



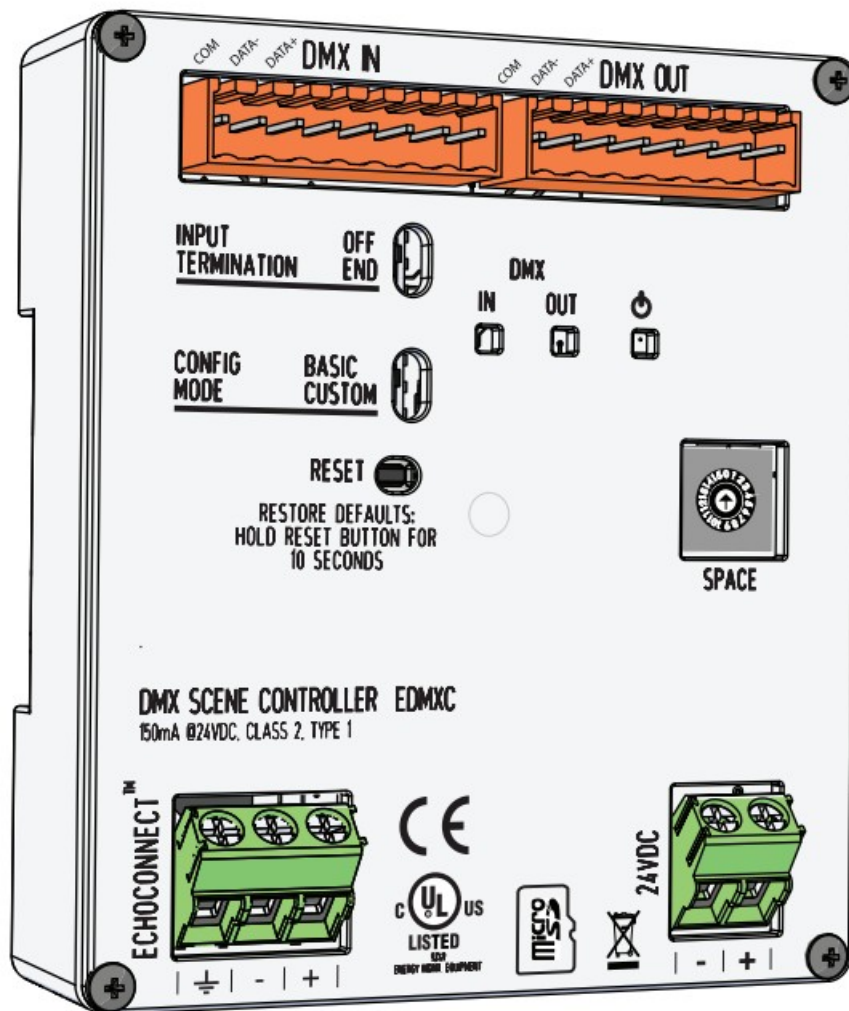
## echoflex 8186M2106 rev C Elaho DMX Scene Controller Installation Guide

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**Echoflex Installation Guide**  
**Elaho DMX Scene Controller**





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## Overview

The DMX Scene Controller provides control of dimmers and LED fixtures by storing DMX output presets that can be recalled as part of an Elaho system preset.

### Features

The DMX Scene Controller is capable of outputting DMX (a full universe of 512 addresses) and supports up to 32 presets.

Additional features include:

- DMX snapshot record
- Live playback of DMX levels stored in Elaho presets



- Input DMX levels pass-through to the DMX output and supports HTP with active internal “Arch” levels
- Supports Off behavior for intensity and color zones
- DMX loss behavior reverts to current local control

The DMX Scene Controller is designed for installation on DIN rail and includes a DMX cable preparation kit for proper DMX termination.

## Custom Configuration

This document guides you through the installation and local configuration of the Elaho DMX Scene Controller. See the ElahoAccess Mobile App integrated help system for details about available configurable device parameters and actions available on the DMX Scene Controller including:

- Configurable preset fade times
- Zone patch for intensity or color LED fixture control
- DMX speed
- Configuration of space raise/lower commands to affect unpatched DMX addresses

**Note:** Settings made using ElahoAccess are applied only when the Config Mode switch is set to Custom. See Custom on page 5.

## Accessory Kits

Echoflex offers a Low Voltage DIN rail Cover Kit (part number 8186A1218) that allows installation of the DMX Scene Controller to a 10.16 cm (4 in) junction box (provided by others). Contact Echoflex for ordering details.

## Specification

**Note:** Installation must follow all national and local codes for electrical equipment. For use with Echoflex Elaho Control Systems, powered by an Elaho station power supply.

### Ambient Environment

For indoor, commercial controls use only. Supports plenum rating.

- Operating temperature 0°C–50°C, 5%–95% non-condensing humidity.

## Compliance

- UL/cUL listed, supporting use in a plenum space
- CE compliant with EN55103:2009 for professional lighting control
- WEEE marked
- FCC compliant for conducted and radiated emissions

## Electrical Requirements

The DMX Scene Controller requires 24 VDC (Class 2) power, supplied by an external 24 VDC power supply. Termination for this connection is provided on a two-position terminal, labeled 24 VDC, accepting 0.4–2.5 mm<sup>2</sup> (26-14 AWG) wires (typically a 1.5 mm<sup>2</sup> [16 AWG] black and red wire pair).





**Note:** NEC Class 2 products are to be wired in accordance with NEC Article 725 and local jurisdiction requirements.

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

## Control Signal Requirements

### EchoConnect

The DMX Scene Controller requires EchoConnect, Belden 8471 (or equivalent) plus one 2.5 mm<sup>2</sup> (14 AWG) ESD ground wire, supporting control signal between the device and the connected Elaho system.

EchoConnect is a bi-directional protocol that uses one pair of wires (data+ and data-) for both data and power. Echoflex recommends using Belden 8471 Class 2 wire (or approved equal – see the Echoflex cable cross database [echoflexsolutions.com/files/Elaho\\_Data\\_Cable\\_Wire\\_Specs](https://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.

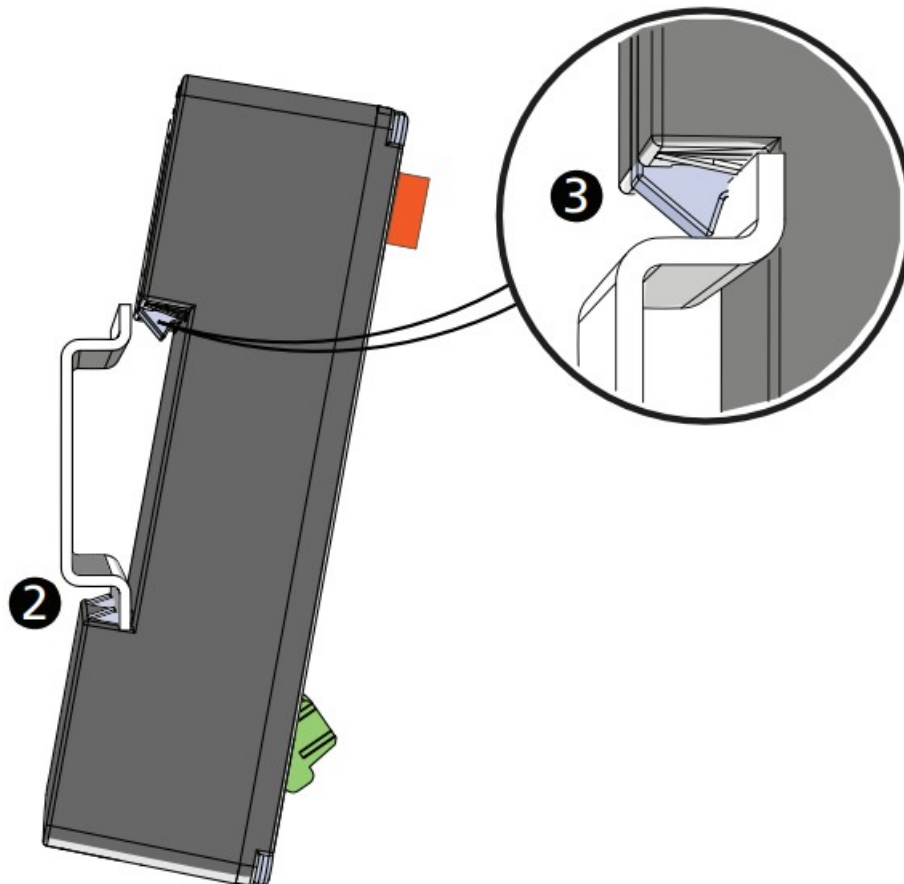
### DMX

The DMX Scene Controller is designed for communication with a DMX controller (such as a DMX console) for the DMX input, and DMX controlled devices including dimmers and LED drivers for the DMX output. Cable terminations are made to the eight-position removable pluggable connectors on the DMX Scene Controller.

Echoflex recommends use of Belden 9729 (or equivalent) wiring for DMX control wiring. Echoflex recommends a maximum length of the wire run at 487 m (1,600 ft). A DMX cable preparation kit is provided to prepare the Belden 9729 (or equivalent) cable before termination.

## Installation

### Install to DIN rail



\*The structural support for the DIN rail has been removed from this graphic for clarity of the installation procedure.

1. Ensure that the section of DIN rail to be used is mounted securely according to the manufacturer's requirements. (DIN rail is provided by others.)



2. Hook the bottom of the device under the lower DIN rail edge as shown.
3. Pivot the device up and depress until the top clip seats completely onto the DIN rail.

## Connect Wiring

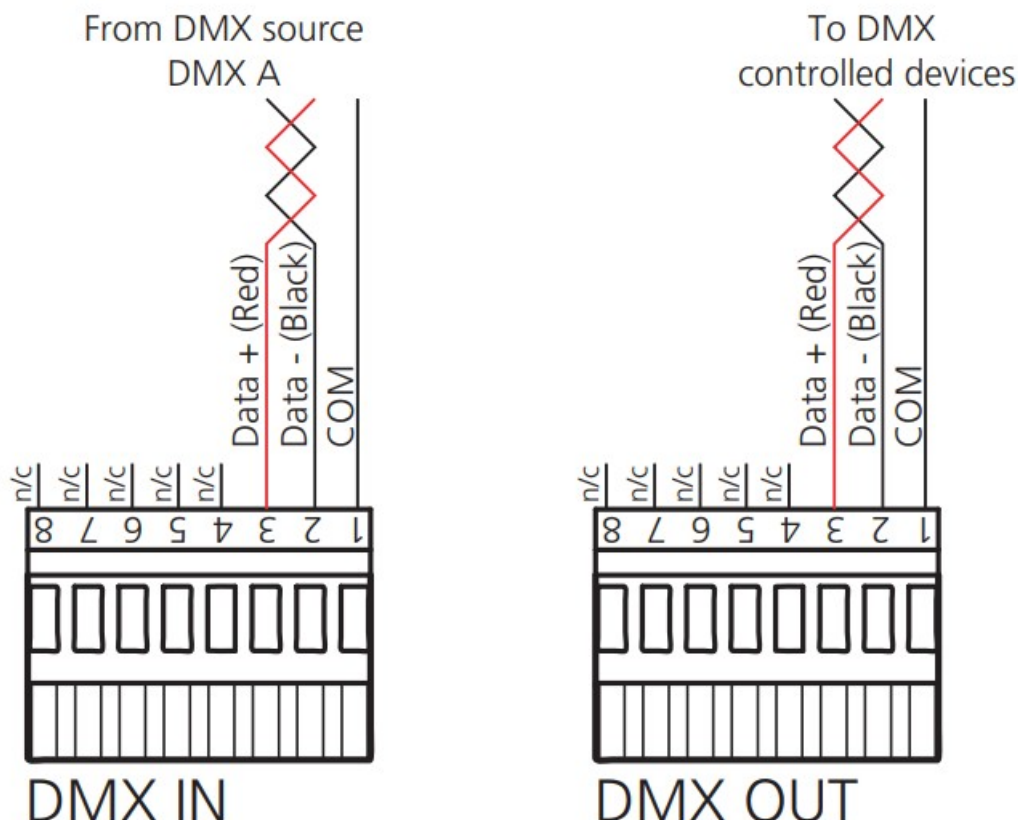
### Connect EchoConnect

EchoConnect terminations require Belden 8471 (or equivalent) between the EchoConnect bus and DMX Scene Controller, plus one 2.5 mm 2(14 AWG) ESD ground wire.

1. Strip 9–10 mm (3/8 in) of insulation from the bare end of the Belden 8471 (or equivalent) wires and the ESD ground wire.
2. Loosen the three screw terminals (ground, -, +) on the EchoConnect terminals.
3. Insert the data + wire (white is typical) into terminal 3 (identified with a + symbol), insert the data – wire (black is typical) into terminal 2 (identified with a – symbol), and insert the ground wire (green/yellow is typical) into terminal 1 (identified with a ground symbol).
4. Secure the screws firmly onto each wire.

### Connect DMX In and Out

Locate the provided DMX cable preparation kit and follow the provided instruction to prepare the DMX cables, both input and output, using Belden 9729 or approved equivalent. Be aware that cable other than Belden 9729 may have a different color code for its wire pairs.



See the illustration to the right for DMX wire termination to the eight-position screw terminal connectors (provided). For best DMX performance, twist the wires together as close to the pluggable connector as possible. Label each cable run accordingly and re-install the prepared connectors to the appropriate receptacle on the controller.

### Connect 24 VDC

An external 24 VDC (Class 2) power supply is required to power the DMX Scene Controller. Terminate to the DMX Scene Controller terminals labeled 24 VDC. Terminals accept 0.4–2.5 mm<sup>2</sup> (26–14 AWG) wires (typically a 1.5 mm 2 [16 AWG] black-and-red wire pair).



1. Strip 9–10 mm (3/8 in) of insulation from the bare end of each wire.
2. Loosen the two 24 VDC screw terminals.
3. Insert the negative wire (black wire typical) into terminal 1 (identified with a – symbol), and insert the positive wire (red wire typical) into terminal 2 (identified with a + symbol) of the 24 VDC terminals.
4. Secure the screws firmly onto each wire.

### **Set Space**

The DMX Scene Controller participates in an Elaho system using the configured Space which is selectable using the rotary switch on the front of the unit.

Set the Space rotary switch to the desired Space number for this controller. All devices that are in the same Space will share control of the connected Elaho stations and sensors.

### **Set Configuration Mode**

The “Config Mode” switch allows selection between Basic and Custom configurations of the DMX Scene Controller. Custom is the factory default setting.

#### **Custom**

Set the switch to Custom configuration mode to apply the settings that are supported by ElahoAccess. See the ElahoAccess Mobile App integrated help system for details about available configurable device parameters and actions available on the DMX Scene Controller including:

- Configurable preset fade times
- Zone patch for intensity or color LED fixture control
- DMX speed
- Configuration of space raise/lower commands to affect unpatched DMX addresses

#### **Basic**

Set the switch to Basic configuration mode to apply the following behaviors to the DMX Scene Controller:

- Preset snapshot record and recall for all 512 DMX addresses, for up to 32 presets.
- 2 second preset fade time
- Zone patch data is not applied, therefore no zones will be individually controllable.
- Space Raise/Lower, as well as any other space intensity adjustments, will have no effect on any outputs.

### **Set Input Termination**

The “Input Termination” switch allows selection of DMX input termination between Off and End. By factory default, this switch is set to End.

- Set the switch to Off when the DMX Scene Controller is not the last DMX device in the wire run.
- Set the switch to END when the DMX Scene Controller is the last DMX device in the wire run.

### **Reset Power**

Using a ballpoint pen, press the [Reset] button to reset the DMX Scene Controller. This cycles power and restores the device to normal operations.

#### **Reset to Factory Defaults**

Using a ballpoint pen, press and hold the [Reset] button for 10 seconds to reset the DMX Scene Controller to factory defaults.

#### **Power Up**

Once the DMX Scene Controller is connected to the EchoConnect station bus and power is applied, the power LED will indicate steady blue and the display will power on.



When DMX is present on the Input connector the “DMX IN” LED indicates as follows:

- green = valid DMX
- blinking red = error
- no indication = no DMX is present

## Remove Device from DIN rail

If for any reason you need to remove the device from the DIN rail, follow these instructions.







1. Shut power off from the unit and station power supplies on connected EchoConnect segments.
2. Label and then disconnect all wiring and cap off as necessary.
3. Insert a flatblade screwdriver into the clip on top of the enclosure, slide it straight up, and then pivot the top of the unit off of the DIN rail.



## Documents / Resources

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## References

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