

# Radiar AF10

2channel AC powered 0-10V fixture controller with inbuilt relay  
WCA2CSFNN



FCC ID: 2AG4N-WCA2CSFNN

**lumos**  
CONTROLS  
A VISULICA BRAND

## INSTALLATION AND QUICK START SHEET

### ⚠ WARNING AND GUIDELINES!!!

Read and follow all safety instructions!!

**DO NOT INSTALL DAMAGED PRODUCT!** This product has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.

### WARNING : TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE WIRING

#### WARNING: Risk of Product Damage

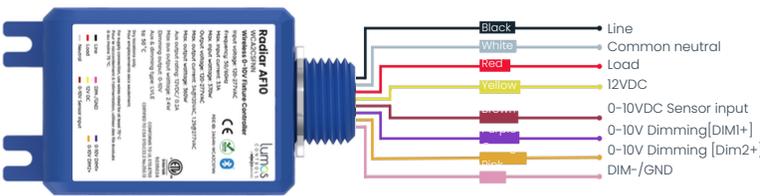
- Electrostatic Discharge (ESD): ESD can damage product(s). Personal grounding equipment should be worn during all installation or servicing of the unit
- Do not stretch or use cable sets that are too short or are of insufficient length
- Do not modify the product
- Do not mount near gas or electric heater
- Do not change or alter internal wiring or installation circuitry
- Do not use product for anything other than its intended use

#### WARNING - Risk of Electric Shock

- Verify that supply voltage is correct by comparing it with the product information
- Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements
- All wiring connections should be capped with UL approved recognized wire connectors
- All unused wiring must be capped

### Product Overview

Radiar AF10, the dual-channel dimming/ tunable AC fixture controller is a part of the Lumos Controls ecosystem. The device is easy to mount in an electrical junction box or compatible fixtures. The device has dual channel 0-10V independent output to control intensity and correlated color temperature(CCT) and it has a 0-10 VDC input channel and 12VDC aux output to integrate with third-party sensors.



Do's	Don'ts
Installation should be performed by a qualified electrician	Don't use outdoors
Installation shall be in accordance with all applicable local and NEC codes	Avoid input voltage exceeding maximum rating
Turn the power OFF at circuit breakers before wiring	Don't disassemble the products
Observe the correct polarity of output terminal	
Place devices as far away as possible from metallic materials	
Devices work best in when there is a clear LOS between them	
When placing devices inside metallic boxes, please ensure the antenna comes out of the boxes	

Specifications	Value	Remarks
Input voltage	120-277VAC	Rated input voltage
Input current	3.10A	@Max RF transmitting
Load voltage	120-277VAC	
Load current	3A	
Aux voltage	12VDC	
Dimming output	0-10VDC	2channels , Tolerance + 2%,
Dimming current	10mA	Source current per channel
Dimming range	0-100%	1000 steps resolution
Sensor input	0-10VDC	Current: 1mA
Operating temperature	-30 to 50°C (-22 to 122°F)	
Dimensions	3.22 x 1.71 x 1.25 (inch) 81.79 x 43.43 x 31.75 (mm)	L x W x H
Case Temperature	80°C (176°F)	

### Required tools & supplies



Electrical pliers



Screwdriver



Wire nuts



Electrical box



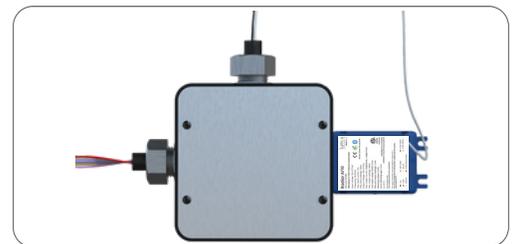
1/2 inch trade size cable connector

## INSTALLATION INSTRUCTIONS

### Mounting Steps- Standard

Install the electrical box as per the local, state & national electrical codes and requirements

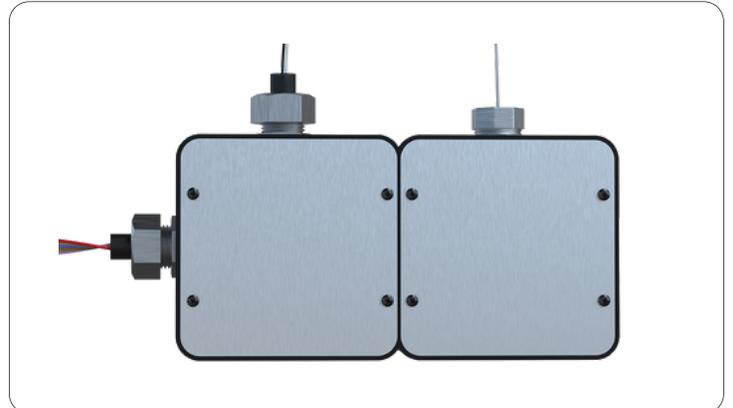
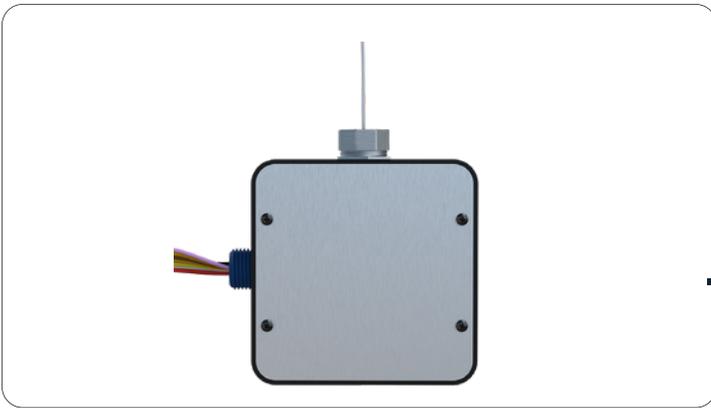
- Turn the power OFF at circuit breaker and ensure the power is OFF before wiring
- Use electrical screw driver to remove three 1/2 inch Knock Out (KO) from the junction box
- Remove the locknut from the Radiar AF10 chase nipple
- Take in the wires and chase nipple of the Radiar AF10 through knock out(KO) hole
- Install the washer and locknut on to the chase nipple. Use a plier to additionally tighten and fix the device firmly with the junction box. (Note: Ensure the antenna faces towards the floor for better communication)
- Take the AC line and neutral mains wires through another KO hole of junction box connect the line(black) and neutral wires(white) of the fixture controller with the line and neutral wires from mains
- Take the line, neutral, dimming wires from the driver in to the J-box through another knockout hole
- To power the driver, connect the Load (Red color) of Radiar AF10 with Input Line of driver and common neutral (White color) with input neutral of driver
- Connect the dimming wires of the driver to the dimming wires of the controller
- Close the electrical box with cover plate
- Restore power to the circuit breaker



## Mounting Steps- Plenum Spaces

Install the electrical box as per the local, state & national electrical codes and requirements

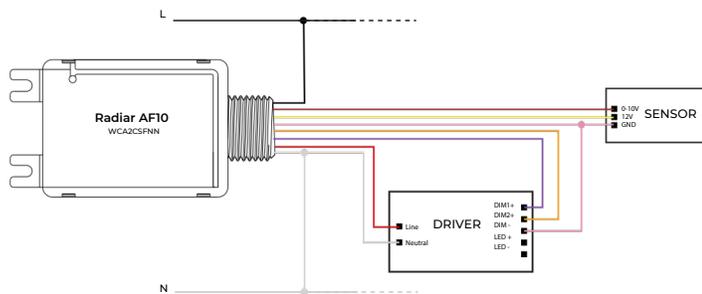
- Turn power OFF at circuit breaker and ensure the power is OFF before wiring
- Use electrical screw driver to remove Knock Outs from the airtight junction box  
(In jurisdiction where airtight box is needed, use corresponding variants of airtight junction box)
- Remove the locknut from the Radiar AF10 chase nipple
- Place Radiar AF10 inside the junction box and feed the wires and chase nipple of the device through knock out(KO) hole
- Install the washer and locknut on to the chase nipple and hand tighten to the wall of junction box
- Open the connector and take out the wire antenna and insert in to the connector
- Take the AC line and neutral main wires through another KO hole of junction box and connect the line(black) and neutral wires(white) of the fixture controller with the line and neutral wires from mains
- Take the line, neutral, dimming wires from the driver in to the junction-box through another KO hole
- To power the driver, connect the Load (Red color) of Radiar AF10 with Input line of driver and common neutral (White color) with input neutral of driver
- Connect the dimming wires of the driver to the dimming wires of the controller
- Close the electrical box with cover plate
- Restore power to the circuit breaker



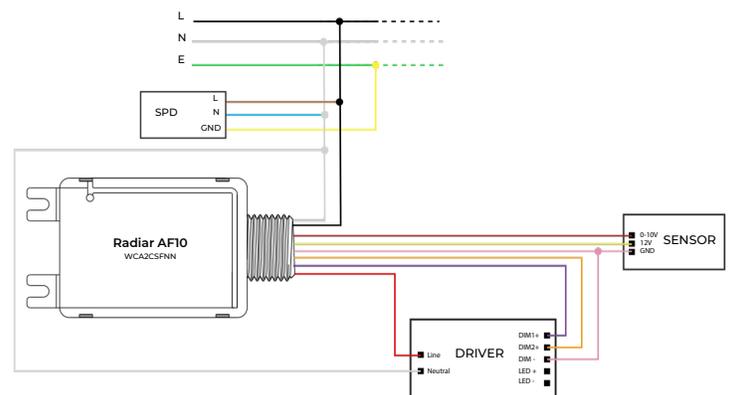
## Wiring diagram

Install the electrical box as per the local, state & national electrical codes and requirements

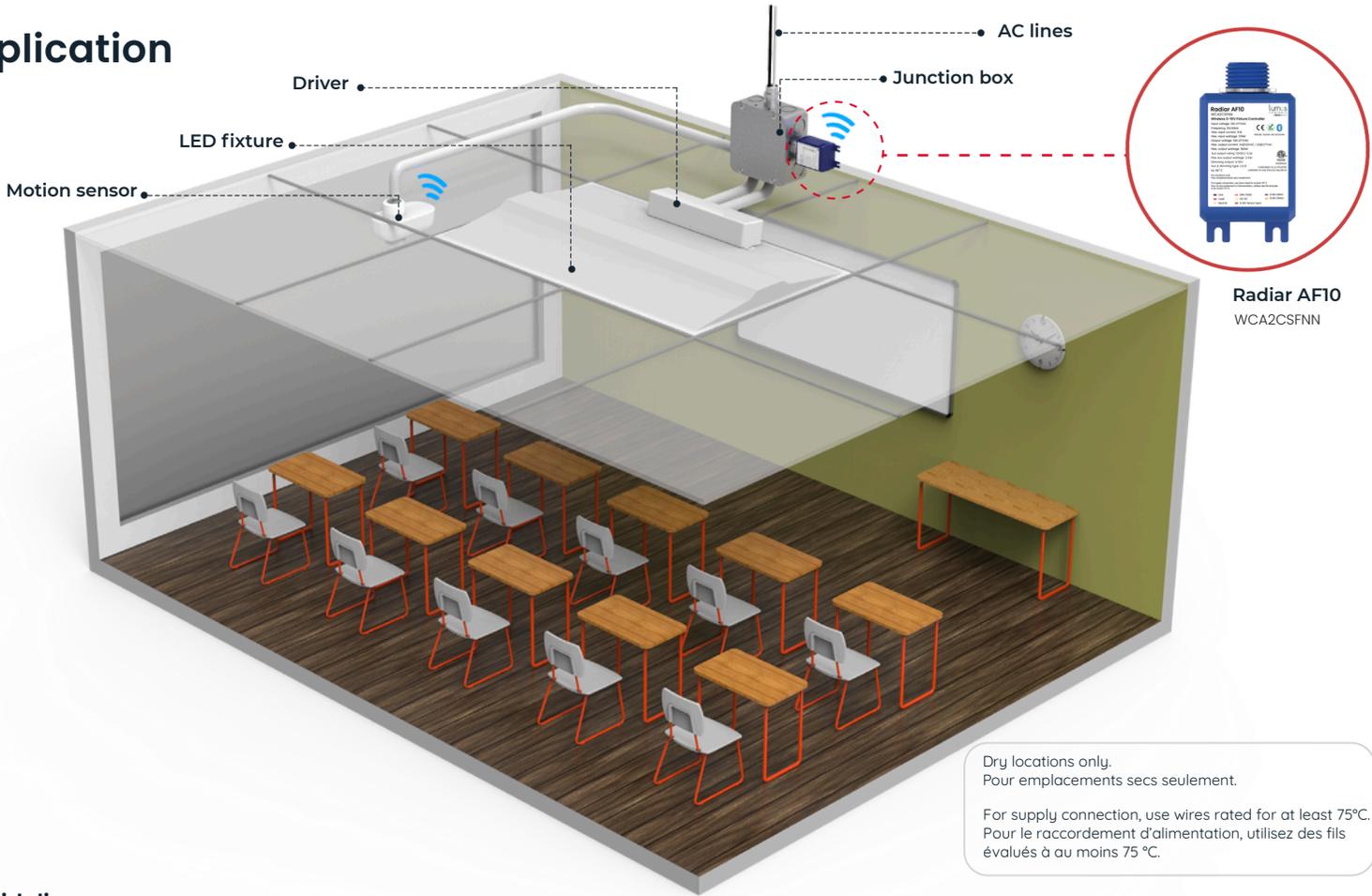
1. Configuring Radiar AF10 for dimming, tuning and an external sensor control



2. Configuring Radiar AF10 for dimming, tuning and an external sensor control (with additional surge protection)



# Application



## RF Guidelines

If pairing of devices are getting failed continuously then it may be due to BLE traffic. To reduce the traffic, power OFF other devices in the vicinity and pair again.

## Troubleshooting

When returning from a Power Outage, lights go back to ON state.	This is normal operation. Our device has a fail-safe feature forcing the device to go to 50% or 100% and 0-10V at the full output on the loss of power. Alternatively, the device will return to its previous state after the power is restored, as configured using the Lumos Controls mobile app needs to be updated to Alternatively, the device will return to the previous state or a custom state as configured using the Lumos Controls mobile app after the power is restored
There is a delay for the device to turn on/off/dim	Check whether you have set up a transition time
Lights flickering	<ul style="list-style-type: none"> <li>■ Check whether connection is as per wiring diagram</li> <li>■ Check for loose connections</li> <li>■ Check whether circuit breaker has tripped</li> </ul>
Lights did not turn ON	<ul style="list-style-type: none"> <li>■ Check whether fuse has blown</li> <li>■ Check for loose connections</li> </ul>

## Warranty

5-year limited warranty  
 Please find warranty [terms and conditions](#)  
 Note: Specifications may change without notice  
 Actual performance can vary due to end-user environment and application

## Commissioning

Once powered up, the device will be ready to be commissioned via the Lumos Controls mobile app, available for free download on [iOS](#) and [Android](#). To begin commissioning, click the '+' icon from the top of the 'Devices' tab. The app allows you to preset certain configurations which will be loaded after the device is added. The pre-configurations made using 'Commissioning Settings' will be sent to the devices being commissioned. Once commissioned, the device will be displayed in the 'Devices' tab and you can perform individual operations like ON/OFF/dimming on it from this tab. Note: The 'Output Channel Configuration' will be 'Single Channel' by default. To configure dual channel settings, go to 'Additional Settings' and click 'Output Channel Settings'. Then select 'Controller based color tuning' or 'Driver based color tuning' based on the connected driver.



Please visit [Help center](#) for more details

## Lumos Controls Application

Download the 'Lumos Controls' application from Play Store or App Store  
 OR

Scan the QR codes to download the 'Lumos Controls' application



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20321 Lake Forest Dr D6,  
 Lake Forest, CA 92630

[www.lumoscontrols.com](http://www.lumoscontrols.com)  
 +1 949-397-9330