

## Introduction

The CSA-PWS300-CAEN and CSA-PWS600-CAEN are wall-mounted power supplies that use one or two C2N-SPWS300 power supplies.

The power supply provides regulated 24 volt DC, 300 Watt power to shade components. It operates with an input of 100 to 240 VAC, 4 A (maximum) and a noise rating of less than 150 mV. The power supply is capable of delivering a nominal 75 Watts of power at 24 Volts DC on any of its eight channels. Each channel is accessed at the front panel of the unit via Cresnet® type connectors. Outputs are limited to 75 Watts (3.125 Amps typical) by an electronic circuit breaker. Each output connector also has Cresnet Y-Z signals. All Cresnet signals are parallel.

For simplicity within this guide, the term “CSA-PWS300/600-CAEN” is used except where noted.

### Functional Summary

- One (CSA-PWS300-CAEN) or two (CSA-PWS600-CAEN) 24 Volt, 300 Watt Cresnet power supplies
- Eight output channels per power supply (each with 75 W rating) monitored and controlled by a Cresnet port
- Power switch allows for single-point shutdown
- Ventilated cover for convection cooling of modules encased in enclosure
- Conveniently located electrical knockouts for both Class 1 and Class 2 wiring
- 16 gauge hot dipped galvanized steel enclosure

### CSA-PWS300/600-CAEN Specifications

SPECIFICATION	DETAILS
Input Power	100 VAC to 240 VAC, 4 A, 50/60 Hz
Output Voltage	24 VDC (regulated)
Environmental	
Installation Location	Indoor use only
Temperature	41° to 104° F (5° to 40° C)
Humidity	10% to 90% RH (non-condensing)
Weight	C2N-PWS300: 20 lbs (9.1 kg) C2N-PWS600: 25 lbs (11.4 kg)

(Continued in following column)

### CSA-PWS300/600-CAEN Specifications (Continued)

SPECIFICATION	DETAILS
Controls	
Power On, Power Off, Slave	(1) Rocker switch; selects “SLAVE” mode to allow enabling the power supply system remotely by applying an external 24V DC signal to the NET port
Reset 1-8	(8) Miniature push buttons; each resets its respective output channel, or momentarily disables the channel while held
System Reset	(1) Miniature push button; resets all output channels sequentially, or momentarily disables all channels while held
Setup	Not used
LED Indicators	
PWR 1-8	(8) Green LEDs, indicate 24 VDC power present at each channel output
OVRLD 1-8	(8) Red LEDs indicate a load in excess of 75 watts on a given channel, channel output disabled
SYSTEM OVRLD	(1) Red LED, indicates a total load in excess of 300 Watts on the power supply system, all channels disabled
PWR	(1) Green LED, indicates power supply system is enabled
NET	(1) Yellow LED, indicates communication with Cresnet network
SETUP	Not used

### Regulatory Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



As of the date of manufacture, the CSA-PWS300-CAEN and CSA-PWS600-CAEN have been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



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### Federal Communications Commission (FCC) Compliance Statement

These devices comply with part 15 of the FCC Rules. Operation is subject to the following conditions:

(1) These devices may not cause harmful interference and (2) these devices must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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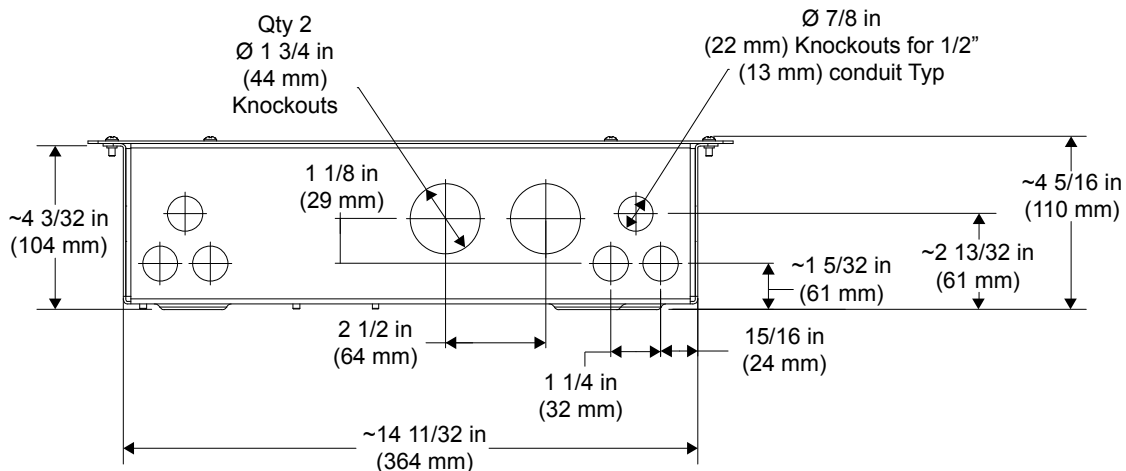
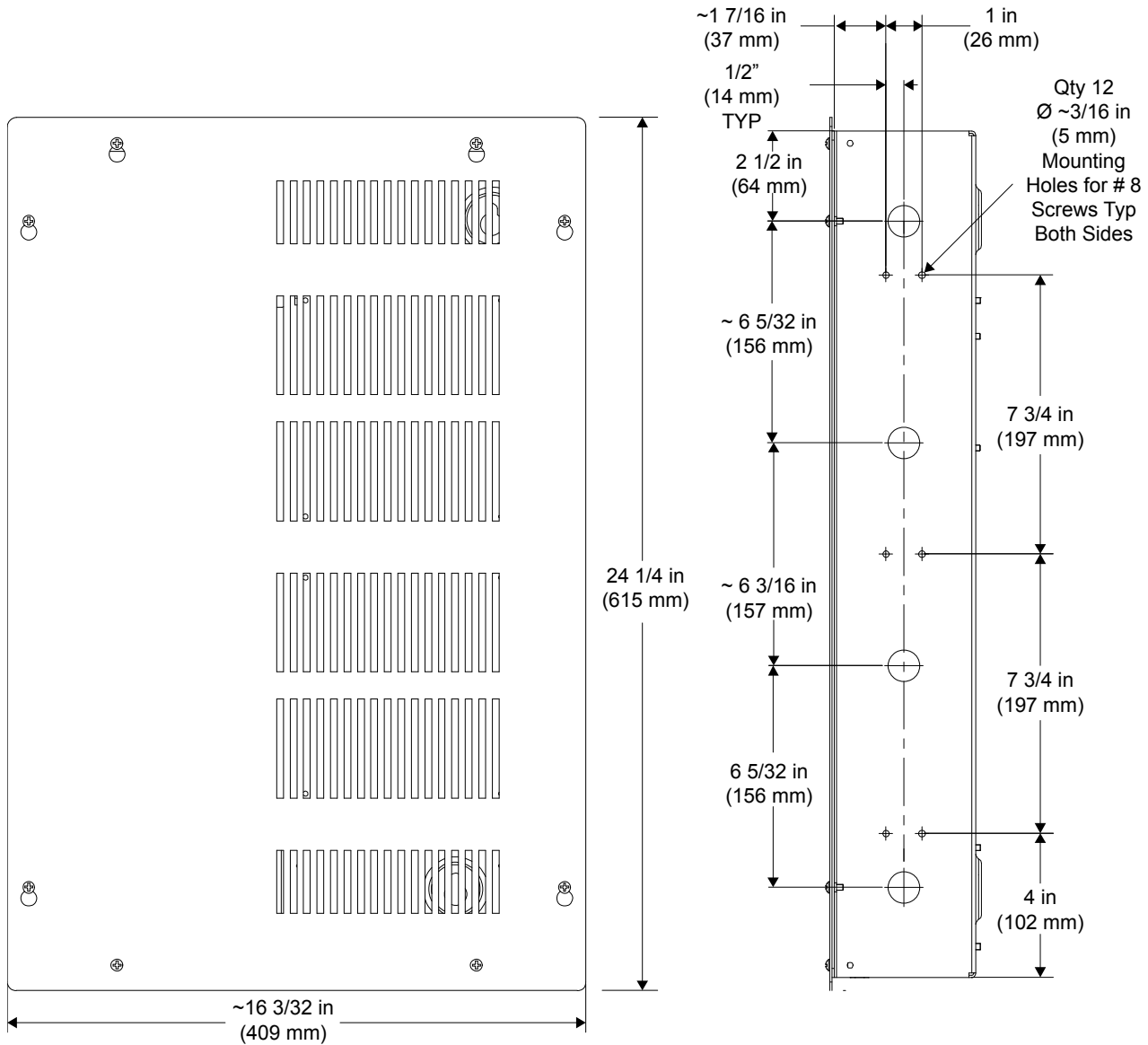
### Industry Canada (IC) Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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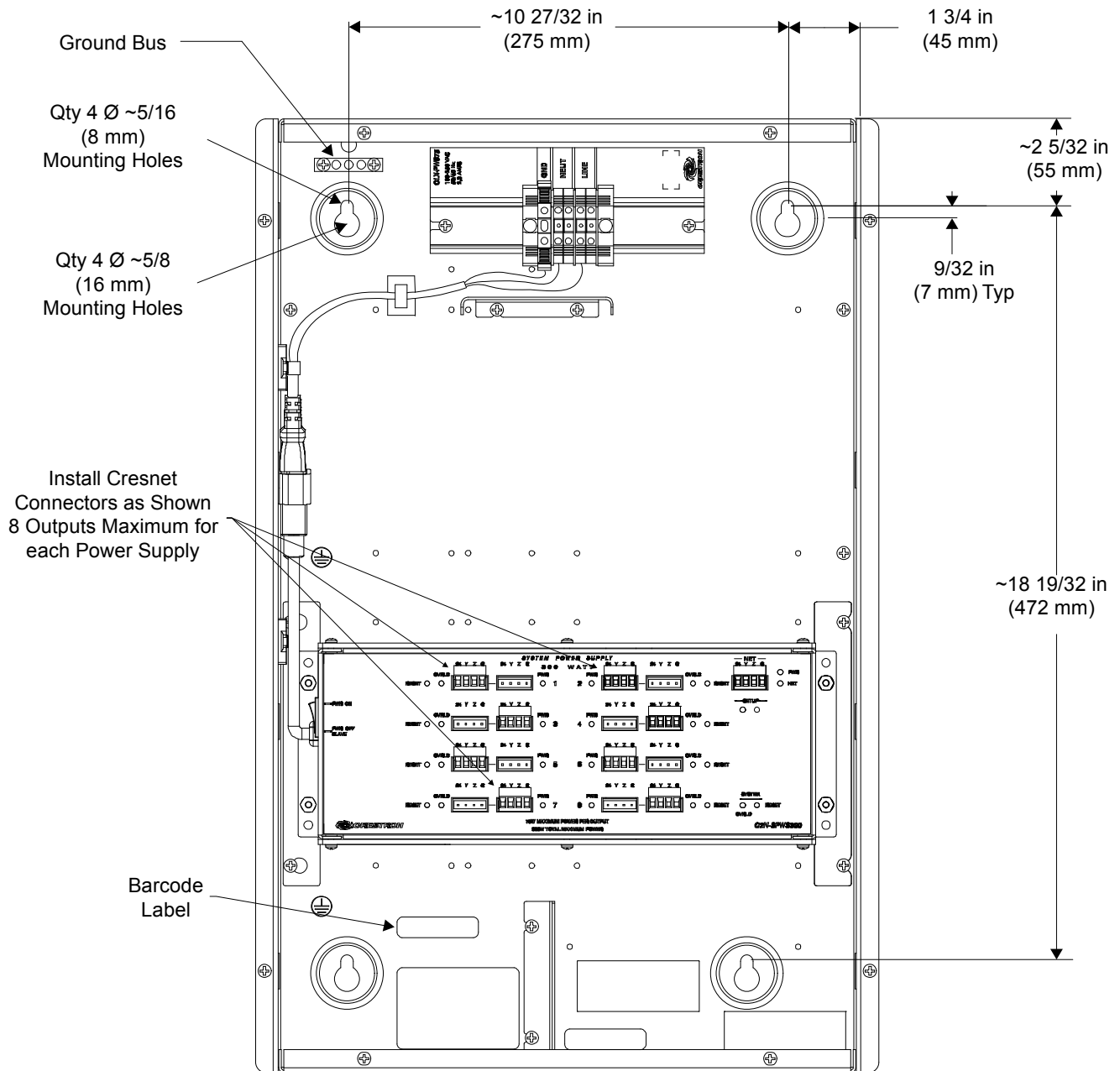
CSA-PSW300/600-CAEN Overall Dimensions (with Front Cover)



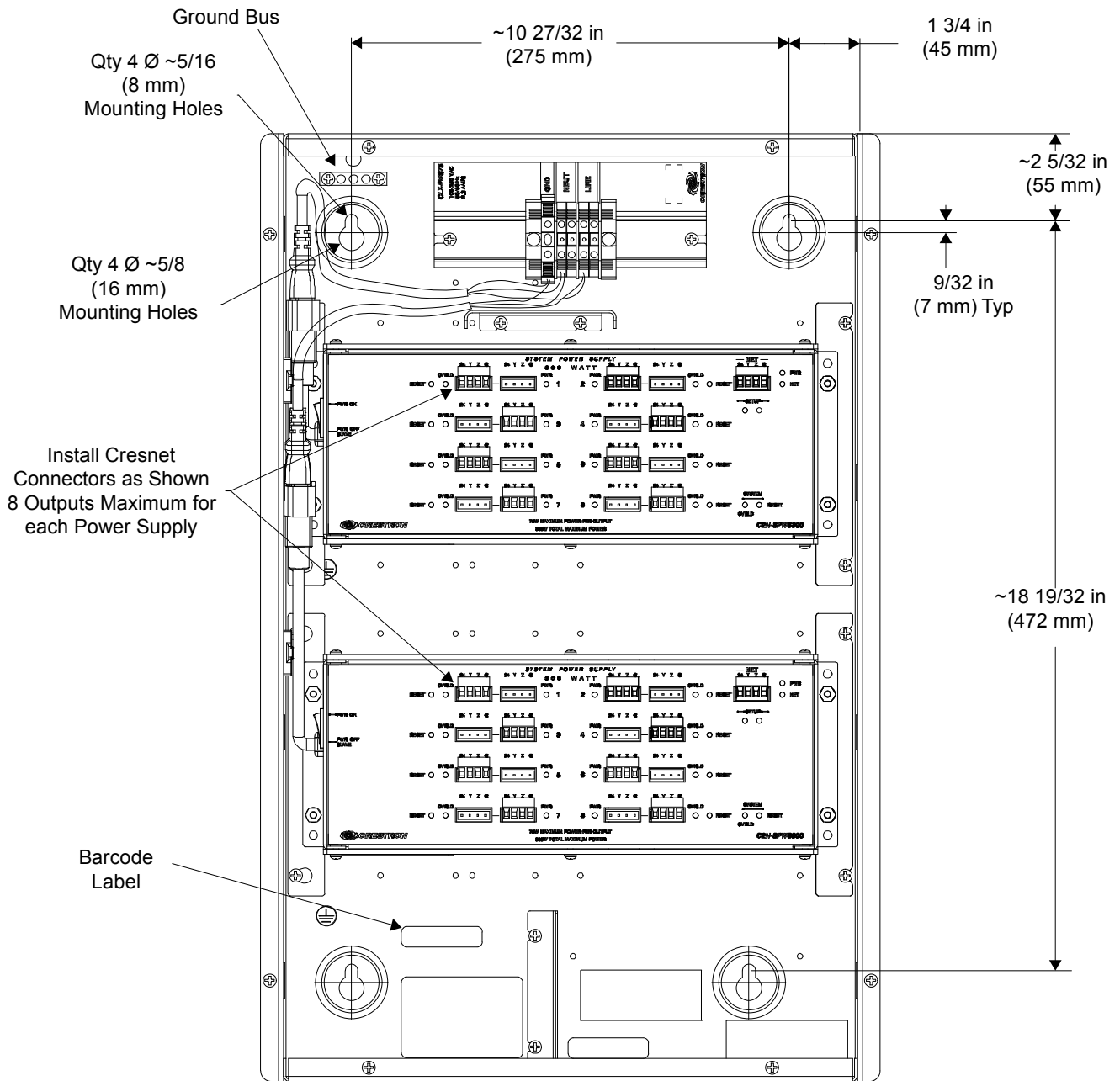
# Crestron CSA-PWS300/600-CAEN

# Power Supply for Crestron® Shades

CSA-PSW300-CAEN Overall Dimensions (without Front Cover)



*CSA-PSW600-CAEN Overall Dimensions (without Front Cover)*



## Installation

The enclosure must be installed by a licensed electrician in accordance with all national and local codes. Refer to the specifications on page 1 for the weight of each model.

### Installation Details

**CAUTION:** These enclosures house equipment that needs to be air-cooled. Therefore, mount in a well-ventilated area. The ambient temperature range should be 41° F to 104° F (5° C to 40° C). The relative humidity should range from 10% to 90% (non-condensing). Allow adequate clearance in front of the vented cover for servicing and ventilation.

**NOTE:** Enclosures are intended for indoor use only.

**NOTE:** When flush mounting, 5/8" drywall is preferred.

**NOTE:** Four keyholes are located within the enclosure and should be used if surface mounting.

The CSA-PWS300/600-CAEN attaches to a mounting surface using four standard screws appropriate for the mounting scenario. Once the unit is properly secured to the mounting surface, the units must be properly wired. Refer to "Wiring" below for details.

### Wiring

**CAUTION:** All power feeds must be protected by 15 or 20 Amp circuit breakers (not supplied).

**NOTE:** Use copper conductors only – rated 60° C.

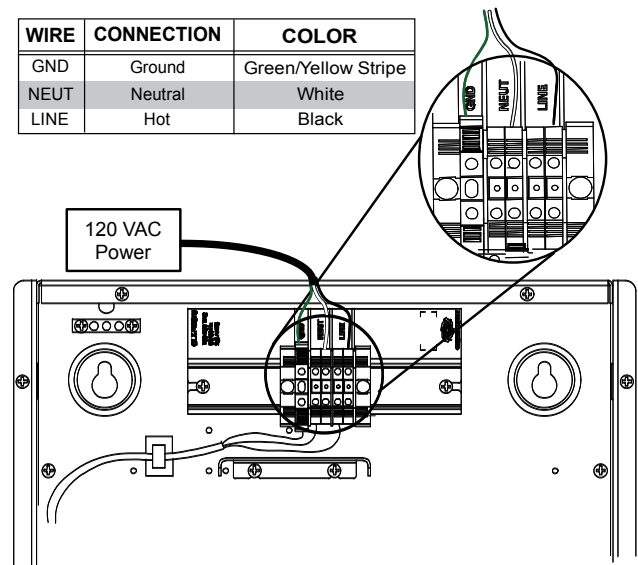
**NOTE:** All wiring must be installed in accordance with all local and national electrical codes.

**NOTE:** Two snap bushings are supplied. If required, insert into knockouts at the bottom of the enclosure to prevent damage to low voltage wiring.

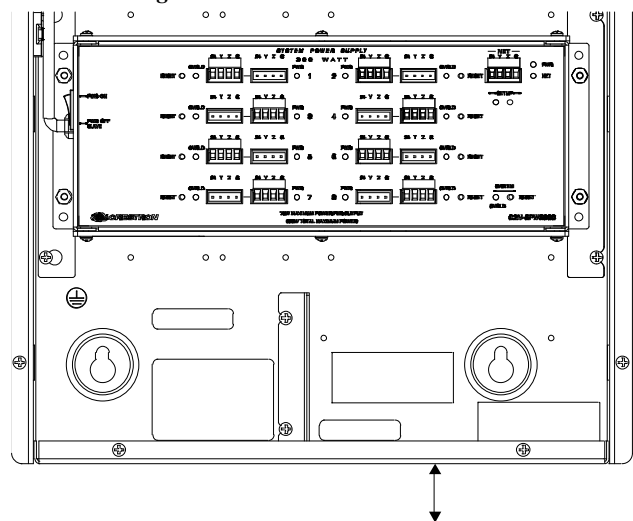
Class 1 and Class 2 field wires must be kept separate. Refer to the following illustrations showing wiring details. Areas for high voltage (Class 1) wiring are shown along the top of the unit. The bottom of the enclosure is reserved for low voltage (Class 2) wiring.

#### Class 1 Wiring Details

WIRE	CONNECTION	COLOR
GND	Ground	Green/Yellow Stripe
NEUT	Neutral	White
LINE	Hot	Black

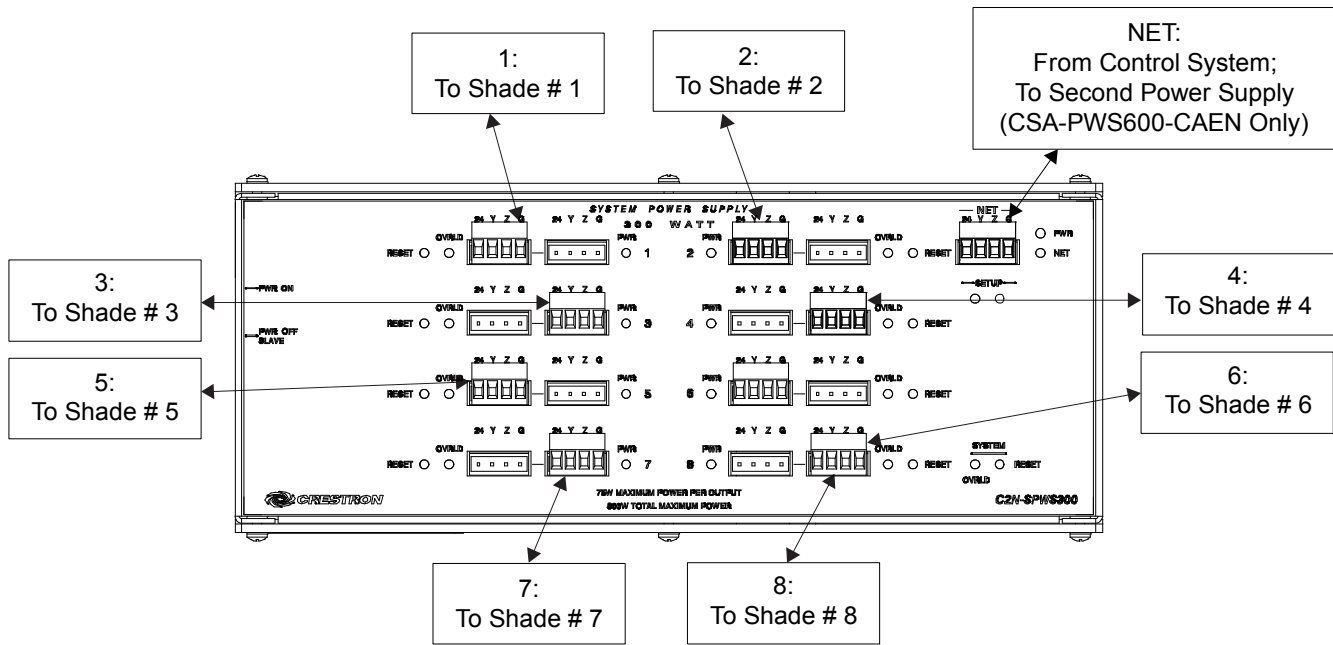


#### Class 2 Wiring Details



Class 2 Wiring  
(From Control System and To Loads)

*Device Wiring Details*



**NOTE:** Always disconnect AC power to the CSA-PWS300/600-CAEN before connecting network devices.

**NOTE:** Install the four-position terminal block connectors as shown. The CSA-PWS300-CAEN has eight connectors. The CSA-PWS600-CAEN has 16 connectors.

**NOTE:** Only eight network devices should be connected to a power supply.

**NOTE:** On the CSA-PWS600-CAEN, jump a wire from each pin on the lower power supply's **NET** connector to the respective pin on the upper power supply's **NET** connector.

Use of a Cresnet Hub/Repeater (CNXHUB) is advised whenever the number of Cresnet devices on a network exceeds 20 or when the combined total length of Cresnet cable exceeds 3000 feet (914 meters).

## Operation

The switch on the left side of each supply must be in the **PWR ON** position.

## Maximum Wire Runs

Length between motor and power supply is limited by voltage drop along cable. The following limits should be observed for reliable performance.

Maximum length of Cresnet cable between power supply and shade:

- Cresnet-P (Plenum Rated, 2x #18 Power, 2x #22 Twisted Data) 130 ft (~40 m)
- Cresnet-NP (2x #18 Power, 2x #22 Twisted Data) 130 ft (~40 m)
- Cresnet-HP-NP (2x #12 Power, 2x #22 Twisted Data) 500 ft (~153 m)

Maximum total length of Cresnet cable run on network/Hub: 3000 ft (~915 m)

# Problem Solving

## Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

### CSA-PWS300/600-CAEN Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Power LED ( <b>PWR</b> ) does not illuminate.	CSA-PWS300/600-CAEN is not receiving power.	Verify that device is power.
	Unit is not plugged in.	Plug in unit.
	Power switch is not in correct position.	Verify that the switch is in the <b>PWR ON</b> position.
System overload LED ( <b>OVRLD</b> ) is illuminated.	Unit is in slave configuration and power cable is not connected.	Connect power cable.
	Total power draw from unit exceeds 300 Watts.	Remove excessive load and press system <b>RESET</b> button.
	Combination of high ambient temperature and excessive load.	Place unit in a well-ventilated area, reduce load, press system <b>RESET</b> button. May also require cycling of power switch.

## Check Network Wiring

### Use the Right Wire

To ensure optimum performance over the full range of the installation topology, use Crestron Certified Wire only. Failure to do so may incur additional charges if support is required to identify performance deficiencies because of using improper wire.

### Calculate Power

**CAUTION:** Use only Crestron power supplies for Crestron equipment. Failure to do so could cause equipment damage or void the Crestron warranty.

**CAUTION:** Provide sufficient power to the system. Insufficient power can lead to unpredictable results or damage to the equipment. Use the Crestron Power Calculator to help calculate how much power is needed for the system ([www.crestron.com/calculators](http://www.crestron.com/calculators)).

When calculating the length of wire for a particular Cresnet run, the wire gauge and the Cresnet power usage of each network unit to be connected must be taken into consideration. Use Crestron Certified Wire only. The wire gauge and the Cresnet power usage of the run should be used in the following equation to calculate the cable length value on the equation's left side.

### Cable Length Equation

$$L < \frac{40,000}{R \times P}$$

Where: L = Length of run (or chain) in feet  
 R = 6 Ohms (Crestron Certified Wire: 18 AWG (0.75 mm<sup>2</sup>))  
 or 1.6 Ohms (Cresnet HP: 12 AWG (4 mm<sup>2</sup>))  
 P = Cresnet power usage of entire run (or chain)

Make sure the cable length value is less than the value calculated on the right side of the equation. For example, a Cresnet run using 18 AWG Crestron Certified Wire and drawing 20 watts should not have a length of run more than 333 feet (101 meters). If Cresnet HP is used for the same run, its length could extend to 1250 feet (381 meters).



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**NOTE:** All Crestron certified Cresnet wiring must consist of two twisted pairs. One twisted pair is the +24V conductor and the GND conductor and the other twisted pair is the Y conductor and the Z conductor.

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#### *Strip and Tin Wire*

Strip the ends of the power supply wires carefully to avoid nicking the conductors. Twist together the ends of the wires that share a pin on the network connector and tin the twisted connection. Apply solder only to the ends of the twisted wires. Avoid tinning too far up the wires or the end becomes brittle. Insert the tinned connection into the connector and tighten the retaining screw. Repeat the procedure for the other three conductors.

#### *Add Hubs*

Use of a Cresnet Hub/Repeater (CNXHUB) is advised whenever the number of Cresnet devices on a network exceeds 20 or when the combined total length of Cresnet cable exceeds 3000 feet (914 meters).

## Further Inquiries

To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or refer to the listing of Crestron worldwide offices on the Crestron Web site ([www.crestron.com/offices](http://www.crestron.com/offices)) for assistance within a particular geographic region.

To post a question about Crestron products, log onto the Online Help section of the Crestron Web site ([www.crestron.com/onlinehelp](http://www.crestron.com/onlinehelp)). First-time users must establish a user account to fully benefit from all available features.

## Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the CSA-PWS300-CAEN and CSA-PWS600-CAEN additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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## Return and Warranty Policies

### Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from Crestron. To obtain warranty service for Crestron products, contact an authorized Crestron dealer. Only authorized Crestron dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a Crestron Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to Crestron, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Crestron reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by Crestron, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

### Crestron Limited Warranty

Crestron Electronics, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from Crestron, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touch screen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from Crestron or an authorized Crestron dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

Crestron shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall Crestron be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. Crestron is not liable for any claim made by a third party or made by the purchaser for a third party.

Crestron shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, Crestron makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

The specific patents that cover Crestron products are listed at [patents.crestron.com](http://patents.crestron.com).

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