Crestron **CEN-SW-POE-5**
5-Port Power over Ethernet Switch
Installation Guide

CRESTRON®

This document was prepared and written by the Technical Documentation department at:

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5-Port Power over Ethernet Switch: CEN-SW-POE-5

Introduction

The CEN-SW-POE-5 is a five-port unmanaged Ethernet switch designed to provide standards-based IEEE 802.3af Power over Ethernet (PoE) capability from four ports. The CEN-SW-POE-5 powers Crestron 802.3af-compliant powered devices such as the CEN-WAP-ABG-1G wireless access point. In addition, the CEN-SW-POE-5 can power third-party 802.3af-compliant powered devices. Using the CEN-SW-POE-5, a separate power supply is not needed at the location of each powered device.

The CEN-SW-POE-5 also provides an uplink port that connects to a network hub or switch.

NOTE: The uplink port does not provide PoE capability.

Features and Functions

- Four 10BaseT/100BaseTX 802.3af PoE ports
- One 10BaseT/100BaseTX uplink port
- Autonegotiation of data transmission rate and duplex mode
- Auto MDI/MDI-X (Medium Dependent Interface/Medium Dependent Interface Crossover) operation
- 3.2 Gbps switching fabric
- Wall and rack mountable design

Four 10BaseT/100BaseTX 802.3af PoE Ports

Using 802.3af PoE technology, each of four 10BaseT/100BaseTX ports can provide power to an 802.3af-compliant Ethernet device using the same cable as that used for the network connection. In addition, PoE technology provides built-in protection to prevent damage from occurring when power is applied to non-PoE devices.

Auto MDI/MDI-X Operation

A straight-through or crossover cable can be used to connect to any port on the CEN-SW-POE-5. Using auto MDI/MDI-X operation, the port automatically detects the cable type that is used.

Specifications

Specifications for the CEN-SW-POE-5 are listed in the following table.

CEN-SW-POE-5 Specifications

SPECIFICATION	DETAILS
Ethernet	10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/half duplex; TCP/IP, UDP/IP, DHCP, IGMP; IEEE 802.3, 802.3u, 802.3x, and 802.3af compliant
Power Requirements	
CEN-SW-POE-5	60 VA (1.25 A) @ 48 VDC
Power Supply (included)	100-240 VAC, 50/60 Hz
Environmental	
Temperature	32º to 104ºF (0º to 40ºC)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	10 BTU/Hr
Enclosure	Metal surface mount box with two integral mounting flanges, 19” EIA rack-rail mountable (one sided), wall-mountable, black matte powder coat finish
Dimensions	
Height	5.06 in (12.86 cm)
Width	4.66 in (11.82 cm)
Depth	1.17 in (2.97 cm)
Weight	13 oz (381 g)

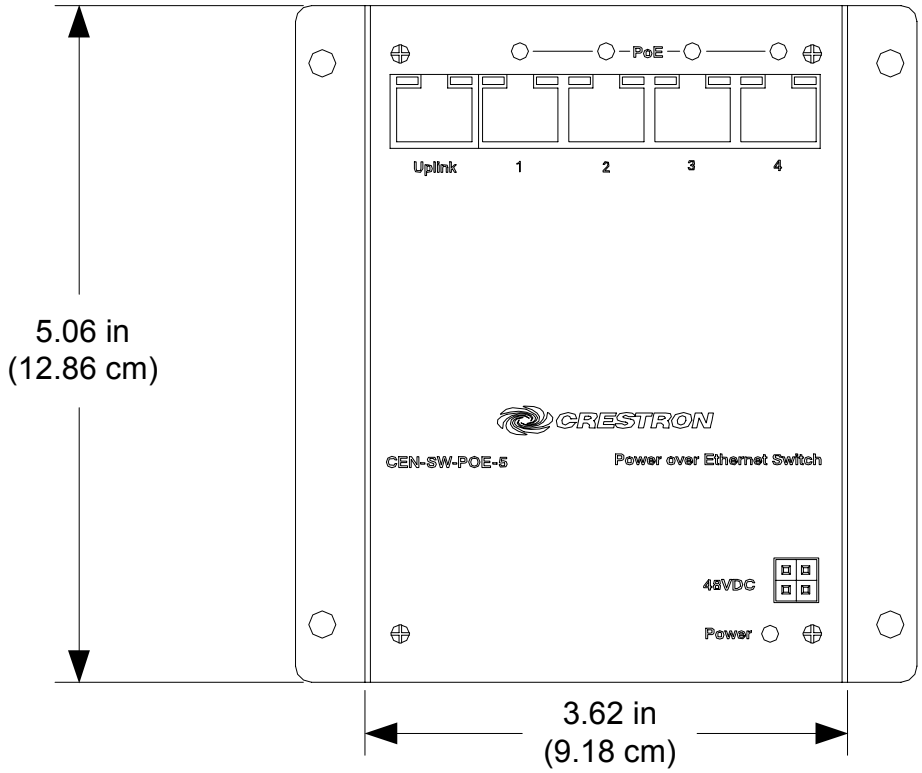
Physical Description

This section provides information on the connections and indicators available on your CEN-SW-POE-5.

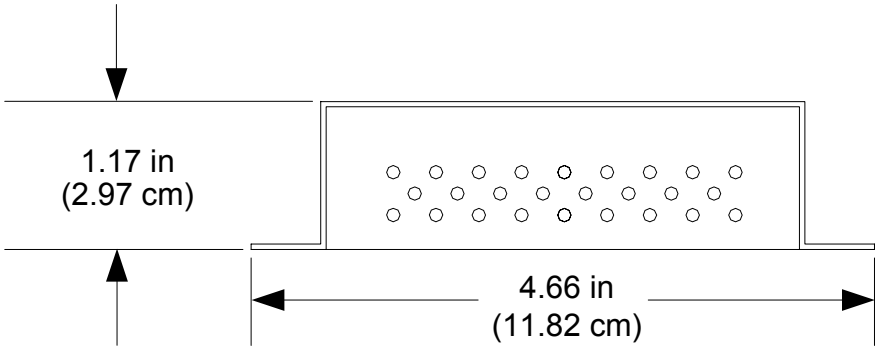
CEN-SW-POE-5 Physical View

CEN-SW-POE-5 Overall Dimensions

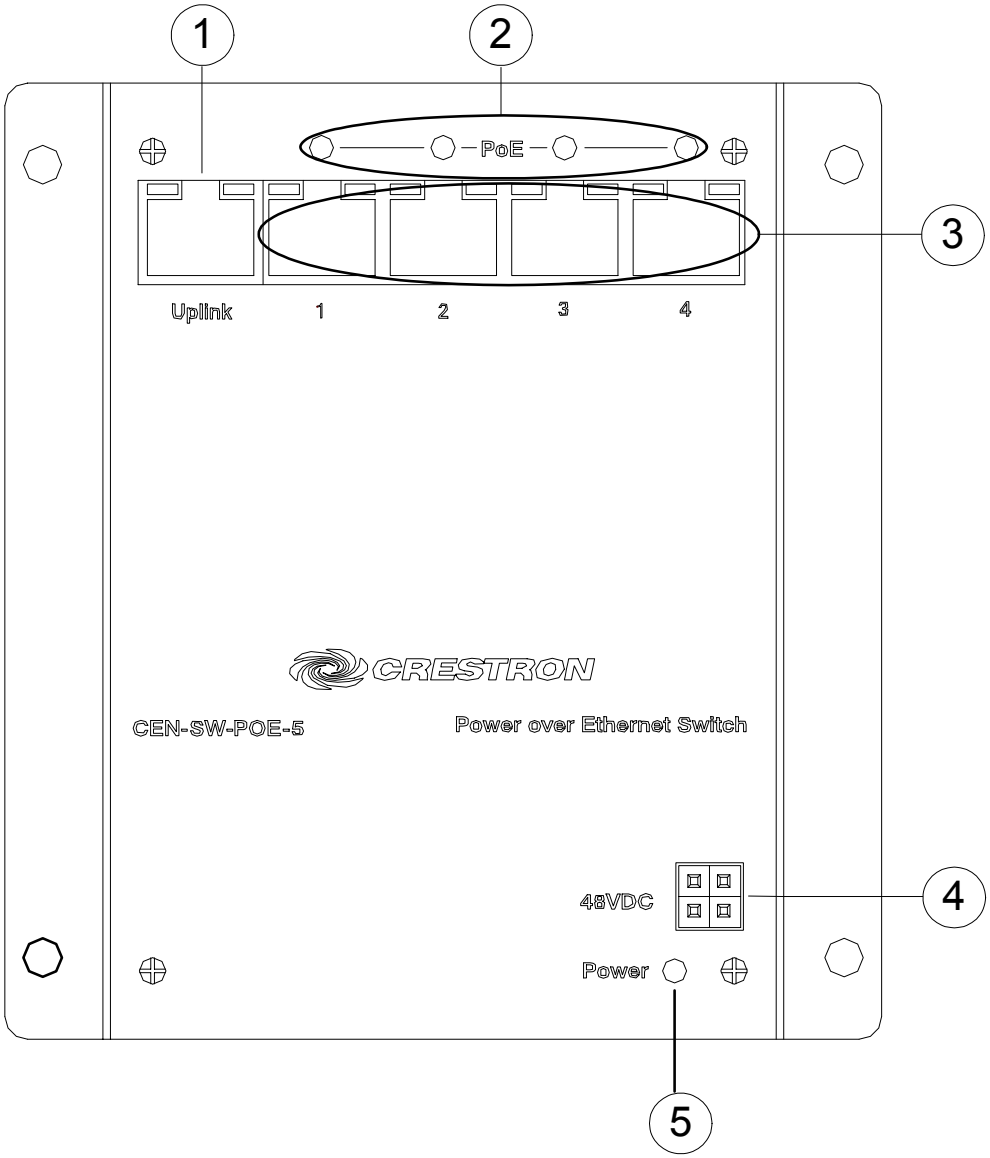
Front View



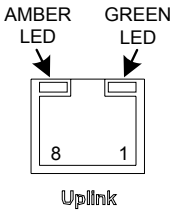
Bottom View



CEN-SW-POE-5 Connectors & Indicators



Connectors & Indicators

<table>
<tr><th>#</th><th>CONNECTORS & INDICATORS</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>Uplink
 
</td><td>(1) 8-wire RJ-45 connector with 2 LED indicators;
10BaseT/100BaseTX Ethernet port;
Amber LED indicates 100BaseT link status;
Solid Green LED indicates link status;
Flashing Green LED indicates Ethernet activity.
Connects to network hub or switch.
Uplink Connector Pin Assignments
<table>
<tr><th>PIN</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>Data Pair 1</td></tr>
<tr><td>2</td><td>Data Pair 1</td></tr>
<tr><td>3</td><td>Data Pair 2</td></tr>
<tr><td>4</td><td>No Connection</td></tr>
<tr><td>5</td><td>No Connection</td></tr>
<tr><td>6</td><td>Data Pair 2</td></tr>
<tr><td>7</td><td>No Connection</td></tr>
<tr><td>8</td><td>No Connection</td></tr>
</table></td></tr>
<tr><td>2</td><td>PoE</td><td>(4) Green LEDs, indicate that the corresponding PoE port is providing power to an 802.3af-compliant device.</td></tr>
</table>

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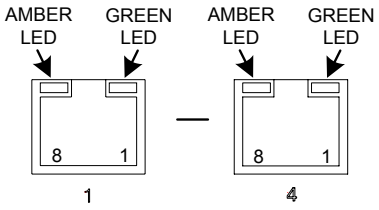
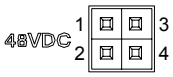
Connectors & Indicators (Continued)

<table>
<tr><th>#</th><th>CONNECTORS & INDICATORS</th><th>DESCRIPTION</th></tr>
<tr><td>3</td><td>PoE (1-4)
 
</td><td>(4) 8-wire RJ-45 connectors with 2 LED indicators;
10BaseT/100BaseTX PoE ports for power and data;
Amber LED indicates 100BaseT link status;
Solid Green LED indicates link status;
Flashing Green LED indicates Ethernet activity.
Connect to 802.3af-compliant powered devices.
Maximum PoE load per port: 15.4 W (350 mA) @ 48 VDC nominal*;
Maximum total PoE load: 57 W (1.19 A) @ 48 VDC nominal.
PoE Connector Pin Assignments
<table>
<tr><th>PIN</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>Data Pair 1</td></tr>
<tr><td>2</td><td>Data Pair 1</td></tr>
<tr><td>3</td><td>Data Pair 2</td></tr>
<tr><td>4</td><td>+VDC</td></tr>
<tr><td>5</td><td>+VDC</td></tr>
<tr><td>6</td><td>Data Pair 2</td></tr>
<tr><td>7</td><td>-VDC</td></tr>
<tr><td>8</td><td>-VDC</td></tr>
</table></td></tr>
</table>

(Continued on following page)

Connectors & Indicators (Continued)

<table>
<tr><th>#</th><th>CONNECTORS & INDICATORS</th><th>DESCRIPTION</th></tr>
<tr><td>4</td><td>48VDC
 
</td><td>(1) 4-pin power connector, 48 VDC power input (external power supply included).
48VDC Connector Pin Assignments
<table>
<tr><th>PIN</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>+48 VDC</td></tr>
<tr><td>2</td><td>+48 VDC</td></tr>
<tr><td>3</td><td>Ground</td></tr>
<tr><td>4</td><td>Ground</td></tr>
</table></td></tr>
<tr><td>5</td><td>Power</td><td>(1) Yellow LED, indicates 48 VDC power supplied from the external power supply.</td></tr>
</table>

* Due to the inherent voltage drop over copper wire, a maximum of 12.9 W is guaranteed to be received by the PoE powered device over a cable run length of 328 feet (100 meters).

Industry Compliance

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

(E312979)

As of the date of manufacture, the CEN-SW-POE-5 has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.

NOTE: 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.

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.

Setup

Network Wiring

When wiring the Ethernet network, use Category 5 (CAT5) wiring. CAT5 wiring is a twisted pair cable designed for Ethernet networks. These networks operate at speeds of up to 100 Megabits per second (Mbps) using the 100BaseT standard.

For information on connecting Ethernet devices in a Crestron system, refer to the latest version of the Crestron e-Control® Reference Guide (Doc. 6052), which is available for download from the Crestron website (www.crestron.com/manuals).

Supplied Hardware

The hardware supplied with the CEN-SW-POE-5 is listed in the following table.

Supplied Hardware for the CEN-SW-POE-5

DESCRIPTION	PART NUMBER	QUANTITY
48 V, 1.25 A 100-240 VAC Switching Power Supply	2021168	1
North American IEC Power Cable	2021169	1
5 x 20 ISO, Pan Head Phillips Rack Screws with Washers	2021170	2
3/16 x 1-1/4” Pan Head Phillips Drywall Screws	2021171	4

Installation

Ventilation

The CEN-SW-POE-5 venting holes should not be obstructed under any circumstances. To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

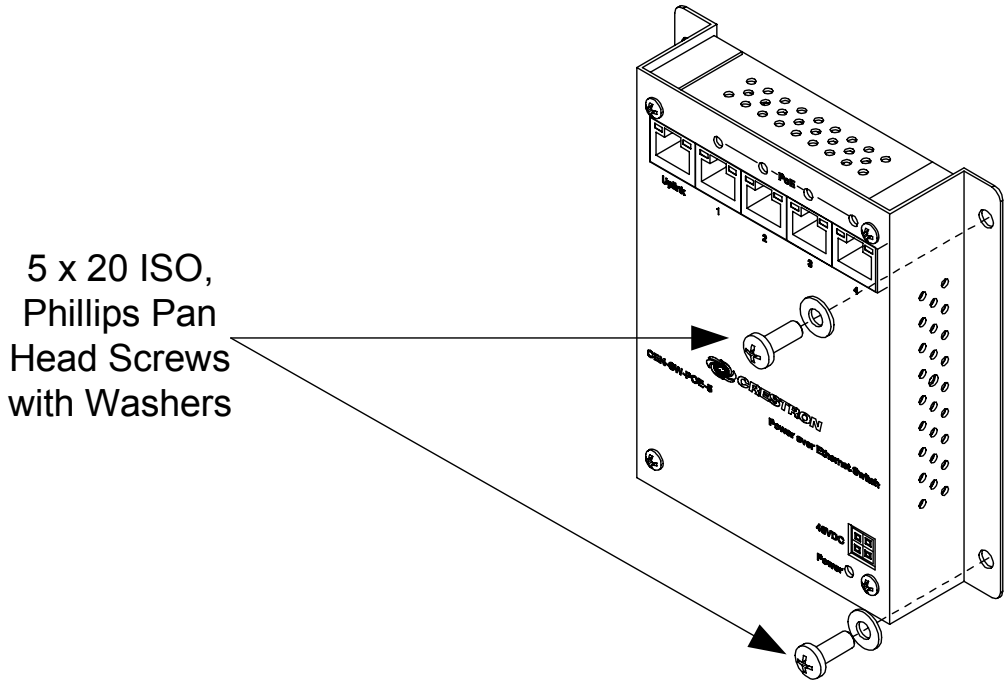
Rack Mounting

The CEN-SW-POE-5 can be mounted to a front or rear rail of a rack using the supplied rack screws and washers. Either the left or right flange of the switch can be used to mount the unit to the rack.

To mount the CEN-SW-POE-5 to a rack (refer to the illustration below):

1. Position either the left or right mounting flange so that its holes align with the holes in the rack.
2. Secure the unit to the rack using the two supplied 5 x 20 ISO, pan head Phillips rack screws with washers.

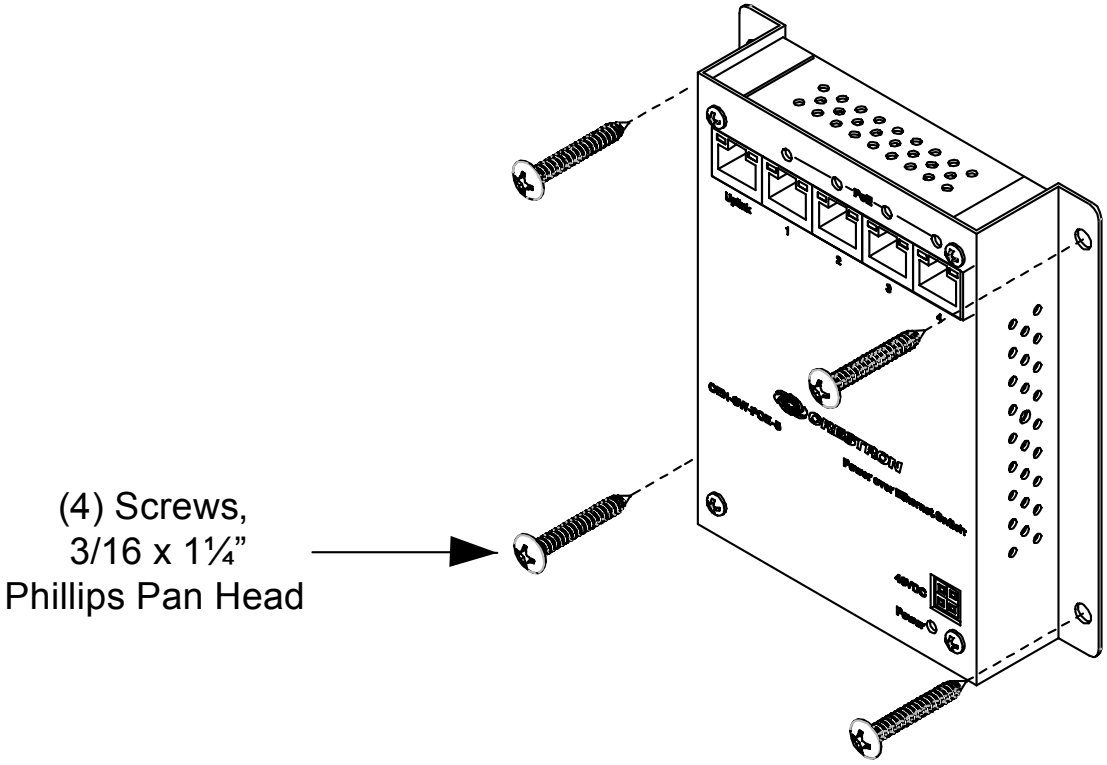
Rack Mounting (Mounting of Right Flange Shown)



Wall Mounting

The CEN-SW-POE-5 can be mounted to a wall. To mount the device to a wall, use the four supplied 3/16 x 1-1/4” pan head Phillips drywall screws (refer to the illustration below).

Wall Mounting



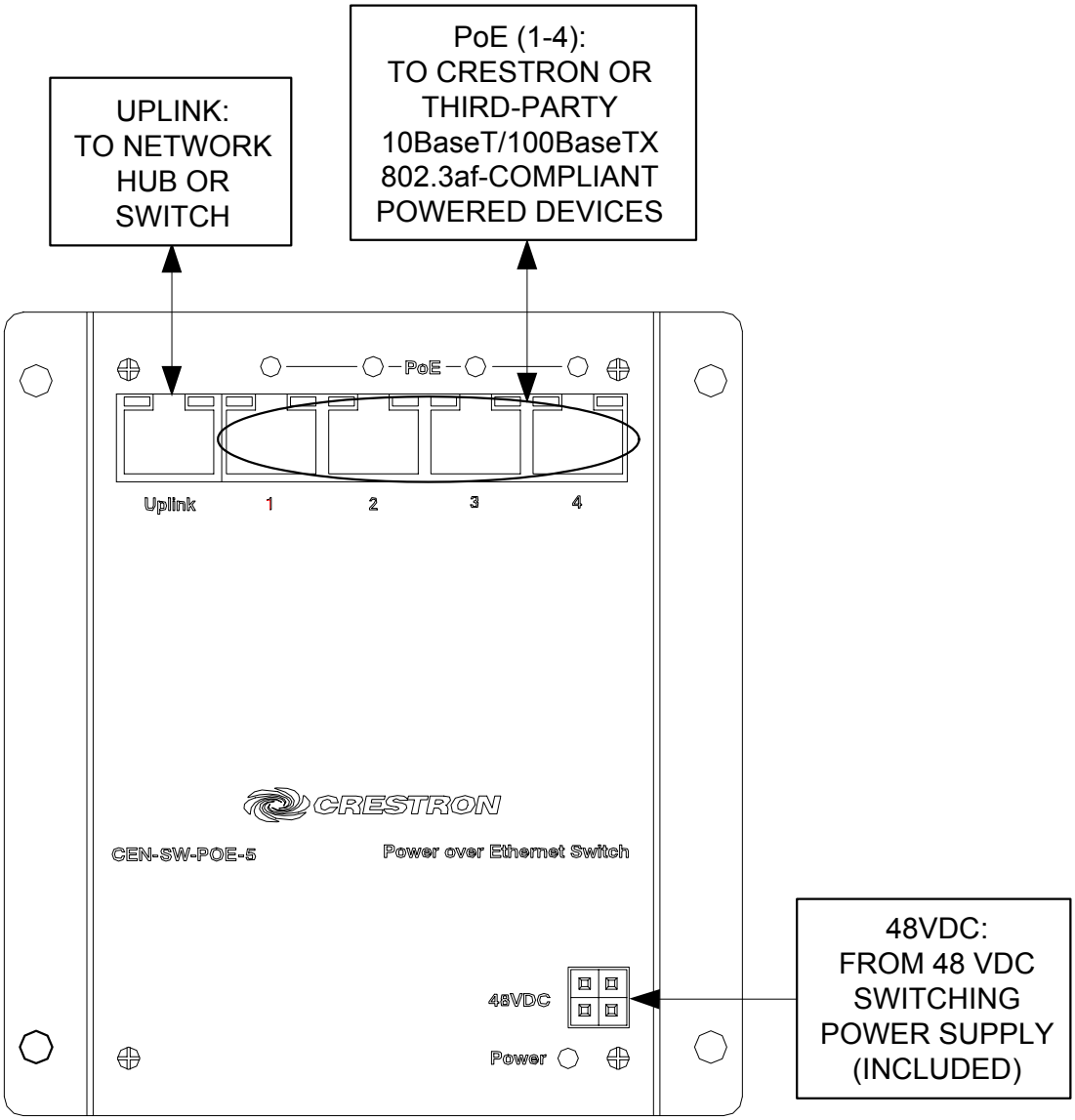
Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

When making connections to the CEN-SW-POE-5, note the following:

- Use Crestron power supplies for Crestron equipment.
- The included cable(s) cannot be extended.

Hardware Connections for the CEN-SW-POE-5



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.

CEN-SW-POE-5 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Power LED does not illuminate.	AC power cord is not properly connected to the external power supply or to the power outlet.	Verify power cord connections.
	DC power cord is not firmly plugged into the DC power jack.	Verify power cord connection.
	Problem exists with the power supply.	Replace the power supply.
Green LED on Ethernet port does not illuminate.	Network cable is not connected to the port on the switch or to the 10BaseT/100BaseTX compatible device.	Verify network cable connection to the switch and to the network device.
	Network cable is not the proper type.	Verify that network cable complies with EIA/TIA 568 and the CAT5 specification.

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CEN-SW-POE-5 Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Green LED on Ethernet port does not illuminate. (Continued)	Network cable is not the proper length.	Verify that network cable is the proper length. Cable length must not exceed 328 feet (100 meters).
	Fault exists with the network cable.	Replace the cable.
	Port is not functioning.	Use another port. If another port is not available, replace the switch.
	10BaseT/100BaseTX compatible device is not 802.3af compliant and is not powered on.	Verify AC power connection to the network device.
PoE LED does not illuminate.	10BaseT/100BaseTX compatible device is not 802.3af compliant.	**PoE** LED illuminates only when the associated port on the switch connects to an 802.3af-compliant device.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron website (www.crestron.com/manuals). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
Crestron e-Control Reference Guide

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron website (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to 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 CEN-SW-POE-5, 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 website periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

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; touchscreen 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.

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