ETC Installation Guide

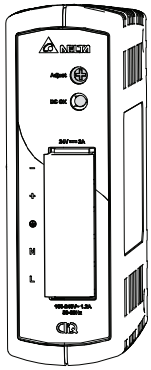
EchoConnect® DIN Rail Power Supply

Overview

The EchoConnect DIN Rail Station Power Supply provides EchoConnect bus power for up to 16 sensors/stations and 16 power controllers as well as Aux 24VDC for Echo products that require it. This product consists of two components that must be used together: the EchoConnect Power Supply and the 24VDC Aux supply that feeds DC power to it.

This document details the installation of both components in a DIN rail enclosure. DIN rail enclosure not included.

EchoConnect Station Power Supply



24VDC Power Supply

Included in the shipment:

- EchoConnect DIN Rail Station Power Supply
- 24VDC DIN rail mount power supply
- Red and black power harness
- Green station header

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Product information and specifications subject to change. ■ ETC intends this document to be provided in its entirety.
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Specifications

Ambient Environment

For indoor use only. Supports plenum rating:

- 32°F to 122°F (0°C to 50°C) operating temperatures in 5-95% non-condensing humidity

Electrical Specification

- **24VDC Power Supply:** Mains input 100-240VAC, 50/60 Hz, provides 30W at 24VDC in addition to the power required for the Station Power Supply.
- **DIN Rail Station Power Supply:** 24VDC input, powers up to 16 Echo sensors/stations and 16 power controllers over EchoConnect.

Compliance

- UL and cUL listed
- FCC and CE compliant

EchoConnect

EchoConnect is a two-wire, topology-free protocol that provides power for up to sixteen Echo sensors and stations or sixteen power controllers.

EchoConnect is a bidirectional protocol that uses one pair of wires (data+ and data-) for both data and power. ETC recommends using Belden 8471 (or approved equal) Class II wire.

The total combined length of an EchoConnect wire run (using Belden 8471, or equal) may not exceed 1,640 feet (500m).

Note: *All control wiring should be installed and terminated by a qualified installer and should follow standard wiring installation practices.*

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DIN Rail Station Power Supply

Prepare for Installation

The DIN Rail Station Power Supply and 24VDC power supply are designed for mounting directly to DIN rail (provided by others) anywhere on the EchoConnect station bus.

Installation

Follow all local codes and standard electrical practices. Ensure the installation area is clean and free of obstructions and that all wiring is installed correctly.

WARNING: For indoor use only!

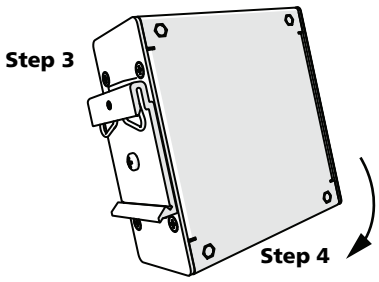
Step 1: Locate the circuit breaker panel and turn off the power to the circuit.

Step 2: Locate both the 24VDC power supply and the Station Power Supply.

Step 3: Hook the top DIN rail clip over the top of the DIN rail.

Step 4: Rock the Power Supply downward until the bottom clip snaps into place, securing the unit to the DIN rial.

Step 5: Repeat for the second power supply.



Connect EchoConnect

Remove the provided green connector and terminate the EchoConnect wires to it. Terminations include a black wire (data -), a white wire (data +), and a green/yellow wire (ESD). EchoConnect is topology free, you may install the wires in any combination of bus, star, loop, or home-run.

Note: *When using Category5 (or equivalent) cable on the EchoConnect communication bus, please note the following:*

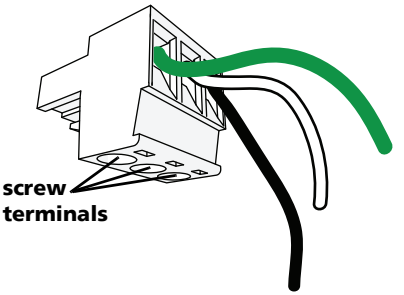
- Not all topologies are supported using Cat5. Ensure the proper termination kits are available and the wire is pulled appropriately.

- Cat5 wiring may be terminated using the EchoConnect Cat5 Station Termination Kit (7186A1207.) Refer to the installation guide provided with the Cat5 Station Termination Kit for Cat5 wiring termination information.

Step 1: Pull all required wiring (data +, data -, and ground wire) to the power supply. Strip each wire 1/4”

Step 2: Remove the green header from the Station Power Output.

Step 3: Use a flat blade screw driver to loosen the three screw terminals.



Step 4: Insert the ground wire into a terminal and tighten the screw.

Step 5: Insert the black (data -) wire into a terminal and tighten the screw.

Step 6: Insert the white (data +) wire into a terminal and tighten the screw.

Step 7: Reattach the green header to the Station Power Supply.

Connect mains power input

The mains power input connects to the face of the included 24VDC Power Supply.

Step 1: Pull all required wiring (ground, line hot, and neutral) to the installed power supply and crimp the end of each wire with a Y-connector. (not provided)

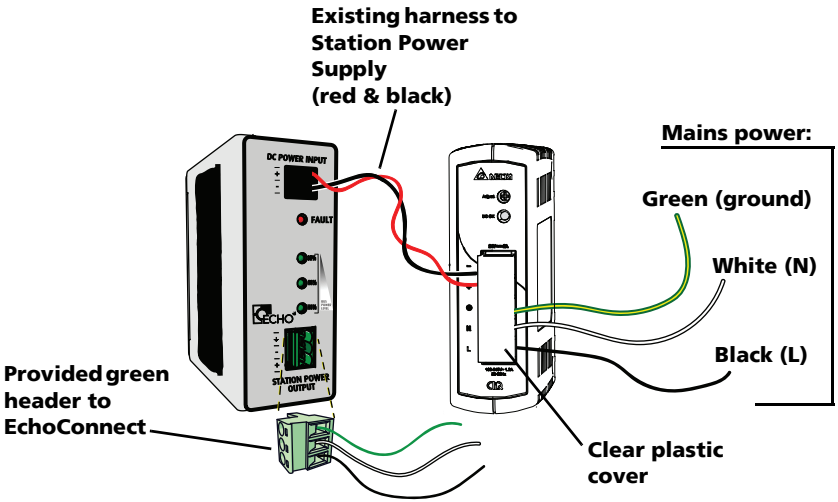
Step 2: Remove the plastic cover protecting the screw terminations with a gentile pull.

Step 3: Remove the L (line hot), N (neutral), and (ground) termination screws.

Step 4: Place the crimped connector of the green (16 AWG, ground) wire over the ground termination hole and reattach the screw, tightening it completely.

Step 5: Place the crimped connector of the white (16 AWG, neutral) wire over the N termination hole and reattach the screw, tightening it completely.

Step 6: Place the crimped connector of the black (16 AWG, hot) over the L termination hole and reattach the screw, tightening it completely.



Step 7: Locate the provided red and black wire harness.

Step 8: Loosen the (+) and (-) screws on the face of the 24V power supply.

Step 9: Place the Y-connector of the black wire under the (-) screw. Tighten the screw to hold the wire firmly in place.

Step 10: Place the Y-connector of the red wire under the (+) screw. Tighten the screw to hold the wire firmly in place.

Step 11: Reattach the clear plastic cover over the screw terminations.

Step 12: Plug the black connector into the DC POWER INPUT on the face of the Station Power Supply.

Power Up and Test

Restore power to the circuit. The BUS POWER LEVEL LED will illuminate green.

If a fault is discovered in the control wiring, the BUS POWER LED will turn off and the FAULT indicator will illuminate.

Note: This condition typically means that the station wiring has a fault; however it could mean a connected device is having an issue. A qualified technician should inspect the system wire and terminations first, then proceed to disconnecting devices to pinpoint the fault and correct it.

The power supply will update the fault indicator automatically when the fault condition is cleared.