

TL7-DALI-DC(NG) Lighting Controller

Load Rating: 24VDC ±10%

SYNAPSE

WARNING AND CAUTIONS:

- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE INSTALLING!**
- The TL7-DALI-DC(NG) should only be installed in a fixture with a NEMA/ANSI C136.41 receptacle.
- Failure to follow these instructions and warnings could potentially void warranty.

WARNING AND CAUTIONS:

- If you are unsure about any part of these instructions, consult an electrician; all work should be performed by qualified personnel.
- This product must be installed in accordance with national, state, and local electrical codes and requirements

INSTALLATION GUIDE

SPECIFICATIONS

- 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
- Max D4i Drivers: Limited to 4 D4i LED drivers
- Dimensions: 3.3" D x 2.0" H
(84mm D x 51mm H)
- Sensor Input: 24VDC

WIRING DETAILS OF C136.41 SOCKET

If a motion sensor or the C136.41 socket needs to be wired up prior to installing the TL7-DALI-DC(NG), please refer to the wiring details.

NOTE: LINE (Black) and LOAD (Red) are internally shorted together. (See Figure 1)

DESIGN CONSIDERATIONS

- Do not ground the DALI-/COM wire to chassis ground; this is a return signal and is critical for proper dimming.
- Route DALI wires away from AC lines if possible.
- Maximum of 4 DALI-2/D4i LED Drivers per controller, consult Synapse Support if a greater ratio is needed.
- For best performance, Synapse recommends limiting the number of device insertions for applications that use a rotating-style ANSI C136.41 socket.

WARNING: The maximum number of D4i LED Drivers with an active DALI power supply on the bus is 4. Up to 6 D4i LED Drivers may be on the bus, but only 4 may have active power supplies. SimplySnap will not support more than 6 D4i LED drivers on the Synapse lighting controller. The DALI bus is limited to 250mA. Having more than 4 DALI power supplies on the bus may void the D4i LED driver warranty.

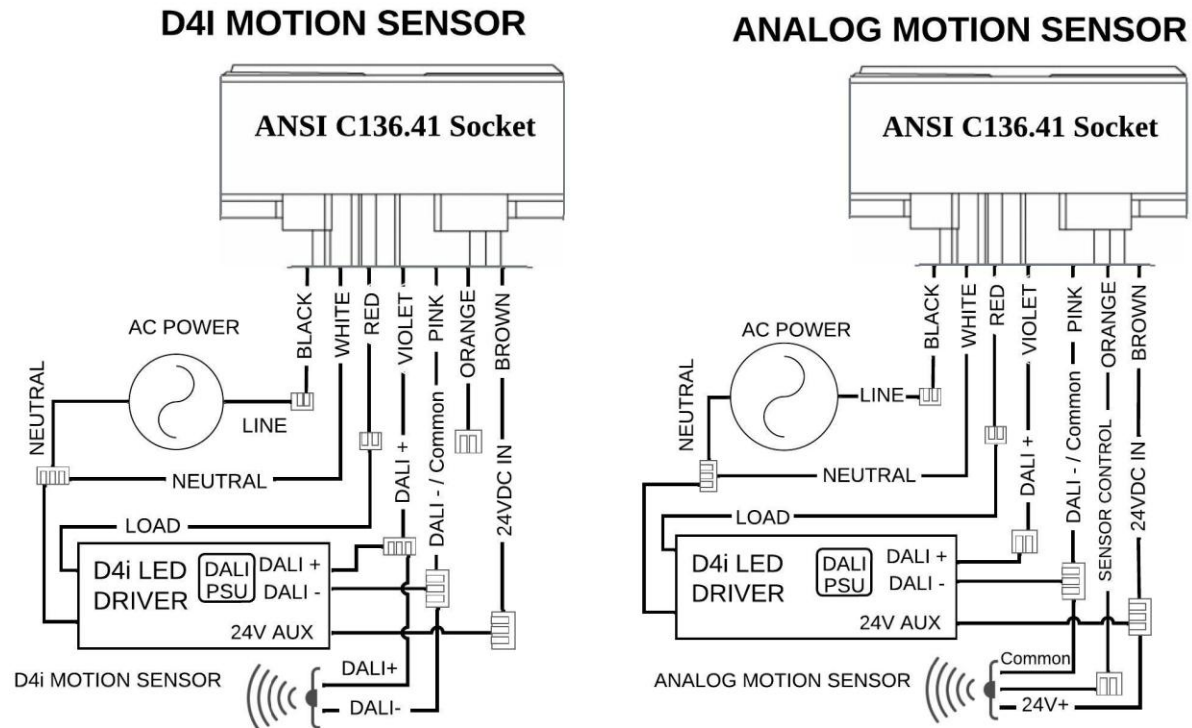


Figure 1 – C136-41 Socket Wiring Details

INSTALLATION INSTRUCTIONS

Fixture/Socket:

1. Disconnect power.
2. Remove any shorting cap, open cap, or photocell if installed.
 - a. Make sure the NEMA ANSI C136-41 Twist Lock Socket ("socket") is flush to the fixture.
3. Align the socket's "North Arrow" to face north (if adjustable).
4. Ensure the socket is secure and does not rotate.
 - a. Some sockets have a slot in the middle for adjusting. Test to see if the middle is locked into place by inserting a flat head screwdriver into the slot and twisting. If the middle turns, the screw need to be locked down.
 - b. Tighten any alignment screws
5. Mark the "North Arrow" position on the luminaire with a pencil or marker. **(See Figure 2)**

Note: For best performance, Synapse recommends limiting the number of device insertions for applications that use a rotating-style ANSI C136.41 socket.

Controller Install:

6. Insert the Controller, aligning the large prong with the opening in the socket, ensuring the device is level and flush.
7. Install the Controller by pushing down firmly and twisting clockwise until it is secure.
 - a. Networked Lighting Controllers (NLCs) have a stiffer gasket than photocells. This gasket requires a firm push down and resists twisting. Lubricate the gasket of the Controller with silicon grease or a few drops of water.
 - b. If the socket moves more than a few degrees there is an issue. Stop trying to twist. This will put strain on the wires attached to the socket.

8. Confirm the Controller is properly installed by checking if the "North Arrow" mark is in the "LOCKED" range on the device's label. (The travel for locking is about 1") **(See Figure 3)**
 - a. Some Controllers will have a clicking sound when the socket detent locks into place.
9. Try to lift the fixture up by grabbing the controller with 2 fingers and lifting up.
10. On power up (and until commissioned in a SimplySnap system), the TL7-DALI-DC(NG) 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.

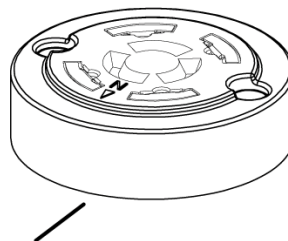


Figure 2 – North Markings

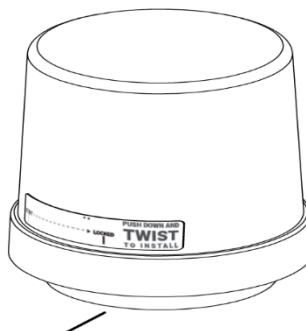


Figure 3 – Locked Position

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	BLUE	Power On

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 présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère 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 "TL7-DALI-DC(NG)" 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.

CERTIFICATIONS

Model : TL7-DALI-DC or TL7-DALI-DC-NG
Contains FCC ID: U90-SM220
Contains IC : 7084A-SM220
UL File No : E493550

To learn more visit: <https://www.synapsewireless.com/>

Patented – virtual marking at:

<https://www.synapsewireless.com/about/patents>