

# ETC Installation Guide

## SmartLink™ Wall Station Installation



### Overview

SmartLink button preset stations provide remote access to the 32 built-in presets and sequencer found in SmartLink™ enabled SmartPack and SmartSwitch products. When used with the and Unison DRd host or CEM+, SmartLink provides remote access to the first 64 built in presets.

Station electronics mount directly into a flush mount, single gang, industry standard back box. Station faceplates and buttons are constructed of ABS plastic and are available in white, ivory, grey, black and signal white. Station legends are laser marked in a contrasting color.

SmartLink stations are provided with station electronics, buttons, faceplate, a LinkConnect termination kit, wire termination hardware and installation hardware.

### Installation Requirements

SmartLink requires (1) Belden 8471 and (1) 2.50mm<sup>2</sup> (14 AWG) ESD ground wire. A SmartLink data run is limited to 1500 feet and is topology-free and polarity independent. Wiring may be bus, star, loop, home run or any combination of these.



#### **Note:**

*ETC requires that all stations be grounded by using grounded metal conduit or a 14 AWG ESD drain wire. All control wiring should be installed and terminated by a qualified installer and should follow standard wiring installation practices.*

Reference the associated SmartLink host product *Installation Manual* for instructions to terminate station wiring at the host product.



#### **Note:**

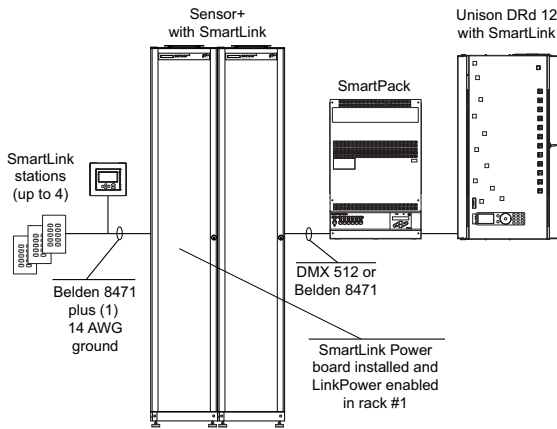
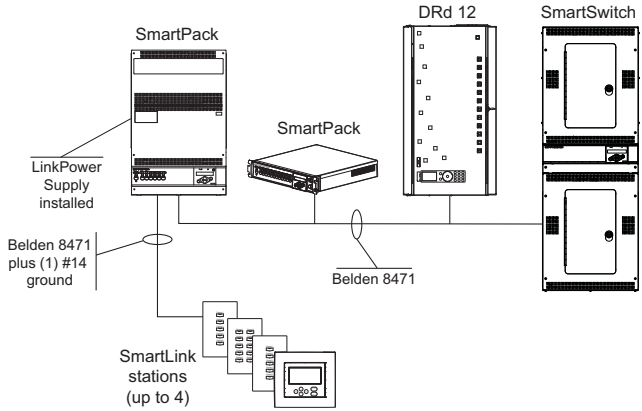
*You may have only one station power source on the SmartLink network. This source may be either the LinkPower Supply (S-LPS) which powers up to four stations or a SmartLink Station Power Module (S-SPM) which powers up to 16 stations. The presence of multiple power supplies on a SmartLink network will cause unpredictable results and is likely to damage electronics. As well, you may have up to four SmartLink host products in a SmartLink system. One SmartLink host product (SmartPack, SmartSwitch, Unison DRd with SmartLink or Sensor + with SmartLink) in the system must have a LinkPower Supply or Station Power Module installed for wall station power. SmartLink station use with the SmartPack Portable dimmer pack requires an external LinkPower supply. Contact ETC for assistance.*

# ETC Installation Guide

## SmartLink™ Wall Station Installation

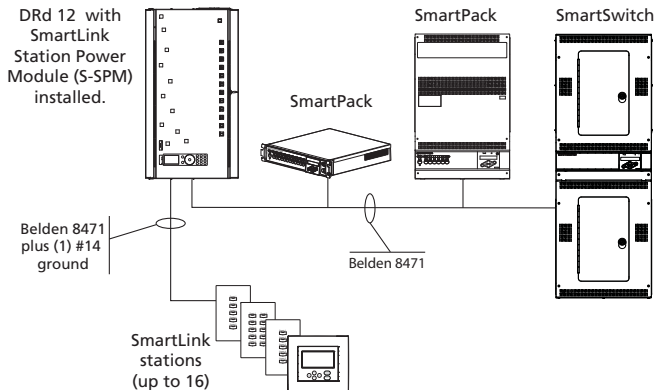
The following typical risers depict methods of applying station power to the SmartLink network.

**LinkPower Supply kit (7021K1010)** installs in a SmartLink enabled SmartPack Wall Mount or SmartSwitch Relay Panel product and provides power for up to four SmartLink stations.



**SmartLink Power Board Kit (7150K1006)** installs in a Sensor+ dimmer rack (rack 1) and provides SmartLink enabled features to the CEM+ and when LinkPower is enabled provides power for up to four SmartLink stations.

**SmartLink Station Power Module (7182A1002)** installs in a DRd dimmer rack and provides power for up to 16 SmartLink stations.

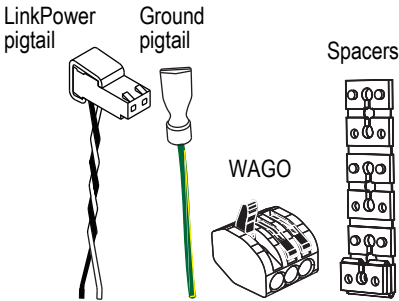


# ETC Installation Guide

## SmartLink™ Wall Station Installation

### Installing the SmartLink Button Station

The following instructions assume the backbox is installed and the station wiring is roughed-in using Belden 8471. If substitute wire is used, contact ETC to ensure compatibility.



The backbox should be installed square for best results. Ensure that the backbox is clean and free of obstructions and that all wiring is installed correctly. Leave approximately 10 inches (254mm) of wiring in the backbox for connection and to allow slack for future service needs.

SmartLink button stations ship with a LinkConnect termination kit containing a

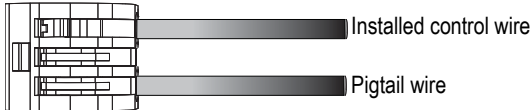
LinkPower pigtail, a ground wire pigtail, spacers, and all required connectors for installation.

### Connecting the Wiring

Step 1: Pull all required wiring to the backbox.

Step 2: Terminate and connect LinkPower. LinkPower is topology free and polarity independent. You may install LinkPower in any combination of bus, loop, star or home-run.

Topology of a single station installation



Topology of multiple stations installed in series



- Locate the LinkPower pigtail and two WAGO CAGE CLAMP® connectors from the termination kit.
- Strip 3/8" (9-10mm) from the ends of each LinkPower wire (both pigtail and installed LinkPower wire).
- Use the WAGO CAGE CLAMP connector to connect the installed control wire to the connectorized pigtail wires provided. Open the terminal levers on the WAGO connector and insert the installed (typically black) Belden 8471 LinkPower wire and the black lead from the LinkPower pigtail into the terminals.
- Close the levers onto the wires.

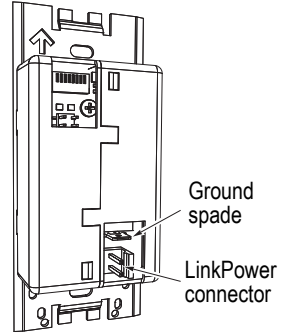
# ETC Installation Guide

## SmartLink™ Wall Station Installation

- e: Repeat for the installed (typically white) Belden 8471 LinkPower wire and remaining pigtail wire using a new WAGO connector.
- f: Install the LinkPower connector onto the SmartLink Button Station control board.

Step 3: Terminate the ESD drain (ground) wire. This connection is required only when the control cable is not installed in grounded metal conduit.

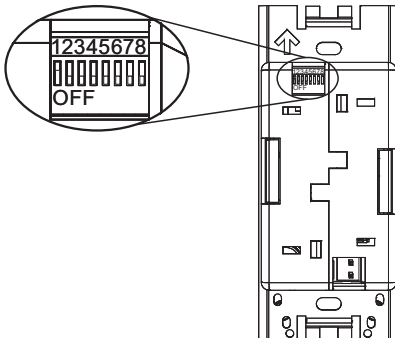
- a: Locate the ground wire pigtail and one WAGO CAGE CLAMP connector from the termination kit.
- b: Strip 3/8" (9-10mm) from the end of each ground wire (both the provided pigtail and the installed wire).
- c: Use the WAGO CAGE CLAMP connector to connect the installed ground wire to the pigtail wire provided. Open the terminal levers on the WAGO connector and insert the installed (typically green/yellow) ESD drain (ground) wire and the green/yellow lead from the pigtail into the terminals.
- d: Close the levers onto the wires.
- e: Install the ground spade onto the receptacle on the SmartLink Button Station control board.



**Note:**

*A ground connection (14 AWG) is required for all SmartLink Button Station assemblies if not installed in ground metal backbox.*

### Station Personality Settings



The control electronics, back side of station, include a set of eight dip switches. Each setting activates standard functionality or built-in personalities including the starting preset number and sequence activation for the station.

# ETC Installation Guide

## SmartLink™ Wall Station Installation

### Sequence Support

The sequencer is a built-in feature of the SmartPack dimmer pack, SmartSwitch relay panel and the Unison DRd dimming enclosure. A sequence is a series of recorded presets which are played in sequence (Preset 1, Preset 2, etc.).



### Note:

*The sequencer is not a supported feature in CEM+ and therefore will not operate in a mixed SmartLink system when the CEM+ is the "Station Master".*

Step 1: Set the dip switches for your station type. Reference the table below for functional settings.

Switch Number				5 Button Station		10 Button Station	
2	3	4	5	Switch 1 On = presets & sequence	Switch 1 Off = presets only	Switch 1 On = presets & sequence	Switch 1 Off = presets only
Off	Off	Off	Off	1-4	1-5	1-9	1-10
On	Off	Off	Off	5-8	6-10	10-18	11-20
Off	On	Off	Off	9-12	11-15	19-27	21-30
On	On	Off	Off	13-16	16-20	28-36	31-40
Off	Off	On	Off	17-20	21-25	37-45	41-50
On	Off	On	Off	21-24	26-30	46-54	51-60
Off	On	On	Off	25-28	31-35	55-63	61-70
On	On	On	Off	29-32	36-40	64-72	71-80
Off	Off	Off	On	33-36	41-45	73-81	81-90
On	Off	Off	On	37-40	46-50	82-90	91-100
Off	On	Off	On	41-44	51-55	91-99	101-110
On	On	Off	On	45-48	56-60	100-108	111-120
Off	Off	On	On	49-52	61-65	109-117	121-130
On	Off	On	On	53-56	66-70	118-126	
Off	On	On	On	57-60	71-75		
On	On	On	On	61-64	76-80		

- Switch 6 enables or disables the IR Receiver feature for the station. "On" enables and "Off" disables the IR Receiver feature. The default setting is "Off".



### CAUTION:

*It is important to only have one IR station enabled within line of sight of another. If more than one station's IR Receiver is enabled, the preset may be enabled and disabled rapidly, causing undesired effect.*

- Switches 7 and 8 are dedicated for future development and should remain in the "Off" position.

# ETC Installation Guide

## SmartLink™ Wall Station Installation

---

### Change LED Color

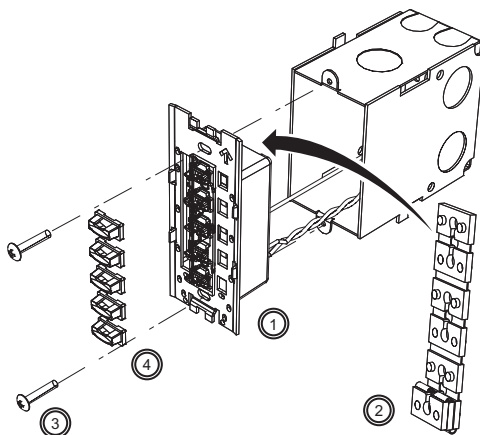
The SmartLink station supports one color for the “On” state of the LED indicator. This color can be changed to any one of 15 standard available colors.

- Step 1: Press and hold the service pin button approximately 10 seconds until all LEDs light.
- Step 2: Press any button repeatedly to cycle through the available colors and stop when the desired color is represented.
- Step 3: Press and hold the service pin button approximately 10 seconds until the station turns off all LEDs and returns to its normal operating mode.

### **Installing the Station into the Backbox**

Spacers are provided to help align the station and cover flush against the wall in flush mount applications. The spacers are not needed on surface mount backboxes.

- Step 1: Insert the station electronics and wiring into the backbox. The arrow on the mounting plate must point up.



### **Note:**

*For some flush mount applications with certain trim rings it may be necessary to remove the station's back cover for installation into the backbox.*

---

- Step 2: If needed, fold the receptacle spacer in a zigzag fashion and press together to achieve the required thickness to fill the gap between the station and backbox. Cut off the excess and place between the station and flush backbox.
  - Step 3: Secure the station with two screws. If using spacers, insert the screws through them.
- 



### **CAUTION:**

*To improve successful station and wall plate installation, do not over tighten the screws. If screws are over tightened, activation can be negatively impacted.*

---

- Step 4: Install the button caps so that the clear light tunnels protrude through the caps.

# ETC Installation Guide

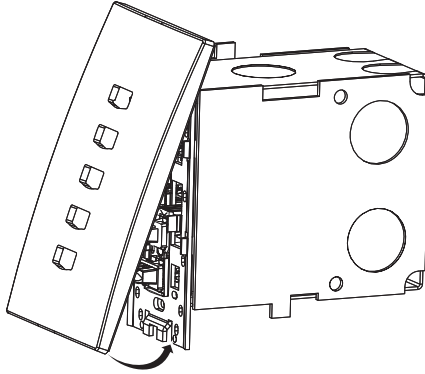
## SmartLink™ Wall Station Installation

---

### Installing the Faceplate

The faceplate is secured to the station with two magnets that are located on the bottom side of the faceplate.

Step 1: Align the top of the faceplate approximately 20 degrees from the station.



Step 2: Hook the top of the faceplate to the tabs located on the station electronics assembly. To ensure the faceplate is hooked properly on the top hook, wiggle it slightly side to side while the bottom is angled about 20 degrees from the wall.

Step 3: Swing the bottom of the faceplate down until the magnets engage.

Step 4: If the faceplate does not fully attach automatically, wiggle the bottom of the plate until the magnets are seated properly to the station and the faceplate is secure.

# ETC Installation Guide

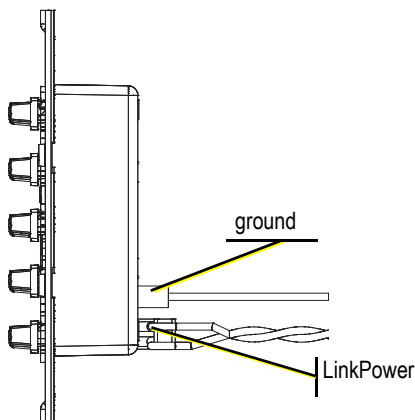
## SmartLink™ Wall Station Installation

---

### Troubleshooting

If the SmartLink control station(s) will not operate after complete system installation and programming, check for shorts and cross-connections with a digital voltmeter at the station LinkPower pigtail connection and the station ground connection.

- Check the voltage between pin 1 and ground. This reading should be between 18 to 21 Volts.
- Check the voltage between pin 2 and ground. This reading should be between -18 to -21 Volts.
- Check the voltage between pin 1 and pin 2. This reading should be between 36 to 42 Volts.



### Service

If you have any difficulties installing your system or with system startup please contact ETC Technical Services at the office nearest you. ETC contact information is located in the boiler plate found on page 1 of this document.