

Crestron CSA-PWS225 & CSA-PWS450
Power Supply for Crestron® QMT Motors
Operations & Installation Guide



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) 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). 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-PWS225 and CSA-PWS450, 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.

WARNING: To avoid fire, shock, or death; turn off power at circuit breaker or fuse and test that power is off before wiring!
NOTES: Install and use in accordance with appropriate electrical codes and regulations.

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 03.13
 Specifications subject to change without notice.

REGULATORY COMPLIANCE

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

Federal Communications Commission (FCC) Compliance Statement
 This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device 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 separation between the equipment and the 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

Industry Canada (IC) Compliance Statement
 Operation is subject to the following two conditions:
 • This device may not cause interference, and
 • This device may accept any interference, including interference that may cause undesired operation of the device.

DESCRIPTION

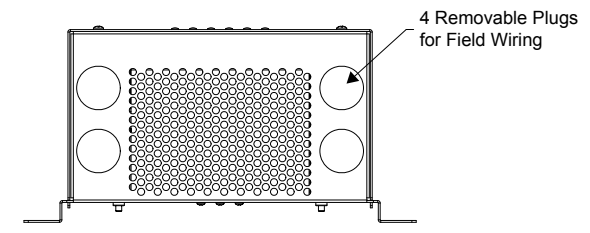
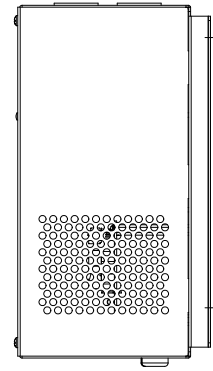
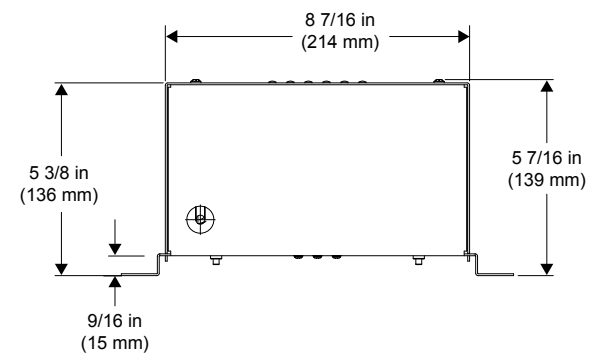
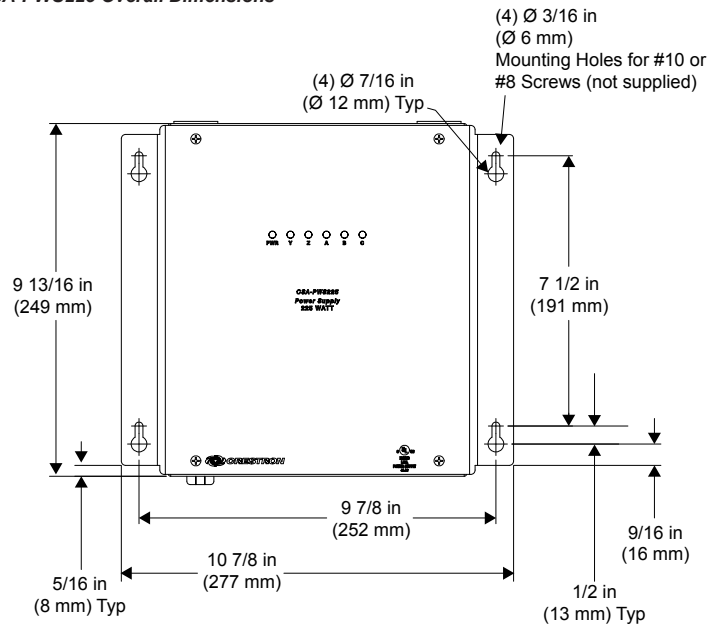
The CSA-PWS225 and CSA-PWS450 power supplies are designed for use with Crestron® QMT motors (sold separately) and other standard Cresnet® products.
 For simplicity in this guide the CSA-PWS225 and CSA-PWS450 shall be referred to as the CSA-PWS225/450, except where noted.

Specifications
 Specifications for the CSA-PWS225/450 are listed in the following table.
CSA-PWS225/450 Specifications

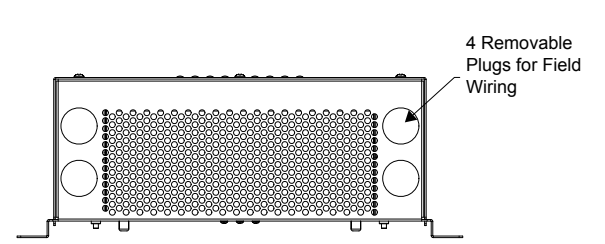
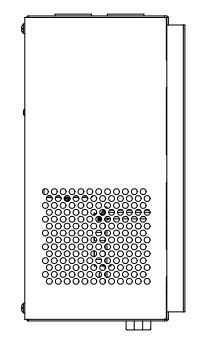
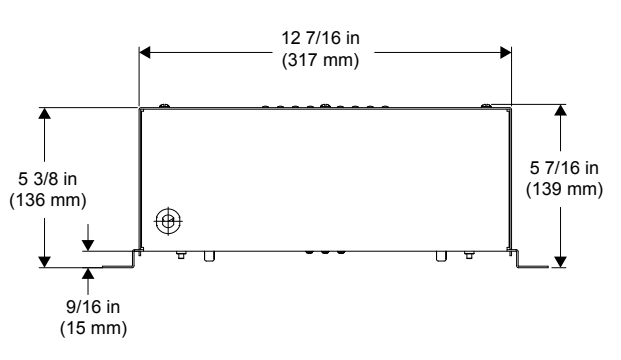
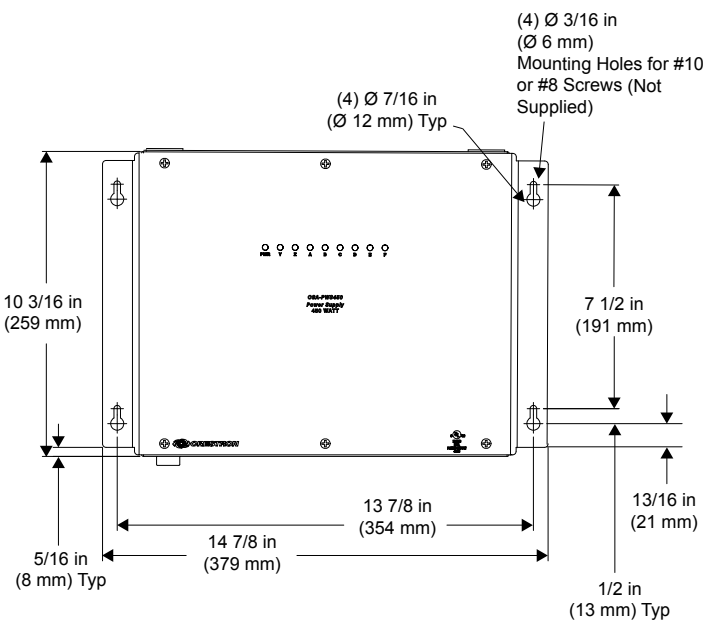
SPECIFICATION	DETAILS
Line Power	100-120 Vac, 50/60 Hz; Nema 5-15P line cord attached for 120 Vac input;
Load Rating CSA-PWS225 Per Segment Total Load Rating	75 Watts @ 24 Vdc 225 Watts (75 W x 3 segments) @ 24Vdc; Powers up to 6 QMT motors (sold separately)
CSA-PWS450 Per Segment Total Load Rating	75 Watts @ 24 Vdc 450 Watts (75 W x 6 segments) @ 24Vdc; Powers up to 12 QMT motors (sold separately)
Load Protection	Each segment is protected by a self resetting thermal fuse and a replaceable 4 A slow-blow fuse
Enclosure	Wall mount, steel; Indoor use only
Connections Cresnet	(2) 4-pin detachable terminal blocks; Cresnet slave ports, paralleled; Connect to Cresnet control network, power not supplied to these connections Cresnet power output ports with data pass-through
Segment A-C (CSA-PWS225 only)	(6) 4-pin detachable terminal blocks comprising (2) paralleled Cresnet ports per each of (3) output segments; 24 Vdc power outputs
Segment A-F (CSA-PWS450 only)	(12) 4-pin detachable terminal blocks comprising (2) paralleled Cresnet ports per each of (6) output segments; 24 Vdc power outputs
Wire	Connectors accept Cresnet or Cresnet-HP wire (12 AWG max)
Dimensions CSA-PWS225 Height Width Depth	9 13/16 in (249 mm) 10 7/8 in (277 mm) 5 7/16 in (139 mm)
CSA-PWS450 Height Width Depth	10 3/16 in (259 mm) 14 7/8 in (379 mm) 5 7/16 in (139 mm)
Weight CSA-PWS225 CSA-PWS450	8 lb (4 kg) 15 lb (7 kg)

Physical Description

This section provides information on the dimensions for the CSA-PWS225/450.
CSA-PWS225 Overall Dimensions



CSA-PWS450 Overall Dimensions



SETUP

Network Wiring

When wiring the Cresnet network, consider the following:

- Use Crestron Certified Wire.
- Use Crestron power supplies for Crestron equipment.
- Provide sufficient power to the system.

Preparing and Connecting Wires

Strip the ends of the wires approximately 1/4 inch (6 mm). Use care to avoid nicking the conductors. Twist together the ends of the wires that share a connection 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.

INSTALLATION

CAUTION: This equipment is for indoor use only. Mount in a well ventilated area. The ambient temperature must be 32° to 104° F (0° to 40° C). The relative humidity must be 10 to 90% (non-condensing).

NOTE: When installing in an enclosure, high-voltage devices should be grouped separately from low-voltage devices.

The CSA-PWS225/450 is designed for installation to a wall using the wall studs. Use four #8 or #10 screws (not supplied) to mount the CSA-PWS225/450 to the mounting surface.

NOTE: Additional blocking is needed when mounting the power supply to wall studs that are 16 inches on center.

Observe the following when installing the power supply:

- The power supply must be mounted in accordance with all national and local codes.
- Allow adequate clearance in front of the cover for servicing.
- The power supply is designed for surface mounting on a wall.
- The power supply is intended for indoor use only.
- The socket outlet for powering the power supply should be installed near the equipment and shall be accessible.
- The power supply cord must not be attached to the building surface or run through walls, ceilings, floors and similar openings in the building structure.
- Installation measures should be taken to prevent physical damage to the cord.
- Cord should be routed to outlet to prevent a trip hazard to occupants.

WIRING

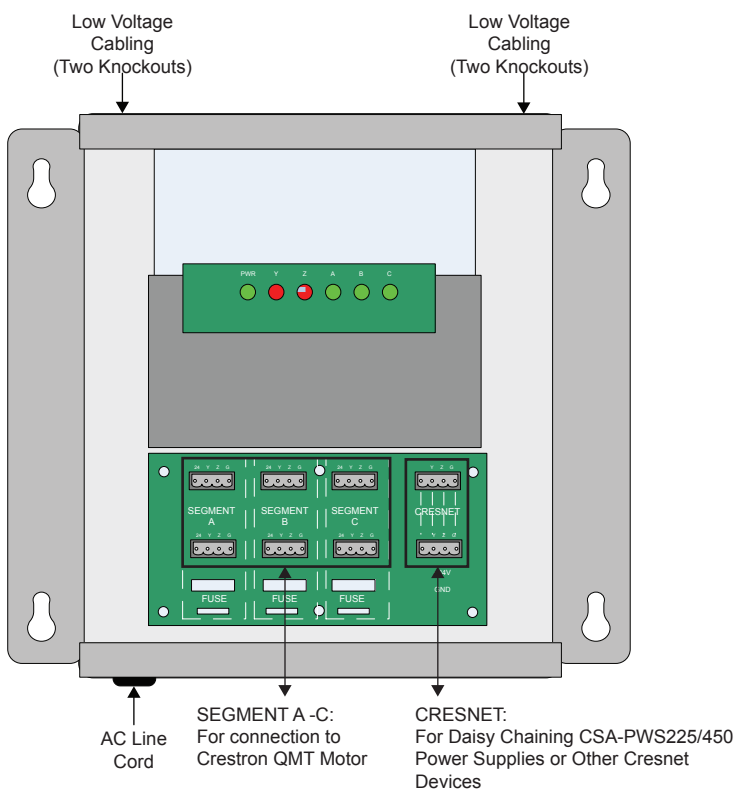
The image below shows CSA-PWS225 with cover removed. Each segment, marked **Segment A**, **Segment B** or **Segment C**, is protected by a self resetting thermal fuse and a replaceable slow-blow fuse. Two plug-in connectors are provided for each segment, allowing two Crestron QMT motors to be connected to each segment.

Two additional connectors are provided in order to daisy chain power supplies to other CSA-PWS225/450 power supplies or other Cresnet devices. These two connectors are wired in parallel (i.e., all connections are passed through). The 24V wire should not be connected.

All connections labeled **G** (ground), **Y** or **Z** (Data) are wired in parallel for all connectors.

The CSA-PWS450 is similar, but includes six output segments.

Connections for the CSA-PWS225/450 (CSA-PWS225 Shown)

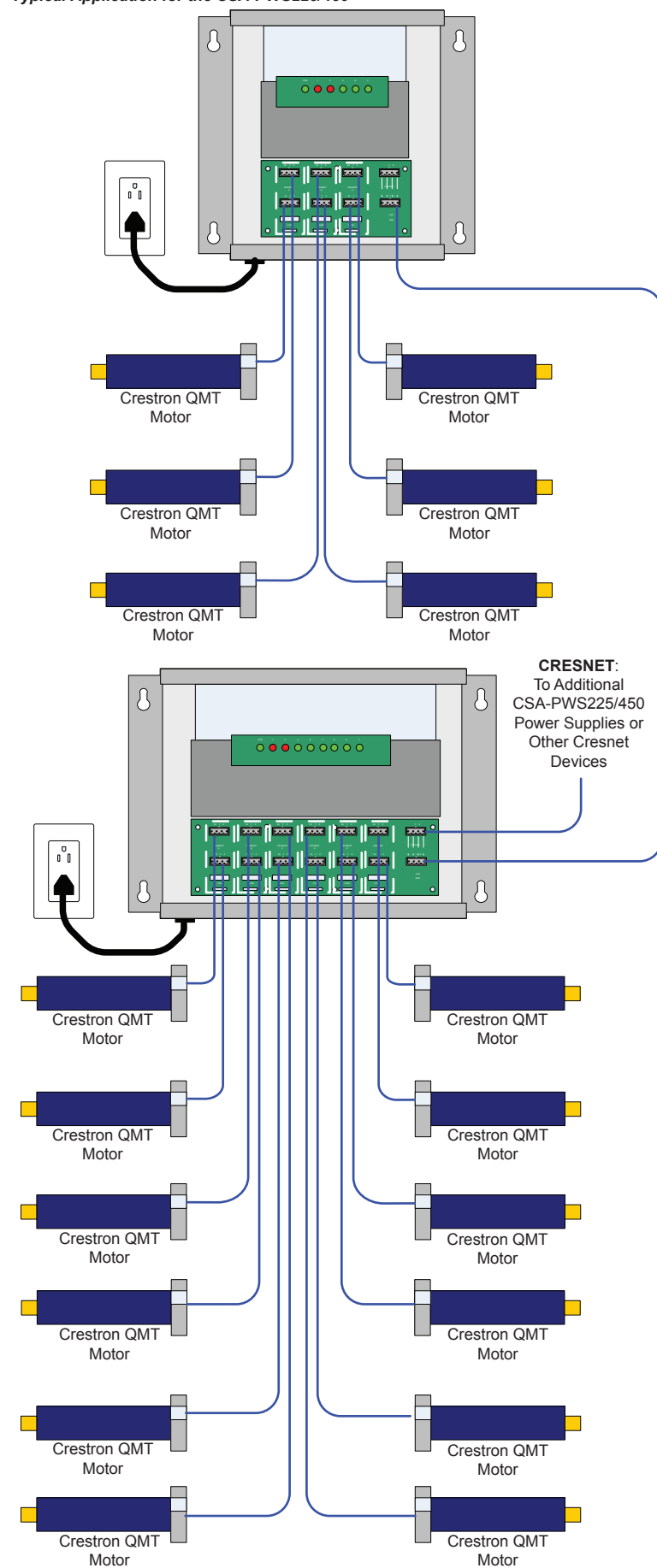


Wiring Panels to Motors

The following diagram shows a typical application for the CSA-PWS225/450 power supply. Make sure the power requirements of the CSA-PWS225/450 power supply are not exceeded. For detailed wiring instructions, refer to the Roller Shades and Interfaces Wiring Guide (Doc. 7516), which is available from the Crestron Web site (www.crestron.com/manuals).

NOTE: Ensure low voltage wiring is free of shorts prior to powering up power supply.

Typical Application for the CSA-PWS225/450



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)

NOTE: 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).

REPLACE AND RESET FUSE

The outputs are protected by a thermal fuse and a slow-blow fuse. The green LED for the segment goes out if either the thermal or the slow-blow fuse is tripped.

Thermal Fuse

The thermal fuse trips if excess current is drawn for a period of time which provides overload protection. The fuse is self resetting and fixes itself within several minutes.

Slow-blow Fuse

The slow-blow fuse protects the power supply under short circuit conditions if the thermal fuse does not. This can be replaced as a standard cartridge fuse. A 4 A 250 V 5x20 mm fuse must be used for replacement. Spare fuses are provided with the CSA-PWS225/450.

INDICATORS

The following table describes the color and state of the LEDs displayed on the front of the CSA-PWS225/450.

LED Description.

	COLOR	LED ON	LED OFF	DEFAULT STATE
PWR	Green	Main power OK	No power from main supply; Check AC input	On
Y	Red	Data line high (default)	Data line low; Check for short to ground on Y line	On; Pulses off while data is being transmitted
Z	Red	Data line high (data being transmitted)	Data line low; Check for short to ground on Z line; No data on Cresnet	Off; Pulses high while data is transmitted
A	Green	Power to Segment A OK	SEGMENT A fuse blown	On
B	Green	Power to Segment B OK	SEGMENT B fuse blown	On
C	Green	Power to Segment C OK	SEGMENT C fuse blown	On
D (CSA-PWS450)	Green	Power to Segment D OK	SEGMENT D fuse blown	On
E (CSA-PWS450)	Green	Power to Segment E OK	SEGMENT E fuse blown	On
F (CSA-PWS450)	Green	Power to Segment F OK	SEGMENT F fuse blown	On

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/lift 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.

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