

# ETC Installation Guide

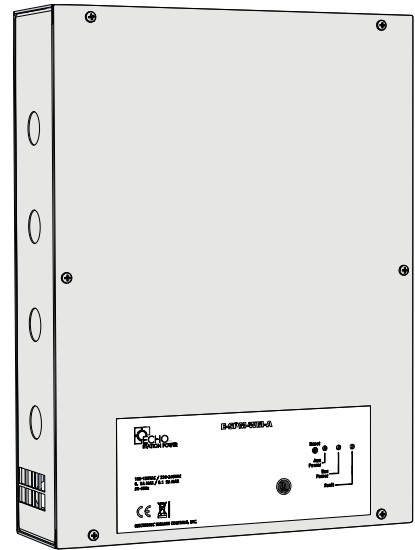


## Unison Echo™ Wall Mount Station Power Supply w/ Aux Power

### Overview

The Echo Wall Mount Station Power Supply with Auxiliary Power (E-SPM-WM-A) is designed for use with the Echo control system to supply bus power for up to 16 Echo architectural control stations on the topology-free EchoConnect control network and provides 24 Vdc auxiliary power (maximum 36 watts) for Echo devices.

The E-SPM-WM-A also supports connection of up to 16 compatible power panels or distributed controllers over EchoConnect.



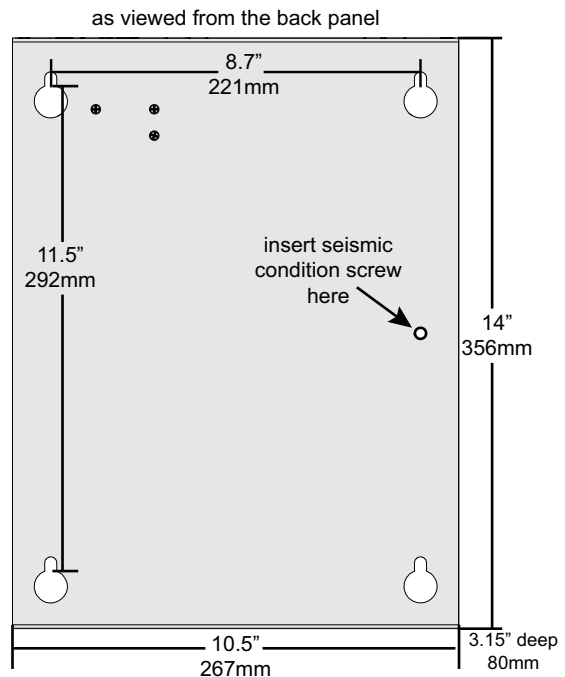
**Note:** *If you are using Cat5 (or Cat5e) wiring, an external Echo Cat5 Termination Box (is required. Contact ETC for ordering details. Control wiring instructions between the termination box and this Wall Mount Station Power Supply with Auxiliary Power are provided with the Cat5 termination box installation instructions.*

For use with ETC Dimming and Relay Products.

### Installation

#### Mount the Enclosure to the Wall

- Step 1: Remove the front cover of the enclosure to reveal the four mounting keyholes.
- Step 2: Align the enclosure to the wall and mark the mounting keyholes. Alternatively, use the measured keyhole dimensions located in the graphic (right) to mark the hole locations for the mounting hardware.
- Step 3: Drill the holes and install the mounting hardware.
  - Mounting hardware is not supplied.
  - Expose at least 1" (25mm) of threads for mounting.
- Step 4: Attach the enclosure to the mounting hardware, where the back side is flush to the wall, then tighten the mounting hardware.
- Step 5: Insert a screw into the provided wall anchor point, located between the left side mounting keyholes of the enclosure. Populating this hole with a screw provides additional security that the enclosure will not fall from the wall during a seismic condition.



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**Web:** [www.etconnect.com](http://www.etconnect.com) ■ © 2015 ETC. All Rights Reserved. ■ Product information and specifications subject to change.  
7186M2104 ■ Rev A ■ Released 2015-06 ■ ETC intends this document to be provided in its entirety.

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## Wall Mount Station Power Supply with Auxiliary Power

### Rough-In Conduit and Wiring

Knockouts are provided on top and bottom for conduit access into the enclosure. All wiring terminations are accessible from the front of the enclosure with the cover removed.

Required terminations include -

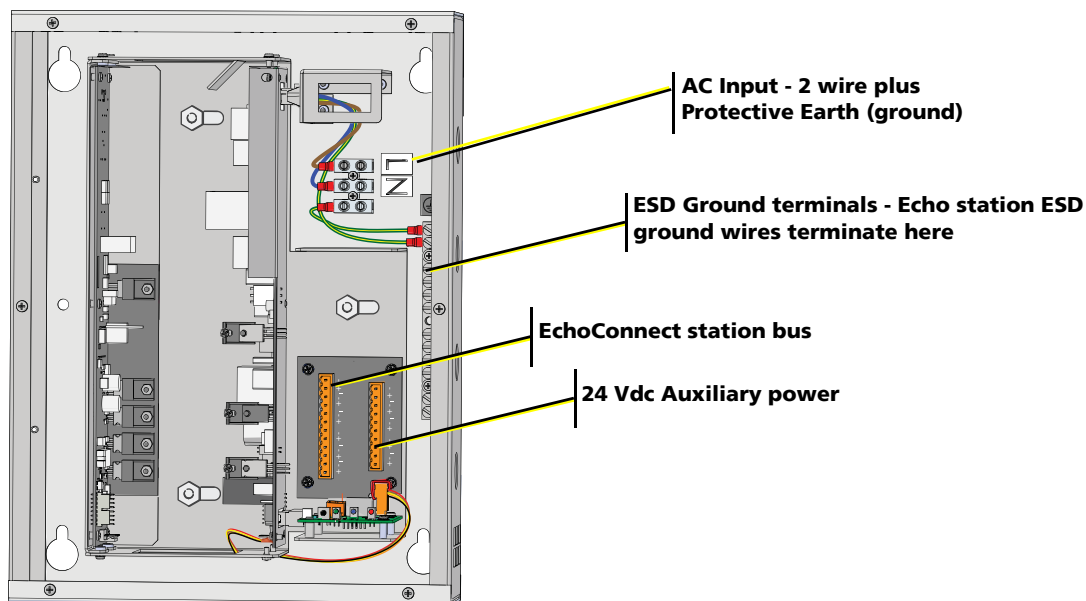
- A single phase 115 VAC, 230 VAC, or 240 VAC power input (two wire) plus a protective Earth (ground) wire, which terminates to the power input terminal block.
- EchoConnect and ESD Ground - Belden 8471 wire pair, plus one 14 AWG (2.5mm<sup>2</sup>) Echo station ESD ground wire.
- 24 Vdc Auxiliary power, 16 AWG (1.5mm<sup>2</sup>) red and black wire pair.



#### Note:

*All low voltage Class II control cables must run in separate conduit from Class 1 power wires.*

### Terminate Wiring



### Connect Power

Supply a single phase of 115 VAC or 230/240 VAC (2 wire plus ground) to the AC input terminals.

- Step 1: Connect the Line (Hot) wire to the terminal labeled "L".
- Step 2: Connect the Neutral wire to the terminal labeled "N".
- Step 3: Connect the Protective Earth (ground) wire to the ESD ground terminal.
- Step 4: Secure each connection firmly.

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## Wall Mount Station Power Supply with Auxiliary Power

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### Connect EchoConnect (Station Bus) Wiring and ESD Ground

Termination is available for up to six runs of EchoConnect station bus wiring to the removable pluggable connector labeled "STATION BUS" on the termination board. EchoConnect is a two wire topology-free system that allows the E-SPM-WM-A to provide power for up to 16 Echo sensors and stations and allows for connection of up to 16 compatible power panels or distributed 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.



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

*All Class II low voltage control cables must run in separate conduit from Class I power wires. To maintain the integrity of the voltage separation, a voltage barrier is provided within the enclosure.*

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ETC requires that all stations be grounded. Pull an additional 14 AWG (2.5mm<sup>2</sup>) wire for grounding to the provided ESD Ground terminal bar when control wires are not installed in grounded metal conduit.

- Step 1: Remove the 12 position, removable pluggable screw terminal connector from the termination board.
- Step 2: For each run of EchoConnect, insert the Belden 8471 wires to the screw terminals on the connector. This connection is polarity dependent. Refer to the connector label for notation of "-" and "+".
  - Insert the black wire to the "-" terminal and tighten the screw.
  - Insert the white wire into the "+" terminal and tighten the screw.
- Step 3: Replace the connector to the termination board.
- Step 4: For each run of EchoConnect Station Bus that is not installed in grounded metal conduit, connect one 14 AWG (2.5mm<sup>2</sup>) ESD ground wire to the provided ESD ground terminals inside the enclosure.

### Connect 24 Vdc Auxiliary Power Wiring

Termination is provided for up to 5 runs of auxiliary power to the removable pluggable connector labeled "Aux" on the termination board. Auxiliary power provides 24 Vdc that is required to power compatible Echo devices.

- Step 1: Remove the 10 position, removable pluggable screw terminal connector from the termination board.
- Step 2: For each run, connect the auxiliary power wires, typically 16 AWG (1.5mm<sup>2</sup>) red/black wire pair into the terminals. This connection is polarity dependent. Refer to the connector label for notation of "+ and -".
  - Insert the black wire into the "-" terminal and tighten the screw.
  - Insert the red wire into the "+" terminal and tighten the screw.
- Step 3: Replace the connector to the termination board.

### Final Installation

- Step 1: Replace the front cover to the enclosure.
- Step 2: Supply power.
- Step 3: Check the front panel status indicators for faults.

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## Wall Mount Station Power Supply with Auxiliary Power

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### Status Indicators

When power is applied, the “Bus Power” and “Aux Power” LEDs located on the front panel illuminates.

#### **Bus Power LED**

If a fault is discovered in the control wiring, the Bus Power LED turns 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 power supply will update the fault indicators automatically when the fault condition is cleared.

#### **Aux Power LED**

The “Aux Power” LED will be illuminated as long as the power supply is powered and is supplying 24 Vdc auxiliary output power