

DIN-CENCN-2-POE

Ethernet to Cresnet® Bridge w/PoE

- > Maximizes Cresnet® network reliability and performance
- > Designed for use with any Crestron® 3-Series Control System®
- > Enables Cresnet data communications over high-speed Ethernet
- > Provides two isolated Cresnet subnets
- > Supports 20 Cresnet devices per subnet
- > Supports 3000 feet (914 m) aggregate cable length per subnet
- > Powerable via PoE, PoE+, or Cresnet
- > Includes intelligent power management for each subnet
- > Features built-in network diagnostics tools
- > Allows testing of network wiring, power, and communications
- > Allows detailed error analysis via software or Web browser
- > Allows real-time reporting of errors via the control system
- > Allows logging of Cresnet activity and errors over time
- > 9M wide DIN rail mountable

The Ethernet to Cresnet® Bridge (DIN-CENCN-2-POE) works with any Crestron® 3-Series Control System® to maximize the reliability and robustness of the Cresnet network. It offers a more sophisticated solution than a Cresnet block or hub, providing two isolated subnets and built-in diagnostics, plus versatile power distribution options and a convenient DIN rail form factor.

NOTE: The DIN-CENCN-2-POE is compatible with 3-Series® control systems only.

The Cresnet® Bus

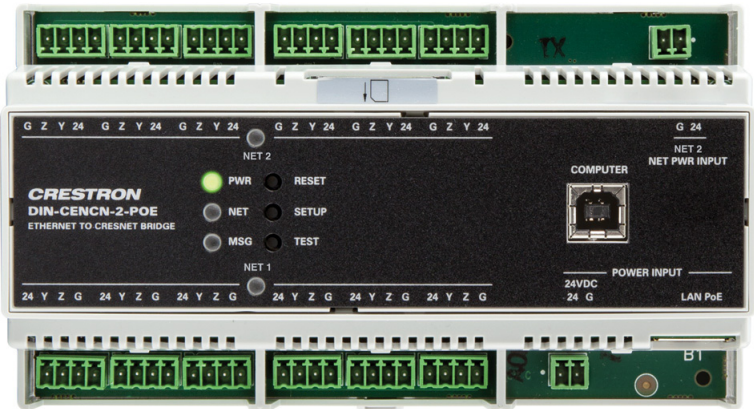
Cresnet is the communications backbone for many Crestron keypads, lighting controls, shade motors, thermostats, occupancy sensors, and other devices that don't require the higher speed of Ethernet. It provides a dependable and flexible wiring solution, allowing multiple devices to be wired together in parallel using both home-run and daisy-chain topologies. The Cresnet bus distributes bidirectional data communication and 24VDC power to each device over a single 4-conductor cable.

Ethernet to Cresnet Bridge

Adding one or more Ethernet to Cresnet bridges to a 3-Series Control System enables the distribution of Cresnet over high-speed Ethernet. The increased bandwidth afforded by Ethernet reduces latency for overall improved speed and performance. And, by leveraging existing LAN infrastructure in any facility, wiring distances can be extended easily while potentially reducing the overall wiring requirements. One or more bridges can be deployed on a single control system, and they can even be addressed by more than one control system, affording incredible flexibility in system design and functionality.

Dual Cresnet Subnets

The DIN-CENCN-2-POE provides two isolated subnets. Each subnet behaves as a Cresnet master with its own unique address space. A maximum of 20 Cresnet devices is supported per subnet, and each subnet furnishes six Cresnet connectors for easy termination of multiple lines.^[1]



Cresnet Power Distribution

Proper power distribution is key to a reliable Cresnet network. To facilitate proper powering, the DIN-CENCN-2-POE offers versatile, scalable power management using PoE or 24VDC. Ten Watts total Cresnet power is available to both subnets using PoE, which can be increased to 20 Watts using PoE+. Adding one or two external 24VDC Cresnet power supplies enables up to 75 Watts Cresnet power to either or each subnet depending on the configuration. For more details, refer to the "Power Requirements" section of the specifications.

The DIN-CENCN-2-POE configures itself automatically based on the power sources connected. Built-in protection intelligently monitors the load and wiring conditions on each subnet, and shuts down power to either subnet in case of an overload, wiring fault, or power supply failure. If such an error occurs, only the subnet with the error is shut down, leaving the other subnet fully operable.

Diagnostics Tools

Many common control system problems are caused by wiring faults, insufficient power, or too many devices. The latter is resolved by increasing bandwidth using Ethernet and limiting the number of devices that can be connected to each subnet. For the other issues, the DIN-CENCN-2-POE provides a full set of diagnostic tools to help identify and resolve them easily.

From the unit's front panel, an installer can press the "TEST" button and observe the LED indicators to see if there are any error codes. This allows wiring problems to be identified before ever powering up the control system. More complete details can be viewed and analyzed using a Web browser or [Crestron Toolbox™](#) software. In a functioning control system, sporadically occurring errors caused by cut or faulty wires, disconnected devices, or failed power supplies can be reported to the control system in real-time to provide error notifications via a touch screen, mobile device, email, text message, SNMP, or [Crestron Fusion®](#) enterprise management software. Insertion of an SD memory card (not included) enables logging of Cresnet activity and errors over time, making it easier to diagnose intermittent issues that can't be duplicated on demand.

DIN-CENCN-2-POE Ethernet to Cresnet® Bridge w/PoE

Power over Ethernet

Using PoE+ technology, the DIN-CENCN-2-POE gets its operating power through the LAN wiring from a PoE or PoE+ power source (Crestron [PWE-4803RU](#), [CEN-SW-POE-5](#), or [CEN-SWPOE-16](#) sold separately). Alternately, the unit can be powered by 24VDC Cresnet power. Refer to the “Power Requirements” section of the specifications for more details.

DIN Rail Mounting

The DIN-CENCN-2-POE is designed to snap onto a standard 35 mm DIN rail for installation in a wall mount enclosure or on any flat surface.^[2] DIN rail mounting affords a very space-efficient, cost-effective, and modular solution for configuring complete control systems using a [DIN-AP3](#) processor along with additional Crestron and third-party DIN rail mountable devices.

SPECIFICATIONS

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, Web server, IEEE 802.3af and 802.3at Type 1 compliant

Cresnet®: Cresnet master mode with two separate subnets

USB: Supports computer console via front panel USB 2.0 device port

Connectors & Card Slots

Memory Card: (1) SD memory card slot;
Accepts one SD or SDHC card for log file storage

COMPUTER: (1) USB Type B female;
USB 2.0 computer console port;
For setup only

NET 1: (6) 4-pin 3.5 mm detachable terminal blocks, paralleled;
Subnet 1 Cresnet master ports

24VDC POWER INPUT: (1) 2-pin 3.5 mm detachable terminal block;
24 Volt DC power input for Subnets 1 & 2 or Subnet 1 only (refer to the product description and power requirement specifications);
Also powers the Ethernet to Cresnet Bridge in lieu of PoE

LAN PoE: (1) 8-pin RJ45, female;
10Base-T/100Base-TX Ethernet port;
Power over Ethernet compliant

NET 2: (6) 4-pin 3.5 mm detachable terminal blocks, paralleled;
Subnet 2 Cresnet master ports

NET 2 NET PWR INPUT: (1) 2-pin 3.5 mm detachable terminal block;
24 Volt DC power input for Subnet 2 only (refer to the product description and power requirement specifications)

Controls & Indicators

NET 1 – 2: (2) Bi-color amber/red LEDs, each indicates data communication (amber) and wiring error codes (red blinking patterns) for the corresponding subnet

PWR: (1) Bi-color green/amber LED, indicates operating power supplied from PoE or Cresnet, turns amber while booting and green when operating

NET: (1) Bi-color green/red LED, indicates connection (green) or no connection (red) to a control system via Ethernet

MSG: (1) Bi-color green/red LED, indicates error codes for communication and power

RESET: (1) Recessed pushbutton, initiates hardware reset

SETUP: (1) Recessed pushbutton, initiates Ethernet auto-discovery

TEST: (1) Recessed pushbutton, initiates a hardware test

LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity

Power Requirements

Power over Ethernet: IEEE 802.3at Type 2 PoE+ Powered Device (refer to table below)

Cresnet Power: 24 Volts DC (refer to table below)

Power over Ethernet @ LAN PoE port	Cresnet Power Usage @ 24VDC POWER INPUT	Cresnet Power Usage @ NET 2 NET PWR INPUT	Available Cresnet Power @ NET 1 ports	Available Cresnet Power @ NET 2 ports
none	2 Watts	none	none	none
PoE Class 0 (12.95 W) using an 802.3at Type 1 (or 802.3af) PSE	none	none	10 Watts total across all NET ports	
PoE+ Class 4 (25.5 W) using an 802.3at Type 2 PSE	none	none	20 Watts total across all NET ports	
PoE Class 0 (12.95 W), PoE+ Class 4 (25.5 W), or none	75 Watts maximum	none	75 Watts total across all NET ports	
PoE Class 0 (12.95 W), PoE+ Class 4 (25.5 W), or none	75 Watts maximum	75 Watts maximum	75 Watts total	75 Watts total
PoE Class 0 (12.95 W) using an 802.3at Type 1 (or 802.3af) PSE	none	75 Watts maximum	10 Watts total	75 Watts total
PoE+ Class 4 (25.5 W) using an 802.3at Type 2 PSE	none	75 Watts maximum	20 Watts total	75 Watts total

NOTE: The unit may be powered by either PoE/PoE+ or 24 Volts DC Cresnet power, or both simultaneously.

NOTE: The use of a Cresnet power supply with less than 75 Watts available will reduce the Available Cresnet Power respectively.

Environmental

Temperature: 32° to 104° F (0° to 40° C)

Humidity: 10% to 90% RH (non-condensing)

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Enclosure

Light gray polycarbonate housing with polycarbonate label overlay, UL94 V-0 rated, 35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 9 DIN module spaces (162 mm)

Dimensions

Height: 3.61 in (92 mm)

Width: 6.33 in (161 mm)

Depth: 2.30 in (59 mm)

Weight

9.8 oz (277 g)

MODELS & ACCESSORIES

Available Models

DIN-CENCN-2-POE: Ethernet to Cresnet® Bridge w/PoE

Available Accessories

DIN-EN Series: Enclosures for DIN Rail Devices

PWE-4803RU: PoE Injector

CEN-SW-POE-5: 5-Port PoE Switch

CEN-SWPOE-16: 16-Port Managed PoE Switch

DIN-PWS50: DIN Rail 50 Watt Cresnet Power Supply

CNPWS-75: Cresnet Power Supply, 75 Watts

CNPWSI-75: Cresnet Power Supply, 75 Watts - International Version, 230V

Notes:

1. Crestron recommends a maximum aggregate cable length of 3000 feet (914 meters) per subnet.
2. DIN rail not included. Crestron **DIN-EN** series enclosures sold separately.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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