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FANTOMLED™

DIMMABLE LED DRIVER

INSTALL GUIDE

WARNING

 **TURN OFF HIGH VOLTAGE POWER AT CIRCUIT BREAKER**
 Read warnings carefully and follow all installation instructions.

- Follow national and local electrical code regulations during installation.
- Use a licensed, qualified electrician for installation of this product.
- Use copper wiring only and install with compatible LED fixtures and controls.
- Protect the lifespan of this product by installing drivers in well-ventilated areas free of excessive heat and gases.
- Proper wiring is required when connecting driver, fixture, and controls. Wiring should account for voltage drop, rated amperage, and rating for type of application (in-wall, wet-location, etc.)
- If product displays any type of damage, do not install.
- Do not disassemble or modify installation instructions, or warranty will be voided.



INCLUDED MODELS

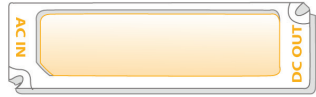
Pwr	Model	Output
Mirage™		
25W	FA-MI-TD-12V-25W	12V, 2.08A
	FA-MI-TD-24V-25W	24V, 1.04A
50W	FA-MI-TD-12V-50W	12V, 4.17A
	FA-MI-TD-24V-50W	24V, 2.08A
80W	FA-MI-TD-12V-80W	12V, 6.66A
	FA-MI-TD-24V-80W	24V, 3.33A
100W	FA-MI-TD-12V-100W	12V, 8.33A
	FA-MI-TD-24V-100W	24V, 4.17A
120W	FA-MI-TD-12V-120W	12V, 10A
	FA-MI-TD-24V-120W	24V, 5A
150W	FA-MI-TD-12V-150W	12V, 12.5A
	FA-MI-TD-24V-150W	24V, 6.25A
200W	FA-MI-TD-12V-200W	12V, 12.5A
	FA-MI-TD-24V-200W	24V, 6.25A
Spirit™		
10W	FA-SP-TD-12V-10W	12V, 0.83A
	FA-SP-TD-24V-10W	24V, 0.42A
20W	FA-SP-TD-12V-20W	12V, 1.67A
	FA-SP-TD-24V-20W	24V, 0.83A
30W	FA-SP-TD-12V-30W	12V, 2.5A
	FA-SP-TD-24V-30W	24V, 1.25A
45W	FA-SP-TD-12V-45W	12V, 3.75A
	FA-SP-TD-24V-45W	24V, 1.88A
60W	FA-SP-TD-12V-60W	12V, 5A
	FA-SP-TD-24V-60W	24V, 2.5A
80W	FA-SP-TD-12V-80W	12V, 6.67A
	FA-SP-TD-24V-80W	24V, 3.33A

QUICK SPECS

	MODEL	
	Mirage™	Spirit™
Input Voltage	100-130 VAC	100-130 VAC
Output Voltage	12V, 24V (see included models at right)	12V, 24V (see included models at right)
Min / Max Load Capacity	5-100%	60-100%
Dimming Capacity	0-100%	0-100%
Dimming Type	Forward phase (standard) Dimmable with forward phase (leading edge, magnetic low voltage), triac dimmers.	Forward/reverse phase (reverse preferred) Dimmable with forward phase (leading edge, magnetic low voltage), triac dimmers.
Ambient Temperature*	-40°F ~ -140°F (-40°C ~ 60°C)	-40°F ~ -140°F (-40°C ~ 60°C)

* Do not install product in an environment outside the listed ambient temperature. Ensure adequate airflow and heatsinking during installation.

To order drivers with a junction box, include a -J at the end of the part number. (e.g. FA-MI-TD-12V-80W-J)



DIMMABLE LED DRIVER

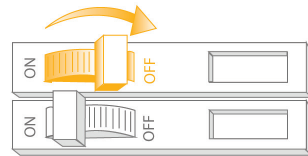
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HOW TO INSTALL DRIVER

Prior to installation, verify all components are compatible. Configure and pre-test your LED system prior to permanent installation to ensure all components are operating correctly. Follow national and local electrical codes.

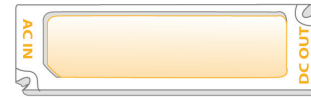
STEP 1

WARNING Turn power off at circuit breaker. Failure to do so may result in injury or death due to shock hazard.

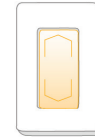


STEP 2

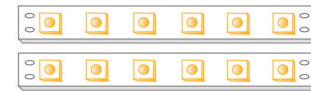
Determine locations to install three main components. Refer page 4 System Diagrams.



1) Driver



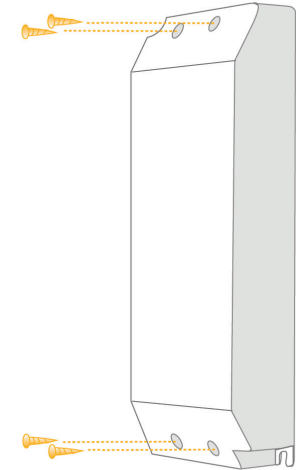
2) Control



3) Fixture

STEP 3

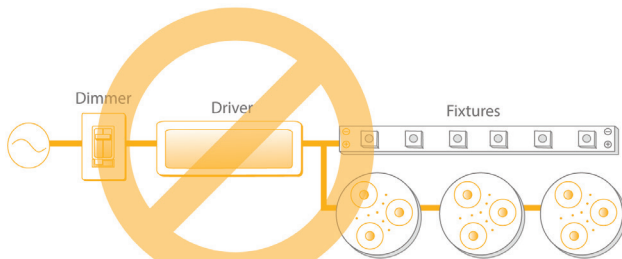
Mount driver to desired surface. Refer to page 3, Wiring Connections, for mounting holes. Any orientation may be used to mount driver.



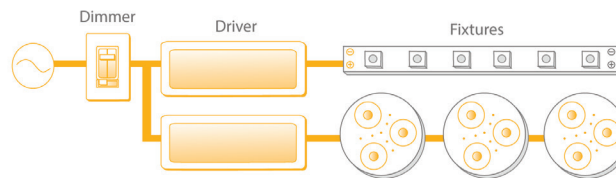
STEP 4

Connect lighting load and lighting control. See page 1 Quick Specs for min/max load ratings and ambient temperature ratings for dimmable installations. Only use copper wiring and refer to page 3, Wiring Connections and System Diagrams, as well as instructions provided with lighting controls.

1. **Make sure dimming controls are compatible with Fantom™ drivers.** Visit www.fantomled.com for a list of compatible controls.
2. **Attach wire to terminal ports** by removing cover ports with Phillips-head screwdriver. Terminals fit up to 12AWG solid core copper wire. Use applicable listed wire nuts and junction box to secure connections in wet locations.
3. **To avoid flickering and altered dimming range,** do not install different fixture types on the same power supply.



INCORRECT

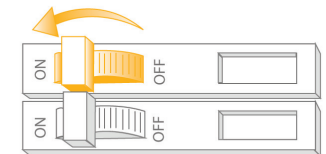


CORRECT

Different fixture types on separate drivers.

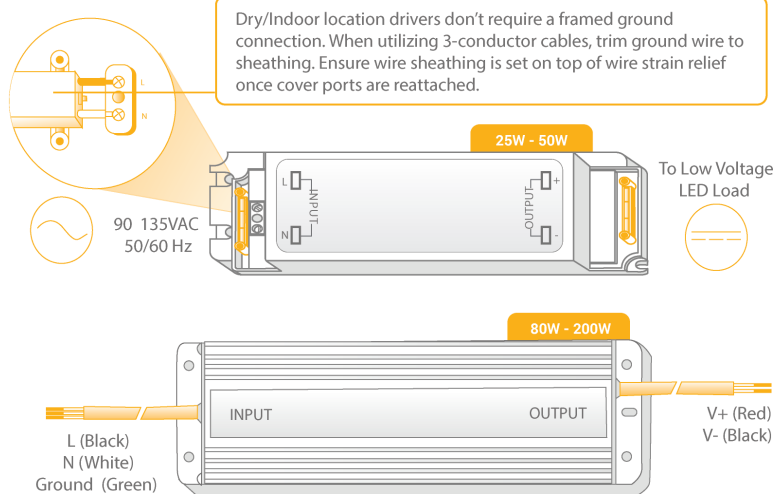
STEP 5

Install additional components, verify connections, and turn main power ON at breaker. If system is unresponsive or is not working properly, turn OFF main power breaker. Verify all connections and review page 3, Wiring Connections and System Diagrams, as well as dimming control installation guides.

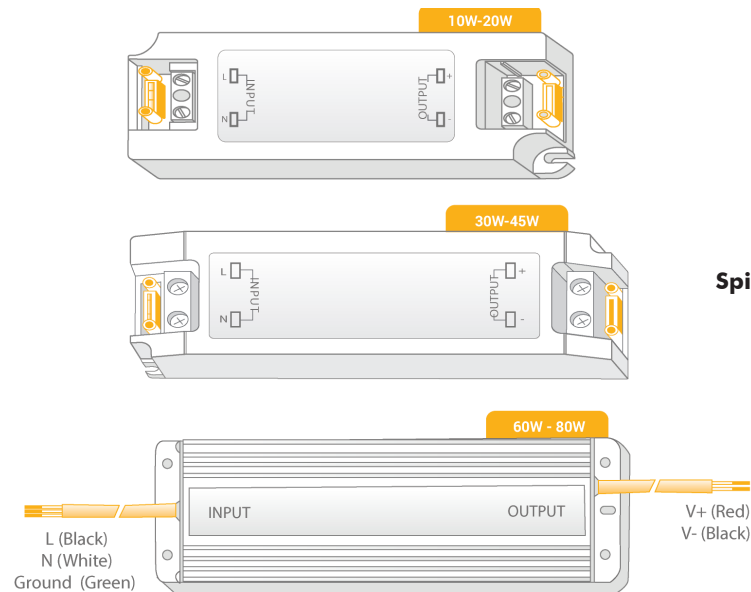


WIRING CONNECTIONS

Mirage™ Drivers



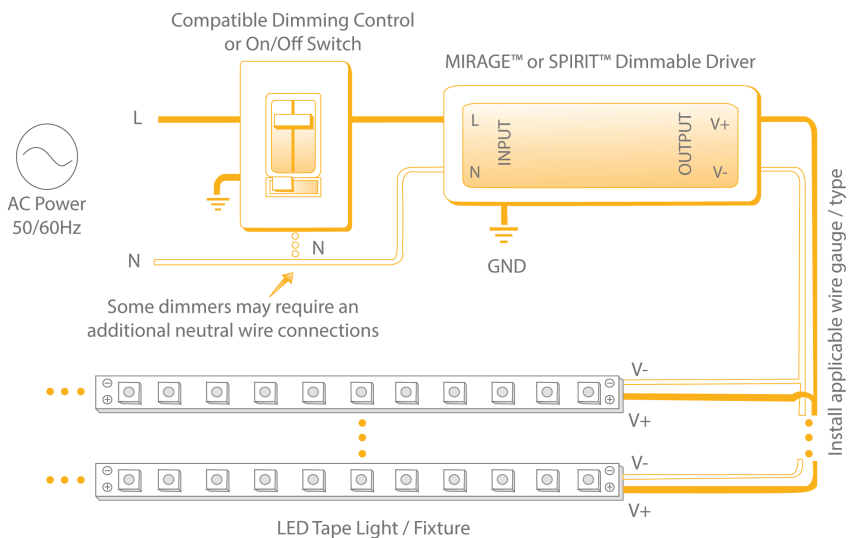
Spirit™ Drivers



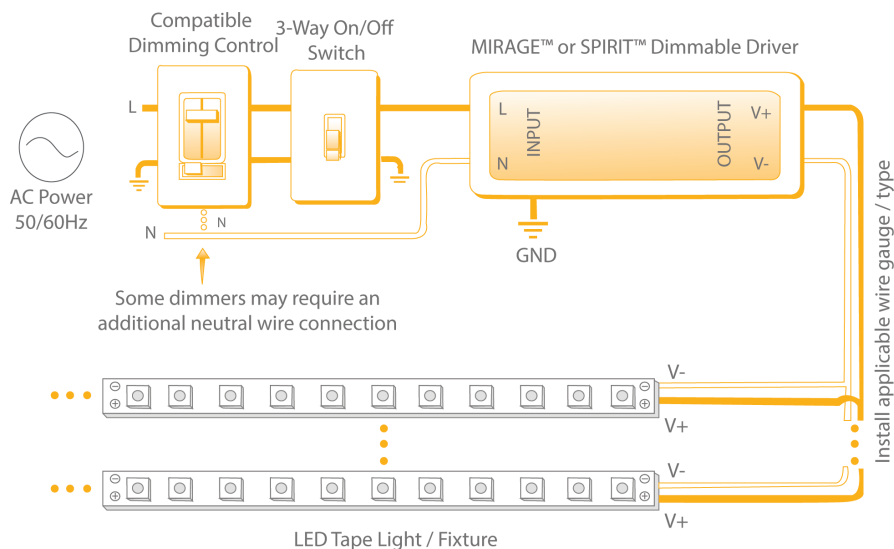
SYSTEM DIAGRAMS

The system diagrams depicted below are for basic installations and offer example system designs. Contact our customer support team for assistance with designing more complex systems. Always follow national and local electrical code regulations during installation and be sure to review component installation guide instructions.

STANDARD SYSTEM DESIGN



3-WAY SYSTEM DESIGN



NOTES:

- Driver may not require a framed ground connection (see driver specifications).
- Compatible dimming controls and switches are required. See dimmer/driver compatibility list at www.fantomled.com for compatible controls.

- See the dimmer control installation guidelines for complete wiring instructions.
- Make sure driver is not loaded beyond maximum ratings to ensure proper dimming.
- See fixture specifications for maximum series run limits.

TROUBLESHOOTING

Before troubleshooting, make sure all items are compatible with the system and the main power is turned ON.

Fixture does not illuminate	<ul style="list-style-type: none"> • See System Diagram and Wiring Connections and component installation guides. Make sure system is wired correctly and that polarities are correct. • Ensure a compatible constant-voltage dimmable fixture is installed. • Ensure the driver and fixture have the same voltage specifications (12V & 12V, or 24V & 24V).
Fixture does not dim	<ul style="list-style-type: none"> • Ensure a compatible constant voltage dimmable fixture is installed. • Ensure a compatible dimming control is installed and wired correctly. See Dimming Control Compatibility List on www.fantomled.com.
Different fixture types do not dim in sync	<ul style="list-style-type: none"> • Different fixture types have different circuit designs and may react differently when dimmed. Ensure each fixture type is installed on a separate dimmable driver for best performance.
Fixture is quickly flashing or flickering	<ul style="list-style-type: none"> • Verify a compatible dimming control is installed. If flickering is apparent at low light levels, install a compatible trim-adjustable dimming control. • Ensure a compatible constant-voltage dimmable fixture is installed. • Ensure different fixture types are not connected to a single driver. Different fixture types must be connected to individual drivers. • Ensure all connections are properly secured. • Ensure fixture is receiving the correct input voltage.
Installation trips main breaker	<ul style="list-style-type: none"> • Check wiring for short circuit. If breaker continues to trip, there may be a short in the driver. Call customer support for a replacement driver.

ADDITIONAL RESOURCES

For additional installation and technical info, reference these product specification sheets:

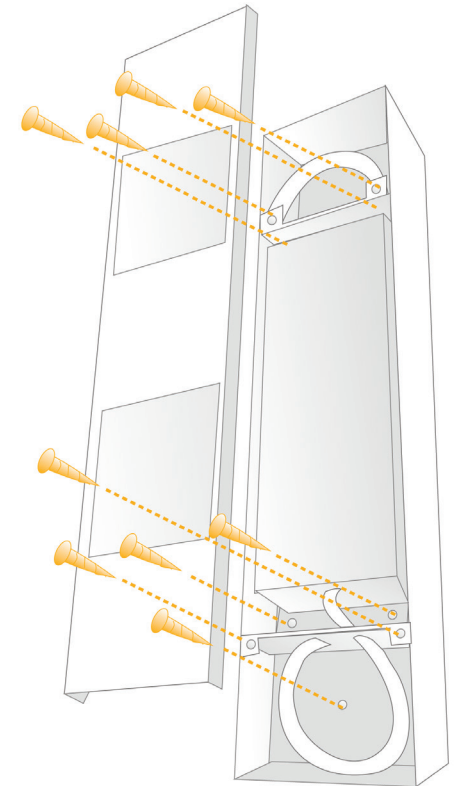
- **MIRAGE™** 12V / 24V driver
- **SPIRIT™** 12V /24V driver

DRIVER ACCESSORIES

Surface Mount Junction Box

A surface mount junction box is available for the following drivers:

Pwr	Size
25W-50W	13.8 in x 3 in x 1 in
60W-80W	13.8 in x 3 in x 1 in
80W-120W	15 in x 3 in x 1 in
150W-200W	16 in x 3.4 in x 2.4 in



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