▸▸▸ Basic Specifications to Install Tresco® 12V Lights

With a PLUG-IN Power Supply

To control <u>each</u> light individually, use Option 1.

To control <u>all</u> lights at the same time, use Option 2.

Note: Before making final connections, make sure to add up all the wattage of the lights used. Do not exceed the wattage rating of the Power Supply and each Controller.

Note: 12VDC plug-in Power Supplies are dimmable on the 12VDC side only.

LEGEND:

A. Power Supply

Select either a 12W, 18W or 60W Power Supply.

For example: an 18W Power Supply can power up to (18) 1W Lights or (6) 3W Lights.

B. Mounting Block

(1) Mounting Block is included with each 12W, 18W or 60W Power Supply.

Up to (6) Controllers and/or Lights can plug into (1) Mounting Block.

C. Controllers

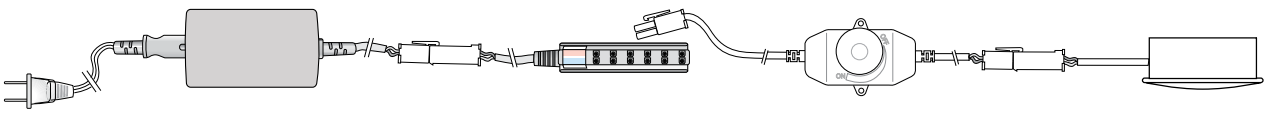
Select from six different types of Tresco Controllers.

1. Remote Control Dimmers
2. Manual Rotary Dimmer
3. Motion Sensor Controls
4. Photo/Light Sensor Control
5. Touch Dimmer Controls
6. Door Sensor

D. Tresco Lights

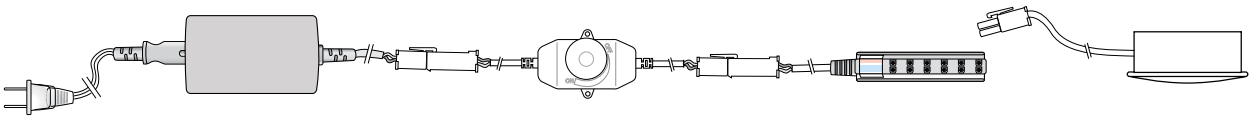
12VDC LED Lights

Option 1: Up to six Controllers plugged into (1) Mounting Block



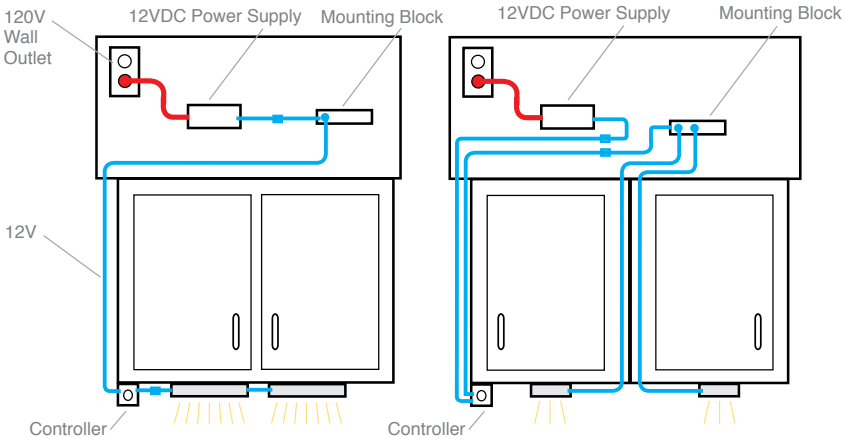
A. Power Supply **B. Mounting Block** **C. Controllers** **D. Tresco Lights**

Option 2: One Controller plugged in before the Mounting Block

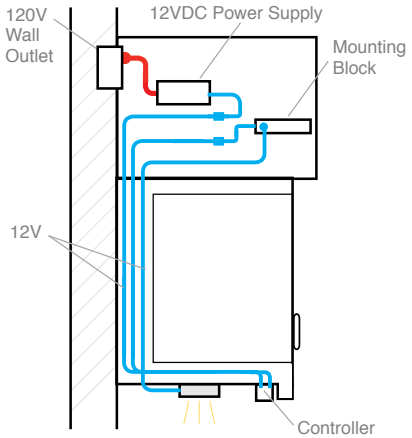


A. Power Supply **C. Controller** **B. Mounting Block** **D. Tresco Lights**

Typical Installation Showing One Controller for All Lights (Linear vs. Puck)



Side view (Puck Light Install)



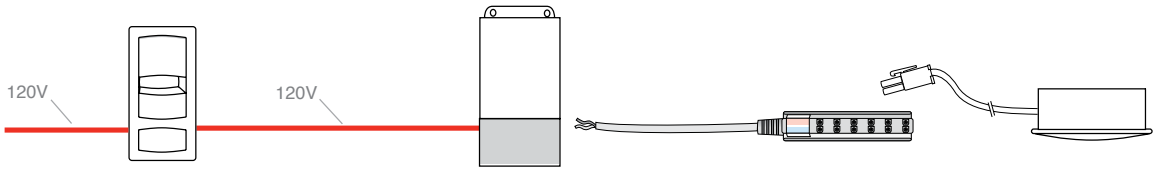
▶▶▶ Basic Specifications to Install Tresco® 12V Lights

With a HARDWIRE Power Supply

To turn all lights on/off at the same time, use a Wall Switch.

To control (dim) all lights at the same time, use a Wall Dimmer.

Note: Before making final connections, make sure to add up all the wattage of the lights used. Do not exceed the wattage rating of the Power Supply.



A.
Wall Switch or LED Wall Dimmer

If using Wall Switch, the Power Supply requires a 50% load. If using Dimmer, the Power Supply requires no minimum load.
LED Wall Dimmer 150W maximum capacity.

B.
Dimmable Hardwire Power Supply (60W Max.)

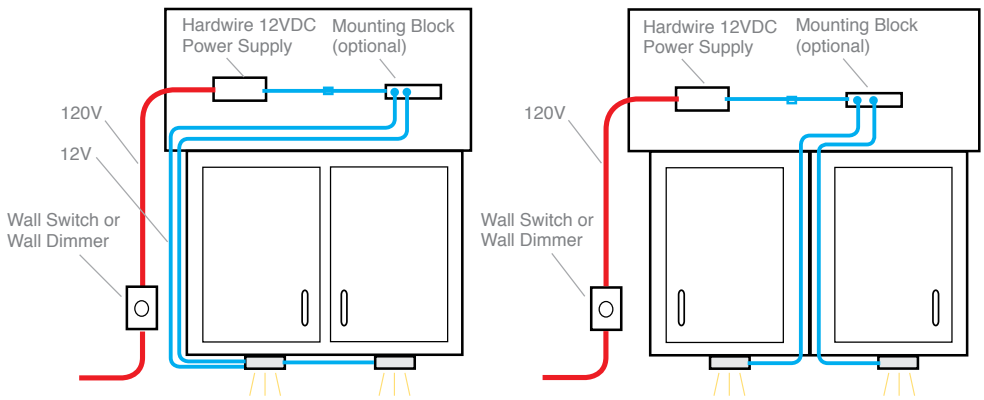
Dimmable by standard LED Wall dimmers.

C.
Mounting Block
(optional)

D.
Tresco Lights

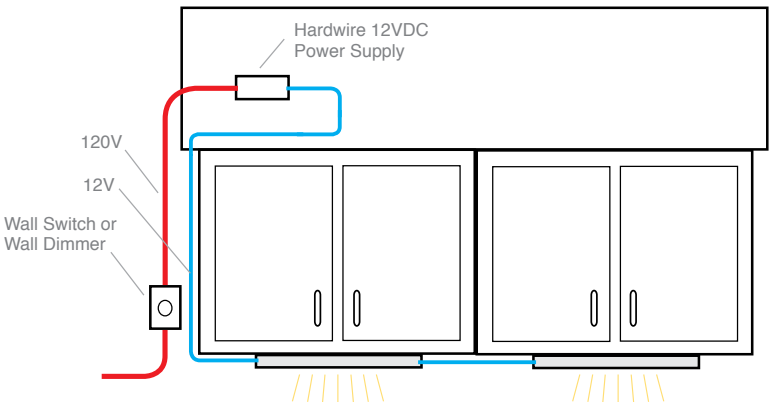
Caution: DO NOT dim a receptacle. This is a potential hazard and can cause lights to flicker as well as damage power supply.

Typical Hardwire Installation for 12V Pockit® Lights

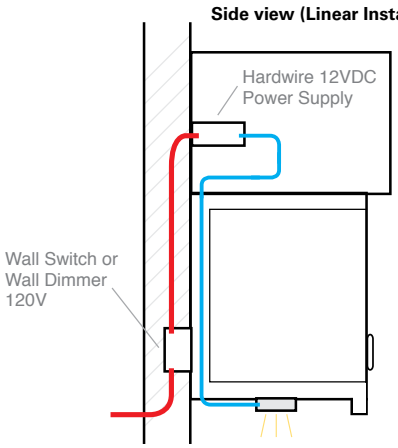


LEGEND:
Red = 120V Wiring
Blue = 12VDC Wiring

Typical Hardwire Installation for 12V Linear Lights



Side view (Linear Install)



How to Wire a Kitchen with Tresco® 12V Lights

for Frameless or Framed Cabinets

- To wire a kitchen with Tresco 12V lights, first roughly lay out lighting system to help verify final positioning of all components. Make sure to add up all the wattage of the lighting system. Do not exceed the wattage rating of the Power Supply. If using a Tresco D.I.Y. Controller, do not exceed the wattage of the Controller.

Wires that are attached to or accompany Tresco lighting systems are not approved for in-wall use. Class 2 wire must be used (purchased separately). Class 2, 16-gauge wire is the minimum for in-wall applications.

For in-wall wiring – typically used for frameless cabinets – use 16-gauge Class 2 wire (minimum) to route wire through kitchen walls *(see 1st illustration below)*.

For outside of wall wiring – typically used for framed cabinets – use wires provided with Tresco lighting fixtures with appropriate link and extension leads (LINKD series) that are available in several lengths.

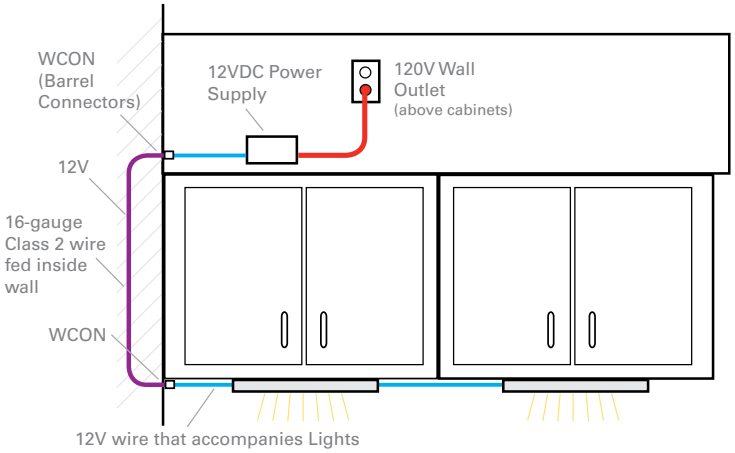
IN-WALL Wiring:

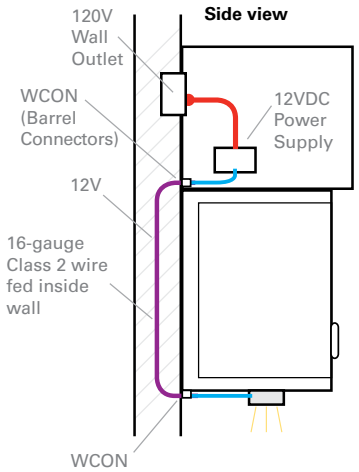
Typical for FRAMELESS Cabinets

(example installation of 12VDC Linear Lights)

Note: *A licensed electrician should be consulted for wiring through walls and other permanent structures. When mounting and wiring a light system, follow all local electric codes and the National Electrical Code (NEC).*

LEGEND:
Red = 120V
Purple = Class 2 Wire
Blue = 12VDC

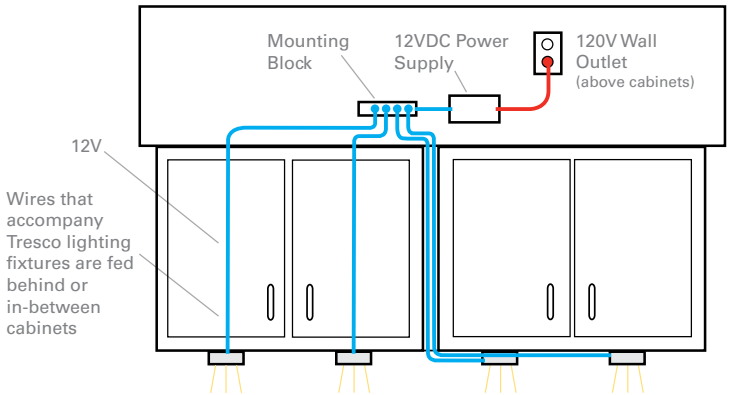


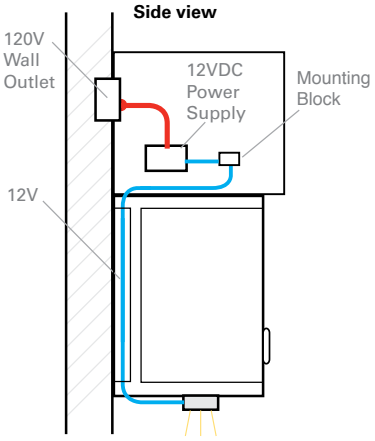


OUTSIDE of Wall Wiring:

Typical for FRAMED Cabinets

(example installation of 12VDC Pockit® Lights)





Length of Wire from Power Supply to Run of Lights

This is a general guide based on a 60 Watt/5 Amp load:

- Recommended maximum length using Class 2, 16-gauge (AWG) wire = 7.6 meters (25 ft.)
- Recommended maximum length using links/extensions that accompany Tresco lights = 4.6 meters (15 ft.)

Use D.I.Y. Connectors with Class 2 Wire

For Making Junction Between In-Wall Wiring & Light Fixture Wire

Note: A licensed electrician should be consulted for wiring through walls and other permanent structures. When mounting and wiring a light system, follow all local electric codes and the National Electrical Code (NEC).

- Wires that are attached to or accompany Tresco lighting systems are not approved for in-wall use. Class 2, 16-gauge wires must be used (purchased separately). Class 2, 16-gauge wire is the minimum for in-wall applications.

Items required for in-wall installation:

• (10) Barrel Connectors	White	L-LED-WCON-WH-1
	Black	L-LED-WCON-BL-1
• Class 2, 16 AWG wire	White, 15.2 m (50 ft.) roll	L-16CL2-WH50-1
	White, 76.2 m (250 ft.) roll	L-16CL2-WH250-1
• Small screwdriver	Black, mini slotted	L-MFSCRWDR-1

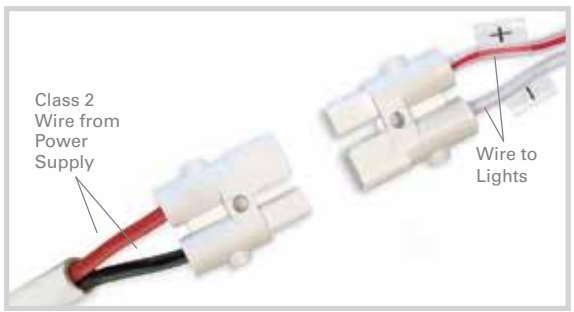
Note: Make sure electrical polarity (positive and negative) is correctly maintained when making junction between Class 2 wire and Light Fixture wire.

(+) Red to (+) Red

(-) Black to (-) Black

Note: Fixture wires are tagged (+) (-) when red- and black-colored wires are not utilized.

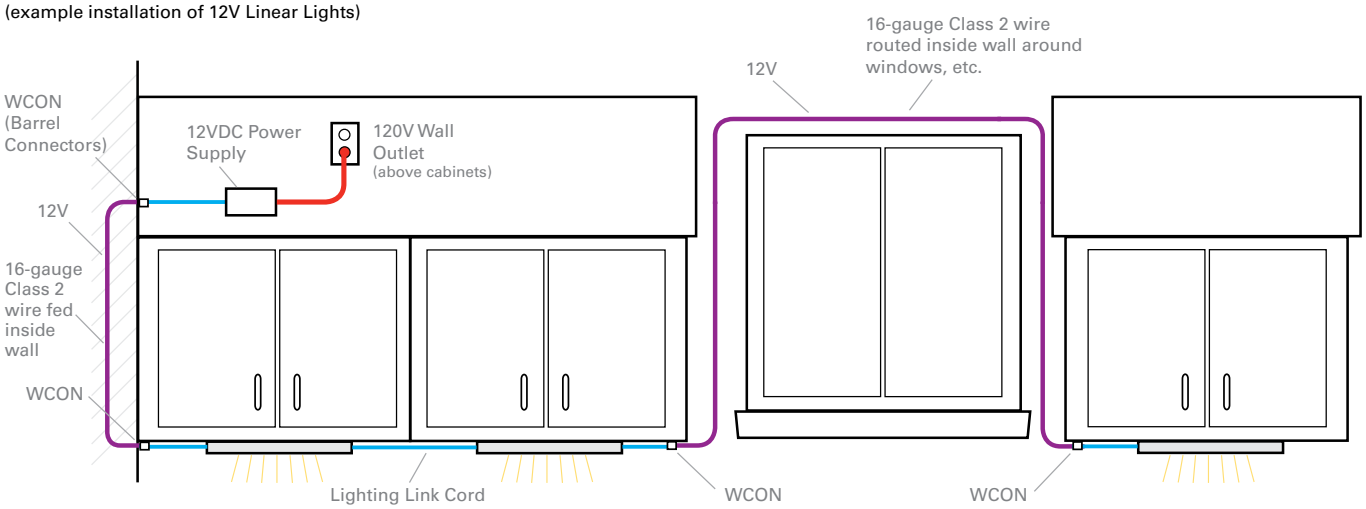
WCON - Barrel Connectors



Class 2 Wire

Typical IN-WALL Wiring with Kitchen Cabinets

(example installation of 12V Linear Lights)



Understanding Voltage Drop

When Installing Tresco® 12V Lighting Pockit® (Puck) Light Series

- **Note:** The information provided for measuring voltage drop is a general guide only based on the length of the run and assuming 50% load (30W). Voltage drop goes down with less load and voltage drop goes up with more load. Other factors may influence voltage drop. All measurements and calculations are approximate.
- **In-wall wiring:** Wires that are attached to or accompany Tresco lighting systems are not approved for in-wall use. Class 2, 16-gauge (AWG) wires must be used (purchased separately).
- All Tresco Power Supplies can be applied to the information provided herein on voltage drop.

Ideally, Voltage Drop variance should be within 5%. Absolute maximum should never exceed 8%.

- Recommended maximum length using links/extensions that accompany Tresco lights = 4.6 meters (15 ft.).
- Recommended maximum length using Class 2, 16-gauge wire = 7.6 meters (25 ft.).

Voltage drop is the amount of electric current lost due to the resistance of the conductors (wires).

On most installations – even larger installations – voltage drop is not an issue, but excessive voltage drop could result in diminished light output. Keeping wire length in mind is a best practice to ensure optimum light performance.

For instance, if specifications recommend that the maximum length from Power Supply to the first Light not exceed 5 meters (16 ft.), **the light will still work if you exceed that length!** Again the loss is gradual, but an excessive length could result in dimmer light.

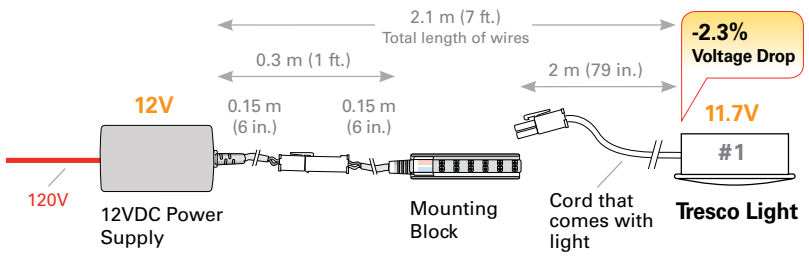
Other factors also influence voltage drop, including the number of connectors, quality of the conductor (aluminum vs. copper wires), and cross-sectional area (gauge).

All Tresco wires and cords provided are specifically for wiring **outside of walls** and have a 4.6 meters (15 ft.) maximum length recommendation.

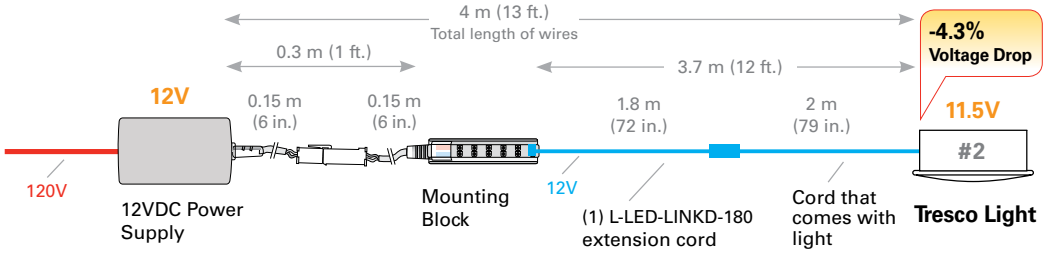
For **in-wall wiring,** stranded Class 2, 16-gauge wires must be used (purchased separately). Also if needed, lower gauge (which means larger wire) helps reduce voltage drop by lowering overall resistance.

12V Pockit® Lights (Puck)

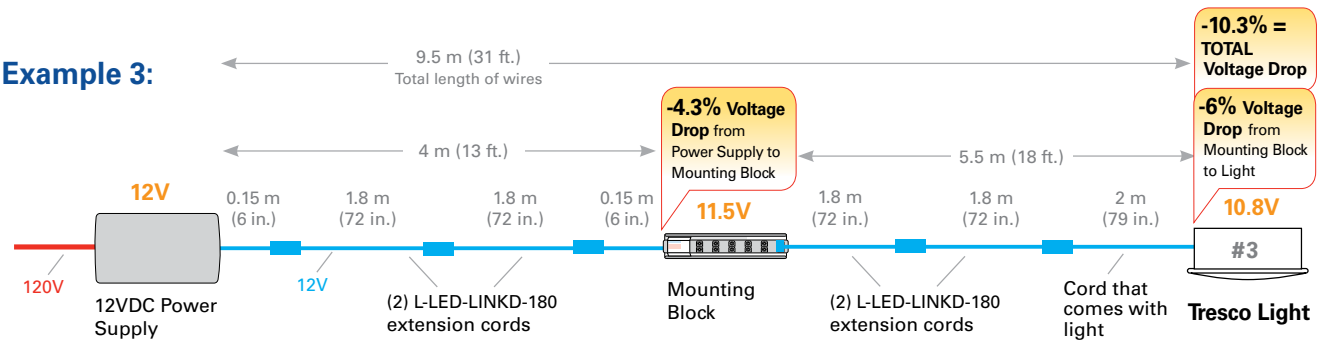
Example 1:



Example 2:



Example 3:



Note: The overall Voltage Drop variance between Light #1 and Light #3 is **8%**, which is noticeable.