**Manuals+** — User Manuals Simplified.



# nLiGHT rES7 Sensor Fixture Embedded Smart Installation Guide

**Contents**

**nLiGHT rES7 Sensor Fixture Embedded Smart**

**Specifications**

- **Product Name:** rES7 Sensor
- **Type:** Fixture Embedded Smart Sensor

**Electrical Specifications**

- **Input Ratings:** 5-60 VDC
- **Maximum Load:** 0.65 W
- **Dimming Load Sinks**

**Mechanical Environmental:**
The rES7 Sensor is designed to operate within a temperature range of X°C to Y°C and is suitable for indoor use.

## Installation

1. Ensure the power source is within the specified input ratings of 5-60 VDC.
2. Mount the rES7 Sensor securely in the desired fixture embedding location.
3. Connect the necessary wiring following the provided guidelines.

## Configuration

1. Refer to the user manual for specific configuration instructions.
2. Adjust settings as needed for dimming load sinks and other parameters.

## Operation

1. Power on the system and test the functionality of the rES7 Sensor.
2. Monitor the sensor's performance and make adjustments if required.

**SPECIFICATIONS**

**(rES7)**

| Electrical Specifications | Input Ratings | 5-60 VDC |
| --- | --- | --- |
| | Maximum Load | 0.65 W |
| | Dimming Load | Sinks <20mA (0-10 VDC LED Drivers/Ballasts) |
| | Minimum Load | None |
| | Class Rating | Class 2 |
| Mechanical | Mounting | Fixture-Mounted |
| | Mounting Height | Up to 20 ft (6.096m) |
| | Connection Type | Low Voltage Leads |
| Environmental | Warrantied Operating Temperature | -40º F to 185º F (-40º C to 85º C) |
| | Standards/ Ratings | RoHS, UL 916, UL 924 (optional), FCC / IC / IFETEL |

**IMPORTANT SAFEGUARDS**
WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED INCLUDING THE FOLLOWING:

- DO NOT USE OUTDOORS.
- DO NOT MOUNT NEAR GAS OR ELECTRIC HEATERS.
- EQUIPMENT SHOULD BE MOUNTED IN LOCATIONS AND AT HEIGHTS WHERE IT WILL NOT READILY BE SUBJECTED TO TAMPERING BY UNAUTHORIZED PERSONNEL.
- THE USE OF ACCESSORY EQUIPMENT NOT RECOMMENDED BY THE MANUFACTURER MAY CAUSE AN UNSAFE CONDITION.
- Contains FCC ID: 2ADCB-RMODIT or 2ADCB-RES7CD
- Contains IC: 6715C-RMODIT or 6715C-RES7CD
- IFT #: RCPACRM18-1879 or RCPACRE21-0154
- Acuity Brands Lighting Inc. RMODIT or RES7CD

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.

To avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the radiator shall not be less than 20cm during normal operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, under 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 by 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

READ AND FOLLOW ALL SAFETY INSTRUCTIONS!

SAVE THESE INSTRUCTIONS AND DELIVER TO OWNER AFTER INSTALLATION

## WARRANTY

- 5-year limited warranty.
- Full warranty terms are located at: **www.acuitybrands.com/CustomerResources**/Terms_and_conditions.aspx

**Note:** Specifications are subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

- To reduce the risk of death, personal injury, or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included with and on the fixture box and all fixture labels.
- Before installing, servicing, or performing routine maintenance on this equipment, follow these general precautions.
- Installation and service should be performed by a qualified licensed electrician.
- Maintenance should be performed by a qualified person(s) familiar with the products' construction & operation & any hazards involved. Regular maintenance programs are recommended.
- 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.

⚠ **CAUTION: 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 touch individual electrical components, as this can cause ESD and affect product performance.
√ Do not stretch or use cable sets that are too short or are of insufficient length.
√ Do not tamper with contacts.
√ Do not modify the product.
√ 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**
√ Disconnect or turn off power before installation or servicing.
√ 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 connector openings must be capped.

**WARNING - RISK OF BURN or FIRE**
√ Do not exceed maximum wattage, ratings, or published operation conditions of product.
√ Do not overload.
√ Follow all manufacturer's warnings, recommendations and restrictions to ensure proper operation of product.

**CAUTION - RISK OF INJURY**
√ Wear gloves and safety glasses at all times when installing, servicing or performing maintenance.
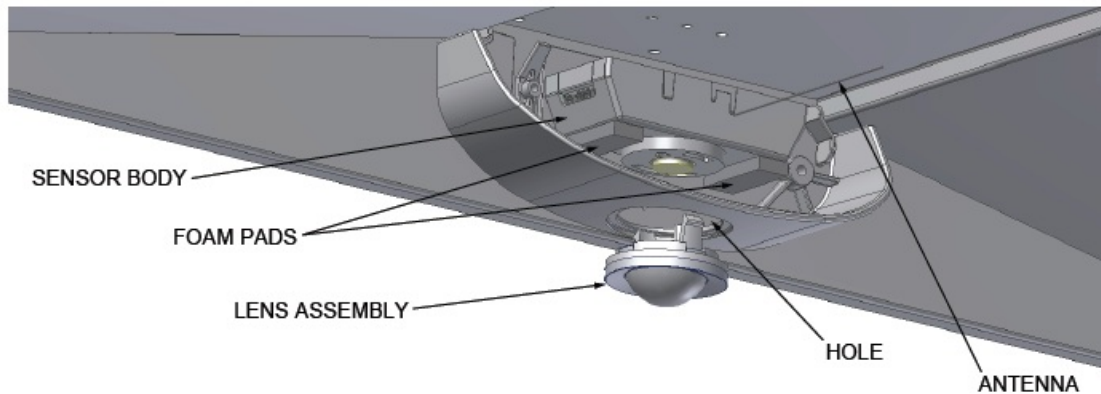
## rES7 BASIC OVERVIEW

- The rES7 is a wireless sensor that can be interconnected with the nLight® AIR network of wireless sensors and switches.
- The rES7 is compatible for use in fixtures with eldoLED drivers, or other analog (0-10VDC) third-party aux drivers.

## TYPICAL INSTALLATION INSTRUCTIONS

**(may vary by luminaire)**

- Attach foam pads to the surface of rES7 as shown. Adjust the thickness of the pad as needed to fill the gap between the sensor body and the end cap.
- Attach wires to the sensor according to the diagram below. Wire locations are also shown on the product label.
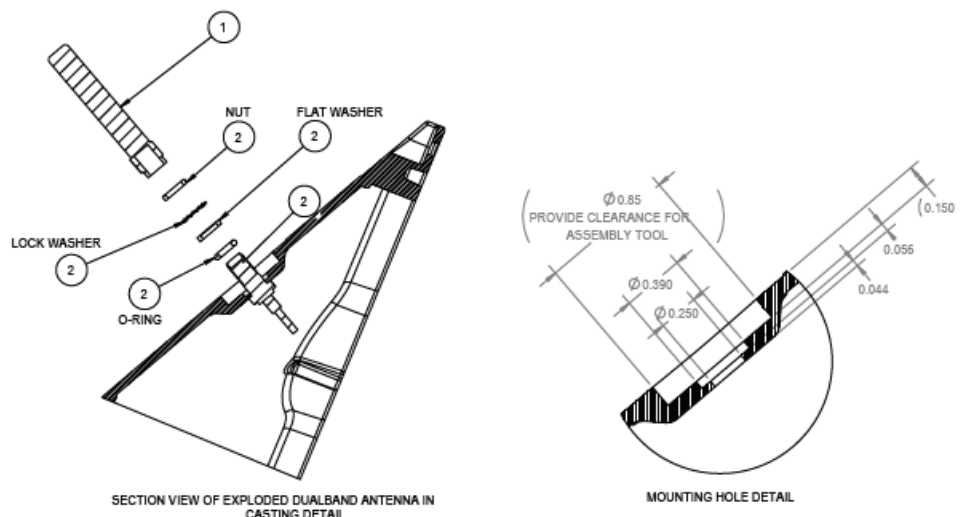- Ensure a thin wire antenna points toward the center of the fixture, between the LEDs and diffuser.

- Place the rES7 in the fixture, with the rES7 cylinder aligned to the clearance hole.
- Insert the rES7 lens assembly through the hole, securing it to the sensor body.
- Install diffuser.



## TYPICAL INSTALLATION FOR EXTERNAL ANTENNA

**(optional)**

- Attach wires to the sensor according to the wiring diagram below. Wire locations are also shown on the product label.
- Route the coax cable through the inside of the fixture to the antenna hole.
- Affix the o-ring, washers, and nut as indicated on the drawing (2) to the external surface of the fixture.
- Attach external antenna (1) to the brass SMA connector. Torque spec for proper installation is 5in-lbs.
- Place the rES7 in the fixture, with the rES7 cylinder aligned to the clearance hole.
- Secure the lens assembly to the rES7 body.



SECTION VIEW OF EXPLODED DUALBAND ANTENNA IN CASTING DETAIL

MOUNTING HOLE DETAIL

## OUT-OF-BOX OPERATION

- Occupancy Control: Enabled
- Microphonics (with -PDT): Enabled
- Occupied Dim Level: 100%
- Unoccupied Time Until Dim: 2.5 Minutes
- Unoccupied Dim Level: 1%

- Dim to Off Time Delay: 7.5 Minutes
- Daylighting Control: Enabled
- Daylighting Set Point: 10 FC
- Daylighting Transition On Time: 45 Seconds
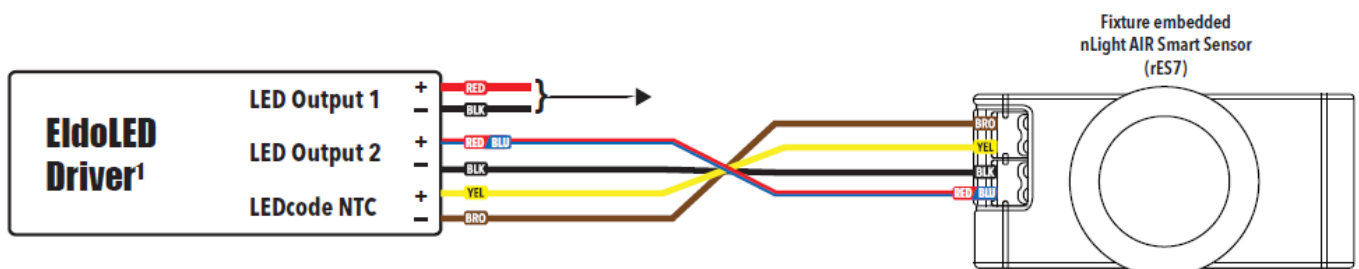- Daylighting Transition Off Time: 10 Minutes

For further troubleshooting guidance, please contact the Controls Technical Support Team at 1(800)-535-2465
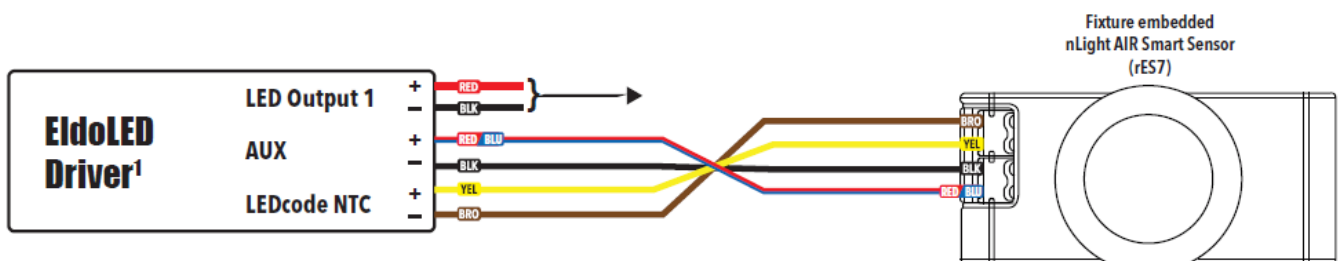
**rES7 Sensor**

- Fixture Embedded Smart Sensor
- 360° COVERAGE
- LOW VOLTAGE
- WIRELESS

**WIRING**

- Connect the yellow (+) and brown (-) LEDcode NTC wires to the rES7 connectors marked Y (+) and Br (-), respectively
- Connect the red/blue (+) and black (-) LED Output 2 wires to the rES7 connectors marked R/Bl (+) and B (-), respectively



- Connect the yellow (+) and brown (-) LEDcode NTC wires to the rES7 connectors marked Y (+) and Br (-), respectively.
- Connect the red/blue (+) and black (-) AUX wires to the rES7 connectors marked R/Bl (+) and B (-), respectively.
- For AUX wiring with EldoLED Optotronic Linear drivers, connect the yellow (+) and the blue (-) to the rES7 connectors marked as Red/Blu (+) and Blk (-), respectively.
- For AUX wiring with EldoLED Optotronic Compact drivers, connect the yellow (+) and the green (-) to the rES7 connectors marked as Red/Blu (+) and the Blk (-), respectively.

- Connect the violet (+) and gray/pink (-) 0-10V wires to the rES7 connectors marked Y (+) and Br (-), respectively
- Connect the red/blue (+) and black (-) AUX wires to the rES7 connectors marked R/Bl (+) and B (-), respectively

**NOTE**

Compatible EldoLED Drivers:

| POWER [W] | DRIVER | PART # | NOTE |
|---|---|---|---|
| 20 | SOLOdrive 260/U | SL0260U2 | 1 |
| 30 | ECOdrive 30B-M1M0Z | EC30B-M1M0Z1 | 2 |
| 30 | SOLOdrive 30B-M1M0Z | SL30B-M1M0Z1 | 2 |
| 30 | ECOdrive 368/L | EC0368L3-NLIGHTAIR | 3 |
| 30 | SOLOdrive 368/L | SL0368L3-NLIGHTAIR | 3 |
| 30 | ECOdrive 30S-M1M0Z | EC30S-M1M0Z1 | 2 |
| 30 | SOLOdrive 30S-M1M0Z | SL30S-M1M0Z1 | 2 |
| 30 | SOLOdrive 360/U | SL0360U2 | 1 |
| 50 | SOLOdrive 560/A | SL0560A3 | 1 |
| 50 | ECOdrive 568/L | EC0568L4 | 2 |
| 50 | SOLOdrive 568/L | SL0568L4 | 2 |
| 50 | ECOdrive 50L-M1M0Z | EC50L-M1M0Z1 | 2 |

| POWER [W] | DRIVER | PART # | NOTE |
|---|---|---|---|
| 50 | SOLOdrive 50L-M1M0Z | SL50L-M1M0Z1 | 2 |
| 50 | SOLOdrive 560/S | SL0560S4 | 1 |
| 50 | SOLOdrive 560/U | SL0560U3 | 1 |
| 75 | SOLOdrive 75B-M2A0D | SL75B-M2A0D1 | 1 |
| 75 | ECOdrive 768/LHC | EC0768L2 | 2 |
| 75 | SOLOdrive 768/LHC | SL0768L2 | 2 |
| 75 | ECOdrive 75L-M1M0Z | EC75L-M1M0Z1 | 2 |
| 75 | SOLOdrive 75L-M1M0Z | SL75L-M1M0Z1 | 2 |
| 100 | ECOdrive 1065/M | EC1065M2 | |
| 100 | ECOdrive 1068/M | EC1068M2 | |
| 100 | ECOdrive 1065/S | EC1065S2 | |
| 100 | ECOdrive 1068/S | EC1068S2 | |

1. Request the second LED output as an AUX in Titan.
2. Request these AUX settings in Titan: VAUX = 16V and AUX "ON" during standb.y
3. Load on LED output 1 shall exceed 42V

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## Frequently Asked Questions

- **Q: What is the recommended input voltage range for the rES7 Sensor?**

  **A:** The recommended input voltage range for the rES7 Sensor is 5-60 VDC.
- **Q: Can the rES7 Sensor be used outdoors?**

  **A:** No, the rES7 Sensor is designed for indoor use only.

## Documents / Resources

| | |
|---|---|
|  | **nLiGHT rES7 Sensor Fixture Embedded Smart** [pdf] Installation Guide<br>rES7 Sensor Fixture Embedded Smart, rES7, Sensor Fixture Embedded Smart, Fixture Embedded Smart, Embedded Smart |

## References

-  **Acuity Brands Lighting**
- **User Manual**