

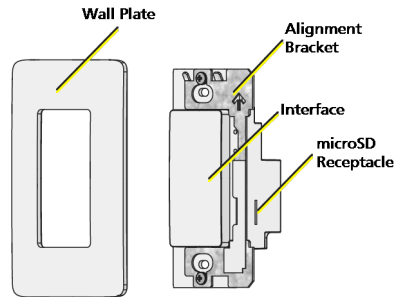
# Echoflex Installation Guide

## ElahoAccess Interface

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### Overview

The ElahoAccess Interface is a wall mounted device that works in conjunction with the ElahoAccess App. The Interface uses Bluetooth® Smart (aka Bluetooth Low Energy or BLE) wireless technology to provide access to the Elaho control system. Use the Interface and the app together to wirelessly configure and control your Elaho Presets, Spaces, Zones, and devices.



### Specification

#### Installation Environment

For indoor, commercial controls use only. Echoflex recommends paying special attention to the installation environment:

- Indoor installation only 0-40°C (32-104°F), 5-95% non-condensing humidity.
- A wireless operating distance of no more than 9.1 m (30 ft) between the ElahoAccess Interface and the mobile device running the ElahoAccess App.
- Obstacles reduce the wireless transmission distance. When possible, avoid transmitting through walls, ceilings, etc.

#### Compliance

For use with Echoflex Elaho Control Systems, powered by Elaho power supplies.

UL/cUL listed, CE compliant, WEEE and ROHS marked, FCC compliant for conducted and radiated emissions and compliant with FCC requirements of third party RF transmitters, Bluetooth SIG compliant (see [Bluetooth on page 7](#)).



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### Electrical

24 VDC is required to power the interface. Run two each 1.5 mm<sup>2</sup> (16 AWG) wires (typically a black and red wire pair) from the auxiliary power source for connection to the provided Aux Power pigtail.



**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.*

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### EchoConnect

The Interface connects to the EchoConnect station communication bus. 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 - see the Echoflex cable cross database [echoflexsolutions.com/files/Elaho\\_Data\\_Cable\\_Wire\\_Spec](https://echoflexsolutions.com/files/Elaho_Data_Cable_Wire_Spec) for equal alternatives) Class 2 wire. The total combined length of an EchoConnect wire run (using Belden 8471, or equal) 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.*

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**Note:** *Echoflex requires that all Elaho stations and devices be grounded for ESD protection. Pull an additional 2.5 mm<sup>2</sup> (14 AWG) wire for grounding when control wires are not installed in grounded metal conduit.*

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### Prepare for installation

The ElahoAccess Interface ships with the electronics, wall plate, and wire termination kits including wire pigtails for 24 VDC auxiliary power and EchoConnect.

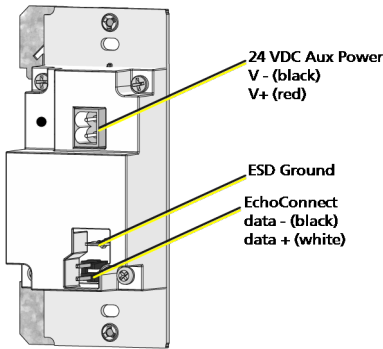
The station may be installed into an industry-standard flush-mount back box (RACO 690 or equivalent provided by others) or surface-mount back box (sold separately and available from Echoflex).

### Installation

The back box must be installed plumb and square for best results. Ensure the back box is clean and free of obstructions and that all wiring is installed correctly.

Locate the wire termination supplies included with the packaging.

### Connect Wiring



1. Pull all required wiring into the back box. As needed, pull an additional ESD ground wire (required only when the Interface is not installed in grounded metal conduit).
2. Terminate the ESD ground wire pigtail.
  - a. Strip 11 mm (0.4 in) of insulation from the ends of the ESD ground wire pigtail provided in the termination supplies and the incoming ground wire.
  - b. Use one WAGO 221 Series LEVER-NUTS<sup>®</sup> (provided) to connect the ESD ground pigtail and the incoming ground. Installations using grounded metal conduit, connect the ground pigtail to the metal back box ground location.
  - c. Install the ESD ground wire pigtail FASTON connector to the mating receptacle on the Interface electronics.

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3. Terminate EchoConnect wires. EchoConnect is topology free, you may install the wires in any combination of bus, star, loop, or home-run.
    - a. Strip 11 mm (0.4 in) from the ends of each EchoConnect power pigtail wire (black and white wire pair), provided in the termination supplies, and the installed control wires.
    - b. Use the WAGO connectors (provided) to connect the EchoConnect pigtail wires and the installed Belden 8471 control wires. One WAGO should be used for the white wire pair (data +) and one for the black wire pair (data -). Open the terminal levers on the WAGO connector and insert the installed Belden 8471 wire and the lead from the power pigtail into the terminals, and then close the levers.
    - c. Install the two-pin connector from the EchoConnect pigtail to the mating receptacle on the station electronics.
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**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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4. Terminate 24 VDC Aux Power wiring.
  - a. Strip 11 mm (0.4 in) from the ends of each Auxiliary Power pigtail wire (black and red wire pair) provided in the termination supplies and the installed power wires.
  - b. Use the WAGO connectors provided to connect the Auxiliary pigtail wires and the power wires. One WAGO should be used for the red wire pair (V+) and one for the black wire pair (V-). Open the terminal levers on the WAGO connector and insert the installed wire and the lead from the power pigtail into the terminals, and then close the levers.
  - c. Install the two-pin connector from the Auxiliary Power pigtail to the mating receptacle on the station electronics.

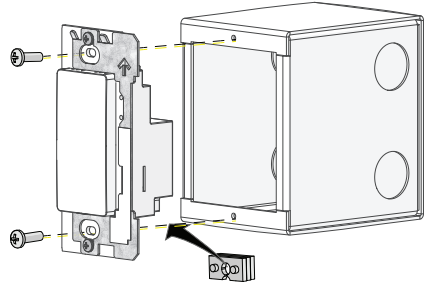
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### Install the Interface

Receptacle spacers are provided to help align the Interface and cover flush against the wall in flush mount application. The spacers are not required when installing the Interface in a surface mounted box.



1. Insert the Interface electronics and wiring into the back box. To install multiple stations (multi-gang), insert each station electronics into the back box from the right to the left side for the best alignment and fit. The alignment bracket will slightly overlap the station to the right when properly installed.
2. Use spacers as needed to provide a flush mounted installation.
  - a. Accordion fold the spacer and press the stack together to achieve the thickness needed to fill the gap between the Interface, wall surface, and the back box.
  - b. Cut off and discard the excess.
  - c. Place the stack between the electronics and the flush mounted back box.



**Note:** To ensure successful station and wall plate installation, do not overtighten the screws.

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3. Secure the Interface in place using the mounting screws provided. If using spacers, insert the screws through the spacers as well.

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### Interface LEDs

**Power** - The top blue LED lights when the device has power

**Bluetooth** - The bottom yellow LED lights and blinks when an active Bluetooth radio is paired with a mobile device.

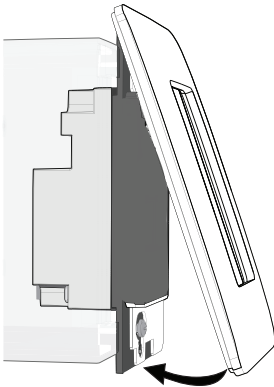


**Note:** For more information on configuring devices via Bluetooth connection, see the ElahoAccess App integrated help system. Additional information on Elaho systems is available at [echoflexsolutions.com](http://echoflexsolutions.com).

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### Install the wall plate

The wall plate is secured to the Interface with built-in magnets.



1. Align the top of the wall plate to the Interface and angle the bottom approximately 20 degrees.
2. Hook the top of the wall plate to the tabs located on the Interface electronics assembly. To ensure the wall plate is hooked properly on the top hook, wiggle it slightly side to side.
3. Swing the bottom of the wall plate down until the magnets engage.
4. If the wall plate does not fully attach automatically, wiggle the bottom of the plate until all of the magnets are seated properly to the Interface and the plate is secure.



**Note:** If you are installing a multi-gang wall plate and the stations are misaligned in the mounting box, the wall play will not attach properly. Loosen the screws that secure the station to the back box, adjust each station to improve the alignment, secure the screws, and then repeat the installation of the wall plate.

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### Bluetooth

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help