0-10V DIMMABLE LED DRIVER

**INSTALLATION GUIDE** 

# **MARNING**

Read all warnings and installation instructions thoroughly.

## **Safety & Warnings**

- Install in accordance with the National Electric Code, and local regulations.
- This product is intended to be installed and serviced by a qualified, licensed electrician.
- Only install compatible LED fixtures and controls. Contact technical support or visit the product page for compatible products.
- Proper heat dissipation will prolong the working lifespan of this product.
   Install in a well-ventilated area free from explosive gases and vapors.
- 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.).
  Inadequate wire installation could overheat wires, and cause a fire.
- Do not install if product has any visible damage.
- Do not modify or disassemble this product beyond instructions or the warranty will be void.

# STUS Dimmable

## **Quick Specs**

Input Voltage	100-277VAC~ at 50/60Hz		
Output Voltage	See driver label for output voltage.		
<b>Ambient Temp †</b> -40 ~ +122°F (-40 ~ +50°C)			
Max Load	Ensure to de-rate the labeled load 20%. See dimmer switch for min. load requirements.		

Included Models DI-DM-12V60W-0-10V	DI-DM-24V100W-0-10V
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<sup>†</sup> Do not install product in an environment outside the listed ambient temperature. Ensure adequate airflow and heatsinking is considered when mounting/installing.

For full specifications, see the 'Specification Sheet' at the online product page.

#### Installation

Prior to installation, ensure all components are a compatible system. Configure and pre-test your LED system prior to permanent installation to ensure all components are operating correctly. Install in accordance with the NEC and local regulations.



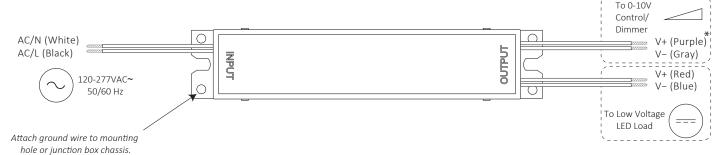
Shock Hazard. May result in serious injury or death.

Turn off power at circuit breaker before installing this product.

- 1. Turn OFF 120~277VAC power at the main breaker prior to installation.
- 2. Determine locations to install the driver, fixture and control. See 'System Diagram.'
- 3. Attach appropriate load and 0-10V control/dimmer to the driver. See 'Wiring Connections.'
- 4. Install additional components and accessories. Once complete, turn main power ON.

Ensure applicable wire is installed between driver, fixture, and any controls between. When choosing wire, factor in voltage drop, amp rating, and type to prevent fire or electric shock.

## Wiring Connections



<sup>\*</sup> Commercial Grade 0-10V drivers will utilize Blue(+) and White (-) dimming wires

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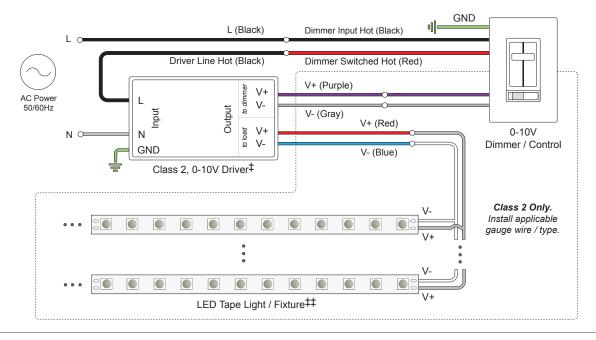
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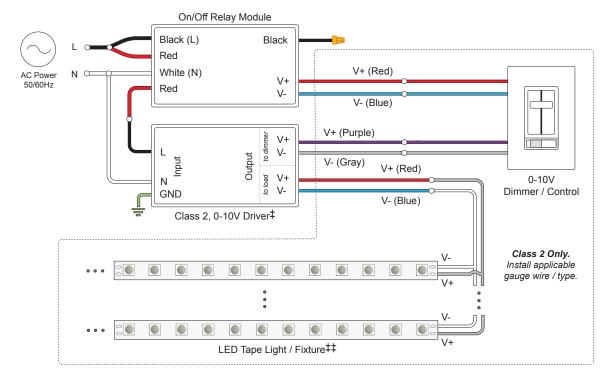
#### **System Diagrams**

The following diagrams are provided as example system designs. Always review each component installation guide for detailed and up-to-date wiring instructions. Install in accordance with NEC and local regulations.

#### 0-10V Dimmable Driver System Diagram (Leviton® Dimmer with No Power Pack)



#### 0-10V Dimmable Driver System Diagram (Lutron® Dimmer with Lutron® Power Pack)



‡ Refer to driver or controller specifications for a compatible junction box.

‡‡ See fixture specifications for maximum series run limits.

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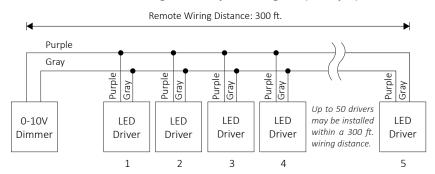
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## System Diagrams Cont'd

#### 0-10V Dimmable Driver Large Install System Diagram (Example)



## **Compatible Controls**

To ensure a safe installation and optimal lighting/dimming performance, specify the following controls with our 0-10V LED dimmable drivers. Some dimmers require an additional power pack (relay switch) to support On/Off control or occupancy sensor control. Many 0-10V dimming controls not listed below may also perform well, however we cannot quarantee compatibility. For additional information, please contact technical support.

#### **Controls / Dimmers**

MFG	Product Description	Model #	Power Input	Power Pack Required for On/Off Control?	Power Pack Required for Occupancy Sensor?
Lutron®	DIVA⊕ 0-10V Preset Dimmer	DVTV	Control: 0-10VDC, 30mA Switch: 24VDC, 100mA	Yes*	Yes*
Lutron⊛	NOVA® 0-10V Slide-to-off Dimmer	NFTV	Control: 0-10VDC, 30mA Switch: 24VDC, 100mA	Yes*	Yes*
Lutron⊛	NOVA T⊕ 0-10V Slide-to-off Dimmer	NTFTV	Control: 0-10VDC, 30mA Switch: 24VDC, 100mA	Yes*	Yes*
Leviton <sub>®</sub>	ILLUMATECH® 0-10V Preset Dimmer	IP710-LFZ	120VAC and 277VAC. See MFG installation guide for maximum loads.	No	Yes <sup>†</sup>

<sup>\*</sup> Lutron® Series Power Packs must be installed to support On/Off control and when installing Lutron® occupancy sensor controls. Specify the Auxillary Power Pack when installing more than 3 Lutron® occupancy sensors.

#### **Power Packs**

MFG / Product	Product Description	Model #	Power Input	Control Input	Power Output
Lutron® Series Power Packs	Power Packs	PP-120H	120VAC, 60 Hz	24VDC, 5mA	24VDC, 100mA
		PP-230H	230VAC, 50/60 Hz		
		PP-277H	277VAC, 60 Hz		
		PP-347H	347VAC, 60 Hz		
	Auxillary Power Pack	PP-SH	N/A	24VDC, 5mA	N/A
Leviton⊚ Occupancy Sensor Power Packs	Auto On	OPP20-0D1		See MFG Specs	See MFG Specs
	Auto/Manual On, Local Switch	OPP20-0D2			
	Auto On, Photocell	OPP20-RD3	See MFG Specs		
	Auto/Manual On, Local Switch, Photocell	OPP20-RD4			

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<sup>†</sup> The Leviton® IP710-DLZ dimmer supports On/Off control. The Leviton Power Pack is required when installing Leviton® occupancy sensor controls.



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## **Troubleshooting**

Prior to troubleshooting, ensure a compatible system is installed. Verify compatible fixtures, drivers, controls and additional components were specified correctly.

Fixture does not illuminate	<ul> <li>See 'System Diagram' and installation guides of all components. Ensure the system is wired correctly.</li> <li>Verify polarities are correct.</li> <li>Ensure a compatible constant voltage <i>dimmable</i> fixture is installed.</li> <li>Ensure the driver and fixture have the same voltage specifiations (12V &amp; 12V, or 24V &amp; 24V).</li> </ul>		
Fixture does not dim	<ul> <li>Ensure a compatible constant voltage dimmable fixture is installed.</li> <li>Ensure a compatible 0-10V control is installed.</li> <li>Verify Purple (V+) and Gray (V-) data wires connected to 0-10V control are not swapped.</li> </ul>		
Fixture dims but does not turn off	<ul> <li>Verify if the 0-10V control requires an additional power pack (relay switch) to turn the fixture on/off.</li> <li>Ensure not to mix &amp; match power packs and dimmers from different manufacturers.</li> </ul>		
There is a delay when dimmer is switched off	This is normal when loading the driver with small loads. To reduce any switching delays, install a larger load on the driver.		
Fixture is quickly flashing or flickering	<ul> <li>Verify a compatible 0-10V control is installed.</li> <li>Ensure a compatible constant voltage <i>dimmable</i> fixture is installed.</li> <li>Ensure all connections are properly secured.</li> </ul>		
Fixture is slowly flashing	Ensure driver is not overloaded. An overloaded driver will cause the internal auto-reset to trip repeatedly.		

#### **Additional Resources**

Visit the online product page at www.DiodeLED.com for additional product specifications & warranty information.

- **0-10V DIMMABLE LED DRIVER Specification Sheet** For full specifications.
- Voltage Drop Charts

Use to specify appropriate wire gauge for installation. Available at the 'Tools & Resources' page at www.DiodeLED.com.



Visit www.DiodeLED.com or contact Customer Support at info@diodeled.com or 1.877.817.6028 Monday through Friday, 7:00am- 5:00pm PST.