

**OVERVIEW**

The nLight AIR rMSOD sensor is an in-fixture, low voltage, digital sensor providing embedded wireless lighting control, analog or digital dimming, occupancy detection and daylight harvesting capabilities. The rMSOD has a remote antenna and gasketed sensor that enables it to be installed in a variety of fixtures, even those in challenging environmental conditions. It can sense motion from mounting heights of up to 40 ft. The rMSOD sensor provides Passive Infrared (PIR) occupancy detection and photocell light level detection in one compact low profile design.

**SMART SENSOR FEATURES**

- 100% digital PIR detection
- Combined daylight and occupancy sensor
- Fully dimmable via digital or analog dimming protocols, providing the right amount of light for the application and to optimize energy savings
- Optional UL 924 emergency functionality via EM option, which eliminates wiring for sensing normal power<sup>5</sup>
- Programmable return to last state capability

**INSTALLATION FEATURES**

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Integrated at the factory, no onsite wiring required
- IP rated for demanding environments, indoor or outdoor
- Simple app-based configuration of space behaviors

**ADVANCED WIRELESS FEATURES**

- Devices intercommunicate to provide grouped-response to motion and on/off and dimming response to daylight conditions
- Flexible sensor time delays and light levels in responding to motion and daylight conditions
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate with the nLight ECLYPSE™, which provides site-wide lighting control through nLight's SensorView software and provides optional BMS integration
- Comprehensive wireless security

**Warranty**

Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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nLight® AIR  
rMSOD:  
Fixture embedded  
smart sensor



**ORDERING INFORMATION**

rMSOD						Examples: RMSOD 45 180D G2
Series	Coverage Type	Color <sup>1</sup>	Dimmer Type	Emergency	Antenna	
RMSOD nLight AIR occupancy and daylight sensor	7 Mini Low-Bay 45 High Mount 45A High Mount Aisleway	[blank] White BW Black	[blank] <sup>4</sup> LEDcode ZT 0-10 VDC ZTS <sup>4</sup> 0-10VDC With Normal Power Sensing	[blank] None EM <sup>2</sup> UL924 Emergency Operation	[blank] <sup>6</sup> 900Mhz External Antenna EXTDB Dual Band External Antenna	
Antenna Whip	Angle	Options <sup>3</sup>	Generation			
[blank] 10 inch whip 20IN 20 inch whip	90D 90° Antenna Orientation 180D 180° Antenna Orientation	[blank] None 50FC 50 fc Photocontrol Set Point	G2 Generation 2 compatibility			

Accessories	
EXT ANT REPL WH	Replacement antenna, white, does not include the 6 inch whip

Notes:

1. BW option has a white body with black lens holder and antenna.
2. EM not available with ZTS option.
3. More than one option can be selected.
4. Non-EM devices with this option can be used to sense normal power for EM devices.
5. Normal power sensing is provided by nLight AIR devices connected to normal power in the same group. See the UL 924 Response section for more information.
6. 20 inch antenna whip not available.

## SPECIFICATIONS

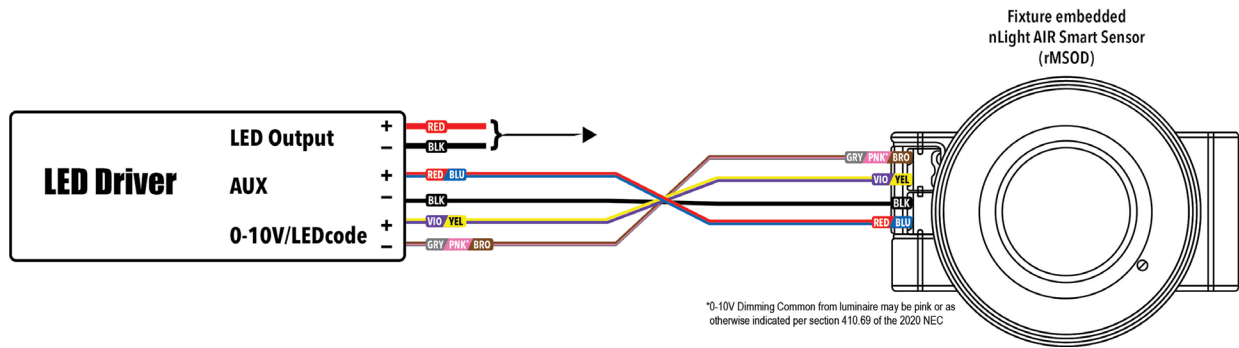
Input Power	6-50VDC, 700mW min
Dimensions	1.180" h x 2.617" w x 1.335" d
Weight	1.25 oz
Trim Color	White
Enclosure Material	Poly-Carbonate/ABS
Max Humidity	0-95% non-condensing
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
IP Rating	IP66 - Suitable for damp locations
Mounting	Fixture-Mounted
Radio Frequency	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power	900MHz: +20dBm; 2.4GHz: Variable
Wireless Standard	900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Wireless Range	900MHz: Up to 1000 ft. (~304m) in free space/ line of sight Minimum of 150 ft through typical construction 2.4GHz: Up to 60 ft. (~18m) in free space/ line of sight
Security	Application Data Encryption: AES-128 bit Mutual Entity Authentication Message Confidentiality Message Authentication and Replay Prevention Limited Anonymity Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance	Wireless: FCC ID: 2ADCB-RMODIT3 IC: 6715C-RMODIT3 IFETEL: RCPNLL20-2057 Safety: cUL <sub>US</sub> Listed; RoHS Compliant, Non-EM: UL916; EM: UL924 and CSA-C22.2 No. 141-15; NOM Certified
Programming Tool	CLAIRITY™+ mobile app

## Out-Of-Box Functionality

Occupancy Control	Enabled
Idle Time Until Dim	7.5 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	30%
Dimming Fade Rate Time	5 Minutes
Photocontrol	Enabled
Photocontrol Set Point	5 fc
Photocontrol Transition On Time	45 Seconds
Photocontrol Transition Off Time	5 Minutes
Default max trim level (ZT devices)	8V



## WIRING DIAGRAM



For more detailed wiring information and compatible driver, refer to Installation Instruction Sheet

### UL 924 Response - nLight AIR Devices with EM Option

The below applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the **CLAIRITY+** mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only the non-emergency devices with version 3.4 or later firmware listed below can be used for normal power sensing.
  - Line voltage devices, including the rPP20, rLSXR, rSBOR, rSDGR
  - Fixture embedded devices, including the r10 EZDL, r10 ZTS, rE57 LEDcode, rE57 ZTS, rMSOD LEDcode, rMSOD ZTS, rSBG LEDcode, rSBG ZTS
- LEDcode communicating EM devices require a V2.1 eldoLED driver. This requirement does not apply to ZT devices.

### DIMENSIONS *Drawing not to scale*

