OVERVIEW

The rIO is a fixture embedded low voltage wireless nLight AIR device capable of individual fixture control and analog or digital dimming. This smart device results in the luminaire being "nLight AIR-enabled" – making it an addressable nLight AIR device. It uses a 900MHz radio to communicate with other nLight AIR devices, such as occupancy sensors, photocells, wall switches, powerpacks and other nLight AIR-enabled lumnaires. This allows for advanced operation and design flexibility ranging from stand-alone rooms to building and campus-wide networks.

NETWORK INTERFACE FEATURES

- Individual fixture control embedded at the luminaire level
- Provides full dimming control 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[4]
- 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
- Optional external antennas for demanding or unique applications
  - A 900Mhz external antenna for demanding applications and optimal BLE luminaire coverage
  - A dual-band (900 Mhz and BLE) external antenna for unique applications where the device needs to be hidden inside the fixture
- 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 when wirelessly connected to a motion or daylight sensor
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate into the nLight Eclypse which provides site-wide lighting control through nLight's SensorView software and further BMS integration
- Advanced wireless security measures providing peace-of-mind

nLight® AIR
rIO
Fixture embedded network interface

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

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

rIO				Example: RIO EZDL 90D G2
Series	**Dimmer Type**	**Emergency**	**Territory Compliance**	**Antenna**
RIO Fixture embedded nLight AIR interface	EZDL[3] LEDcode ZT 0-10 VDC ZTS[3] 0-10VDC With Normal Power Sensing	[blank] None EM[1,4] UL924 Emergency Operation	[blank] None CP Chicago Plenum	[blank][5] NiTi Antenna EXT900[5,6] 900MHz External Antenna EXTDB[6] Dual Band External Antenna

Antenna Whip	**Antenna Color[2]**	**Angle**	**Enclosure**	**Generation**
[blank] 10 inch whip 20IN 20 inch whip	ACBK Black ACWH White	90D 90° antenna orientation 180D 180° antenna orientation	[blank] Includes enclosure, no mounting snaps or tabs NENC1 Uncovered enclosure with mounting tabs NENC2 Uncovered enclosure with mounting snaps	G2 Generation 2 compatibility

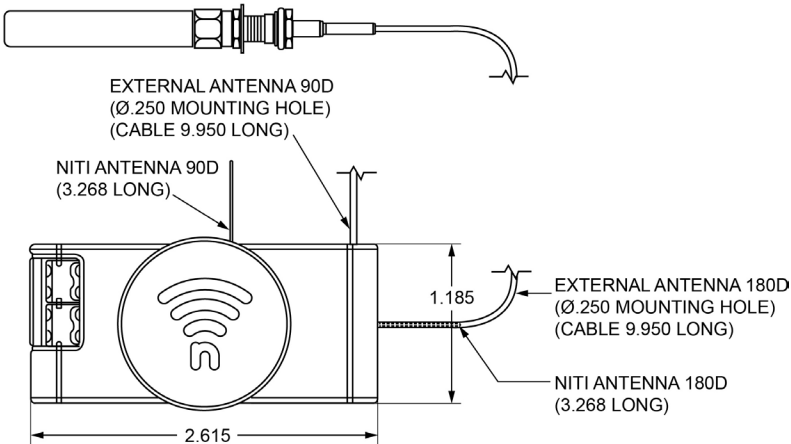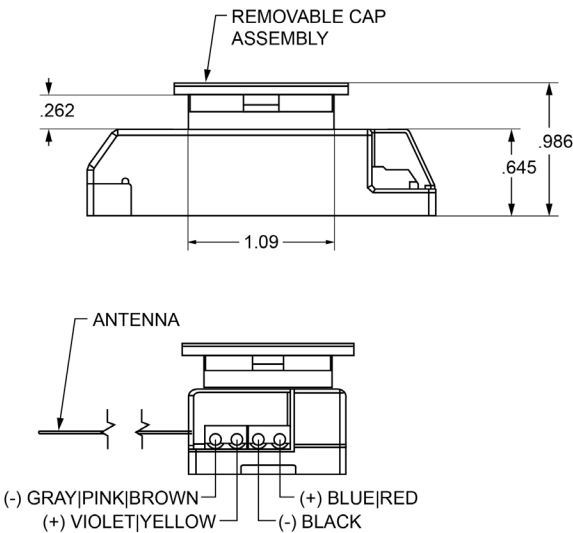| **Accessories** |
|---|
| EXT ANT REPL WH Replacement EXT900 or EXTDB antenna, white, does not include the 6 inch whip |

Notes:
1. EM option not available with ZTS option.
2. Only required with EXT900 or EXTDB options.
3. Non-EM devices with this option can be used to sense normal power for EM devices.
4. 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.
5. 20 inch antenna whip not available.
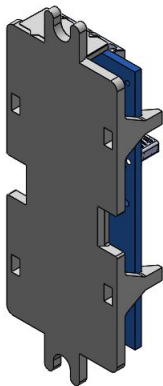6. Not available with CP option.

SPECIFICATIONS

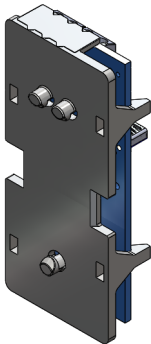|	
Input Power	6-60VDC, 700mW min
Dimensions	1.180" h x 2.617" w x 1.335" d
Product Weight	1.25 oz
Trim Color	White
Enclosure Material	Poly-Carbonate/ABS
Max Humidity	0-95% non-condensing
Operating Temperature	-40°C to 85°C
Mounting	Fixture-mounted
Radio Frequency	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power	900MHz: up to 20dBm 2.4GHz: up to 10.4 dBm
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	FCC ID: 2ADCB-RMODIT3 IC: 6715C-RMODIT3 IFETEL: RCPNLNL20-2057 Safety: RoHS Compliant, Non-EM: UL916 Registered; EM: UL924 Listed and CSA-C22.2 No. 141-15; NOM Certified
Programming Tool	CL**AIR**ITY™+ Mobile App

Out-Of-Box Functionality

Default max trim level (ZT devices) 8V

DIMENSIONS AND MOUNTING (drawing not to scale)

REMOVABLE CAP ASSEMBLY

.262

.986

.645

1.09

ANTENNA

(-) GRAY|PINK|BROWN
(+) VIOLET|YELLOW
(+) BLUE|RED
(-) BLACK

EXTERNAL ANTENNA 90D
(Ø.250 MOUNTING HOLE)
(CABLE 9.950 LONG)

NITI ANTENNA 90D
(3.268 LONG)

1.185

EXTERNAL ANTENNA 180D
(Ø.250 MOUNTING HOLE)
(CABLE 9.950 LONG)

NITI ANTENNA 180D
(3.268 LONG)

2.615

NENC1 Option

NENC2 Option

Fixture embedded
nLight AIR Smart Sensor
(rIO)

LED Driver — LED Output + / − — AUX + / − — 0-10V/LEDcode + / −

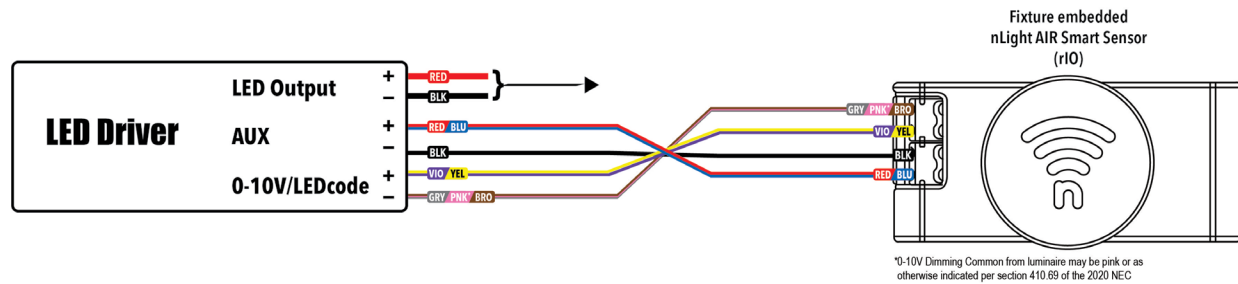*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

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

UL 924 Response – nLight AIR Devices with EM Option

The below information 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 CL**AIR**ITY+ 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 rIO EZDL, rIO ZTS, rES7 EZDL, rES7 ZTS, rMSOD EZDL, rMSOD ZTS, rSBG EZDL, rSBG ZTS
- LEDcode communicating EM devices require a V2.1 eldoLED driver. This requirement does not apply to ZT devices.