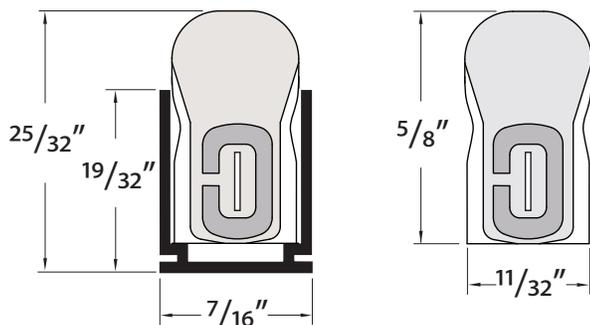


### Profiles:



Tivoli's Mini Flex Direct™ is an indoor/outdoor low voltage lighting system used primarily for direct or indirect lighting designs.

**Please verify the contents of the packages!**

**Please read instructions entirely before starting installation**

**Be sure power is turned off before installing the system**

**Call Tivoli, LLC tech support with questions**

**Caution:** Mini Flex Direct™ is designed to work with listed Class 2 24V DC transformers only. Use of any other power source will cause damage, shorten the life of the fixture and will void the warranty.

**Consult** any and all applicable local and national codes for installation.

**Do not** conceal or extend exposed conductors through a building wall as per local electrical code.

**Warning:** With any luminaire for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injuries. This lighting system should be installed by a certified professional.

## Installation Instructions



**Warning:** Mini Flex Direct™ is normally shipped pre-assembled to customer specified lengths with power feed lead wire attached. Cutting Flex Direct in the field will void the warranty.

**Step 1:** Measure run area where Flex Direct™ is to be installed. Locate power feed connector end at the highest point of run to minimize exposure to water run off.

**Step 2:** All outdoor applications require a mounting channel. Lay channel along desired area and apply screws (not included) every 9 to 12 inches. If the design requires creating bends and arcs, it is recommended that the horizontal notched or vertical notched channels are used (mounting clips are for use on indoor signage applications only).

**Vertical Mounting:** when mounting Flex Direct™ vertically, it is important to start installation from the bottom and press fit into channel going up. Mounting Flex Direct™ from the top down will damage the product and void the warranty.

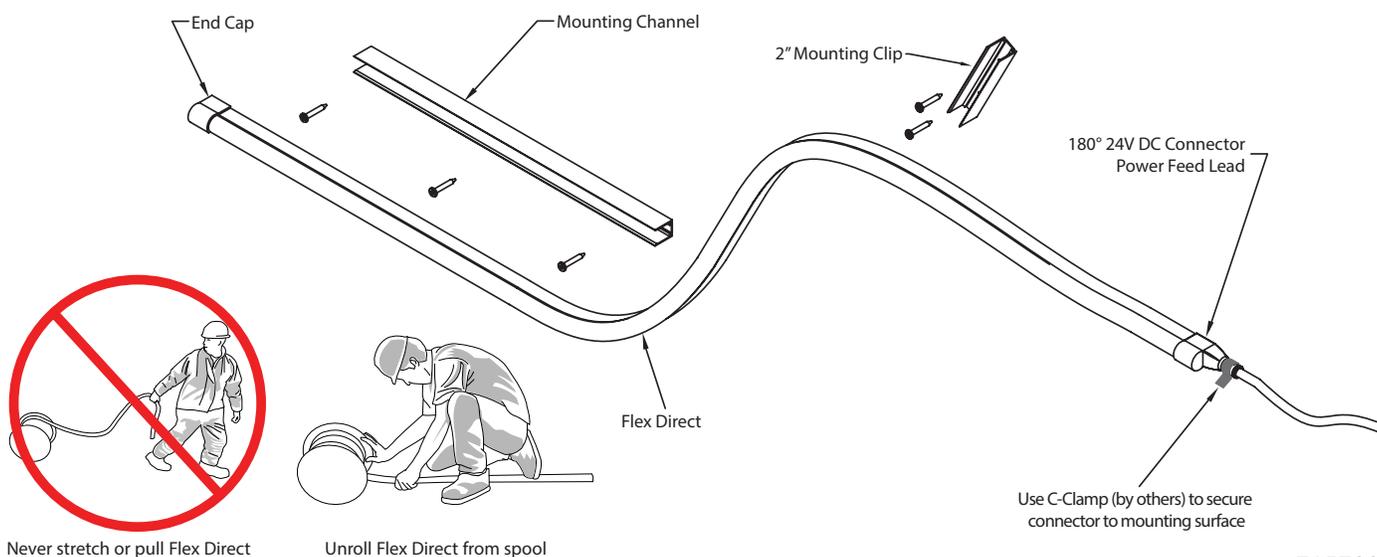
**Step 3:** Lay Flex Direct™ out along clean work area. Gently unroll FlexDirect™. **Warning:** Do not stretch or pull, doing so can damage Flex Direct™ internal connections and void warranty.

**Step 4:** Insert Flex Direct™ into mounted channel starting from power connector end. End Cap and Power Feed Connector do not fit within channel. Cut aluminum channel so that sides can be spread around connectors and End Caps. Squeeze lightly with Channel Lock Pliers. Flex Direct™ should be press fit into channel with a compressing motion.

**Note:** For all Flex Direct™ installations it is required to use RTV Adhesive (supplied by Tivoli) outdoor grade adhesive to adhere the Flex Direct™ into the channel along the entire length of the product run to prevent gradual stretching from gravity. (RTV Adhesive should be used at 10 oz per 15 ft.)

**Step 5:** Secure power connection to building with use of C-clamp (by others) or mount connection inside J-Box.

Connect to 24V DC power supply according to supplied wiring diagrams.



Never stretch or pull Flex Direct

Unroll Flex Direct from spool

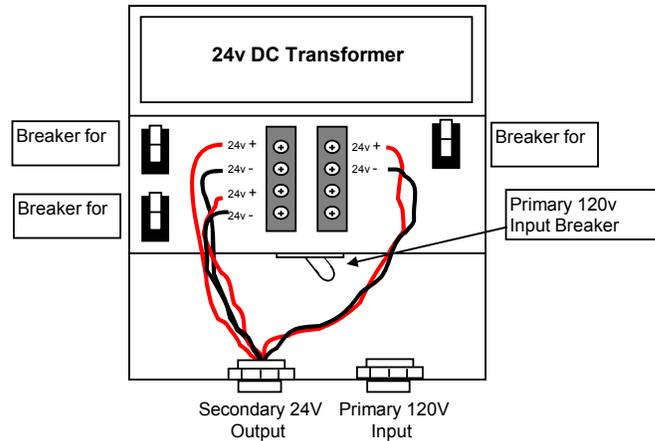
Use C-Clamp (by others) to secure connector to mounting surface

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## Wiring Size

In order for low voltage circuits to operate properly, care must be taken in sizing the wire from the transformer to the Mini Flex Direct™ product.

Tivoli recommends locating the transformer as close to the Mini Flex Direct™ as possible. Use 12 gauge wire and keep the transformer within 100' linear wire length of the fixture.



## Troubleshooting

### Whole run failure

Whole-run failures are typically caused by loss of power to the Mini Flex Direct™ Product run. These failures have 3 basic causes;

- 1) No power to transformer or bad transformer
- 2) No power from circuit breaker or tripped breaker
- 3) no power from the connection feed

### No Power To Transformer Tests

- 1) Confirm that transformer has power and that breaker is set to "On".
- 2) Determine if there is power to the transformer by turning primary breaker inside "On" and "Off" to see if there are any product runs that are working off of this transformer.

If the transformer is receiving power and all breakers are in the "On" position and there is no output power of 24V DC then the transformer needs to be replaced.

### No Power From Circuit Breaker Tests

If the transformer has been confirmed to be working and only a single circuit of Mini Flex Direct™ is off,

- 1) Confirm that all of the secondary output breakers in the transformer are in the "On" position.
- 2) Determine which circuit the outage is connected to and check to be sure that all wires are connected firmly and in correct polarity. Then, if all secondary breakers are in the "On" position and all is connected correctly isolate between circuit breaker and product by swapping the failed circuit to another working circuit.

If the problem still exists within that same run or the new breaker trips then the problem is on the product side. If the problem exists now with the new run, then the transformer has a failed breaker and needs to be replaced.

### No Power From Connection Feed Tests

If the transformer and all secondary circuits have been confirmed to be working and the Mini Flex Direct™ run is off or tripping the breaker when connected,

- 1] If the breaker stays in the "On" position then the issue is a loose or bad connection and a mid-wire Jbox or at the Power Feed Connector. Confirm that the power feed connection is secure by wiggling and pressing it together. The connection may need to be replaced.

- 2] If the breaker stays or re-trips to the "Off" position, then the issue is due to a short at either a mid-wire J-Box, the Power Feed Connection, the End Cap, or a damaged area along the Mini Flex Direct™ run.

Examine and confirm that there are no blackened areas along the product run and at any of the connection or end cap areas. Typically, there is a short at the Power Feed connection due to moisture or improper cut through the Mini Flex Direct™ allowing for a small cross-wire short to exist. Replace connections or damaged areas as needed.