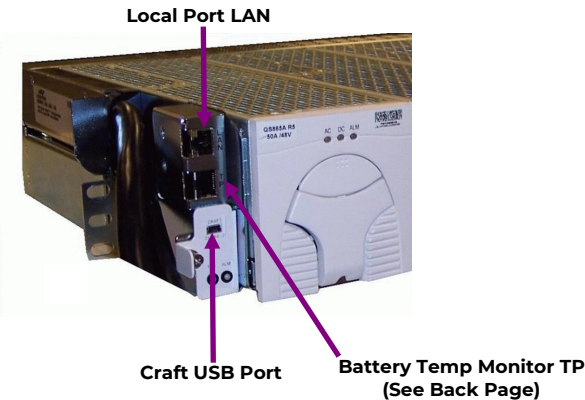
Step 4 - Controller - Set Relay Jumpers and Install

1. Set jumpers on the side of the controller - table below.
2. Slide controllers into the primary shelf. Secure with thumb screw.

Controller Jumper Settings		
LAN Port - J5	<p>Local (Server): J5 LAN connects to a laptop. Configure and view system parameters using controller web pages using the laptop web browser. Default IP address is 192.168.2.1.</p> <p>Local (Server) is a temporary setting, once configuration is complete move the jumper back to Network (Client) mode.</p> <p>Warning: Do not connect LAN port to a network when jumpers are set to Local.</p>	<p>Network (Client): J5 LAN connects to a network that assigns the SPS an IP address.</p> <p>Controller web pages are available on the network (Default)</p>
Alarm Relays	<p>Alarm Relays can be set to operate as Close on Alarm or Open on Alarm. Open on Alarm is the Factory Default setting. Move Alarm jumpers to Close on Alarm when required.</p>	



Step 5 - Connect Controller



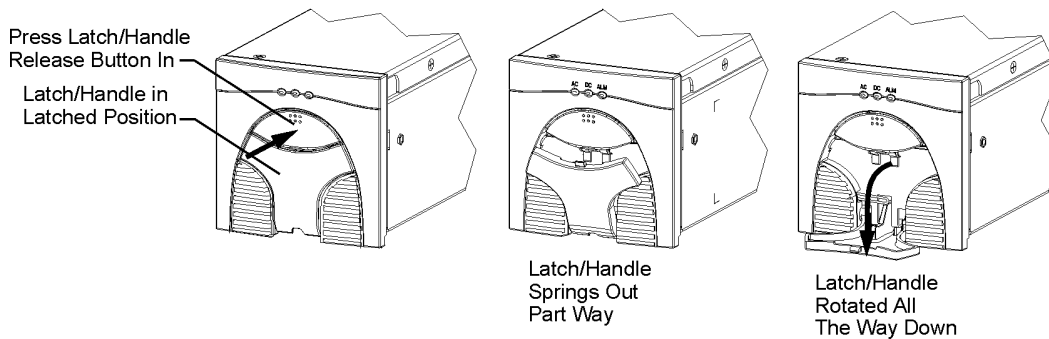
Controller connectors, other than the Craft Port, are fixed to the shelf. This allows the controller to be removed without disconnecting cables.

The LAN connection can also be used as a Craft Port when configured as a Server - see Step 4.

1. Connect office alarm cable to J1 - cable detail on page 5.
2. Connect LAN to J5 (LAN).
3. Connect Thermal Probe cable to J3 (TP) - detail on page 5.

Step 6 - Install Rectifiers

1. Unlatch the handle as shown.
2. Firmly push the rectifier into the rectifier slot until the connector on the rear of the rectifier engages with the connector at the back of the rectifier slot on the CPS shelf. The latch will pop most of the way up when the rectifier is properly seated.
3. Push the latch up into the latched position to complete engagement.



See Information: Controller Basic Operation.

Step 7 - 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 adjustments to the default settings on the controller for this installation.
4. Verify Basic Installation Settings.

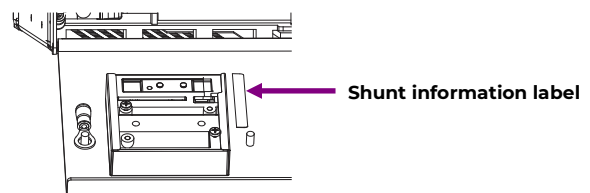
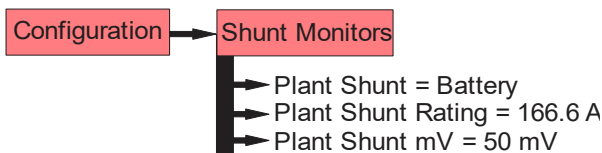
Step 8 - Controller - Configure Shunt Ratings

Configure shunt rating (A and mV) via controller display (see Information Controller Basic Operation for other methods)

Set the shunt rating to

the values on the Shunt information label on the back of the distribution section door

If there is NOT a label configure the system shunt to 166 A and 50mV.



Information: Controller Basic Operation

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

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

LAN port is set to Local or Network by the jumper setting shown in step 5.

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

Details in Pulsar Edge Controller Family Product Manual.

Controller Alarm Status: The display backlight or SYS LED: Green = Normal, Amber = Minor Alarm, Red = Critical/Major Alarm

ALM LED: Red = Battery on Discharge Alarm

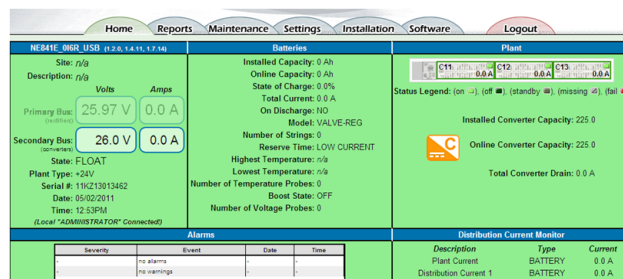
Some alarms may occur during initial installation: example: thermal probe fail or Major/Minor communication fail .

To clear these alarms using the Controller Display: follow the menu path; Menu > Control/Operation > Clear Events or Uninstall Equipment.

Using web pages or EasyView2; Select the Maintenance tab > clear latched events and clear missing devices.

Verify Basic Installation Settings: Verify Date, Time, Battery Type, number of strings, and float voltage for this installation:

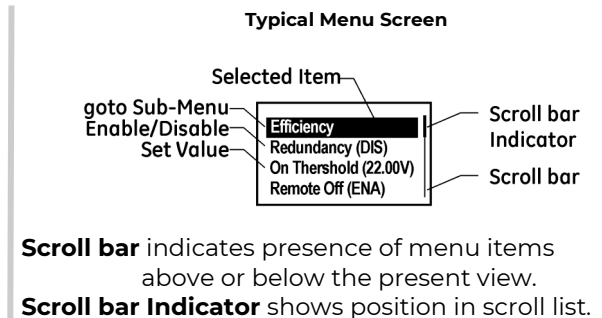
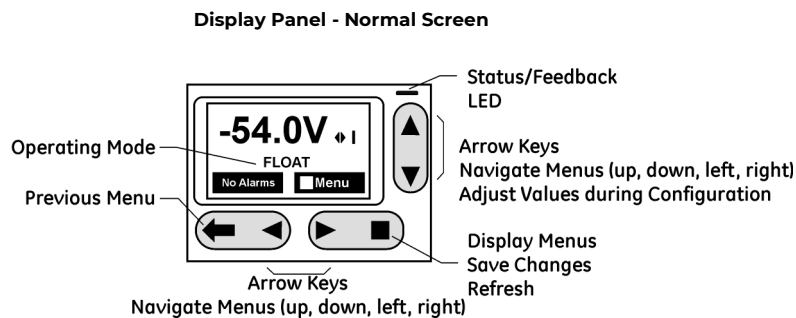
- A. Controller Display - Follow the menu path; Menu > Configuration > System Settings and Menu > Configuration > Batteries.
- B. Web Pages or EasyView2 - Select the Installation Tab and verify shelf J code matches the shelf label, etc. Date, Time. Site ID and Site Description. Select the Settings Tab > Battery Management to verify Battery Type and set number of battery strings installed.



EasyView2/Web Home Page

Display Panel Operation

Most controller features not requiring alpha character input are available via the display panel provided on some models.

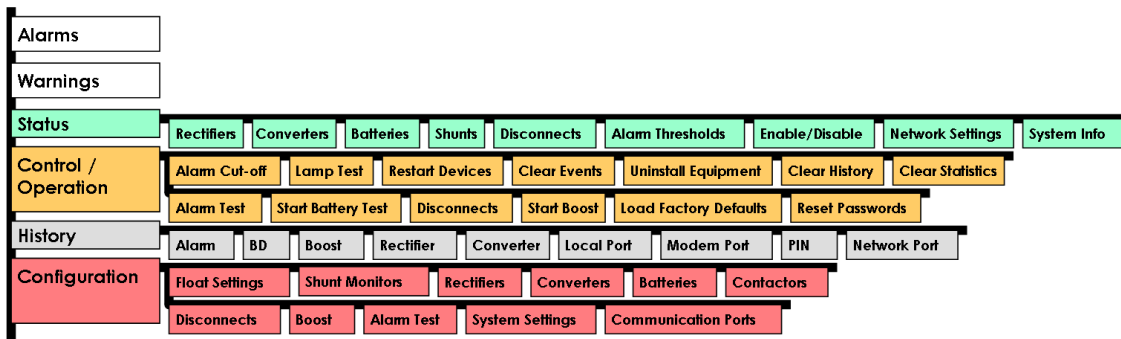


Scroll bar indicates presence of menu items above or below the present view.
Scroll bar Indicator shows position in scroll list.

Display Panel Operation (Continued)

Buttons	Description
	Navigate Menu Screens - navigate to make a selection Selected menu items displayed with a value in parentheses are edited by pressing Enter Menu items without a value in parentheses have sub-menus Parameter Edit - ◀ ▶ select the digit to increment or decrement Normal Screen - ◀ ▶ shift display between V and I
	Parameter Change Parameter Edit - increase or decrease the value of the selected digit Normal Screen - Adjust LCD contrast
	Enter Menu Screens - Enter a sub-menu Enter a parameter to change, or confirms a parameter change Normal Screen - Enter top level menu
	ESC Up one menu level or Exit a parameter change without saving

Information: Controller Display Menu

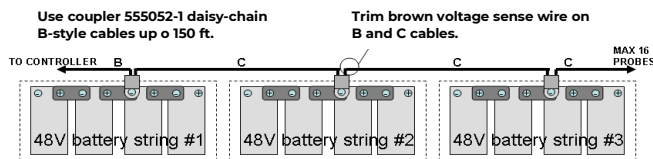


Information: 1-Wire Battery Temp and Voltage Monitor

Battery Monitoring is accomplished with a daisy-chained series of Probes connected to any available J3 or J4 of any shelf daisy chained to a converter shelf with controller. The Probes are used to monitor battery temperature and voltage (ES771 required to monitor voltage).

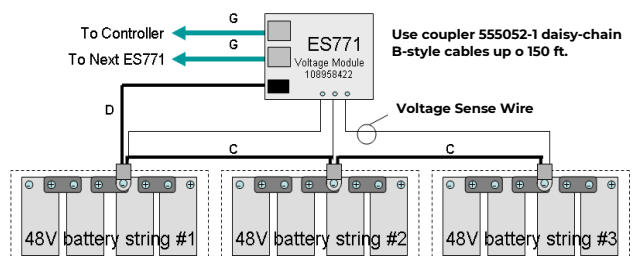
CAUTION: Install Probes under the “-” terminal connector hardware; NOT under the connecting lug.

Temperature Measurement



Ordering Codes	Descriptions
CC109142980	QS873A Thermal Probe
CC848817024	B: 10' controller to thermal probe wireset
CC109157434	B: 20' controller to thermal probe wireset
CC848822560	C: 1' thermal probe to thermal probe wireset
848719803	C: 5' thermal probe to thermal probe wireset
CC848822321	C: 10' thermal probe to thermal probe wireset

Temperature and Voltage Measurement



Ordering Codes	Descriptions
108958422	ES771A Voltage Monitor Card
CC848791517	D: 2 1/2' ES771A to probe wireset
CC848797290	D: 6' ES771A to probe wireset
848719829	D: 10' ES771A to probe wireset
CC848791500	C: 4' ES771A to ES771A or controller wireset
848652947	C: 10' ES771A to ES771A or controller wireset

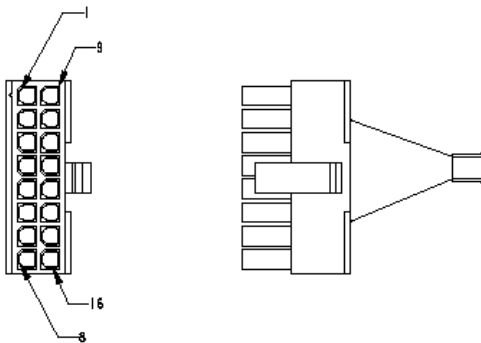
Information: Office Alarm Connections

Office alarm connector (J1) is located on the back of the shelf, it provides access to the alarm relay inputs and outputs. Discrete wire cable assembly is included.

Note the wire color and alarm descriptions in the attached table



J1 Office Alarm Connector



Pos	Color	Signal	Factory Default
1	BLK	User Configurable Alarm Input	Door Open
2	W	User Configurable Alarm Input	AMJ (Aux Major)
3	R/BLK	PTC Protected VBUS-/ABS	VBUS- (For Alarms)
4	OR	Power Major Relay Return	PMJ Return
5	OR/BLK	Power Minor Relay Return	PMN Return
6	R/WHT	Relay 1 Return	BD Return
7	WHT/BLK	Relay 2 Return	Rectifier Fail (RFA) Return
8	BL/R	Relay 3 and Relay 4 Return	FA & ACF Return R3 & R4
9	R	User Configurable Alarm Input	SPD Fail
10	GR	User Configurable Alarm Input	Air Conditioner Fail
11	BL	Relay 4	Fuse Alarm (FA)
12	GR/BK	Power Major Relay	PMJ (Power Major)
13	BL/BK	Power Minor Relay	PMN (Power Minor)
14	GR/WHT	Relay 1	Battery on Discharge (BD)
15	WHT/R	Relay 2	Rectifier Fail (RFA)
16	OR/R	Relay 3	AC Fail (ACF)

Information: Rectifier Options

Rectifier		Input		Recommended Breaker			Output	
		Vac	A	Rectifiers per Feed			A	W
				1	2	2		
CC109158176	QS860ATEZ	100-120	5.0	10	15	20	10	545
		200-240	2.8	10	10	15	10	545
CC109158168	QS861ATEZ	100-120	7.3	10	20	30	15	818
		200-240	4.2	10	15	20	15	818
CC109158184	QS862ATEZ	100-120	12.0	15	30	50	25	1362
		200-240	6.9	10	20	30	25	1363
CC109161758	QS863ATEZ	100-120	12.0	15	30	50	25	1362
		200-240	8.3	10	20	30	30	1635
CC109158151	QS864ATEZ	100-120	12.0	15	30	50	25	1362
		200-240	11.1	15	30	50	40	2180
CC109149340	QS865ATEZ	100-120	12.0	20	40	60	25	1362
		200-240	14.0	20	40	60	50	2725

Specifications and Application

- Specifications and ordering information are in the CPS6000 Power System Ordering Guide available at www.omnionpower.com.
- External Surge Protective Device (SPD) is required on all AC inputs.
- 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.omnionpower.com.

Document	Title
CC848836981	Pulsar Edge Controller Family Product Manual
	CPS6000 Power System Ordering Guide (aka CPS6000 Power System Brochure)

Notes

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