

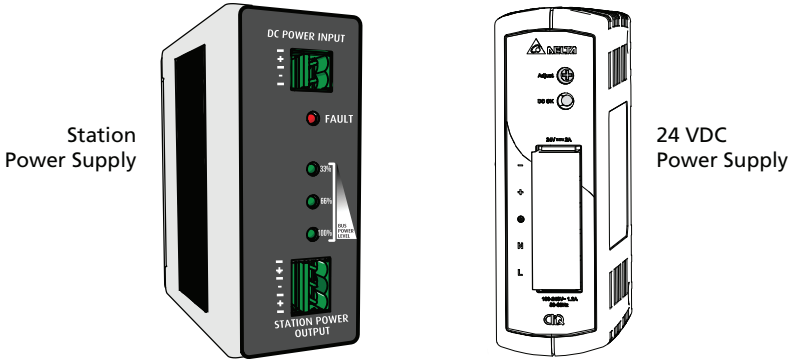
# Echoflex Installation Guide

## EchoConnect DIN Rail Station Power Supply

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### 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 24 VDC for Elaho products that require it. This product consists of two components that must be used together: the Station Power Supply and the 24 VDC Power Supply that feeds DC power to it.



Included in the shipment:

- EchoConnect Station Power Supply
- 24 VDC Power Supply
- Red and black power harness
- Green station header

### Specifications

#### Ambient Environment

For indoor use only. Supports plenum rating:

- 32°F to 113°F (0°C to 45°C) operating temperatures in 5–95% non-condensing humidity

#### Electrical Specification

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



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### Compliance

- UL and cUL listed
- FCC and CE compliant

### EchoConnect

EchoConnect is a two-wire topology-free system that provides the Station Power Supply with the flexibility to connect anywhere in the system and provide power for up to 6 Elaho sensors and stations and allows for 6 power controllers.

EchoConnect is a bidirectional protocol that uses one pair of wires (data + and data -) for both data and power. Echoflex recommends using Belden 8471 (or approved equal) Class 2 wire.

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



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

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### Prepare for Installation

The 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

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.

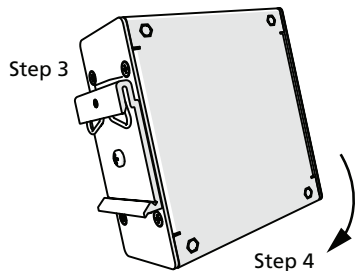
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**WARNING:** For indoor use only!

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1. Locate the circuit breaker panel and turn off the power to the circuit.
2. Locate both the 24 VDC Power Supply and the 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.



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### Connect EchoConnect

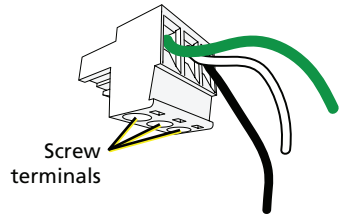
Remove the provided green connector and terminate the EchoConnect wires to it. Terminations include a black wire (data -), a white wire (data +), and a green/yellow wire (ESD). EchoConnect is topology free; you may install the wires in any combination of bus, star, loop, or home-run.



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

- Cat5 wiring must be terminated using EchoConnect Cat5 Termination Kit and must be installed using a bus topology. Refer to the installation guide that is provided with the Cat5 Termination Kit (8186A1207) 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 power supply. Strip each wire 1/4".
2. Remove the green header from the Station Power Supply.
3. Use a flat blade screw driver to loosen the three screw terminals.
4. Insert the ground wire into a terminal and tighten the screw.
5. Insert the black (data -) wire into a terminal and tighten the screw.
6. Insert the white (data +) wire into a terminal and tighten the screw.
7. Reattach the green header to the Station Power Supply.



### Connect Mains Power Input

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

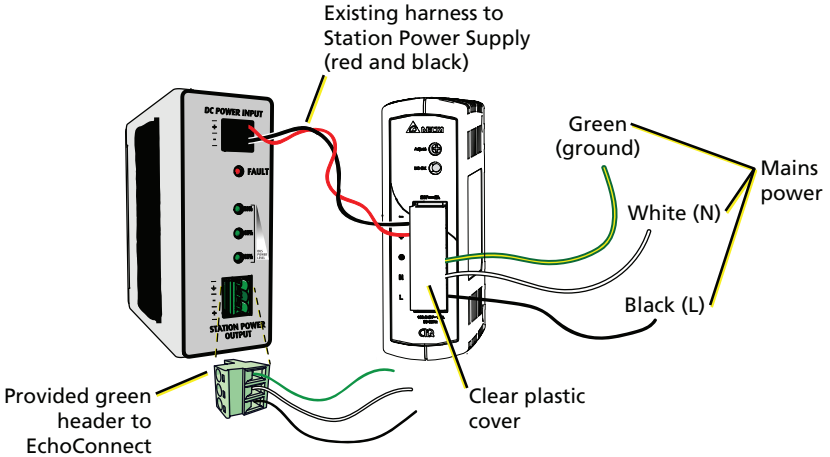
1. Pull all required wiring (ground, line hot, and neutral) to the installed 24 VDC Power Supply and crimp the end of each wire with a Y-connector (not provided).
2. Remove the plastic cover protecting the screw terminations with a gentle pull.
3. Remove the L (line hot), N (neutral), and (ground) termination screws.
4. Place the crimped connector of the green (16 AWG/1.5 mm<sup>2</sup>, ground) wire over the ground termination hole and reattach the screw, tightening it completely.

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5. Place the crimped connector of the white (16 AWG/1.5 mm<sup>2</sup>, neutral) wire over the N termination hole and reattach the screw, tightening it completely.
6. Place the crimped connector of the black (16 AWG/1.5 mm<sup>2</sup>, hot) over the L termination hole and reattach the screw, tightening it completely.



7. Locate the provided red and black wire harness.
8. Loosen the (+) and (-) screws on the face of the 24 VDC Power Supply.
9. Place the Y-connector of the black wire under the (-) screw. Tighten the screw to hold the wire firmly in place.
10. Place the Y-connector of the red wire under the (+) screw. Tighten the screw to hold the wire firmly in place.
11. Reattach the clear plastic cover over the screw terminations.
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 Station Power Supply will illuminate the BUS POWER LED green when auxiliary power output is present.

If a fault is discovered in the control wiring, the BUS POWER 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, then proceed to disconnecting devices to pinpoint the fault and correct it.

The Station Power Supply will update the fault indicator automatically when the fault condition is cleared.