

SAVE THESE INSTRUCTIONS!

READ CAREFULLY AND FOLLOW ALL INSTRUCTIONS FOR YOUR OWN SAFETY

- **DISCONNECT AC POWER SUPPLY BEFORE SERVICING.**
- BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, PERSONAL INJURY AND PRODUCT DAMAGE.
- Installation and servicing of this equipment should be performed by qualified service personnel only.
- Ensure the electricity connections conform to the National Electrical Code and local regulations if applicable.
- Do not mount near gas or electrical heaters.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition. Any modification or use of non-original components will void the warranty and product liability.
- Do not use this equipment for other than intended use.

The specialtyLED Flexible Border Tube Color Jacket is a unique product made up of Light Emitting Diodes (LED) consecutively connected in a flexible PVC housing. Due to the nature of the product special care is required during the installation process to protect the internal wiring.

INSTALLATION INSTRUCTIONS

SAFETY PRECAUTIONS:

- All connector joints must be installed correctly to achieve IP68 rating.
- Do not over extend the minimum concave bend radius of 4.724 inches. When installing in the mounting channels or mounting clips it is easy to bend the product back and exceed 4.724 inches without noticing.
- Do not cover the product unless done so with extreme caution and attention to ventilation.
- Do not apply power when tightly coiled. Maintain half inch spacing between parts.
- Do not puncture, cut, shorten or splice outside of the designated cutting marks.
- Do not route through walls, doors, windows or building structures.
- Do not mount inside cabinets, tanks or enclosures unless properly ventilated.
- Do not unroll on a rough surface or over sharp corners. This will scratch the PVC optics.
- When unrolling or installing do not twist, pull or kink the product.
- Do not operate if outer jacket is damaged or there are loose connections. Inspect periodically for damage.
- Do not secure with staples, nails or like means that can damage the insulated PVC housing.
- Do not install in locations where it is subject to continuous flexing.
- Do not operate in temperatures exceeding 113°F (45°C).
- Ground Fault Circuit Interrupter (GFCI) protection should be provided on all circuits when used for outside applications.
- Do not operate on circuits that do not have proper surge suppression protection. High voltage spikes will damage the LEDs.
- Do not operate over specified voltage, LED life degradation will be greatly increased.

General Material/Tool Requirements:

Material needed for installation:

- FBTCJ-24V - Flexible Border Tube
- FBTCJ-FC- Front Connector Cable Assembly
- FBTCJ-EC - End Cap
- FBTCJ-GR - Installation tool

- 24VDC Transformers
- Handheld PVC cutter
- Measuring tape
- Pliers

1. Measure the installation location to determine product length. Due to internal circuitry, colors of the FBTCJ have different cutting increments as listed below:

- **Red - 5" cutting increments**
- **Green and Blue - 3" cutting increments**
- **All Whites - 3" cutting increments**

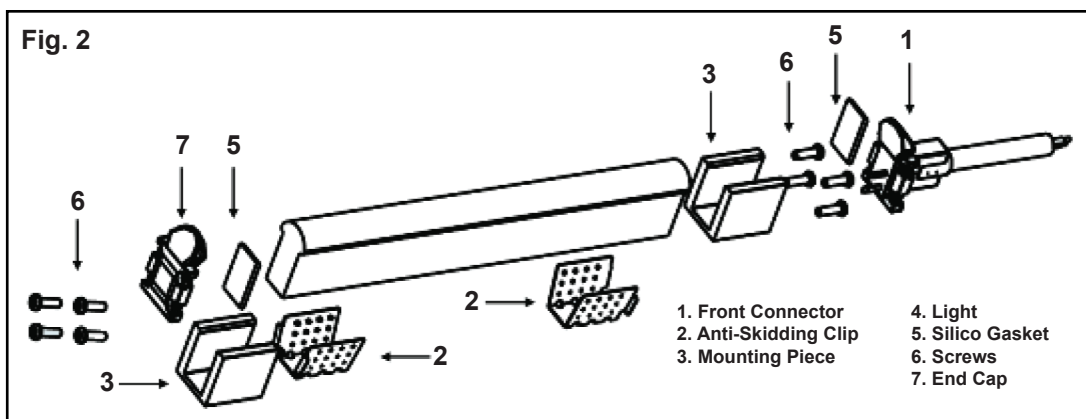
2. Measure the FBTCJ to match required installation length. Locate the closest cutting mark on the side. This is designated by vertical dashed lines. (Fig. 1)



3. Using a hand-held PVC cutter, make an even cut through product exactly on the dashed line. If cut off the dashed line the product can be damaged.

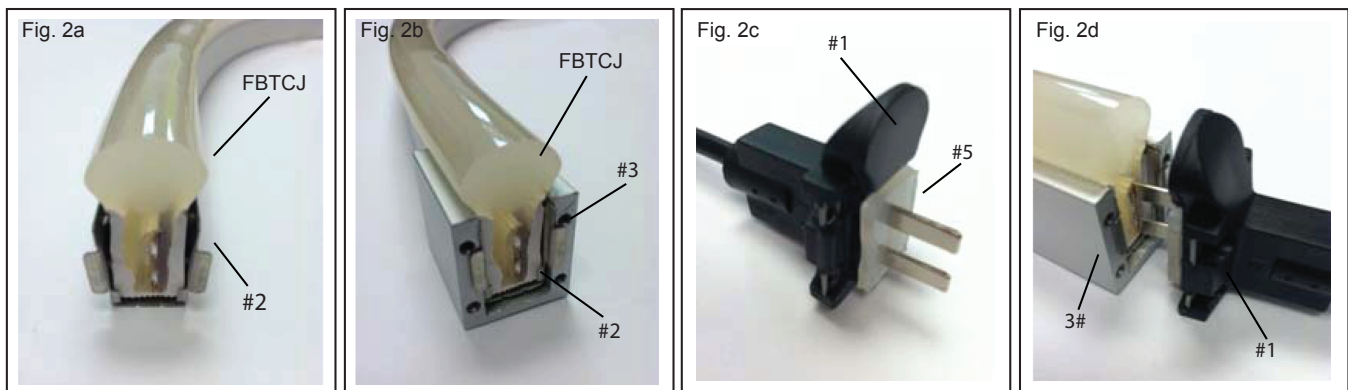
NOTE: It is imperative to use a sharp cutting blade to make a straight cut. Sharp blades will help you avoid pulling the internal circuitry while making the cut. Stretching or pulling the product can result in damage.

4. Install power connector to the end of the FBTCJ-FC-24V. Be sure to notice the orientation of product and the power connector. The product has a right and left side. The FBTCJ-FC-24V power connector also has a Right and Left orientation. To determine look at the cut end of the product and the orientation of the internal circuits; to the right of center will dictate right power connector will be used, to the left of center will dictate left power connector will be used.



The above detail indicates all the parts needed for a complete assembly

- a. Verify if connector required is left or right.
- b. Using pliers attach the #2 anti skidding clip to the end of the product. Aligning the end of the product with the end fins of the clip, squeeze clip until it is firmly attached. (Fig. 2a)
- c. Slide the mounting clip over the anti-skidding clip so that the screw holes are to the outside of the product and the end is flush with the anti-skidding clip fins. (Fig. 2b)
- d. Slide #5 silicon gasket on the #1 front connector. (Fig. 2c)
- e. Insert the #1 front connector into the jacket so the connector prongs are between the copper sheeting and the side of the product. (Fig. 2d)
- f. Slide the connector all the way in so the silicone gasket is pressed up against the product and the screw holes are aligned with mounting plate.
- g. Insert the screws in #1 front connector holes; tighten all four screws firmly to product.



5. Install end cap

- a. Repeat steps 4b and 4c for the installation of the end cap.
- b. Place #5 silicon gasket against the end of the product.
- c. Place #7 end cap against the product so that the screw holes are aligned with the mounting piece.
- d. Insert the screws in the #7 end cap holes; tighten all four screws firmly to product.

6. Do not energize until your front connector and your end cap have been installed completely.

7. All transformers are IP67 rated / Class 2 power supplies. Install the transformer within 10' of the FBTCJ. Connect the transformer to the wire leads of the FBTCJ-FC-24V Power Connector in accordance with current electrical codes and the current National Electric Code (NEC)

XFMR-24-35	35 Watt	14' Red	8.75' Green or Blue	7.56' White
XFMR-24-60	60 Watt	24' Red	15' Green or Blue	12.9' White
XFMR-24-150	150 Watt	60' Red	37' Green or Blue	32' White

NOTE: Be aware prior to cutting any FBTCJ-24V; due to 24V voltage drop, the longest length to be powered with one transformer is 40' maximum. For a continuous 80' run, install a transformer at each end of the product. It is necessary to consider this to determine the locations and quantity of 24V transformers. Factory recommends locating the 24V transformers within 10' of the product to avoid voltage drop. All factory designed installations are done with an 80% usage of all the transformers.

MOUNTING

1. Suggested installation of FBTCJ-MC mounting clips is one every 8" for a straight run and as needed for a design. Remember to never leave sections of the FBTCJ unsecured.
2. The FBTCJ-LCH Linear Channel is designed for end-to-end installation in a continuous line.
3. Both the FBTCJ-MC and the FBTCJ-LCH can be mounted with counter sink screws (Hardware field supplied). Verify screws are completely tightened or they may cause the FBTCJ to bunch up during insertion.
4. Starting at the power feed end, gently start inserting the FBTCJ into the mounting. Do not twist, pull or kink the product during installation.
5. Make sure the molded power connector is aligned with the orientation of the product. Do not pull or bend the power cord in any direction.
6. After the product has been installed, energize for testing.

TROUBLE SHOOTING

Product will not light

- Verify that there is power to the receptacle feeding the product.
- Check the GFCI and see if it is tripped.
- Double check that the FBTCJ-FC power connector was installed into the product correctly.
- Check the transformer and ensure it has power.

Product does not light for the first 3"- 4"

- Product was cut incorrectly. It will be necessary to re-cut the product at the correct designated location and reassembled.

Product has a dark section in the run.

- During installation, product was pulled, twisted, kinked and the interior circuitry was damaged. Either new product will need to be cut, or the damaged section can be cut out and splice in a new section.