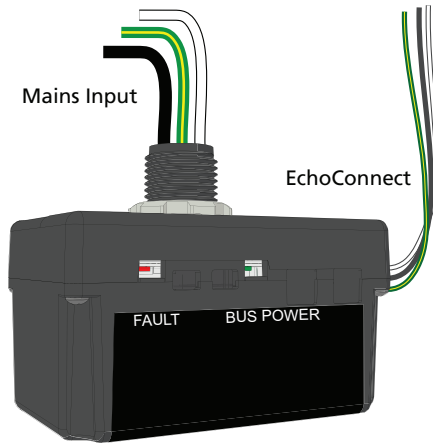


Echoflex Solutions Installation Guide

Elaho Distributed Station Power Supply

Overview

The Elaho Distributed Station Power Supply provides EchoConnect bus power for up to six sensors and stations and six Elaho power controllers on the topology-free EchoConnect control network.



For use with Echoflex Solutions Elaho Control Systems.

Specifications

Ambient Environment

- For indoor use only
- Suitable for air handling/plenum use
- 0°C–45°C (32°F–113°F) operating temperatures in 5–95% non-condensing humidity

Electrical

- 100–277 VAC, 50/60 Hz

Compliance

- cULus listed according to standards UL 508, UL 916, and UL 2043



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EchoConnect

EchoConnect is a two-wire topology-free system that provides the Distributed Station Power Supply with the flexibility to connect anywhere in the system and provides EchoConnect power for up to six Elaho stations and responsive controls, and up to six Elaho power controllers.

EchoConnect is a bi-directional protocol that uses one pair of wires (data + and data -) for both data and power. Echoflex Solutions recommends using Belden 8471 Class 2 wire (or approved equal - see the Echoflex Solutions cable cross database echoflexsolutions.com/files/Elaho_Data_Cable_Wire_Specs 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. Leave approximately 25.4 cm (10 in) of wiring in the back box for connection and to allow slack for future service needs.

Prepare for Installation

The Elaho Distributed Station Power Supply is designed for mounting directly to an electrical junction box or panel (provided by others) anywhere on the EchoConnect station bus.



Note: If your installation requires Class 2 wiring to be installed in conduit, a voltage barrier installation box is available from Echoflex Solutions. Order Echoflex Solutions part number 7187A1000.

Installation

Installation should follow all local codes and standard electrical practices. Ensure that the back box is clean and free of obstructions and that all wiring is installed correctly.



WARNING: RISK OF ELECTRIC SHOCK! This power supply utilizes high voltage and should only be installed by a qualified installer or electrician. Follow all local codes for installation. Before terminating the AC power wiring verify the main breaker is in the off position and follow the proper lockout/tag out procedures per NFPA Standard 70E.



For indoor use only.

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1. Locate the circuit breaker panel and turn off the power to the circuit.
2. Mount the Elaho Distributed Station Power Supply to the exterior of the junction box or panel using the 13 mm (1/2 in) threaded nipple. A conduit locknut is provided to secure the controller to the junction box or panel.



Note: Follow all local code requirements for terminating wire.

Connect EchoConnect

EchoConnect wire terminations are located on the side of the unit. Use appropriately sized wire nuts or other wire termination devices (not provided) to secure each connection.



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.

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1. Pull all required wiring (data +, data -, and the ESD ground wire) to the power supply or installed junction box.
 2. Connect the incoming ground wire to the ESD green/yellow ground wire on the unit.
 3. Connect the data - (black) wire to the incoming data - (typically black).
 4. Connect the data + (white) wire to the incoming data + (typically white).

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Connect Mains Power Input

The mains power input is located through the conduit knockout mount on the enclosure. Use appropriately sized wire nuts or other wire termination devices (not provided) to secure each connection.

1. Pull all required wiring (ground, line hot, and neutral) to the installed junction box.
2. Connect the green/yellow 1.5 mm² (16 AWG) ground wire to the incoming ground wire (typically green/yellow) from the breaker panel.
3. Connect the white 1.5 mm² (16 AWG) neutral wire to the incoming neutral wire (typically white) from the breaker panel.
4. Connect the black 1.5 mm² (16 AWG) hot wire to the incoming line input feed wire (hot, typically black) from the breaker panel.

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