Radiar AF10

Radiar AF10 is a BLE5.2 controllable, dual-channel 0-10V fixture controller. The device with a 120-277V AC input voltage range also provides 10A relay for the load control. 0-3.3V input channel in the device along with 12V auxiliary power output can be used to integrate third party sensors. The device can be controlled and monitored via a mobile device or a cloud platform.

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1. Features

- Dual channel 0-10V independent output to control intensity and color temperature (CCT)
- Load control up to 10A @ 120/277VAC
- Auxiliary 12V/200mA output power
- 0-3.3V input channel to integrate with third party sensors
- BLE5.2 based non-flooding intelligent mesh
- Standard ½ inch Knockout allows easy mounting to a junction box or compatible fixture
- Zero downtime Over-the-Air (OTA) firmware updates
- RoHS compliant

2. Specifications

Electrical	Symbol	Min.	Typ.	Max.	Unit	Remarks
Input Voltage	Vin	120		277	Vac	
Input Frequency	F	50	-	60	Hz	
Input Current	Iin			10	A	
Load Voltage		120		277	Vac	
Load Current				10	A	
Surge Transient Protection				1	kV	
Aux Voltage	V Aux		12		V	
Aux Current	I Aux		200		mA	

Analog Dimming Output	Min.	Typ.	Max.	Unit	Remarks
Dimming Output1	0		10	V	Max output tolerance ±2%
Dimming Output2	0		10	V	Max output tolerance ±2%
Output Current			10	mA	Sinking current per channel
Dimming Range	0		100	%	
Dimming Resolution		7		bit	100 steps
Cut Off Voltage		0		V	Programmable
Dimming Curve	Linear/ logarithmic				

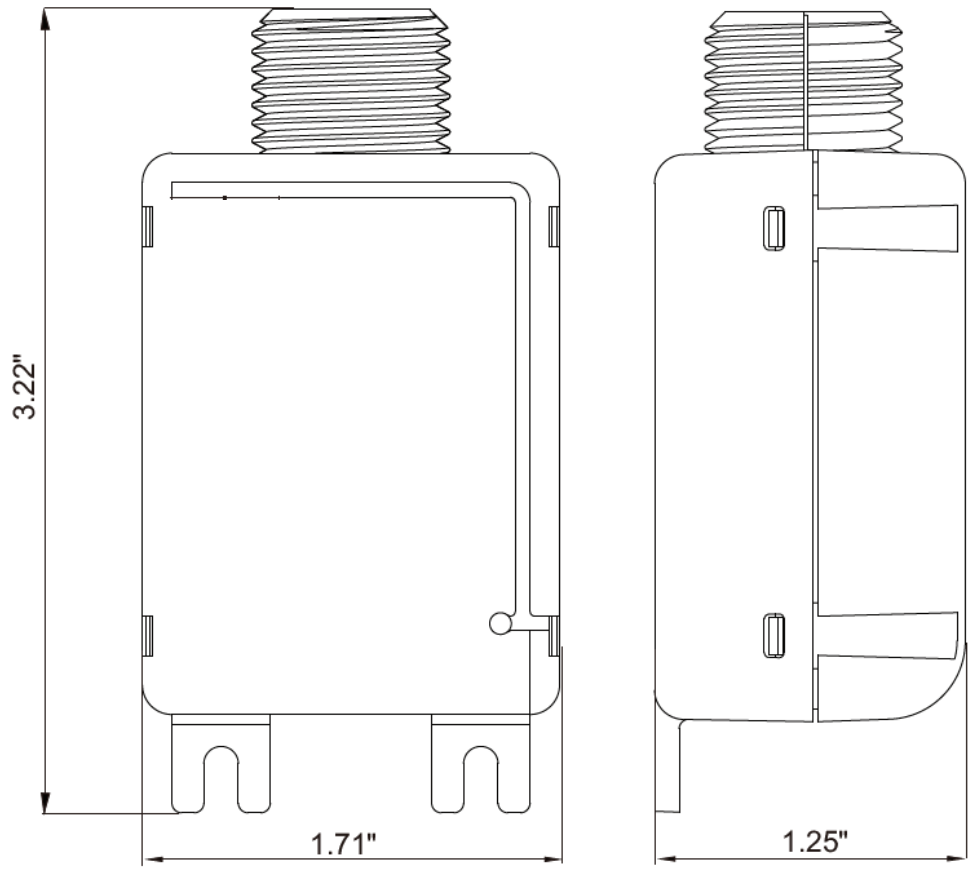
Sensor Interface	Min.	Typ.	Max.	Unit	Remarks
Sensor Input	0		3.3	V	
current		1		mA	

Bluetooth	Min.	Typ.	Max.	Unit	Remarks
Frequency Range	2402	2402	**2480**	MHz	
TX Power	6	7	8	dBm	Conductive
TX current			48	mA	Total current@ Max Tx power
Rx Current			37	mA	Total Current @Rx Mode
Receiver Sensitivity	-75		-86	dBm	

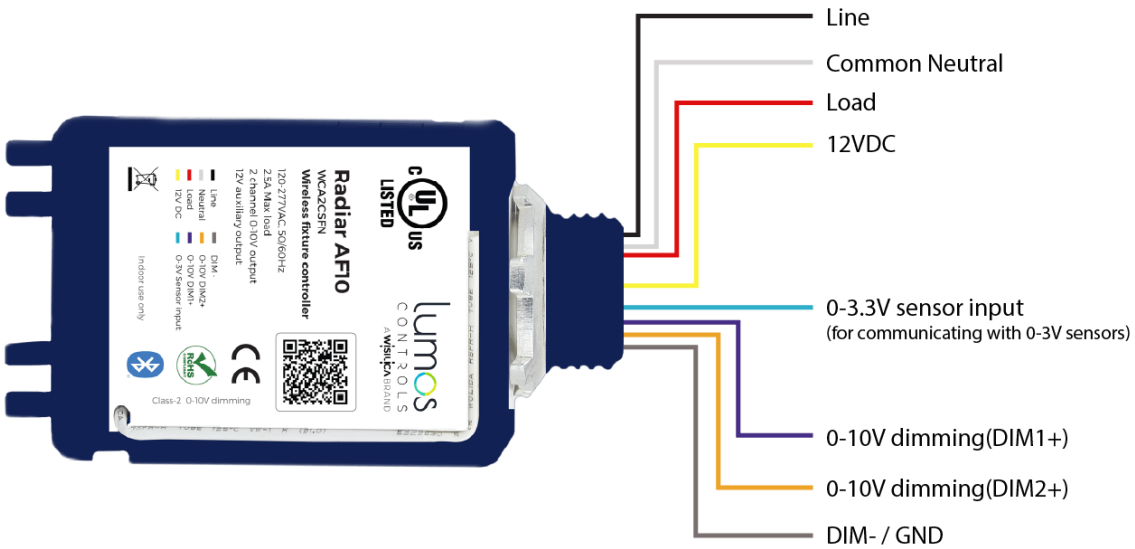
Environmental	Symbol	Min.	Typ.	Max.	Unit	Remarks
Operating Temperature	t_a	-30		55	°C	
Relative Humidity		5		95	%	Non condensing

Mechanical	Typ.	Unit	Remarks
Dimensions	81.79 x 43.43 x 31.75	mm	L x W x H
Dimensions	3.22 x 1.71 x 1.25	inch	L x W x H

3. Device Dimensions



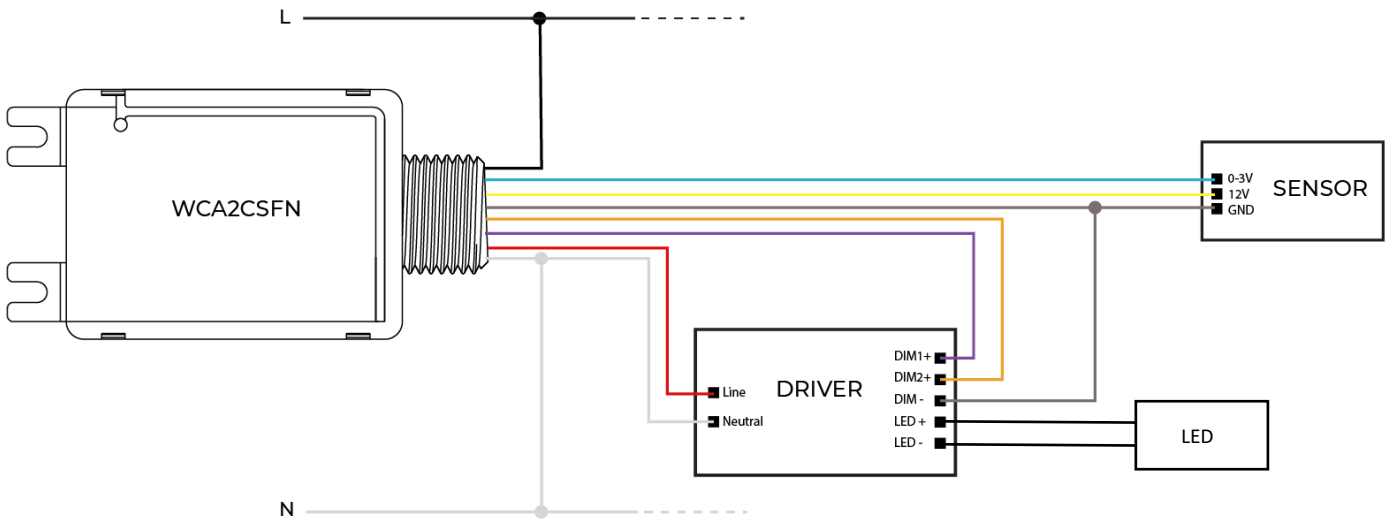
4. Wire Description



Sl. No	NAME	COLOR	GAUGE	RATING	DESCRIPTION
1	Input line	Black	18 AWG	600V	120-277VAC
2	Neutral	White	18 AWG	600V	Common neutral
3	Load line	Red	18 AWG	600V	10A/120-277VAC
4	0-10V DIM1+	Purple	22 AWG	300V	0-10V output for intensity
5	0-10V DIM2+	Orange	22 AWG	300V	0-10V output for CCT
6	12VDC	Yellow	22 AWG	300V	12VDC auxiliary output
7	DIM-	Grey	22 AWG	300V	Common ground
8	0-3.3V sensor input	Blue	22 AWG	300V	0-3.3V input for sensor

5. Wiring Diagram

Configuring Radiar AF10 for dimming, tuning and an external sensor control



- Line (Black)
- Neutral (White)
- Load (Red)
- 12VDC (Yellow)
- DIM- (Grey)
- 0-10V DIM2+ (Orange)
- 0-10V DIM1+ (Purple)
- 0-3.3V Sensor input (Blue)

6. Certification

7. Warning

1. To prevent the device from any defect, please handle and store it with care.

- Do not drop or give shock.
- Do not store in very humid location or at extreme temperature.
- Do not open or disassemble the product.

2. Static electricity or surge voltage may damage the components inside device, as such please observe proper anti-electrostatic working process.

- People handing the device should be well grounded (e.g. using ESD wrist band) and wear antistatic working clothes and gloves.
- All related devices and instruments in the production line should be well grounded (e.g. working table, measuring equipment).

3. Observe the correct polarity of output terminal

4. Avoid input voltage exceeds the maximum rating, which will cause damage to the circuit and result in malfunction.

5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

7. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

8. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.

8. Ordering Information

Product Code	Product Name	Communication	Voltage Rating	Sensor Input	Output Channel	Aux Power	Relay Control
WCA2CSFN	Wireless 0-10V dual channel dimming AC powered fixture controller	BLE5.2	120-277V AC	0-3.3V DC	0-10V 2 Channels	12VDC	10A

FCC Statement

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:

•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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

CONNECTING THINGS TO LIFE

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