

WISILICA Radiar AFD1 WCADIN Dali Fixture Controller User Manual

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Radar AFD1

Radar AFD1 is a BLE5.2 controllable, Nordic-based DALI controller. It operates on a 90-277 VAC input voltage range and can be connected to 1 DALI LED driver. This device also has a 12 VDC auxiliary output to power the sensors.

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Features

- DALI supports up to 1 slave device
- BLE5.2 based non-flooding intelligent communication
- 12 VDC auxiliary output
- Zero downtime Over-the-Air (OTA) firmware updates
- The compact form factor for easy integration into luminaires

Specifications

Electrical	Min.	Typ.	Max.	Unit	Remarks
Input Voltage	90		277	Vac	Rated Input voltage
Input Current		10		mA	@ 230 V
Power Consumption		2		W	Active Power
Supply Frequency	50	—	60	Hz	
Inrush Current		4		A	
Surge Transient Protection			4	kV	L-N, Bi wave
Standby Consumption			7.71	mA	@Rated input voltage
Connection Distance (Device to Device by Mesh)		30		m	In an open office environment (Line of Sight)

DALI	Min.	Typ.	Max.	Unit	Remarks
Number of Slaves			1	pc	
Bus Supply Voltage	11	12	13	V	
Bus Supply Current		2		mA	
Dimming Range	0		100	%	
Protocol	101 / 103 / 207 / 209				DALI2.0
Chipset used					Nordic
Dimming Curve	Linear / Logarithmic				Logarithmic by default

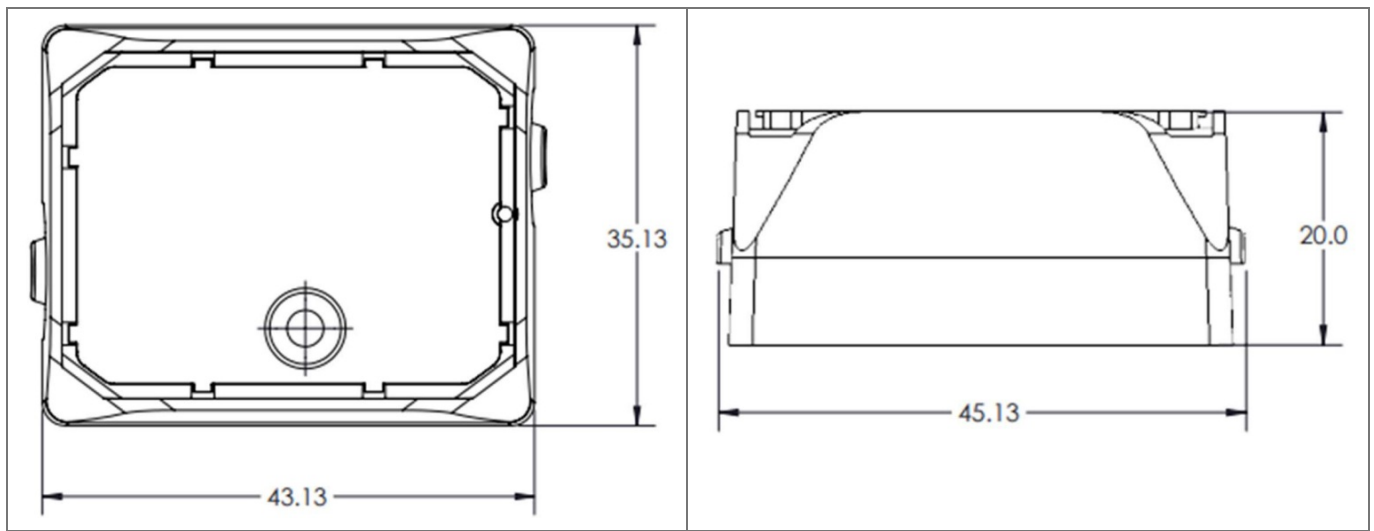
Bluetooth	Min.	Typ.	Max.	Unit	Remarks
Frequency Range	2400		2483	MHz	
TX Power			8	dBm	With 150mm external wire antenna
RX sensitivity		-92		dBm	

Environmental	Min.	Typ.	Max.	Unit	Remarks
Ambient Temperature	-20		50	°C	
Relative Humidity	20		85	%	

Mechanical	Min.	Typ.	Max.	Unit	Remarks
Dimensions		43 x 35 x 20		mm	L x W x H
Dimensions		1.7 x 1.4 x 0.8		inch	L x W x H
Net Weight		30.00		g	In gram
Net Weight		1.06		oz	In ounce

Device Dimensions

Radar AFD1 Top View: 43mm x 35mm x 20mm (L x W x H).
Case Material: White-colored V0 PC



Wire Description



S.NO	NAME	COLOR	GAUGE	RATING	DESCRIPTION
1	Line	Black	20 AWG	600V	100-277VAC
2	Neutral	White	20 AWG	600V	Common neutral
3	DALI	Blue	28 AWG	300V	DALI+
4	DALI	Grey	28 AWG	300V	DALI –
5	12VDC	Red	28 AWG	300V	• 12 VDC auxiliary output
6	Ground	Grey	28 AWG	300V	Common ground

Antenna Information

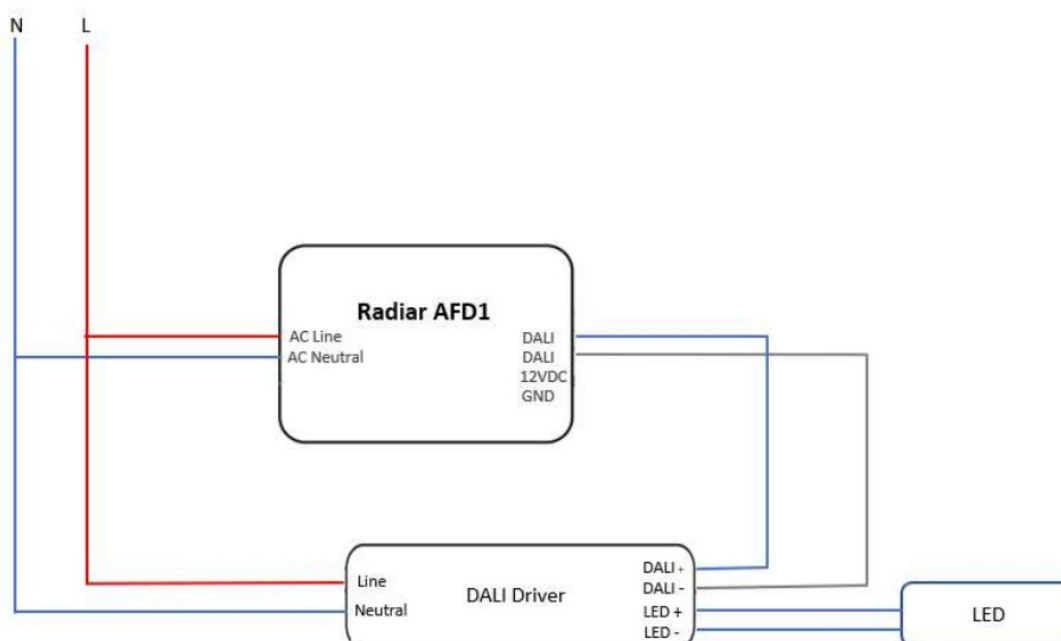
150mm wire antenna



Antenna Properties	
Frequency range	2.4 GHz-2.5GHz
Impedance	50 Ω Nominal
VSWR	1.92:1 Max
Return loss	-10 dB Max
Gain(peak)	2 dBi
Cable loss	0.3 dBi Max
Polarization	Linear

Wiring Diagram

1. Connecting DALI drivers to the Radar AFD1 controller



Warning

- To prevent the device from any defect, please handle and store it with care.
 - Do not drop or give a shock.
 - Do not store in a very humid location or at extreme temperatures.
 - Do not open or disassemble the product.
- Static electricity or surge voltage may damage the components inside the device, as such please observe the proper anti-electrostatic working process.
 - People handling the device should be well-grounded (e.g. using an 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, assembly jigs).
- Observe the correct polarity of the output terminal.

4. Avoid input voltage exceeding 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. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as a power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus have been exposed to rain or moisture, do not operate normally, or has been dropped.
7. 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 objects filled with liquids, such as vases, shall not be placed on the apparatus.
8. To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instruction.

Ordering Information

Product Code	Product Name	Product Description	Communication	Voltage Rating
WCAD1N	Radar AFD1	1 Slave DALI Controller	BLE5.2	90-277V AC

Compatible Devices

- iOS – iPhone & iPad (version 9.0 and above)
- Android- almost all devices (version 6.0 and above)



Register and view our knowledge base for commissioning and controlling information

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- Android: https://play.google.com/store/apps/details?id=com.wisilica.Home&hl=en_US
- iOS: Lumos Controls on the App Store (apple.com)

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 the 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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.



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Version 1.0

Documents / Resources

	<p>WISILICA Radiar AFD1 WCADIN Dali Fixture Controller [pdf] User Manual WCAD1N, 2AG4N-WCAD1N, 2AG4NWCAD1N, Radiar AFD1 WCADIN Dali Fixture Controller, Radiar AFD1, WCADIN Dali Fixture Controller</p>
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References

-  [Apple](#)
-  [Form](#)