

Downlight Relay Controller

Small Form Factor Dimmer for Downlights

Status LEDs & Config Button
Quick and Easy validation of wiring and network

Terminal Blocks & Mounting Tabs
Faster, Easier and Lower Cost Installation eliminating connectors



Dimming
Dim to off with any 1-10V Fixture via Relay. Connect to LED string DC output driver side to work with any 12-24V constant current driver up to 1000mA load

External Antenna
Flexible antenna options if mounted in metal enclosures

PRODUCT OVERVIEW

Description

The DC Downlight Relay Dimmer provides a 1000 mA DC output contact closure relay, 0-10V dimming output, and Direct Connect® Sensor port. This flexible module can be used as a small form factor controller for downlights and other small fixtures that do not have dim to off drivers. The controller can also be used as general purpose contact closure output without the dimming lines to drive output commands to external relays, building control systems, or any other use requiring contact closure output.

Relay Dimmers are part of the Avi-on™ Bluetooth with Mesh product ecosystem supported by the Avi-on mobile app, commissioning tools, and cloud IoT Services.

Any output command from the Avi-on network can be directed to the Relay Dimmer including motion sensors, daylight harvesting, wall stations, and schedules

The Downlight Relay Dimmer comes with an external antenna for flexible mounting options in metal enclosures.

Applications

DC Fixture Controller

The Downlight Relay Controller works with 12~24V DC, controlling fixtures up to 1A. The small form factor allows it to fit within the wiring box of individual downlights, and can also support a Direct Connect sensor to add motion sensing and daylight control for downlights. The relay can disconnect power to the LEDs to support drivers that do not dim to off. The relay can be wired on the LED (DC side of the driver) to support AC constant current 1-10v drivers with less than 24V max voltage and 1A maximum current. See wiring diagram below.

Contact Closure Output

The Downlight Relay Controller can also be used as a generic contact closure output for control of circuit level relays in control panels (DC powered), external commands to building control systems, VAV boxes, custom indicator lights, or other uses that need an on/off signal based on a

ORDERING INFORMATION

Part Number	Description	Application	Input Voltage
AVI-B-RCO-12-24VDC-EA	Downlight Relay Dimmer	Indoor	12 - 24 VDC

To order please contact Avi-on sales at (877) AVION-US, (877) 284-6687 or prosales@avi-on.com for information on becoming an Avi-on partner and order details.

Project	Location/Type

SPECIFICATIONS

Input Voltage: 12VDC - 24VDC
Current Draw: 25mA @12V, 30mA @24V
Relay Capacity: 24 VDC Max, 1000mA Max
Mounting: Removable mounting tabs
Weight: 0.45 oz (16g)
Terminal Blocks: 22-16 AWG wires
Operating Temp: -40C to +70C (-40F to +158F)
Storage Temperature: -40C to +85C (-40F to +185F)
Humidity Rating: 95% non-condensing

** Note: Operating controller at or above these levels may result in damage to components/product*

Radio Frequency: 2.4GHz
Wireless Standard: BLE 4.2 with Mesh
Point to Point Range*: 80ft with obstructions; 350ft unobstructed
ESD: IEC/EN 61000-4
Security: AES 128-bit encryption for device to device communication
 AES 256-bit encryption for device to cloud communication
Warranty: 5 years; 10 years optional

**When communicating through the mesh, range is essentially unlimited (5000ft+)*

Certifications:

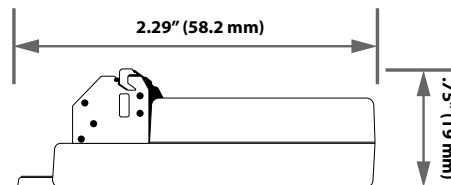
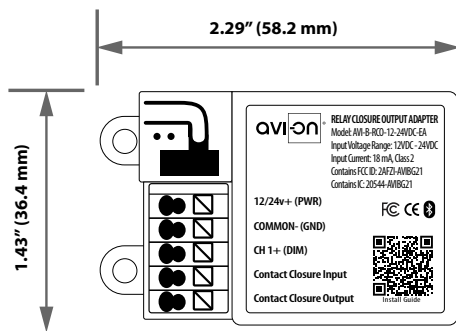
CE: EN IEC 6100-6-1:2019
 EN IEC 6100-6-3:2021
 ETSI EN 301 489-1 V2.2.3 (2019-11)
 ETSI EN 301 489-17 V3.2.4 (2020-09)
 BS EN IEC 62368-1:2020+A11:2020
 EN 62479:2010
 EN 50663:2017
 ETSI EN 300 328 v2.2.2 (2019-07)

FCC: FCC ID: 2AFZI-AVIBG21
 FCC Part 15, Subpart B (Class B)
 FCC Part 15.247

IC: IC ID: 20544-AVIBG21
 ICES-003, Issue 7, Oct. 2020
 RSS-GEN Issue 5, Feb. 2021
 Amendment 2
 RSS-247 Issue 2, Feb. 2017

BQB: DID: D063032
 Qualified Design ID (QDID):
 205509
 178212
 175341

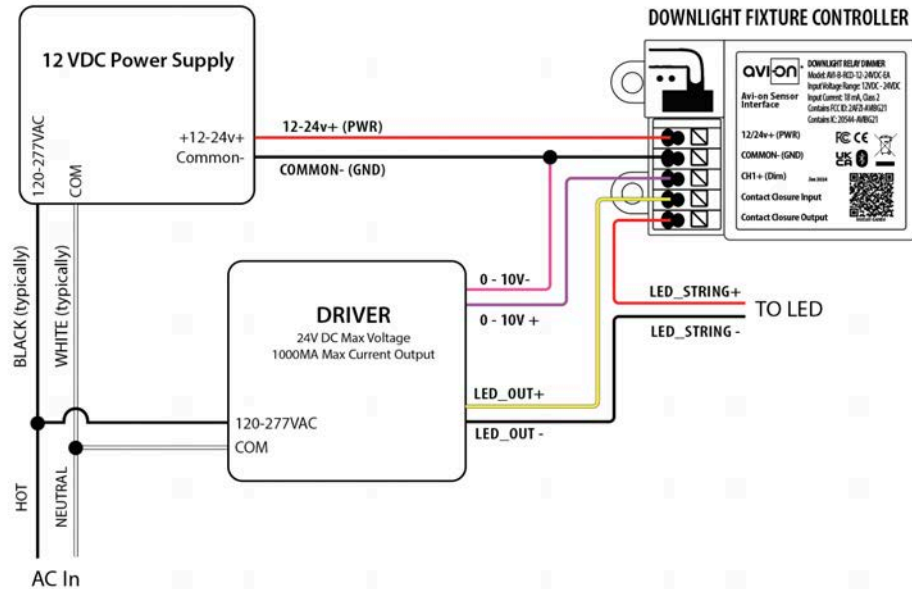
DIMENSIONS



WIRING DIAGRAMS

Downlight Fixture Controller Wiring

Use DC Power supply to provide 12-24VDC power to the Controller. Wire the 0-10V CH1+ line to driver dimming lines. Connect the LED Driver OUTPUT (not AC Input) positive wire to the Contact Closure Input terminal, and the Contact Closure Output Terminal to the LED string Positive line. Plug a Direct Connect Sensor in the sensor port if used. **Driver must not exceed 24V maximum voltage or 1A (1000MA) current.**



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