

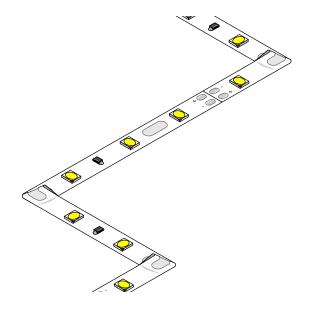








**INSTALLATION GUIDE** 



## **SAFETY & WARNINGS**

- 1.Install in accordance with national and local electrical code regulations.
- 2. This product is intended to be installed and serviced by a qualified, licensed electrician.
- 3.Do not modify or disassemble this product beyond instructions or the warranty will be void.
- 4. Do not submerge, or install within 5 feet of a swimming pool.
- 5. Only install with a Listed Class 2 DC LED driver.
- 6. To avoid Voltage Drop, ensure wire gauge used with LED Strip Light is sufficient to keep under 3% voltage drop.
- 7.Do not exceed maximum run recommended for Strip Light.
- 8.SQUIGGLY™ LED Tape Light is designed to be cut and bent at designated cut and bend points only. Cutting or bending anywhere other than these designated points will result in damage to the Strip Light.
- 9. Failure to follow safety warnings, and installation instructions will void the warranty for this product.









## **QUICK SPECS**

| Input Voltage     | 24V DC   |  |  |  |  |
|-------------------|----------|--|--|--|--|
| Power Consumption | 2.2W/ft. |  |  |  |  |
| Maximum Run       | 33 ft.   |  |  |  |  |
| Environment       | Indoor   |  |  |  |  |

| Included Models <sup>1</sup>     | DI-24V-SQ2-**             |  |  |  |  |
|----------------------------------|---------------------------|--|--|--|--|
| Ambient Temperature <sup>2</sup> | -4° ~ 122°F (-20° ~ 50°C) |  |  |  |  |

Note 1 \*\* Indicates luminaire family, CCT, and length.

Note <sup>2</sup> Do not install product in an environment outside the listed ambient temperature.

INSTALLATION GUIDE



## **⚠ WARNING!**

## DO NOT CONNECT DIRECTLY TO HIGH **VOLTAGE POWER!**

Read all warnings and installation instructions thoroughly.

## HANDLE PRODUCT WITH CARE!



**DO NOT COVER STRIP LIGHT WITH** ANY MATERIALS.



**DO NOT** POWER STRIP LIGHT WHILE ATTACHED TO SPOOL OR TIGHTLY COILED.

## **INSTALLATION**

Prior to installation, verify all components (LED Tape, Driver, Control, & Accessories) are compatible. Configure and pre-test your LED system prior to installation to ensure all components are operating correctly.

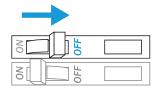


## TURN POWER OFF AT CIRCUIT BREAKER



## SHOCK HAZARD! May result in serious injury

Turn power OFF at circuit breaker prior to installation.



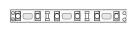


## **DETERMINE LOCATION TO INSTALL** COMPONENTS

Refer to SYSTEM DIAGRAMS.







1) Class 2 Driver

2) Control

3) Tape Light

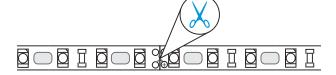
#### **WIRE GAUGE & VOLTAGE DROP**

Ensure applicable wire is installed between driver, fixture, and any controls in between. When choosing wire, factor in voltage drop, amperage rating, and type (in-wall rated, wet location rated, etc.)



## **CUT TAPE LIGHT TO DESIRED LENGTH**

Cut at line indicated with scissors icon.



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## **INSTALLATION (CONT.)**



## **TEST CONNECTION**



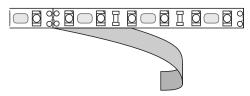
Prior to mounting, attach to Class 2 LED Driver, turn on power and test connection to ensure system is operating properly. Turn off power again before mounting.



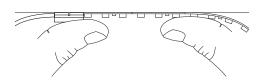
## **MOUNT TAPE LIGHT**

Clean surface before mounting.

5.1 Peel off 3M™ Adhesive Backing. Ensure ambient temp is minimum 50° F (10° C) or tape will not adhere properly.



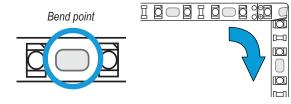
**5.2** Adhere to a smooth, dry surface, working one end to the other.



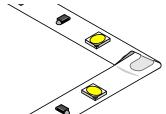


## **BENDING SQUIGGLY 200 TAPE LIGHT**

Fold SQUIGGLY 200 LED Tape Light horizontally at any bend point.



SQUIGGLY 200 Tape Light will fold over itself when bent at the bend point. No additional modification required.



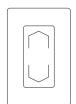
# MAXIMUM BEND ANGLE: 90 DEGREES



## ATTACH DRIVER AND LIGHTING CONTROL

ONLY USE COPPER WIRING. See SYSTEM DIAGRAMS on page 5. Verify a compatible driver and control are installed.

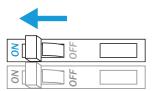




REVIEW FULL SYSTEM and ensure all polarities are correct and connections are secure.

## 8

#### TURN POWER ON AT CIRCUIT BREAKER



#### SYSTEM WORKING IMPROPERLY?

Turn power OFF at circuit breaker and verify all connections. Review SYSTEM DIAGRAMS and TROUBLESHOOTING or call Diode LED Technical Support at 877.817.6028.

## **ADDITIONAL RESOURCES**

Visit the on-line product page at <a href="www.DiodeLED.com">www.DiodeLED.com</a> for individual LED Tape Light product specifications & warranty information.

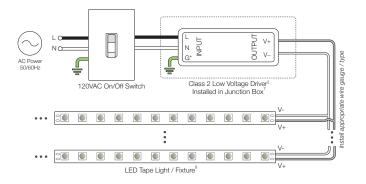
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## SYSTEM DIAGRAMS

The following diagrams are provided as example system designs. For information regarding larger systems or systems not pictured below, please see our web page or contact technical support. Always review each component installation quide for detailed and up-to-date wiring instructions. Install in accordance with national and local electrical codes.

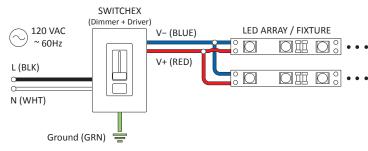
#### SINGLE COLOR CONTROL SYSTEMS

#### **Traditional ON/OFF Switch System**

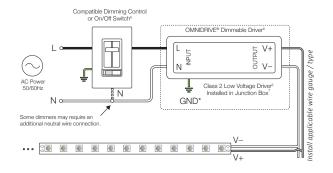


## (Dimmer + Driver)

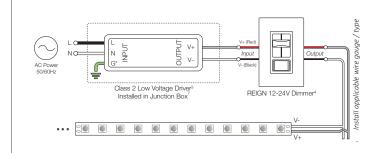
**SWITCHEX® Dimmer/Driver System** 



## OMNIDRIVE® Electronic Dimmable Driver System



### **REIGN® 24V Dimmer System**



- 1. Driver may not require a fault ground connection. Refer to driver specifications for additional information.
- 2. Install a compatible Class 2 constant voltage driver. Refer to each driver specification sheet for full power ratings & load deratings.
- 3. Install a Class 2 constant voltage driver compatible with a low voltage PWM controller/dimmer switch. Refer to each driver specification sheet for full power ratings & load deratings.
- 4. Determine the number of low voltage outputs of the driver when installing multiple PWM controllers/dimmer switches. No more than one PWM controller/dimmer switch can be attached to a single output of the driver.
- 5. Install a compatible dimming control or switch. See the 'Electronic Dimmable Driver / Dimmer Compatibility List' for compatible dimming controls. See the dimming control manufacturer installation guide for complete wiring instructions.
- 6. Ensure to load the driver at least 60% of the labeled load for proper dimming performance (required for dimmable installations only).
- 7. Refer to driver or controller specifications for a compatible junction box.
- 8. See fixture specifications for maximum series run limits.

**INSTALLATION GUIDE** 

## **TROUBLESHOOTING**

| Symptom                                 | Common Cause   |  |  |  |  |  |
|---|--|--|--|--|--|--|
| Tape Light does not                     | Circuit breaker is OFF or tripped.   |  |  |  |  |  |
| illuminate                              | • Incorrect wiring. Polarity of Low Voltage V+ and V- are reversed. Check connection at every connection point to ensure polarity is not reversed.             |  |  |  |  |  |
|   | Incorrect voltage pairing of LED driver and fixture. 24V driver models will not power a fixture with a higher voltage rating.                                  |  |  |  |  |  |
| Fixture flickers randomly, may shut off | Connection is not secure. Check connection at CLICKTIGHT and ensure metal prongs of CLICKTIGHT are directly on top of Tape Light Solder pads.                  |  |  |  |  |  |
| Shift in brightness and/<br>or color    | Review Tape Light maximum series run limit. Exceeding will cause voltage drop, decreasing brightness and/or color shift.                                       |  |  |  |  |  |
|   | Review Voltage Drop Charts on pg. 8. Incorrect wire gauge may cause voltage drop and noticeable shift in brightness and/or color.                              |  |  |  |  |  |
| Tape Light turns on/off repeatedly      | Driver is overloaded or overheated. An overloaded/overheated driver will trip the internal auto-reset (of driver) repeatedly, turning the system on/off.       |  |  |  |  |  |
| CLICKTIGHT<br>Connectors                | Ensure compatible CLICKTIGHT models are attached. Tape lights vary in width and require specific connectors. Contact your supplier for additional information. |  |  |  |  |  |
|   | Tape Light is polarity sensitive. Ensure V+ of power is attached to V+ of tape light. Ensure V- of power is attached to V- of tape light.                      |  |  |  |  |  |

## **VOLTAGE DROP CHARTS**

For best performance and lumen output, ensure proper wire gauge is installed to compensate for voltage drop of low voltage circuits.

## **Voltage Drop Chart Guide**



Determine load size.

(example: Let's assume load is 55 W. Round up to nearest load)



Determine distance from driver to load. (example: Let's assume the distance is 20 ft.)



Determine AWG of wire to be used. (example: With 55 watt load, 20 feet away, it is recommended to install 12 AWG to eliminate excess voltage drop)

## 24V Voltage Drop & Wire Length Distance Chart (3% Drop or 23.28V)\*

| WIRE<br>GAUGE | 10 W<br>.42 A | 20 W<br>.83 A | 30 W<br>1.3 A | 40 W<br>1.7 A | 50 W<br>2.1 A | 60 W<br>2.5 A | 70 W<br>2.9 A | 80 W<br>3.3 A | 90 W<br>3.75 A | 100 W<br>4.2 A |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| 20 AWG        | 85 ft.        | 43 ft.        | 27 ft.        | 21 ft.        | 17 ft.        | 14 ft.        | 12 ft.        | 11 ft.        | 9 ft.          | 8 ft.          |
| 18 AWG        | 134 ft.       | 68 ft.        | 45 ft.        | 33 ft.        | 27 ft.        | 22 ft.        | 19 ft.        | 17 ft.        | 15 ft.         | 14 ft.         |
| 16 AWG        | 215 ft.       | 109 ft.       | 72 ft.        | 54 ft.        | 43 ft.        | 36 ft.        | 31 ft.        | 27 ft.        | 24 ft.         | 22 ft.         |
| 14 AWG        | 345 ft.       | 174 ft.       | 115 ft.       | 86 ft.        | 69 ft.        | 57 ft.        | 49 ft.        | 43 ft.        | 39 ft.         | 36 ft.         |
| 12 AWG        | 539 ft.       | 272 ft.       | 181 ft.       | 135 ft.       | 108 ft.       | 90 ft.        | 77 ft.        | 68 ft.        | 61 ft.         | 56 ft.         |
| 10 AWG        | 784 ft.       | 397 ft.       | 263 ft.       | 197 ft.       | 158 ft.       | 131 ft.       | 112 ft.       | 98 ft.        | 97 ft.         | 82 ft.         |