




# SYNAPSE C136-41 Lighting Controller User Manual

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**SYNAPSE**

## SYNAPSE C136-41 Lighting Controller



## Product Information

### Specifications

- **Model:** TL7-HVG
- **Maximum Current:** 20mA continuous
- **Socket Type:** C136.41
- **Regulatory Compliance:** FCC Part 15 Class B, Industry Canada (IC)

### WARNING AND CAUTIONS

- TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF THE POWER AT THE CIRCUIT BREAKER OR FUSE AND TEST THAT THE POWER IS OFF BEFORE INSTALLING!
- The TL7-HVG should only be installed in a fixture with a NEMA/ANSI C136.41 receptacle.
- The device is rated up to 6kV surge, take steps to install an external surge protector for additional protection.
- Failure to follow these instructions and warnings could potentially void the warranty.
- To be installed and/or used under appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician; all work should be performed by qualified personnel.
- Disconnect power at the circuit breaker or fuse when servicing, installing, or removing fixtures or hanging lamps

### SPECIFICATIONS

Relay Max Switch Circuit:

- 5A @ 110-277VAC (+/- 10%)
- 3A @ 347VAC (+/- 10%)
- 2A @ 480VAC (+/- 10%)
- **Dim Control Max Load:** 20mA
- **Radio Frequency:** 2.4 GHz (IEEE 802.15.4)
- **RF Transmission Output Power:** +20dBm
- **Operating Temperature:** -40 to +70 C
- **Operating Humidity:** 0 to 90%, non-condensing
- **Dimensions:** 3.3" D x 3.9" H (84mm D x 98mm H)
- **Surge Protection:** 6kV
- **Sensor Input:** 24V
- **Sensor Power Max Load:** 24VDC, 50mA peak and 20mA continuous

### CAUTION

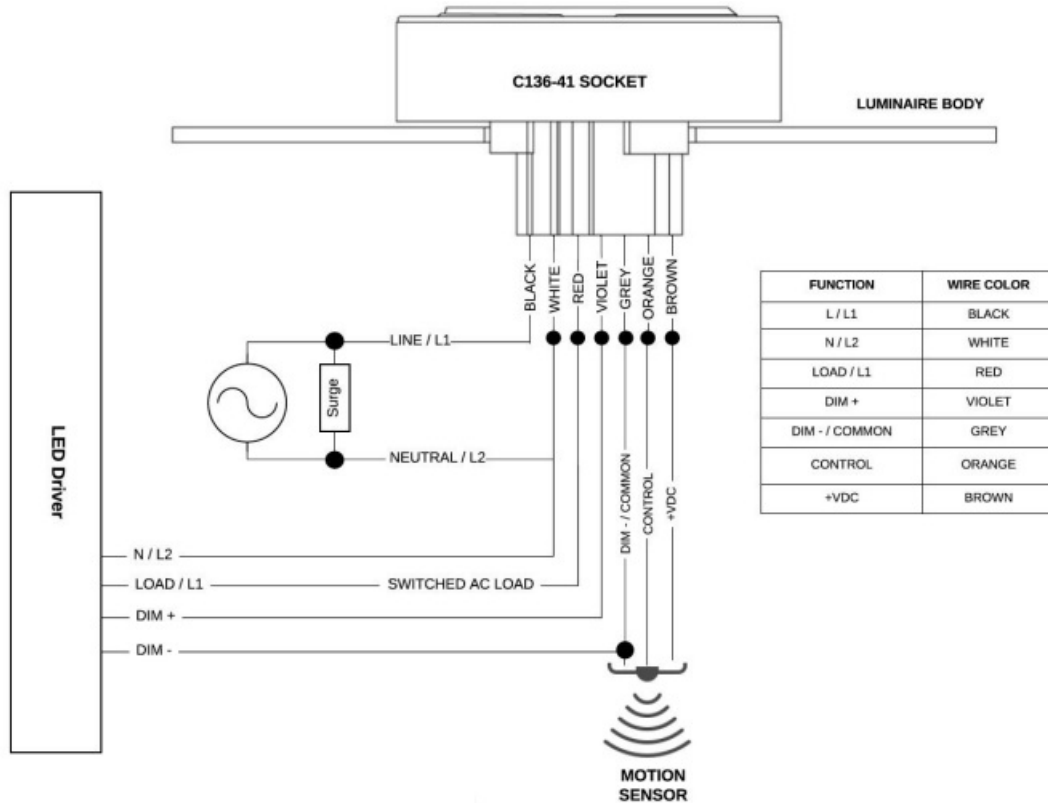
- This product must be installed by national, state, and local electrical codes and requirements
- All work must be performed by qualified personnel
- Disconnect all power before installation or service

## WIRING

### WIRING DETAILS OF C136.41 SOCKET

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH:

TURN OFF THE POWER AT THE CIRCUIT BREAKER OR FUSE AND VERIFY THAT POWER IS OFF BEFORE WIRING! If a motion sensor or the C136.41 socket needs to be wired up prior to installing the TL7-HVG, please refer to the wiring details.



### WARNING:

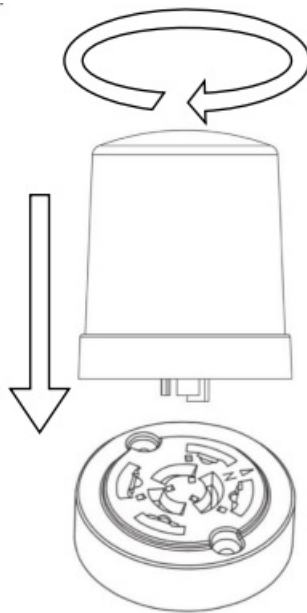
- If a single Synapse controller is used to drive the DIM+ input of multiple LED drivers, then all of the DIM- lines from all drivers MUST be directly tied/shorted together to provide a common return/ground to the controller.
- Synapse will not warranty or be liable for designs with any other electronic means of coupling DIM- lines from multiple drivers.

## INSTALLATION INSTRUCTIONS

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH: TURN OFF THE POWER AT THE CIRCUIT BREAKER OR FUSE AND VERIFY THAT POWER IS OFF BEFORE WIRING!

1. If applicable, remove the lighting control device currently installed in the fixture receptacle.
2. Align the TL7-HVG such that the large contact pin is positioned above the large receptacle contact.
3. Insert the TL7-HVG contacts completely into the receptacle contacts by pressing down.
4. While pressing down, twist the TL7-HVG housing clockwise until it locks into place. (See Figure 2)
5. If the device is properly seated, on power up (and until commissioned in a SimplySnap system), the TL7-HVG will immediately go to 100% dimming, then fade to 0% over 60 seconds, then back to 100%. If it does not dim, the device is not twisted into the proper position.

**Note:** To function properly, make sure the controller is inserted completely into the socket and twisted into the locked position.



**Figure 2 – Installation Diagram**

## STATUS LEDS

LED	COLOR	STATUS
LED 1	BLUE	Network Found, Controller Not Configured (Not yet added to SimplySnap)
LED 1	GREEN	Network Found, Controller Configured (Normal Operation)
LED 1	RED	No Network Found (Communication Lost)
LED 2	GREEN	Relay closed
LED 2	OFF	Relay open

## 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

## FCC

### 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, under 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 under 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:

- Re-orient or relocate the receiving antenna;
- Increase the separation between the equipment and the receiver;
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- 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 "TL7-HVG" 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.

**FAQ****• Q: Do I need to turn off the power before wiring the TL7-HVG?**

A: Yes, it is important to turn off power at the circuit breaker or fuse and verify that power is off before wiring the TL7-HVG.

**• Q: What should I do if the TL7-HVG does not dim properly?**

A: If the TL7-HVG does not dim properly, ensure that the device is twisted into the proper position and fully seated in the socket.

**• Q: What are the status indicators on the TL7-HVG?**

A: The TL7-HVG has status LEDs that indicate network connectivity, controller configuration, and relay status. Refer to the product manual for more details on the LED colors and their corresponding statuses.

**CERTIFICATIONS**

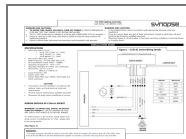
- **Model:** TL7-HVG
- **Contains FCC ID:** U9O-SM220

- **Contains IC:** 7084A-SM220
- **UL File No:** E493550

Contact Synapse for Support- (877) 982-7888  
Patented – virtual marking at  
<https://www.synapsewireless.com/about/patents>

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## Documents / Resources



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C136-41 Lighting Controller, C136-41, Lighting Controller, Controller

## References

- [Synapse Wireless | Patents](#)
- [User Manual](#)