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## CONTROLS AWISILICA BRAND



# **Radiar ARD32**

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## 32 Slave DALI Room Controller

REACH

ROHS

#### **Product Overview**

Radiar ARD32 is a highly flexible and cost-effective DALI room controller. It is a part of the Lumos Controls ecosystem, including controllers, sensors, switches, modules, drivers, gateways, and analytical dashboards. It can be connected to the Lumos Controls cloud for data analytics and configuration management. The lighting network's configuration, commissioning, and controlling can be super-quick from any mobile device.

The device can be connected to a maximum of 32 DALI LED drivers and can be controlled as DALI or 0-10V. It operates on a 100-277 VAC input voltage range and can also be configured in 0-10V mode to control one or two 0-10V controllable LED drivers, or a tunable white LED driver with two 0-10V control interfaces. This device comes with a 3.3VDC input channel that can be used to communicate with an external sensor. It has a customizable communication interface for control and status and has an Input for an external AC relay.

The ecosystem is listed by the **Design Lights Consortium (DLC)**, qualifying it for energy conservation incentive programs and rebates utility companies in North America.

#### **Features**

- DALI supporting up to 32 slave devices
- Optional analog 2 channel (0-10V) independent output to control intensity and CCT
- Input for external AC relay
- Zero downtime Over-the-Air (OTA) firmware updates



## **Specifications**

#### Electrical

Specifications	Value	Remarks
Input voltage	100-277VAC	Rated input voltage
Input current	10-30mA	@Max RF transmtting
Frequency	50/60HZ	
External relay input	0.8A@230VAC	
Inrush current	20A	
Leakage current	0.5mA	@Rated input Voltage
Surge protection	3kV	@Line to Line Bi Wave

#### **DALI Output**

Specifications	Value	Remarks
Voltage range	12-20VDC	Typically 16VDC
Current	160mA max	Connected to 32 Dali drivers
Supported protocols	101/ 103/ 207/ 209	DALI 2.0
Dimming range	0-100%	1000 steps resolution
Dimming curve	linear/ Iogarithmic (default)	

#### 0-10V Output

Specifications	Value	Remarks
Number of channels	2	
Voltage range	0-10VDC	Tolerance: ±0.2V
Current	15mA	Source current per channel
Dimming range	0-100%	1000 steps resolution
Dimming curve	Linear (default) /logarithmic	

#### Sensor Input

Specifications	Value	Remarks
Voltage range	0-3VDC	Digital
Current	lmA	

#### Bluetooth

Specifications	Value	Remarks
Frequency range	2402-2480MHz	
Max output power	8dBm	With 130mm wire antenna
Receive sensitivity	-95dBm	
Connection distance (device to device)	45m, 147.6ft	Vary depending on the installation enviroment

#### Auxiliary Output

Specifications	Value	Remarks
Voltage	3.3VDC	Digital
Current	30mA	

#### Environmental

Specifications	Value
Ambient temperature	-20 to 50°C (-4 to 122°F)
Case temperature	70°C (158°F)
Relative humidity	20 –85% non-condensing

#### Mechanical

Specifications	Value	Remarks
Dimension	2.7 X 1.78 X1.02 (inch) 70.90 X 45.40 X 26.10 (mm)	L x W x H
Weight	50.0g(1.76oz)	
Case material	PC	White color
Flammability rating	UL 94 V-0	

## **Product Dimensions**

Radiar ARD32 Top view: 70.9mm x 45.4mm x 26.1mm (L x W x H)



## **Connector Description**



	Name	I/o	A/D	Function
0	AC-Neutral	Input	Analog	VAC common neutral
2	AC –Line	Input	Analog	VAC input line
3	Load Line	Output	Analog	VAC output line
4	3V3	Output		DC 3.3V aux supply
5	GND	Output		DC GND
6	ТХ	Output	Digital (3.3V)	UART transmitter
7	RX	Input	Digital (3.3V)	UART reciever
8	Din 1 NC		NC	No connection (NC)
9	Din 2	Input	Digital (3.3V)	3.3V digital sensor input
10	GND	Input		DC GND
0	CHI	Output	Analog	0-10V analog dimming
12	CH2	Output	Analog	0-10V analog dimming
13	DALI	Output	Digital	DALI+
14	DALI	Output	Digital	DALI-

## Suggested Wire Gauge

AC	16-18AWG (0.75-1.5sq.mm)
AC	16-20AWG (0.5-1.5sq.mm)

## Antenna Information

130mm wire antenna		
Frequency range	2.4GHz-2.5GHz	
Impedance	50 $\Omega$ nominal	
VSWR	1.92:1 Max	
Return loss	-10dB Max	
Gain (peak)	2dBi	
Cable loss	0.3dBi max	
Polarization	Linear vertical	

## Wiring

1) Connecting DALI drivers to the Radiar ARD32 controller



2) Connecting 0-10V drivers to the Radiar ARD32 controller (in 0-10V mode)



3) Connecting an external sensor with 0-3V output to the Radiar ARD32 controller using a Molex connector



## Smart Ecosystem



Certifications	Details	
CE	Article 3, RED 2014/53/EURadio test standardEMC test standardsETSI EN 300 328 V2.2.2 (2019-07)ETSI EN 301 489-1 V2.2.3 (2019-11)Health test standardETSI EN 301 489-17 V3.2.4 (2020-09)EN 62479: 2010EN 55032: 2015/Al1:2020EN 62479: 2010EN 55035: 2017+Al1:2020EN 50663: 2017Safety test standardEN 50663: 2017IEC 62368-1:2014+Al1: 2017EN 5010	
RoHS 2.0	RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	
REACH	Regulation (EC) No 1907/2006 of REACH	
WEEE	under the WEEE Directive: 2012/19/EU	
Bluetooth	Declaration ID: D059551	

## Items included in the package box

Radiar ARD32
User manual
Antenna

## Application





Radiar ARD32

#### **Ordering Information**

Product Code	Product Name	Product Description	Communication	Voltage Rating	Sensor Input	Output Channel
WCA2CSD32N	Radiar ARD32	32 Slave DALI room controller	BLE 5.2	100-277 VAC	3VDC	DALI/0-10V 2 channels

#### Accessories

WAIB	Lumos Controls installation box	
WAS6C	Lumos Controls sensor interface 6 pin connector	

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