

CPS Board-Level Quick Installation Guide

8/29/2019

Note - This Quick Installation Guide is intended to give the basic information needed to install and configure a CPS power supply board. For full instructions and specifications, please consult the full CPS Installation Instructions, Document Number 52-209, which can be downloaded at www.alarmsaf.com

Models Covered

Order Number	Model Number	Output Voltage	Output Current	Maximum Battery	Recommended AlarmSaf Transformer	
					ORDER #	MODEL #
00850	CPS2	12V/24V	2.5A	7AH	00631	T29V120
00857	CPS20	12V/24V				
01372	CPS200-UL/CSA	12V/24V				
00852	CPS4	12V/24V	4.0A	14AH	00632	T29V196
00860	CPS40	12V/24V				
01373	CPS400-UL/CSA	12V/24V				
00854	CPS6	12V/24V	6.0A	18AH	00607	T24V5A
00862	CPS60	12V/24V				
01374	CPS600-UL/CSA	12V/24V				
00864	CPS80	12V/24V	8.0A	18AH	00634	28V360
01375	CPS800-UL/CSA	12V/24V				
00866	CPS100	12V/24V				
01367	CPS1000-UL/CSA	12V/24V	10.0A	18AH	00634	28V360

Mounting and Wiring

Board-level, supplies can be mounted either with the provided double-sided tape or by using nylon standoffs and hardware (not included). Replacement boards for a listed supply must reuse the existing hardware to maintain the listing.

AC Input - Locate the LVAC Input terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Phasing of the LVAC input is not important on the CPS. See "Models Covered" for Transformer requirements.

DC Output (DC1 / DC2) - Locate the output terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Polarity is marked on the PCB, and on the supporting documentation. The DC2 output (if present) is controlled by the FAI input.

Battery Output - Locate the battery terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Polarity is marked on the PCB. If the CPS is set for 12VDC, connect a single 12V battery to the terminals. If the CPS is set for 24VDC, connect two 12V batteries in series to the terminals. **CAUTION** - A lead-acid battery has the capability of producing extremely high current. Personal or property damage can occur if the batteries are shorted or improperly connected.

Fault Outputs (If Present) - Locate the fault terminals. These terminals are non-removable and accept wire sizes between #14 and #22 AWG. Terminals are labeled in the non-powered (fault) condition.

FAI Input (if present) - Locate the FAI input terminals. These terminals are non-removable and accept wire sizes between #14 and #22 AWG. The FAI input accepts a dry contact input to control the DC2 output.

Terminal Connections

Terminal / Connector	Description	Rating
LOW VOLT AC CONNECT	Low voltage AC input	See "Models Covered" for transformer information.
LOW VOLT AC CONNECT		
BATTERY CONNECT +	Positive Battery Connection	12VDC or 24VDC at 7AH - 18AH Maximum- See "Models Covered" for Ratings
BATTERY CONNECT -	Negative Battery Connection	
DC OUTPUT+ (DC1 or DC2)	DC Positive Output	12VDC or 24VDC at full output current of supply - See "Models Covered" for ratings.
DC OUTPUT- (DC1 or DC2)	DC Common Output	
FAULT OUTPUT NC (AC or DC Fault)	Fault Relay Output Normally Closed	1 Amp at 24VDC (Resistive) - Contacts are labeled in the non-powered (Fault) condition
FAULT OUTPUT C (AC or DC Fault)	Fault Relay Output Common	
FAULT OUTPUT NO (AC or DC Fault)	Fault Relay Output Normally Open	
FAI Input	FAI Dry Contact Input	For connection to a dry-contact <i>ONLY</i> - See "Wiring the FAI Input" on Page 2 for more information
FAI Input	FAI Dry Contact Input	

Visual Indicators

The CPS contains either one or four visual status indicators, depending on model. Models without fault outputs have one visual indicator. Models with fault outputs have four.

- **AC (Green)** - Units with Fault Outputs ONLY - This LED lights when Low Voltage AC is present.
CAUTION - Always check for AC presence with an AC volt meter before servicing
- **DC OK (Green)** - Units with Fault Outputs ONLY - This LED lights when there is no trouble condition detected by the CPS. The LED extinguishes under a fault condition.
- **DC (Red)** - Models without Fault Outputs ONLY - This LED lights when output voltage is present at the DC Output terminals
- **DC1 / DC2 (Red)** - Models with Fault Outputs ONLY - These LEDs light when output voltage is present on the DC1 and DC2 outputs respectively. The DC2 LED may switch on or off depending on the state of the FAI input and jumper S1



Setting the Jumpers

Before powering a system containing a CPS, the jumpers should be set for proper operation. Be sure to reference the proper section of this manual for the model of CPS you are using.

Units WITH Fault Relay Output

Jumper	Description	Settings	Default
J1 & J3	Output voltage Setting	Both ON - 12V Both OFF - 24V	Both ON
J2	DC2 Battery Backup	Intact - Backup Enabled Cut - Backup Disabled	Intact
J4	Not Used	Leave Jumper Off	Off
S1	DC2 Operation	See "Using the FAI Input & the DC2 Output"	

WARNING - BOTH voltage setting jumpers must be set for proper operation of the CPS. Failure to set both jumpers will result in damage to the CPS board.

Output Voltage Setting (J1 & J3) - J1 and J3 control the output voltage setting of the CPS. With both jumpers ON, the output voltage will be 12VDC nominal. With both jumpers OFF, the output voltage will be 24VDC. **BOTH jumpers must be set, or damage to the CPS will occur.**

DC2 Battery Backup (J2) - J2 is a wire jumper that controls whether or not the DC2 output is backed up by the standby battery set. This is useful for installations that require maglocks to open upon AC power loss. Cutting this jumper removes the battery backup from the DC2 output. This jumper does not affect the DC1 output.

DC2 Operation (S1) - This jumper controls whether the DC2 output drops power on an FAI input or is powered on an FAI input. See "Using the FAI Input and the DC2 Output" for more details.

Units WITHOUT Fault Relay Output

Jumper	6V Output	12V Output*	24V Output
J1	N/A	Closed	Open
J2	N/A	Open	Open

*Factory default

Output Voltage Setting (J1 & J2) - J1 and J2 control the output voltage setting of the CPS. CPS models without Fault Relays may be set for 12VDC, or 24VDC output. Set the jumpers as shown in the table for each voltage.

Using the FAI Input and the DC2 Output

On units with Fault Relay Output, the DC2 output is the FAI controlled output of the power supply. The S1 jumper determines the operation of the DC2 output when there is an FAI (Fire Alarm Interface) input. The default setting on all units is **FAIL-SAFE**. Jumper positions are:

- **FAIL-SAFE:** Power to the DC2 output is removed when an FAI input is received. Power to the DC2 output returns when the FAI input is removed.
- **FAIL-SECURE:** There is no power to the DC2 output until an FAI input is received, DC2 remains powered during the FAI event. Power is removed from DC2 when the FAI input is removed.

S1 JUMPER POSITIONS		
MODEL	FAIL-SAFE	FAIL-SECURE
CPS20/40 & CPS200/400	1 - 3	1 - 2
CPS60 & CPS600	3 - 2	3 - 1
CPS80/100 & CPS800/1000	3 - 2	3 - 1

