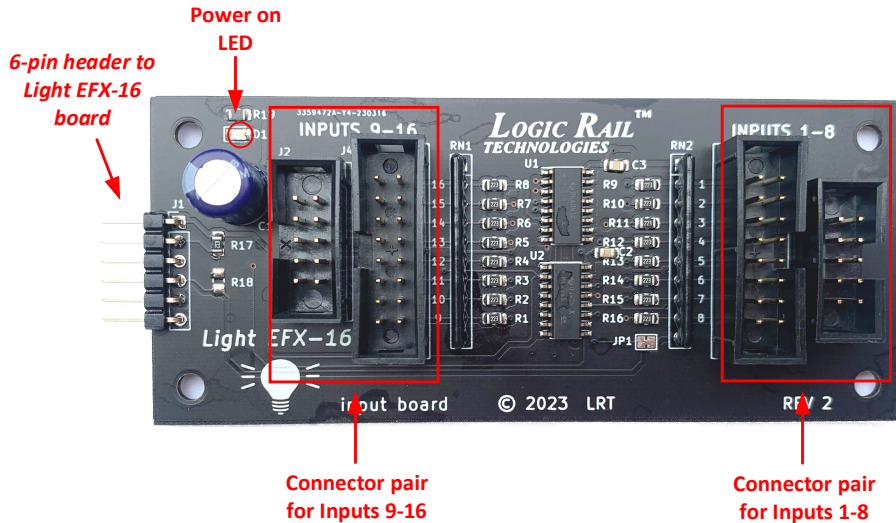


**Getting started**

Thank you for purchasing a **Logic Rail Technologies** product! This board provides hardware-based control inputs for our **Light EFX-16** board. There are two pairs of connectors on this input board; each pair contains a 10-pin connector and a 16-pin connector. The two pairs are split between inputs 1-8 (corresponding to Lights 1-8 on the **Light EFX-16**) and inputs 9-16 (corresponding to Lights 9-16 on the **Light EFX-16**). The input board obtains its power from the **Light EFX-16** board and communicates with it through the 6-pin header on the left-hand side of the board. When properly connected, and power turned on, a green LED will illuminate on the input board.



For each pair you will use EITHER the 10-pin connector OR the 16-pin connector. You cannot and must not try to use both connectors within a pair! The choice between which connector to use within each pair is up to you. You might select the 10-pin connector if you have already invested in the 10-wire cables and mating connectors for any LCC products from RR-Cirkit ( <https://www.rr-cirkit.com/> ).

**10-pin connector**

Please pay close attention to our pin definition shown below. Note that this connector is keyed so that you can only attach the mating cable assembly one way. The drawings below show the pin and wire definitions as viewed with the board oriented in the photo above!

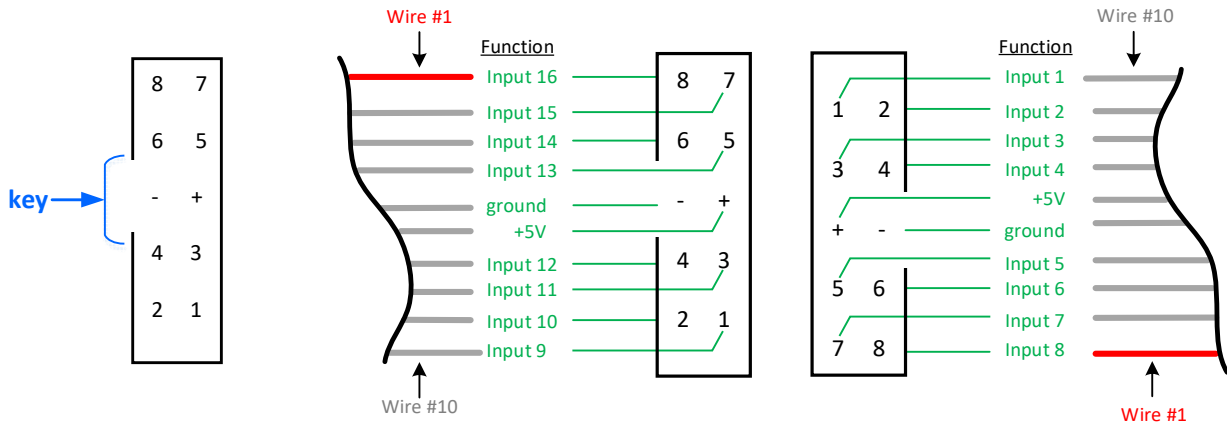
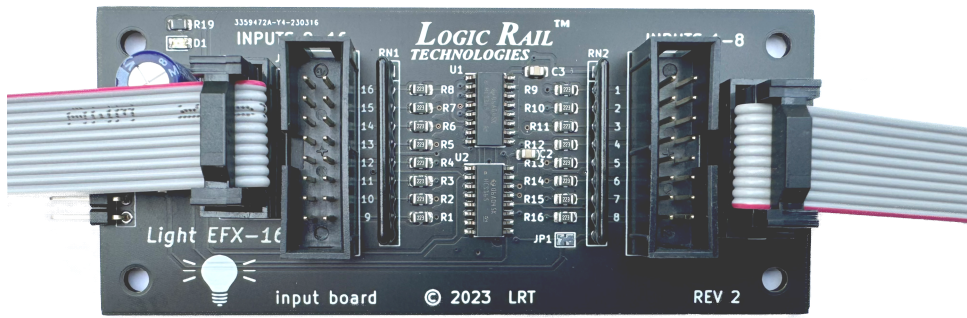


Figure 1 – 10-pin connector      Figure 2 – Cable pinout for inputs 9-16      Figure 3 – Cable pinout for inputs 1-8

The photo which follows shows the proper orientation of the 10-wire cable assemblies. Note: if you need to detach a cable assembly from the input board make sure you grab the connector on the cable assembly from the short sides and gently rock it from short side to short side.



**16-pin connector and gray ribbon cable**

Alternatively, the 16-pin connector and associated cable assembly may make your wiring simpler. We have defined the pins such that they alternate between a ground line and an input line. This way you can take each pair of adjacent wires and run them directly to a switch. This connector is also keyed.

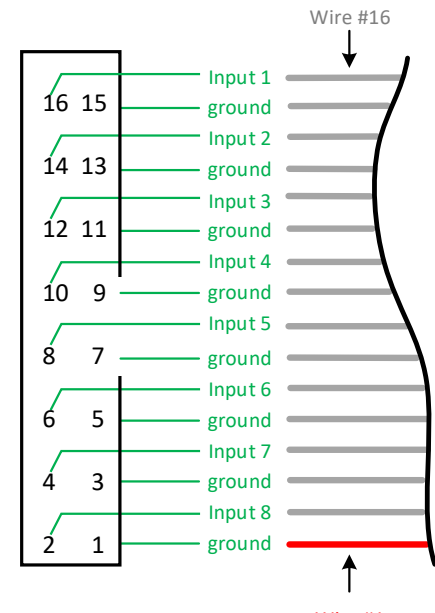
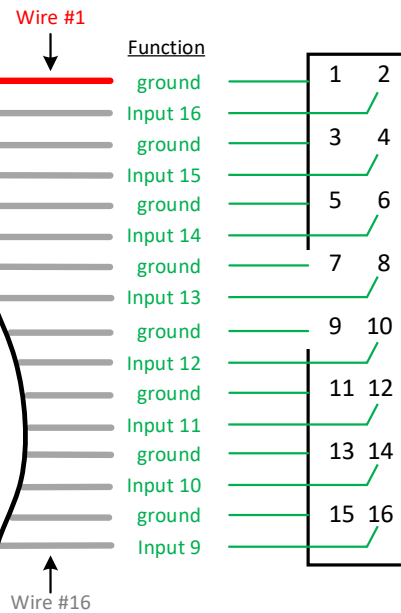
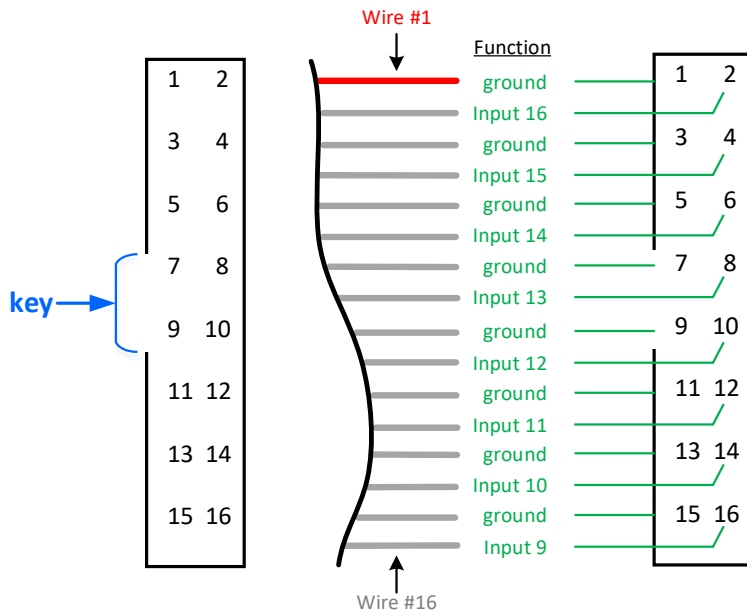
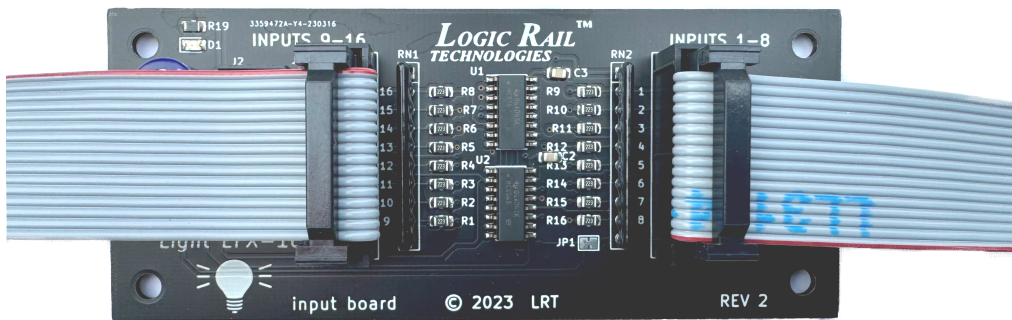


Figure 4 – 16-pin connector

Figure 5 – Cable pinout for inputs 9-16

Figure 6 – Cable pinout for inputs 1-8

The photo below shows the proper orientation of the 16-wire cable assemblies. Note: if you need to detach a cable assembly from the input board make sure you grab the connector on the cable assembly from the short sides and gently rock it from short side to short side.



## 16-pin connector and colored ribbon cable

If you use a colored ribbon cable assembly, such as our #16CA, it will be easier to keep track of the wires and their function. This is illustrated below.

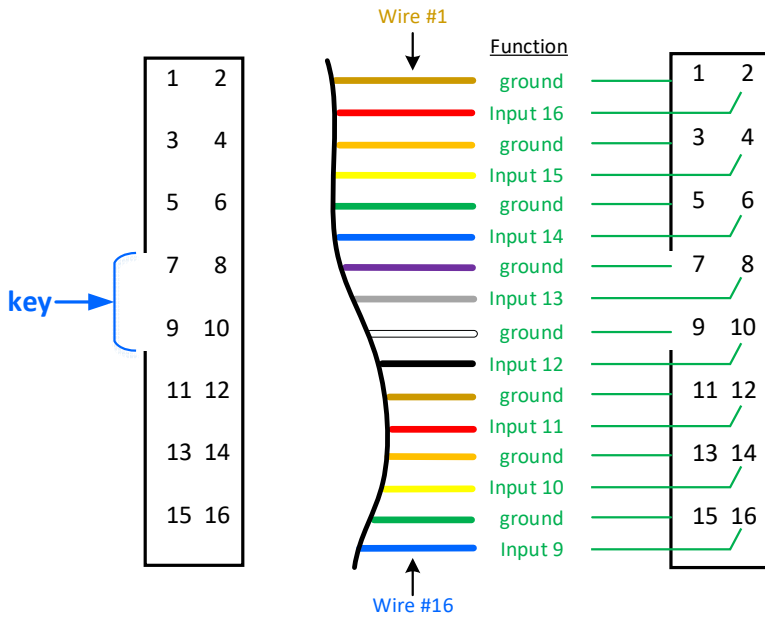


Figure 7 – 16-pin connector

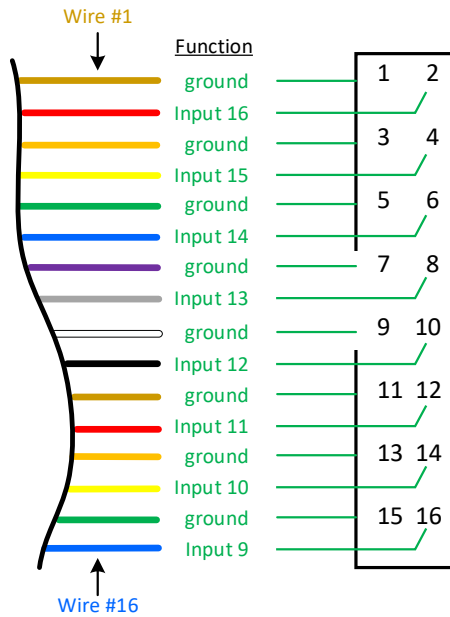


Figure 8 – Cable pinout for inputs 9-16

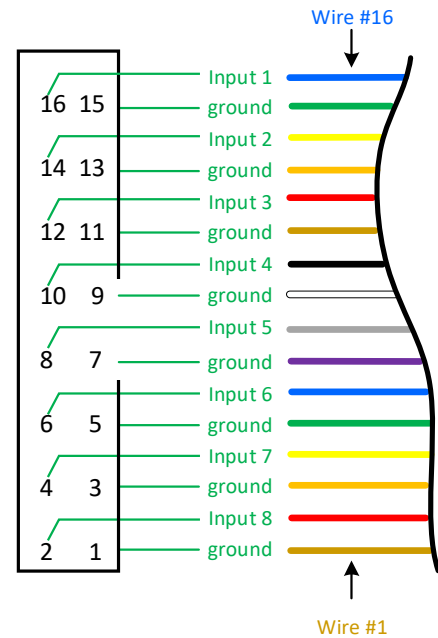


Figure 9 – Cable pinout for inputs 1-8

## Wiring hardware switches to the input board

You can use any type of SPST (Single-Pole, Single-Throw) switch to trigger the *Light EFX-16* outputs and they do not have to all be the same type. When you configure an output (refer to the *Light EFX-16* User Guide) you will specify whether or not it is controlled by the associated input on the input board (e.g. Light 1 can be controlled by Input 1). If it is, then you have several choices on how you want the output turned on/off based on the type of switch you're using. In all cases the switch will be wired the same. Figure 10 shows how you would wire an SPST on/off switch (typically a toggle style or non-momentary pushbutton style) and an SPST momentary switch (typically a pushbutton style). Note that with an SPST switch it does not matter which terminal is connected to ground and which terminal is connected to the input line.

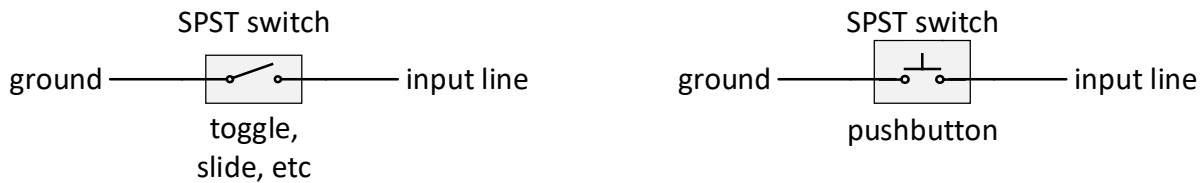


Figure 10 – Example switch wiring (toggle and pushbutton switches)

The various input types and their associated behavior is described below.

Pushbutton	Toggle	Toggle Inverted
Flips output state (ON/OFF) each time it is pressed.	<b>Close</b> switch to turn output ON, <b>open</b> switch to turn output OFF.	<b>Open</b> switch to turn output ON, <b>close</b> switch to turn output OFF.

**WARNING! Do NOT share switches or switch wiring across multiple *Light EFX-16* input boards! You could potentially introduce a ground loop or a short between power sources to the boards! This could cause damage to the boards and other equipment, which is NOT covered under our warranty.**

## **Mounting the board**

Once you have attached this board to the *Light EFX-16* board you can affix it to the same non-metallic surface using the four mounting holes provided near the corners of the board. The holes will accept #4 screws; do not enlarge the holes or over tighten the screws (flexing the board) as damage to the circuit board can result and your warranty will be voided!

## **Warranty**

This product is warranted to be free from defects in materials or workmanship for a period of one year from the date of purchase. **Logic Rail Technologies** reserves the right to repair or replace a defective product. The product must be returned to **Logic Rail Technologies** in satisfactory condition. This warranty covers all defects incurred during normal use of this product. This warranty is void under the following conditions:

- 1) If damage to the product results from mishandling or abuse.
- 2) If the product has been altered in any way (e.g. soldering to the circuit board).
- 3) If the current or voltage limitations of the product have been exceeded.

Requests for warranty service must include a dated proof of purchase, a written description of the problem, and return shipping and handling (\$10.00 inside U.S./\$20.00 outside U.S. - U.S. funds only). Except as written above, no other warranty or guarantee, either expressed or implied by any other person, firm or corporation, applies to this product.

## **Technical Support**

We hope the preceding instructions sufficiently answer any questions you might have about the installation of this product. However, technical support is available should you need it. You can reach us via phone or email.