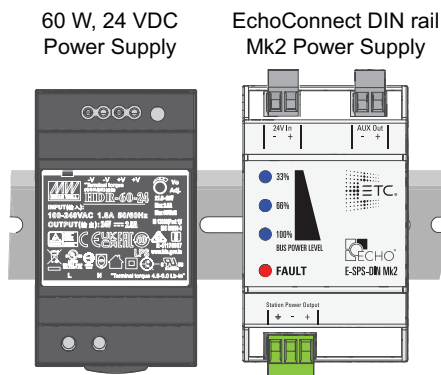


ETC Installation Guide

Echo DIN rail Mk2 Station Power Supply

Overview

The Echo DIN rail Mk2 Station Power Supply E-SPS-DIN Mk2 provides bus power for up to 16 control and 16 output products and Auxiliary 24 VDC output (2 A) for Echo products that require it. This product consists of two components that must be used together: the DIN rail Mk2 Station Power Supply and the 60 W, 24 VDC Power Supply that feeds DC power to it.



Included in the shipment are the E-SPS-DIN Mk2, a 60 W, 24 VDC Power Supply, 24 V power harness (red and black wire pair), a three-position removable pluggable connector for EchoConnect station power, and a two-position removable pluggable connector for Auxiliary power.

Specifications

Ambient Environment

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

Operating temperature 0°C to 50°C (32°F to 122°F), 5%–95% non-condensing humidity.



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Electrical Specification



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.*

60 W, 24 VDC Power Supply - Mains input 100–240 VAC, 50/60 Hz (2 A), provides 60 W at 24 VDC for the E-SPS-DIN Mk2.

DIN rail Mk2 Station Power Supply - 24 VDC input, 24 VDC output (2 A), and bus power for up to 16 control and 16 output devices over the EchoConnect station bus.

Compliance

For use with ETC dimming and relay products. For complete product documentation, including compliance documentation, visit etcconnect.com/products.

EchoConnect

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/cablecross 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: *ETC requires that all stations and devices be grounded for ESD protection. Pull an additional 2.5 mm² (14 AWG) wire for grounding when control wires are not installed in grounded metal conduit.*



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

Installation

The DIN rail Mk2 Station Power Supply and the provided 60 W, 24 VDC Power Supply are intended for mounting directly to DIN rail (not provided) or into an ETC DIN enclosure (available separately), and located anywhere on the EchoConnect station bus. Each device utilizes three-units-wide of DIN space.

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Note: *Installation must follow all national and local codes for electrical equipment.*

Mount to DIN rail

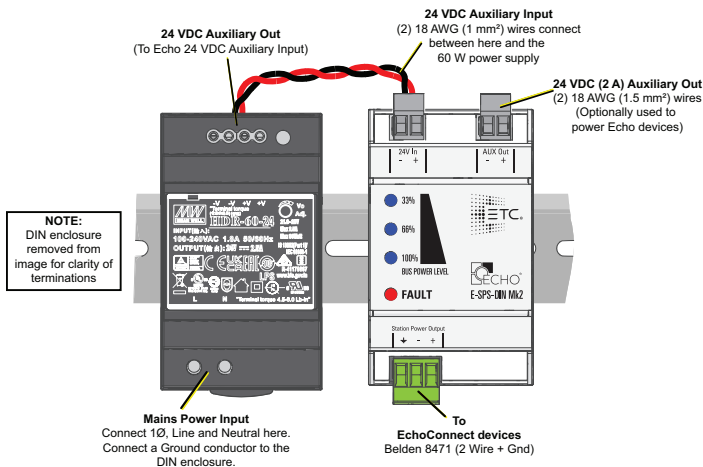
1. Locate the circuit breaker panel and turn off the power to the circuit.
2. Install the power supplies to DIN rail, optimally with the 60 W Power Supply installed to the left side of the E-SPS-DIN Mk2.



Note: *When installing in an ETC DIN enclosure, install the 60 W Power Supply to the left of the voltage barrier, and install the E-SPS-DIN Mk2 to the right of the voltage barrier to maintain the separation of Class 1 and Class 2 wiring.*

- a. Individually, hook the top DIN rail clip of a power supply over the top of the rail, and then rock the power supply downward until the bottom clip snaps, securing the unit to the DIN rail.
- b. Repeat for the second device.

Connect Wiring

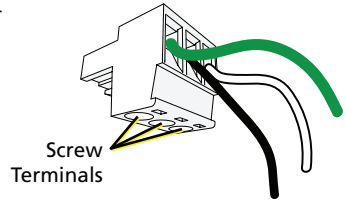


1. Connect mains power to the provided input on the 60 W Power Supply.
 - a. Pull all required wiring (Line and Neutral) to the supply input and strip each wire 6 mm (1/4 in).
 - b. Terminate to the L and N terminals and torque each terminal to 4.5 Lb-in.

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2. Connect a Ground.
 - a. Pull and terminate a ground wire to a shared ground terminal within the DIN enclosure.
3. Connect the 24 V Input.
 - a. Using the provided 24 V power harness (black and red wire pair) install the connectorized end of the harness to the E-SPS-DIN Mk2 "24 V In" receptacle.
 - b. Connect the bare ends of the 24 V power harness to the 60 W Power Supply. The black wire terminates to the V- terminal and the red wire to the V+ terminal. Torque each terminal to 4.5 Lb-in.
4. To provide auxiliary power to other Echo devices, connect to the provided "Aux Out" terminals on the E-SPS-DIN Mk2.
 - a. Prepare the 24 V auxiliary power wires (solid or stranded, typically a black and red wire pair, 0.5–1 mm² (22–18 AWG).
 - b. Strip each wire 6 mm (1/4 in) and terminate to the two position "Aux Out" connector on the E-SPS-DIN Mk2. The positive wire (typically red) terminates to the + terminal and negative wire (typically black) terminates to the - terminal.
5. Connect EchoConnect.
 - a. Pull all required wiring (Belden 8471 data +, data -, and ground wire) to the enclosure and strip each wire 6 mm (1/4 in).
 - b. Remove the three-position connector from the E-SPS-DIN Mk2.
 - c. Use a small flatblade screw driver to loosen each terminal.
 - d. See the image to the right for topology. Insert the ground wire (green/yellow) into the first terminal and tighten the screw. Insert the black (data -) wire into the second terminal and tighten the screw. Insert the white wire (data +) into the last terminal and tighten the screw.
 - e. Reattach the header to the E-SPS-DIN Mk2.



Power Up and Test

Restore power to the circuit. The BUS POWER LEVEL LEDs indicate incrementally from 33% to 100% according to the level of bus power required. If a fault is discovered in the control wiring, the FAULT LED will indicate solid red, and the 33% and 66% BUS POWER LEVEL LEDs will flash. 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 disconnect devices and pinpoint the fault to correct it.