



Area Lighting Controller Installation Instructions

TAC-001

Included:
Installation Instructions
Area Lighting Controller
Plastic Locknut

Important Information - Read before beginning installation:

WARNING - Risk of fire or electric shock. Installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.

This device is not intended for use with emergency lighting or emergency exits.

This device is intended for indoor use or weather protected locations only (Dry and Damp Locations). Do not use where directly exposed to water or water spray.

Product must be installed by a qualified electrician in accordance with the applicable and appropriate electrical codes. The installation guide does not supersede local or national regulations for electrical installation.

CAUTION - Dataport (RJ-45) connector is intended for use only with specified Toggled iQ accessories. Do not connect computer or other networking devices to this port. Doing so may cause irreversible damage to the area lighting controller or connected devices.

Overview:

The Toggled iQ area lighting controller is intended for use primarily with lighting loads (120-347VAC).

This device may be installed externally on any junction box or luminaire with an available 1/2" knockout. This includes locations where it may be located in the plenum as it is UL 2043 Plenum Rated.

The area lighting controller provides 2 x 0-10V outputs designed for brightness and color control of lighting loads, 1 x 0-10V input for receiving signals from 0-10V controls or sensors, and a Class 2 Dataport for future expansion.

The area lighting controller is also capable of power monitoring and metering. Integrated power monitoring allows for the accurate measurement of the incoming line voltage as well as the independent measurement and metering of both switched and unswitched load power consumption.

Maximum Combined Rated Load	Ta = 45C	Ta = 65C
120-347VAC Resistive	20A	10A
120-277VAC Electronic Ballast	20A	10A
120-277VAC Standard Ballast	20A	10A
120-347VAC Standard Ballast	15A	10A
120-347VAC General Purpose	20A	10A

Load Configuration

The area lighting controller has two separate outputs suitable for AC loads. Both loads are powered by the AC input to the area lighting controller and both support independent power monitoring capability.

- 1. Switched Load (Red, 12AWG)**
Dedicated for loads which are intended to be controlled using the Toggled iQ app or by other Toggled iQ control devices.

Examples: Luminaires, lighting circuits, and ballasts/drivers

- 2. Unswitched Load (Blue, 12AWG)**
Dedicated for loads intended to remain continuously powered while the Toggled iQ area lighting controller is powered. Provides the ability to monitor power without requiring additional programming to prevent accidental loss of power from control schemes.

Example loads: Security lights, lighting loads controlled by downstream controls, power metering only applications

0-10V Configuration:

The area lighting controller provides two isolated 0-10V outputs and one 0-10V input. They are suitable for installation as either an NEC Class 1 or Class 2 circuit.

The 0-10V input and 0-10V outputs are part of the same internal circuit. Do not mix Class 1 and Class 2 circuits when using the outputs and input as part of the same installation.

Both 0-10V output channels are rated to sink 50mA each. The 0-10V input is rated to source up to 650µA.

Luminaires and control circuits with only 0-10V brightness control should use the "0-10V DIMMING" positive output (Purple, 18AWG).

Luminaires and control circuits with 0-10V brightness and 0-10V color/CCT control may use the "0-10V DIMMING" positive output (Purple, 18AWG) as well as the "0-10V CCT" positive output (Orange, 18AWG).

0-10V controls or sensors may use the "0-10V INPUT" wire (Purple with white stripe, 18AWG).

The negative (-) connection (Pink, 18AWG) is shared for all 0-10V connections to the area lighting controller.

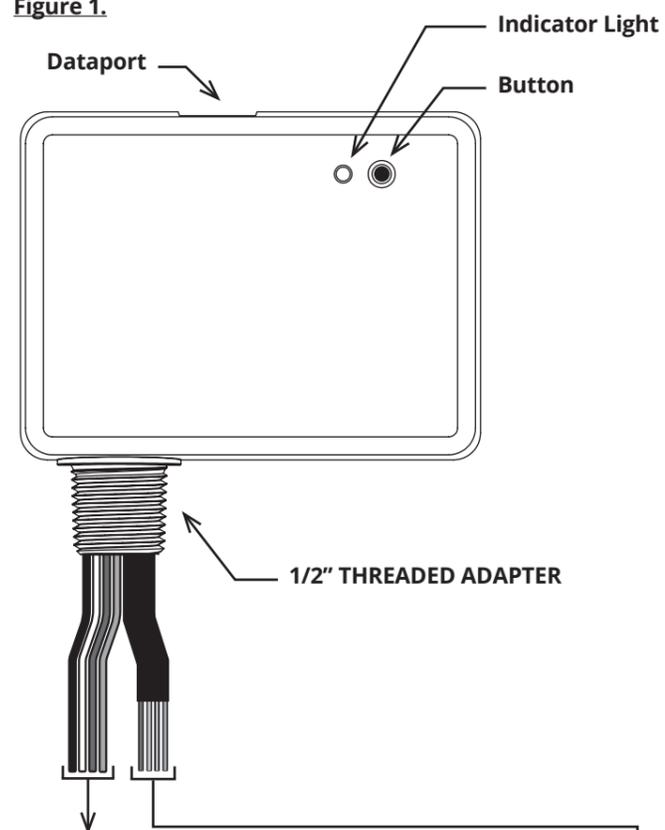
Dataport:

An external Class 2 dataport is provided for to provide future expansion of the area lighting controller. This dataport is isolated from the 0-10V control circuits and the AC line.

Do not connect dataport to computer systems or other standard networking equipment as damage to these systems or the area lighting controller may occur.

For more information about the dataport capabilities, please contact Toggled.

Figure 1.

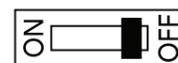


AC Line High-Voltage Wiring:	
BLACK (12AWG).....	AC LINE/HOT
WHITE (12AWG).....	AC NEUTRAL
BLUE (12AWG).....	AC UNSWITCHED LOAD
RED (12AWG).....	AC SWITCHED LOAD

0-10V Low-Voltage Wiring:	
PURPLE (18AWG).....	0-10V (+) DIMMING
ORANGE (18AWG).....	0-10V (+) CCT
PURPLE/WHITE (18AWG)..	0-10V (+) INPUT
PINK (18AWG).....	0-10V (-)

Installation

- 1. Turn off power at the circuit breaker.**



- 2. Locate available 1/2" knock-out in the target junction box or luminaire.**

Before opening knock-out, confirm there is enough clearance for the area lighting controller and it will not interfere with the luminaire, wall or other obstructions.

Ideally, the buttons and indicator light will be visible and accessible after installation. Access to these features allows for visible status indication and may assist in troubleshooting.

- 3. Install area lighting controller into available knock-out.**

Secure using included retaining nut.

- 4. Attach 12AWG wires to AC supply and load(s).**

Consult *Figure 1* for wire colors and assignments.

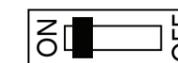
CAUTION: If unswitched or switched wires are unused for the application, they must be capped using a wire nut. Failure to insulate unused line-voltage outputs will create a risk of fire or electric shock.

- 5. Attach 18AWG wires to 0-10V luminaires, ballasts, or control circuits.**

Consult *Figure 1* for wire colors/assignments and the *0-10V Configuration* section for more detailed application information about the 0-10V input/outputs.

Insulate all unused 0-10V wires with a wire nut.

- 6. Turn power back on at the circuit breaker.**



- 7. Configure area lighting controller.**

- A. Download the Toggled iQ app.**

Search for "Toggled iQ"



- B. Make sure area lighting controller has power.**

- C. Follow on-screen instructions in the app to configure your device.**

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Use these wiring examples as a reference only.

Consult local and national electrical regulations and code to verify wiring method compliance.

Wiring Example Using Class 1 Dimming

For Class 1 wiring, control wires and power wires may be terminated and routed within the same junction box and conduit.

If Class 1 wiring is used, it shall be maintained throughout the installation.

The 0-10V input and 0-10V outputs provided by the area lighting controller are part of the same circuit.

Class 2 wiring methods cannot be used if either the input or output(s) are wired using Class 1 method.

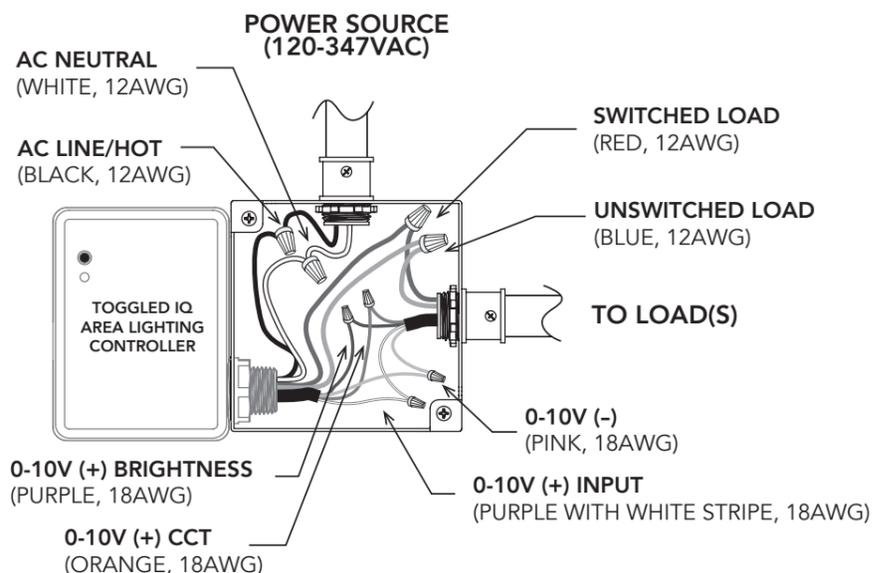


Figure 2.

Wiring Example Using Class 2 Dimming

For Class 2 wiring, one method is to attach an additional junction box to the existing power junction box.

This new junction box will serve as a barrier between the power and Class 2 wiring.

The pre-installed wire jacket on the 0-10V wires shall extend into the new junction box for termination.

Do not mix Class 2 wiring with other circuits in the additional junction box.

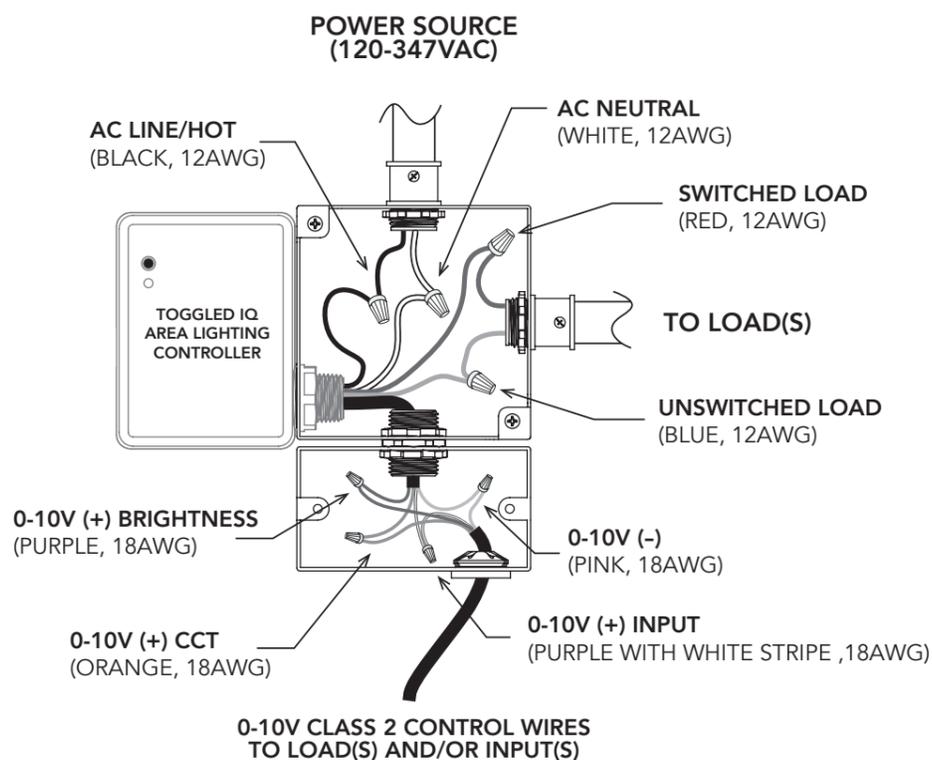


Figure 3.

Troubleshooting

Symptom	Potential Causes	Remedy
Light(s) attached to area lighting controller. will not turn on.	Loose connection or incorrect wiring.	Check wiring configuration and verify there are no loose wire nuts or connections. Test on/off behavior using button on area lighting controller.
Light(s) attached to area lighting controller will not turn off.	Lights connected to UNSWITCHED output.	Connect switchable light(s) to SWITCHED output wire (Red, 12AWG) of area lighting controller.. Test on/off behavior using button on area lighting controller.
Light(s) attached to area lighting controller. will not dim.	Loose connection or incorrect wiring.	Verify there are no loose connections. Check wiring configuration and compare to light / ballast / luminaire dimming instructions. Verify polarity of 0-10V control wires. Test on/off behavior using button on area lighting controller.
Light(s) attached to area lighting controller flicker, flash, or drop out at low dimming levels.	Dimmable light(s) not designed for dimming-to-off.	Adjust 0-10V output minimum trim to keep light(s) within stable dimming region.
Other	Unknown.	Contact Toggled support: - 1.844.864.4533 - support@toggled.com

For additional help or support, please contact Toggled support: Phone 1.844.864.4533. Email support@toggled.com

Factory Reset Instructions (2 methods):

- Option 1:** Press and hold button on device for 15 seconds until blue light flashes rapidly.
- Option 2:** Cycle power to area lighting controller off then back again. Complete the factory reset within 30 minutes using the factory reset menu in the Toggled iQ app.

Button Functions:

- Press and release button** to toggle switched output (relay) on/off. Indicator LED will blink quickly during switching.
- Hold button for 15 seconds** to factory reset device. Release when indicator LED flashes rapidly.

Indicator LED:

- Red solid:** Device is powered and unassociated (requires commissioning).
- Red slow flashing:** Device is being attentioned (selected by phone app) for commissioning.
- Blue solid:** Device is powered and associated/commissioned.
- Blue fast flashing:** Device has been reset to factory settings.

FCC Notice

This device complies with Part 15 of the FCC Rules and with Industry Canada RSS Standards. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
 2. This device must accept any interference received, including interference that may cause undesired operation.
- 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 an 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:
- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and 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.

Changes or modifications not expressly approved by Toggled could void the user's authority to operate the equipment. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.