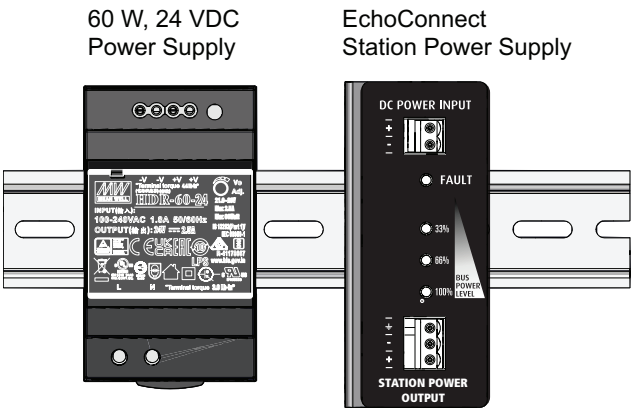
ETC Installation Guide
Echo EchoConnect DIN rail Station Power Supply

Overview

The EchoConnect DIN rail Station Power Supply provides bus power for up to 16 control and 16 output products as well as Auxiliary 24 VDC for Echo products that require it. This product consists of two components that must be used together: the EchoConnect DIN rail Station Power Supply and the 24 VDC Power Supply that feeds DC power to it.



Included in the shipment are the EchoConnect DIN rail Station Power Supply, 24 VDC Power Supply, Auxiliary power harness (red and black wire pair), and a three-position removable pluggable connector for EchoConnect.

Specifications

Ambient Environment

For indoor use only. Suitable for air handling/plenum use.

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

Electrical Specification

- **24 VDC Power Supply:** Mains input 100–240 VAC, 50/60 Hz, provides 60 W at 24 VDC for the EchoConnect DIN rail Station Power Supply and Echo auxiliary power
- **EchoConnect DIN rail Station Power Supply:** 24 VDC input, powers up to 16 Echo control and 16 output devices over EchoConnect

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7186M2107 Rev E Released 2024-08

Compliance

For use with ETC dimming and relay products.

For current and complete compliance information, view the product data-sheets at etcconnect.com.

EchoConnect

EchoConnect is a two-wire topology-free system that provides the EchoConnect DIN rail Station Power Supply with the flexibility to connect anywhere in the system and provide power for up to 16 Echo control and 16 output products.

EchoConnect is a bi-directional protocol that uses one pair of wires (data+ and data–) for both data and power. ETC recommends using Belden 8471 Class 2 wire (or approved equal – see the ETC cable cross database etcconnect.com/Support/Cable-Cross-Database for equal alternatives). The total combined length of an EchoConnect wire run using Belden 8471 may not exceed 500 m (1,640 ft), with a maximum distance of 400 m (1,312 ft) between any two devices.

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

Prepare for Installation

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

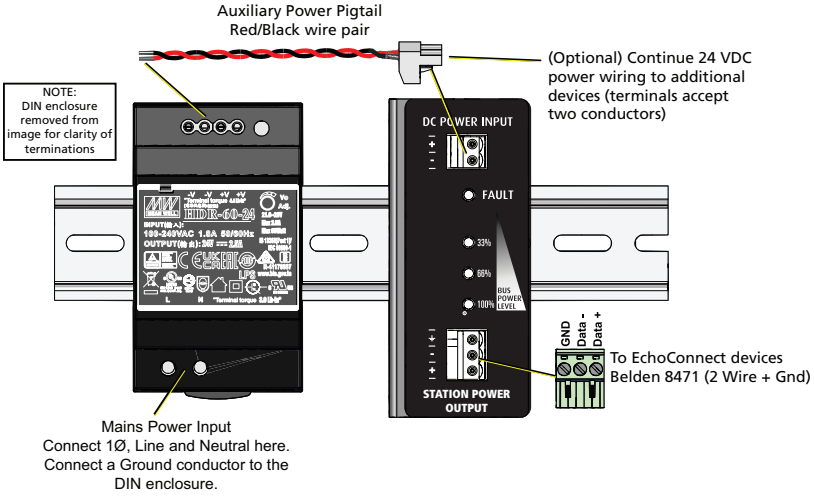
Installation

Note: *Installation must follow all national and local codes for electrical equipment. NEC Class 2 product to be wired in accordance to NEC Article 725 and local jurisdiction requirements.*

1. Locate the circuit breaker panel and turn off the power to the circuit.
2. Locate both the 24 VDC Power Supply and the EchoConnect DIN rail Station Power Supply.
3. Hook the top DIN rail clip of one power supply over the top of the DIN rail.
4. Rock the power supply downward until the bottom clip snaps into place, securing the unit to the DIN rail.
5. Repeat for the second power supply.

Connect Mains Power and 24 VDC

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



1. Connect Mains Power to the 24 VDC Power Supply.
   a. Pull all required wiring (line hot and neutral).
   b. Strip each wire 7 mm (1/4 in).
   c. Terminate to the L and N terminals. Torque each terminal 3.0 Lb-in.
2. Connect a Ground.
   a. Pull and terminate a Ground wire to the shared Ground terminals within the DIN enclosure.
3. Connect 24 VDC between the 24 VDC Power Supply and the EchoConnect power supply.
   a. Locate the provided Auxiliary power pigtail (red and black wire pair with two position connector).
   b. Loosen one set of V+ and V- terminal screws on the 24 VDC Power Supply.
   c. Terminate the red pigtail wire to the V+ terminal and the black wire to the V- terminal. Torque each terminal to 4.4 Lb-in.
4. If you intend to power another Echo device that requires 24 VDC, follow these steps:
   a. Prepare the auxiliary power wires (solid or stranded wires (typically a red and black wire pair, 0.5–1 mm^2 (22–18 AWG).
   b. Strip each wire 6 mm (1/4 in) and terminate to the two-position connector on the auxiliary power pigtail, sharing the terminals with the auxiliary power harness.

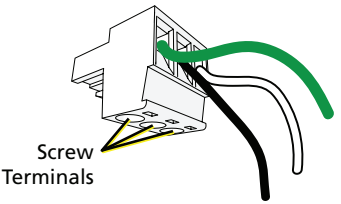
5. Plug the two-position connector into the DC POWER INPUT on the face of the EchoConnect DIN rail Station Power Supply.

Connect EchoConnect

Note: *When using Category 5 (or equivalent) cable on the EchoConnect communication bus, please note the following:*

- *Cat5 wiring must be terminated using EchoConnect Cat5 Termination Kits and must be installed using a bus topology. Refer to the instructions provided with the Cat5 Termination Kit (7186A1207) for information to terminate Cat5 wiring.*
- *Not all topologies are supported using Cat5; careful planning is required to ensure the proper termination kits are available and the wire is pulled appropriately.*

1. Pull all required wiring (data +, data -, and ground wire) to the enclosure and strip each wire 6 mm (1/4 in).
2. Remove the three-position connector from the station power supply.
3. Use a flatblade screw driver to loosen the terminals.
4. Reviewing the image to the right for topology, insert the ground wire (green/yellow) into the first terminal and tighten the screw.
5. Insert the black (data -) wire into the second terminal and tighten the screw.
6. Insert the white (data +) wire into the last terminal and tighten the screw.
7. Reattach the header to the unit.



Power Up and Test

Restore power to the circuit. The BUS POWER LEVEL LED will display green when auxiliary power is present. If a fault is discovered in the control wiring, the BUS POWER LEVEL LED will turn off and the FAULT indicator will illuminate. 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, and then proceed to disconnecting devices to pinpoint the fault and correct it.

The Echo EchoConnect DIN rail Station Power Supply will update the fault indicator automatically when the fault condition is cleared.