LP150-001 FIXTURE CONTROL MODULE

0-10V CONTROL

Load Ratings: 3A, @ 100-277V (305V Max)

WARNING AND CAUTIONS:

- TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.

WARNINGS AND CAUTIONS:

- Disconnect power at circuit breaker or fuse when servicing, installing or removing fixture or changing lamps.
- Risk of Electric Shock - More than one disconnect switch may be required to de-energize the equipment before servicing.
- Use this device with copper or copper clad wire only.

INSTALLATION GUIDE

DESCRIPTION

The Synapse LP150-001 controls lighting in commercial and industrial buildings using the SNAP® wireless mesh network. It provides On/Off capability via an internal relay and 0-10V analog dimming control using a standard dimming protocol. Synapse lighting controllers are controlled through a browser-based interface available via Synapse's SimplySNAP lighting solution.

FEATURES

- On/Off switching via relay, up to 3A load
- 0-10V dimming, up to 30mA source/sink
- Weather proof IP65 enclosure

SPECIFICATIONS

Relay Max Switched Circuit: Zero Cross, 3A
Voltage Input: 100-277VAC, (+/- 10%), 50/60 Hz
Power Consumption (No Load): 8W @ 277V, 3.6W@120V
Power Output (Max): 305V
Dim Control Max Load: 30 mA Source/Sink
Radio Frequency: 2.4 GHz (IEEE 802.15.4)
RF Transmission Output Power: +15dBM
Operating Temperature: -40 to +55 C
Operating Humidity: 10 to 90%, non-condensing
Dimensions: 5.275"L x 2.175"W X 1.375"H (13.4 X 5.5 X 3.5 cm)
Enclosure Type: UL 94V-0, 5VA ABS Plastic
Configuration/Programming: Stored in non-volatile memory
FCC ID: U9O-RF200 IC ID: 7048A-RF200

INSTALLATION INSTRUCTIONS

CAUTION

- LP150-001 controllers must be installed in accordance with national, state, and local electrical codes and requirements
- All work must be performed by qualified personnel
- Disconnect all power before installation or service
- Metal conduit connector must be grounded
- Switched output (blue wire) is energized by default at power up

WIRING INSTRUCTIONS

WARNING: TO AVOID FIRE, SHOCK, OR DEATH: TURN OFF POWER at circuit breaker or fuse and test that power is off before wiring!

WARNING: RISK OF ELECTRIC SHOCK - more than one disconnect switch may be required to de-energize equipment before servicing.

WARNING: All existing wiring connectors must be replaced with new UL listed wiring connectors. All wiring connectors must be correctly sized for the application and the number and the size of the electrical conductors.

1. Place LP150-001 in desired location and secure it using #8 sheet metal screws or equivalent. Prior to mounting, make sure the antenna is vertically oriented and located at least 12 inches from any metal structures. (Figure 1)

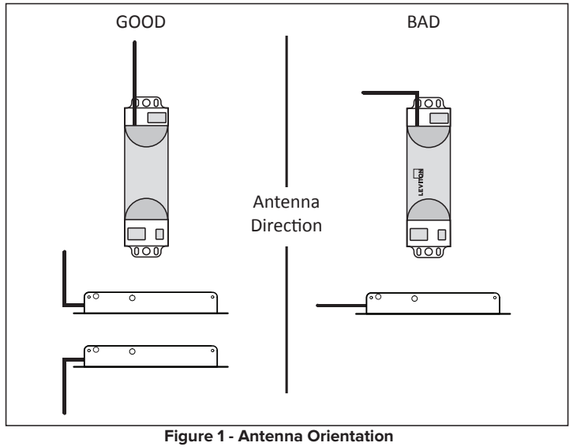


Figure 1 - Antenna Orientation

RF Tip: When installing the LP150-001, consideration of antenna position and interference is required to ensure optimum wireless signal strength.

2. Disconnect the hot wire (**black**) to the LED Fixture and connect it to the **black** wire on the LP150-001.
3. Connect **blue** wire from LP150-001 to **black** wire of the LED fixture.
4. Connect **white** wire from the LP150-001 to the system **white** wire/neutral.
5. Connect the white wire from the LED fixture to the system white wire/ neutral.

Note: Steps 7-10 are for Class 2 Dimming Control

6. Connect the gray wire on the LED fixture to the gray wire on the LP150-001.
7. Connect the purple wire on the LED fixture to the purple wire on the LP150-001.
8. Switch power on to the fixture. Lights should be on.

Note: When switched on, lamps should turn on to full brightness; approximately 10 VDC signal on the violet wire using the gray wire as reference.

9. Refer to the SNAPLighting.com or SimplySNAP User's Manual for information on commissioning the LP150-001.

DIMMING

Below are some recommendations for successful dimming using the LP150-001. The dimming control wires are referenced as Dim+ (Purple) and Dim- (Gray). The dimming signals have a Maximum voltage of 10V DC.

- Use multi-strand 18 Gauge Wire for noise immunity and current capability
- Do not ground the dimming wire. This is a return signal and is critical for dimming.
- Route the dimming wires away from AC lines.
- Use good connection methods with properly sized connectors.
- Eliminate excess wire between fixtures. Line length will cause voltage drop.
- Number of fixtures is dependent upon the following factors: dimming current, current requirements for LED driver, length of wire, quality of connection, and gauge of wire
- Verify dimming capability via a test bed with the number of actual fixtures, wire length, connectors, and wire gauge

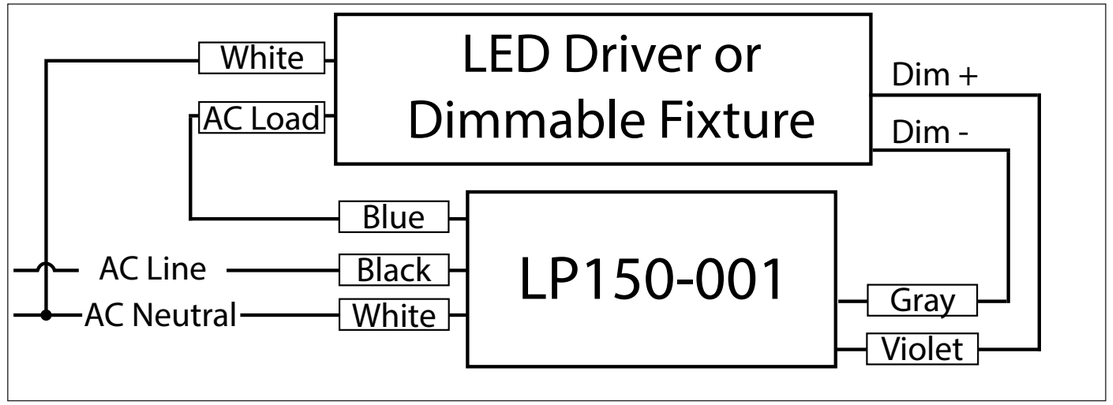


Figure 2 - Wiring Diagram

REGULATORY INFORMATION AND CERTIFICATIONS

RF Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada (IC) certifications: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicable aux appareils numeriques de la class B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

FCC certifications and regulatory information (USA only)

FCC Part 15 Class B: This device complies with part 15 of the FCC rules.

Operation is subject to the following two conditions: (1) These devices may not cause harmful interference, and (2) These devices must accept any interference received, including interference that may cause harmful operation. RADIO FREQUENCY INTERFERENCE (RFI) (FCC 15.105): This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Re-orient or relocate the receiving antenna; (2) Increase the separation between the equipment and the receiver; (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; (4) Consult the dealer or an experienced radio/TV technician for help.

Declaration of Conformity (FCC 96-208 & 95-19): Synapse Wireless, Inc. declares that the product name "LP150-001-00" (Model # LP150-001) to which this declaration relates, meet the requirements specified by the Federal Communications Commission as detailed in the following specifications:

• Part 15, Subpart B, for Class B equipment
• FCC 96-208 as it applies to Class B personal computers and peripherals
• This product has been tested at an External Test Laboratory certified per FCC rules and has been found to meet the FCC, Part 15, Emission Limits. Documentation is on file and available from Synapse Wireless, Inc.

If the FCC ID for the module inside this product enclosure is not visible when installed inside another device, then the outside of the device into which this product is installed must also display a label referring to the enclosed module FCC ID. Modifications (FCC 15.21): Changes or modifications to this equipment not expressly approved by Synapse Wireless, Inc., may void the user's authority to operate this equipment.