VIEWRAIL

Quick Slide Handrail - LED Installation Guide

Table of Contents

Read over the provided material prior to the start of your installation

Tools & Supplies Needed for this Installation

- Drill
- $1/4$" or $5/16$" Metal Drill Bit
- Wire Cutters
- Wire Strippers
- Silicone
- Wire Fishing Sticks
- Flat Head Screw Driver

i

Before you begin, you will need to procure leader wiring that goes from the LEDs to the LED controller. This is not provided by Viewrail, as the length and gauge of the wiring is dependent on your specific installation. There is a table at the bottom of page 4 that will help you calculate what gauge you need.
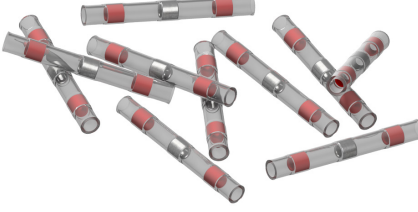
Please take the following precautions:

1. This equipment, like all electrical equipment, should be installed by a qualified person.

2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.

3. The controllers and power supplies are not waterproof. Keep them dry.

4. Always observe proper polarity.

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youtube.com/viewrail

Main Components

LED Power Supply / Controller	Heat Shrink Solder Butt Connectors	Wall Mounted Remote

Button Cell Battery

Used to power the Wall Mounted Remote.

Images not to scale

Notes Before Beginning

- You will need to procure leader wiring that goes from the LEDs to the LED controller. This is not provided by Viewrail, as the length and gauge of the wiring is dependent on your specific installation. There is a table at the bottom of page 4 that will help you calculate what gauge you need.
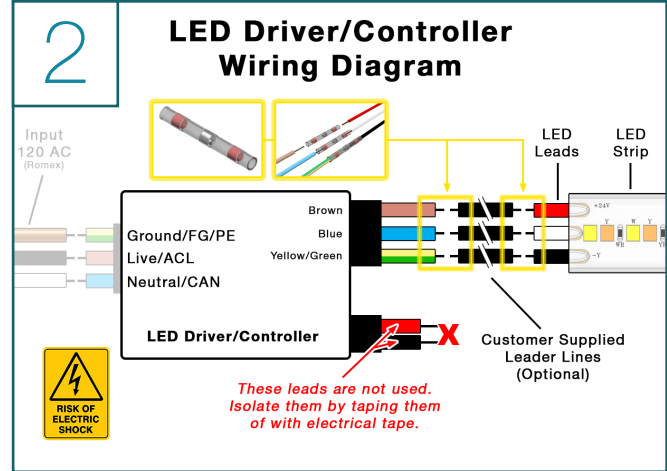
- Connecting the power to a dimmer switch or leading to the power supply box is recommended to be done by a licensed electrician

- The power supply box will require 115v power run to the box

- Each box takes up roughly 1.5 amps

- Each box can support (2) 32' strips of LEDs

- Before beginning, it will be important to measure all the lengths of the LED strips and the wire "leaders," making sure to lay out a plan on where each power supply box will be located and how each strip will be utilized and installed.

- You will need to locate your power supply box within 9' of the beginning of the LED strip to which you will be attaching. For aesthetic purposes, these boxes are typically hidden out of view

- Identify and plan for how you would like to run your wire from the box to the LED strip which will be hidden inside of the handrail. This wire can either be run externally to the handrail, or, some customers choose to run the wire up through a post and drill a hole out the top of the post and lead into the handrail.

Quick Slide Handrail - LED - Driver/Controller Installation & Setup

1

2 **LED Driver/Controller Wiring Diagram**

Input 120 AC (Romex)

Ground/FG/PE
Live/ACL
Neutral/CAN

Brown
Blue
Yellow/Green

LED Driver/Controller

LED Leads

LED Strip

Customer Supplied Leader Lines (Optional)

These leads are not used. Isolate them by taping them of with electrical tape.

⚡ RISK OF ELECTRIC SHOCK

Mounting your LED Driver/Controller Box

- Typically, for aesthetic purposes, these are hidden out of view
- You will have one Driver/Controller box for every 62ft of LEDs
- Run and connect the leader lines from the power supply box to the correct handrail section

Note:
Your leader lines can either be run externally to the handrail, or some customers choose to run the wire up through a post & drill a hole out the top of the post & lead into the handrail.

- You can now connect your LEDs to the controller
- To ensure a water tight electrical connection, use the supplied heat shrink soldered connectors - It may be necessary to widen out one side of the heat shrink connector in order to fit the twisted pairs of wires from the Driver/Controller

Note:
If additional wire length is needed between the LED Driver/Controller and the LED Strip(s), you can use leader lines (not provided) to make the connections to the LED controller Please refer to the Voltage Drop Chart below, to use the correct AWG wire - This will ensure your LEDs work properly and stay brightly lit.

Voltage Drop Chart

This Voltage Drop Sheet is designed to help you configure what gauge of wire to run to your LED handrail from the power supply to ensure it is brightly and safely lit. Utilize the sheet by following the instructions on the bottom and then purchase the correct gauge wire based on the wattage required for the LED and the length from the LED to the power supply.

Wire Gauge	10 Watts	20 Watts	30 Watts	40 Watts	50 Watts	60 Watts	70 Watts	80 Watts	90 Watts	100 Watts	110 Watts	120 Watts
18 AWG	134' (40.8m)	68' (20.7m)	45' (20.7m)	33' (10.1m)	27' (8.2m)	22' (6.7m)	19' (5.8m)	17' (5.2m)	15' (4.5m)	14' (4.3m)	12' (3.6m)	10' (3.1m)
16 AWG	219' (65.5m)	109' (33.2m)	72' (22.0m)	54' (16.5m)	43' (13.1m)	36' (11.0m)	31' (9.5m)	27' (8.2m)	24' (7.3m)	22' (6.7m)	19' (5.8m)	16' (4.9m)
14 AWG	345' (105.2m)	174' (53.0m)	115' (35.1m)	86' (26.2m)	69' (21.0m)	57' (17.4m)	49' (14.9m)	43' (13.1m)	39' (11.9m)	36' (10.1m)	30' (9.1m)	27' (8.2m)
12 AWG	539' (164.3m)	272' (82.9m)	181' (55.2m)	135' (41.2m)	108' (32.9m)	90' (27.5m)	77' (23.5m)	68' (20.7m)	62' (18.9m)	56' (17.1m)	49' (14.9m)	44' (13.4m)
10 AWG	784' (239.0m)	397' (121.0m)	263' (80.2m)	197' (60.1m)	158' (48.2m)	131' (39.9m)	112' (34.1m)	98' (29.9m)	95' (28.9m)	82' (25.0m)	77' (23.5m)	71' (21.6m)

LED Current Draw: 3.5W per foot
Example: The power supply is 25' from the LED strip. What is the total wattage for each LED, and what wire gauge would eliminate voltage drop?

Step 1: Calculate Total Load
- Multiply the length of the strip by the LED Current Draw.
- In this case, multiply 25' by 3.5W, yielding a Total Load of 87.5W.
- Round to the nearest Load Interval, which would be 90W.
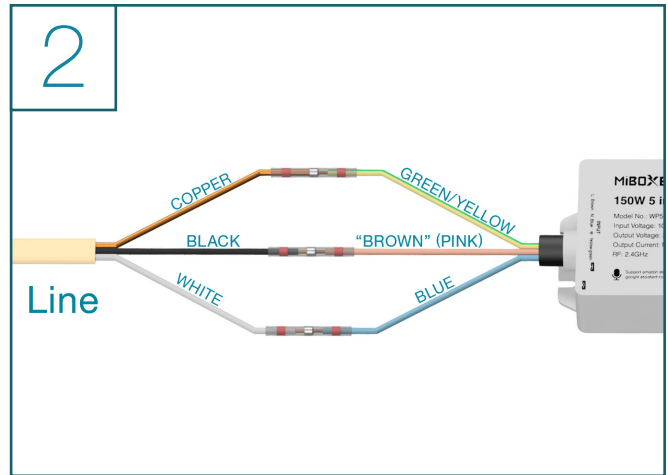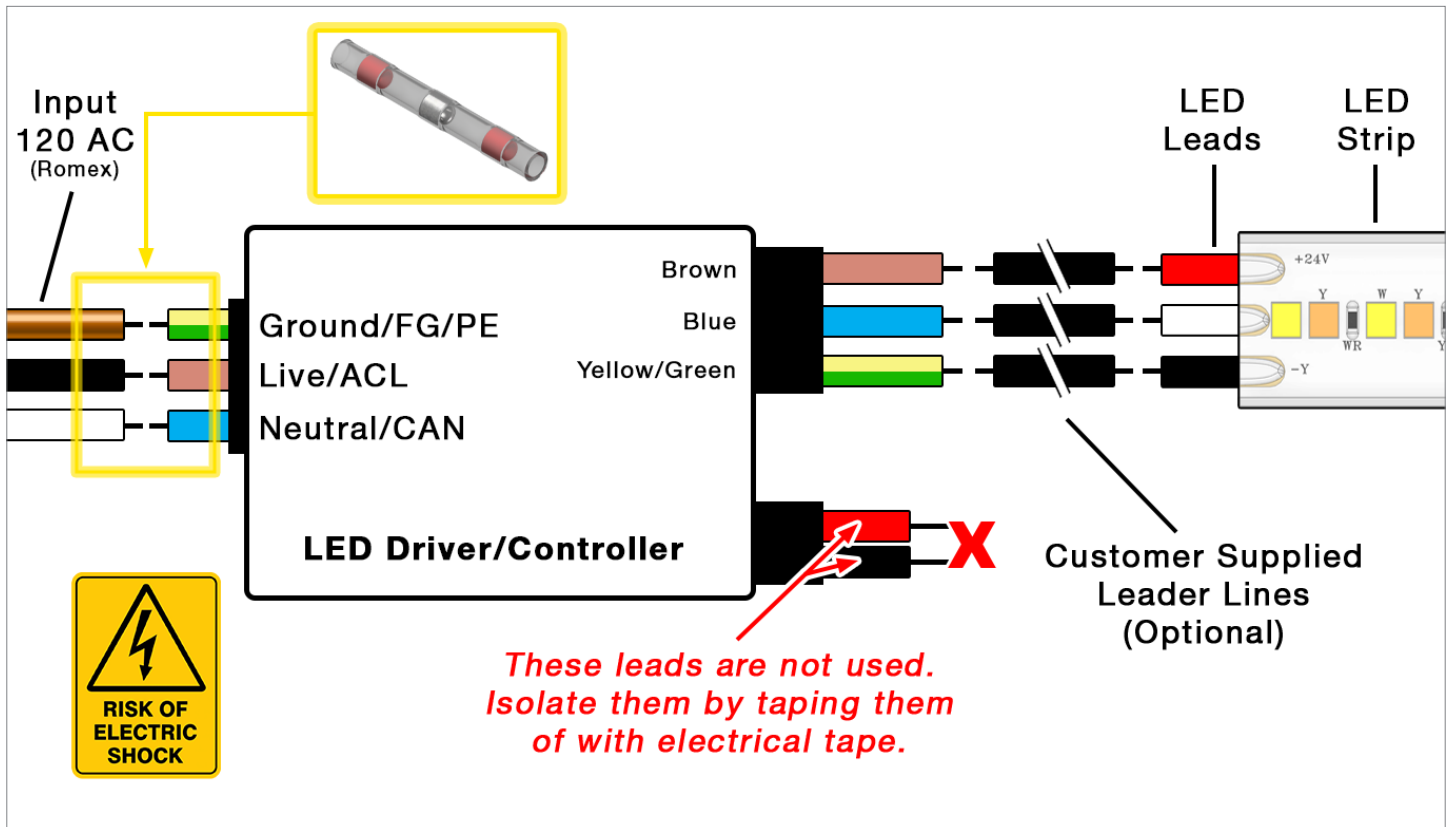
Step 2: Consult Wire Gauge Chart
- Under 90W column, please locate the appropriate distance.
- Since our measurement of 25' is in between the two options of 24' & 39', round up to 39'.
- *Never round down!*

Step 3: Choose Wire Gauge
- Given the previous conditions, it would be recommended to run 14 AWG to eliminate voltage drop.
- Consult a licensed professional for further installation assistance.

System Wiring Diagram

Input 120 AC (Romex)

Ground/FG/PE
Live/ACL
Neutral/CAN

LED Driver/Controller

Brown
Blue
Yellow/Green

LED Leads

LED Strip

+24V

−Y

RISK OF ELECTRIC SHOCK

These leads are not used. Isolate them by taping them of with electrical tape.

Customer Supplied Leader Lines (Optional)

1

OFF

RISK OF ELECTRIC SHOCK

- Before commencing any installation or maintenance work, disconnect power at the breaker box and ensure that it cannot be re-connected inadvertently

⚠ **A licensed Electrician is required for the following step. Incorrectly connecting the system to power may result in; damage to the components, electric shock, fire or death.**

2

COPPER
GREEN/YELLOW
BLACK
"BROWN" (PINK)
WHITE
BLUE

MiBOXE
150W 5 i

Line

	Line		Power Supply
Ground/FG/PE	Copper	to	Green/Yellow
Live/ACL	Black	to	"Brown" (Pink)
Neutral/CAN	White	to	Blue

Quick Slide Handrail - LED - Testing & Wall Remote Setup

1 — LED Testing

RISK OF ELECTRIC SHOCK
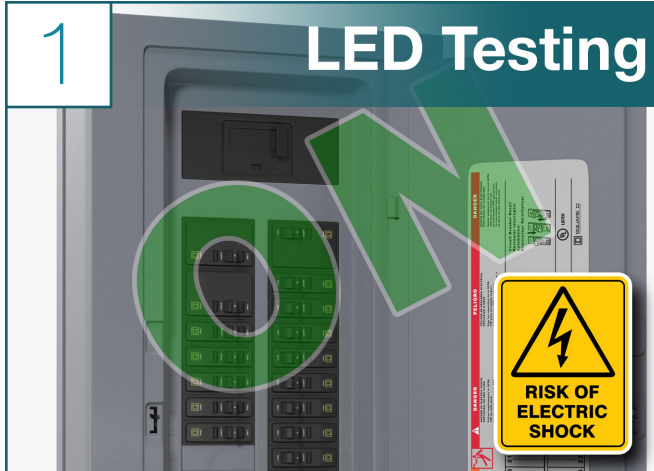
- At this point, check to make sure your new connections are isolated from any source of grounding, and turn the power back on

2 — LED Testing

2. Press 3x

1. Power Cycle
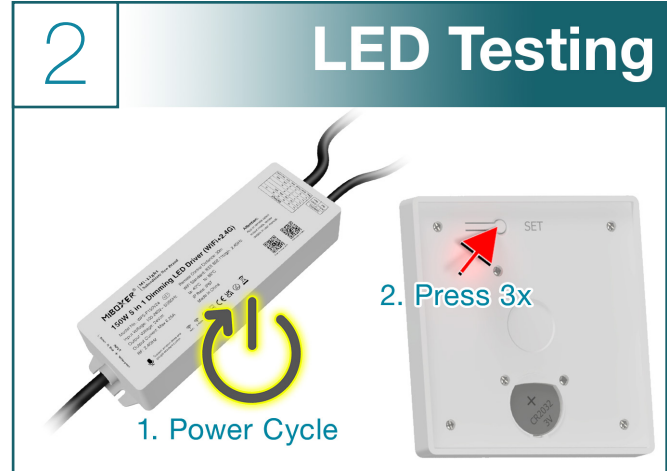
- It will be necessary to program the Wall Mounted Remotes in order to test the system
- Install the provided 2032 button cell battery into the back of the remote
- With the power connected to the LED Driver/Controller, disconnect power and reconnect it after 10 seconds
- With in 30 seconds, press SET button on one of the Wall Mounted Remotes, 3 times
- Repeat the process for adding additional remotes

3 — LED Testing

MIBOXER®
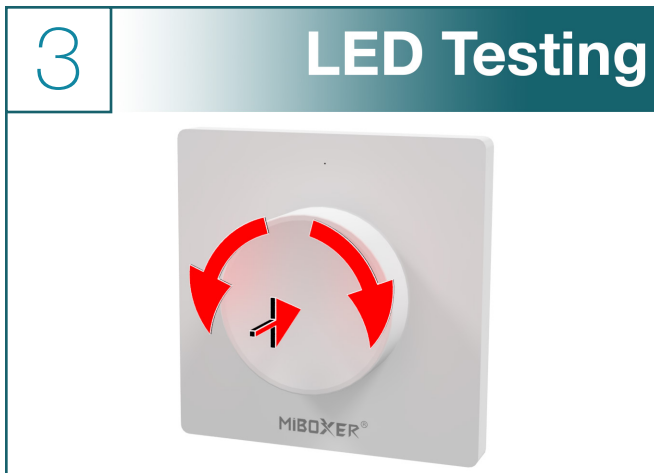
- Operate the remotes to test functionality of the system
- Press the dial to turn the lights on and off
- Turn the dial clockwise to increase brightness and counterclockwise to make it dimmer
- With the lights on, press and hold the dial for 3 seconds to switch to color temperature adjustment mode
- In this mode, turn the dial to adjust the temperature of the light

4 — Mounting Wall Remote
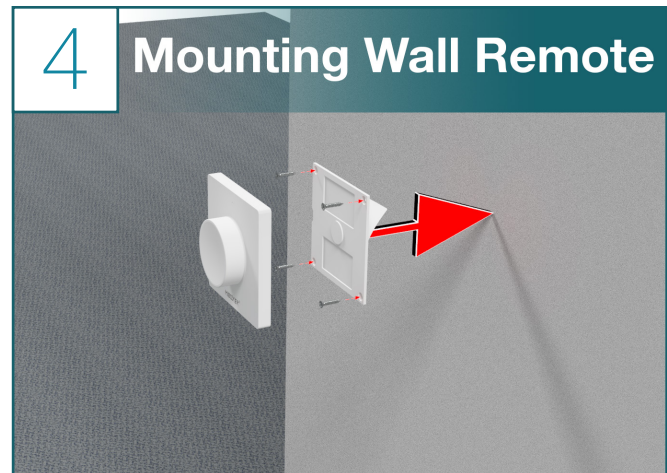
- Peel off the backing from the wall plate and press firmly to the wall
- Optional: Use 4 small mounting screws (not provided) to secure the 4 corners of the backplate to the wall
- You can use a level to ensure that it goes on plumb
- Once the back plate is adhered to the wall, clip on the from plate

Mobile Smart App Set Up for Viewrail LED Lighting

1 — Mobile App Setup
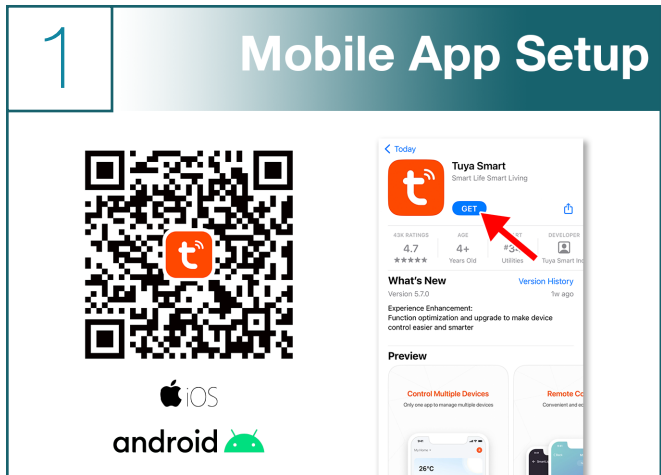
- Search for the **Tuya Smart** app in the Apple App Store or in the Google Play Store, or use the QR Code above for a direct link

2 — Mobile App Setup
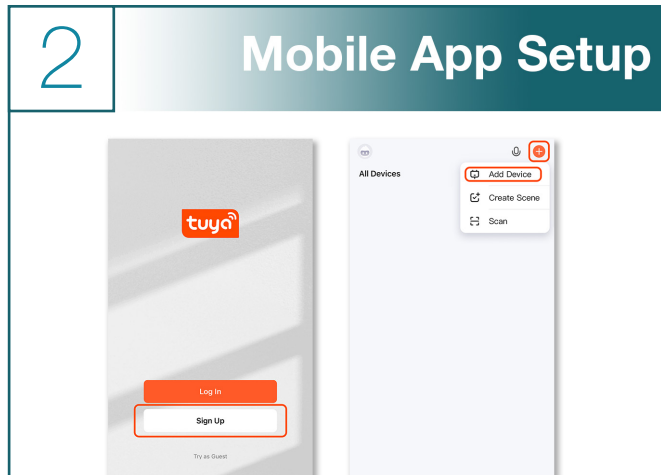
- Open the App and create a free account
- Once your account has been created, press the "**+**" button
- Select "**Add Device**"
- In the next screen select "Lighting" on the left side of the screen then "Light Source (BLE+Wi-Fi)"

3 — Mobile App Setup
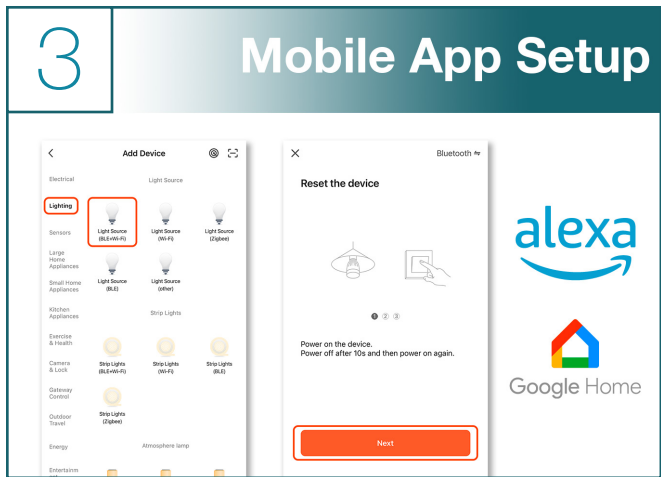
- Follow the in-app instructions to complete the setup and configuration
- Search for the Tuya skill on Amazon Alexa or Google Home for additional smart home automation control

4 — Mobile App Setup

*If Applicable
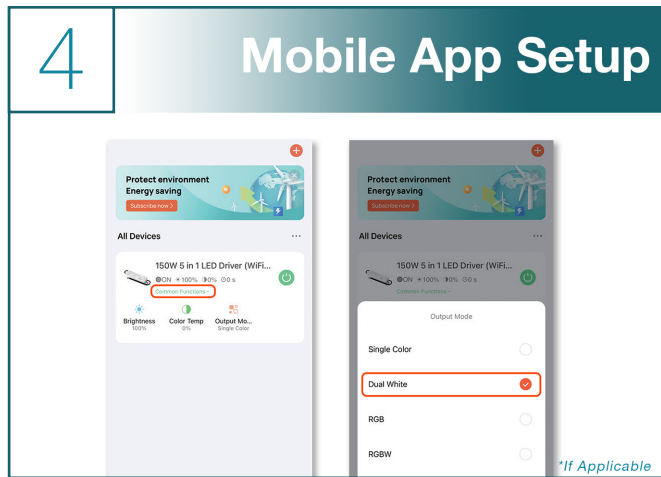
- The LED Driver/Controller may be able to control a verity of different types of LED lights
- It is a good idea to verify that the LED Driver/Controller is set up to control the dual white LED's that come with your system
- To do this, under All Devices find the 15W 5 in LED device and click on Common Functions
- In the popup window select Dual White

Congratulations! You're done with this section.

We'd love to see your work! Snap a few pics with your phone and send them to pictures@viewrail.com. Thanks for choosing Viewrail. Enjoy your new installation!

Quick Slide Handrail - LED - Finishing Up

1
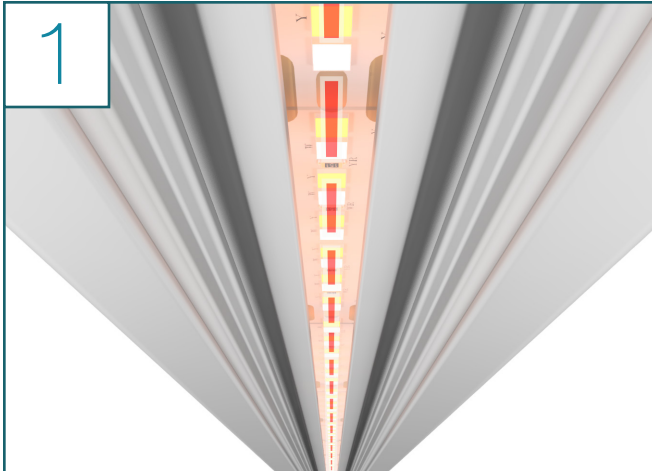
- Before continuing, and with the LEDs turned on, ensure the alignment of the LED strip in the channel is centered
- This is important to ensuring uniformed lighting below the handrail

2

UNIVERSAL TOP

FLAT TOP
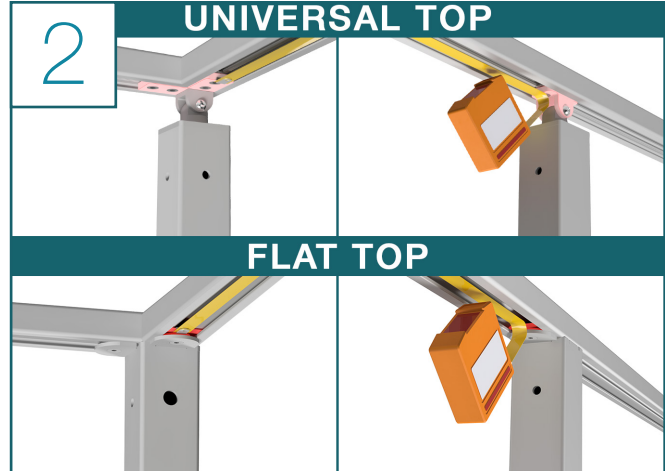
- Measure the length needed for each section of the Quick Slide Channel Covers - These covers will snap into the under side of the Quick Slide handrail and leave a smooth stylish look

Universal Top
- Looking under the handrail, locate the brackets and measure the distance between them

Flat Top
- Looking under the handrail, locate the plate nuts and measure the distance between them
- Write these measurements down as there may be some variation depending on post install locations

3
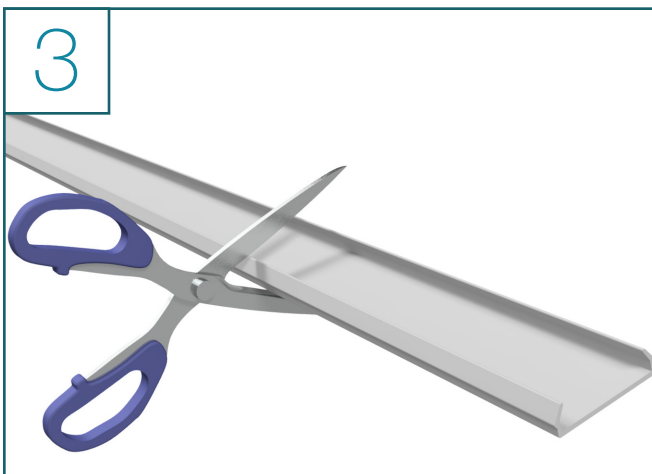
- Locate the Quick Slide Channel Covers
- Measure and mark where you will make your cuts
- Using a pair of scissors, cut the covers to size

4
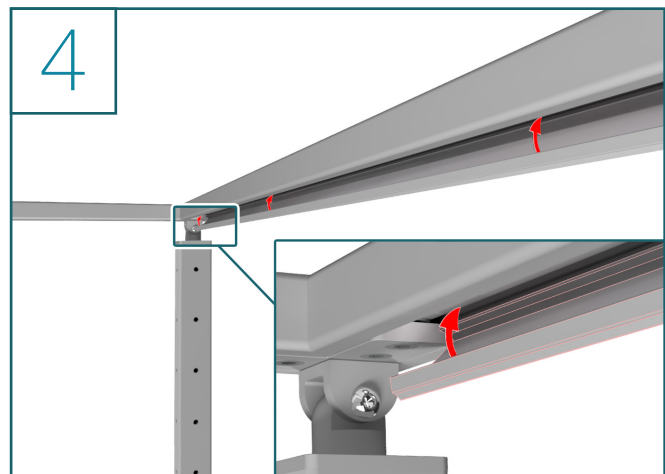
- Clip the cover into space under the handrail as shown

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Warning:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS:

1. Turn off/unplug before mounting or interconnecting fixtures.

2. Do not look directly into LEDs when lit.

3. Do not operate fixture(s) with missing or damaged parts.

4. Do not install fixture(s) in any unventilated compartment.

5. Use only UL/RU/ETL Listed Class 2 power supplies, shown below.

6. Use only NSL joiner or extension cords to join fixtures to Class 2 LED Driver and to interconnect fixtures.

7. Properly dispose of all small parts and packing material. Small parts and packing material may be hazardous to children.

8. Do not use Mini USB power cords or extension cords for any other product.

9. Install in accordance with manufacturer's instructions, current local codes, and/or the current National Electric Code.

10. Your system is specifically design with the appropriate power supply for the amount of LEDs installed. Adding additional LEDs may result in premature failure of the LED system.

11. Do not install products outside or near any water source.

12. Before installing, ensure that product voltage corresponds to local power voltage.

13. Do not use this product for any other purpose than as described.

14. Do not use this product with unauthorized accessories or parts from other manufacturers.

15. LED lighting is not intended to replace any emergency egress lighting.

16. Do not try to adjust, fix, rewire, LED stair fixtures.

In the unlikely event fixture does not illuminate, check wiring first. If this does not work,
send LED back for warranty replacement, if applicable.

These products may represent a possible shock or fire hazard if improperly installed or attached in any way.

Products should be installed in accordance with the owner's manual, current local codes, and/or the current

National Electrical Code (NEC). Products must be installed and wired by a licensed electrician.

**FAILURE TO ADHERE TO THESE WARNINGS AND INSTRUCTIONS CAN RESULT IN FIRE,
SERIOUS INJURY, ELECTRICAL SHOCK, AND/OR DEATH.**

Troubleshooting:

Tools Required:

- Auto Detecting Multi-Meter
- Voltage Detecting Pen
- Small Flat Head Screwdriver

Issue: All LEDs Not Turning On

A. **Check and replace battery in Remote**

B. **Check to make sure 120v is on and connected to the power supply with voltage detecting pen**

- ▫ Breaker could be flipped or light switch could be turned off
- ▫ Check wire connections
- ▫ If power is good move to **Step C**
- ▫ If no 120V power is present call a certified electrician

C. **Check that the low voltage power supply has 24VDC power supplying the driver with multi-meter**

- ▫ Check wire connections
- ▫ 24VDC can vary between 24-25.5VDC
- ▫ If 24VDC is good move to Step D
- ▫ If no 24VDC power is present replace the low voltage power supply
- ▫ Check that the driver has 24VDC to the LED strips when turned on
- ▫ Make sure the driver is at full brightness and tuned to 1 specific color temperature
   (Dimming and tuning can lower the voltage below 24VDC)
- ▫ Check wire connections
- ▫ Reprogram the remote to the driver
- ▫ If driver is working correctly move to **Step D**
- ▫ If driver is not putting out 24VDC replace driver

D. **Check LEDs**

- ▫ Make sure all LEDs are wired correctly.
- ▫ There are 3 versions of LEDs so make sure the wiring is correct for the specific version of LEDs you are using
- ▫ To verify the version, remove an LED tread bracket - the wiring attached to the LED (not the wire in the stringer) should be black *(24VDC+)*, yellow *(24VDC- warm white)* and white *(24VDC- cool white)* **or** red *(24VDC+)*, green *(24VDC- warm white)* and blue *(24VDC- cool white)*
- ▫ If LED is routing directly in the tread follow the red, green, blue style
- ▫ Some treads may only have 1 color temperature and only 2 wires would be connected rather than the 3

Issue: Remote not working

A. **Check and replace battery in Remote**

B. **Try remote closer to the driver**

C. **Reprogram remote**

D. **Replace remote**

Issue: Not All LEDs are working

A. **Verify the wiring connections of the LEDs**

B. **Test non-working strip with a known working connection**

- ▫ If the LED strip tests good when connected to a known working harness, then the original wiring is bad and will need to be replaced
- ▫ If the LED strip does not work on a known working harness, then the LED strip is bad and will need to be replaced