

# CNODE

## Zhaga RF

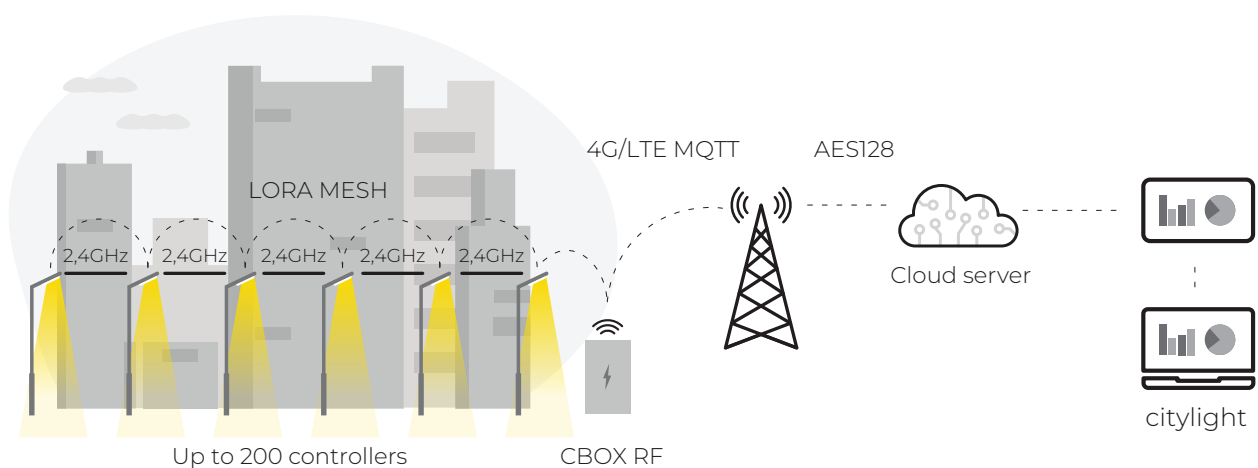
The CNODE ZHAGA RF is a wireless outdoor luminaire controller that utilizes industry standard Zhaga Book 18 socket and Long-range LPWAN communication technologies, D4i standard interfaces and built-in inclination sensor for remote management, data collection, and toppled light pole alerts. Its high-speed 2.4GHz communication and built-in dual-direction microwave motion sensors enable a light-on-demand solution for various applications.



- ✓ **COMPACT DESIGN**
- ✓ **MOTION DETECTION**
- ✓ **INCLINATION SENSOR**
- ✓ **DALI 2.0, SR, D4i**
- ✓ **RF LORA MODULATION**
- ✓ **DUAL RADIO COMMUNICATION**
- ✓ **ZHAGA BOOK 18 SOCKET**
- ✓ **MESH NETWORK**



## HOW IT WORKS



# SPECIFICATION

## PRODUCT CODE

HLCCZRF  
HLCCZRF-I  
HLCCZRF-I-R  
HLCCZRF-R

I- Inclination sensor  
R- Radar/Motion sensor

## DIMENSIONS AND WEIGHT

Diameter: 80 mm  
Height: 50 mm  
Weight: 102 g

## ENCLOSURE

IP class: IP66  
Impact resistance: IK09  
UV resistant  
Material: polycarbonate  
Rubber Isolation class: Class II

## MOUNTING

Lamp: ZHAGA Book-18 standard receptacle

## COMMUNICATION

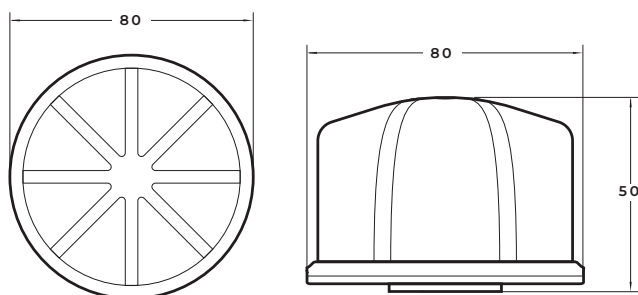
LoRa modulation  
High Sensitivity: - 148 dBm  
High Efficiency PA: +14 dBm  
Frequency: 868, 915 or 923MHz  
Data Update Interval: 60 minutes (user-configurable)

Short range RF  
Frequency: 2.4GHz ISM band operation  
Maintenance interface  
Inter-Node notification on sensor event

## POWER SUPPLY

Voltage: 12-24 VDC  
Backup power supply: 0,5F  
Power consumption: <1,5W  
Idle power consumption: <0.5W

# DIMENSIONS



## ENVIRONMENTAL REQUIREMENTS

Operating temperature: from -40 to +75 C  
Storage temperature: from -40 to +75 C  
Relative humidity: <95% non-condensing

## INCLINATION SENSOR (OPTIONAL)

Axis Count: 3-Axis (X,Y,Z)  
Resolution: 8 bit

## INTERFACES

DALI Interface  
Version: 2/ D4i/ SR  
Type: Master  
Max current: 50 mA  
Supports up to 4 D4i or 4 Philips SR drivers. DALI BUS Power/ Master / Main voltage shall not exceed 1 driver. Additionally supports 4 DALI 1.0 devices  
Dimming range: 10 - 100%  
Dimming step: 1%  
External motion sensor data

## FEATURES

Real time clock with backup power supply  
Built-in memory  
Astronomical clock for dimming profiles up to 365 days  
Stand alone operation

## MICROWAVE RADAR (OPTIONAL)

Frequency: 24 GHz  
Detection distance: 15m (human) / 30m (cars)  
Beam aperture: 80° / 34°

## STANDARDS

Directive 2014/35/EU Low Voltage Directive (LVD)

EN 62311: 2008  
EN 61347-1:2015 (IEC 61347-1)  
EN 61347-2-11  
EN 62368-1:2014/AC:2015  
EN 61984:2009  
EN 60529  
EN 62262

Directive 2014/30/EU Electromagnetic compatibility (EMC)

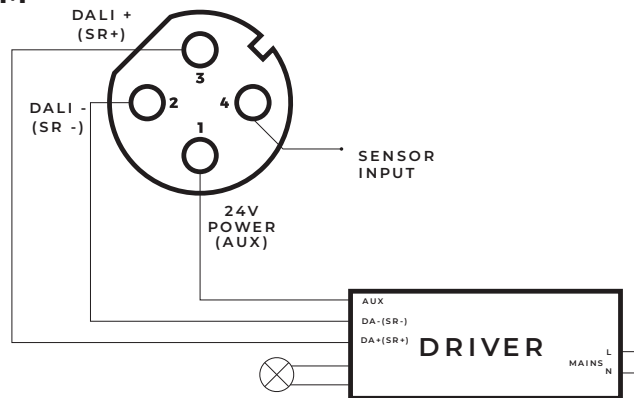
EN 301 489-1 V2.1.1  
EN 61000-3-2:2014  
EN 61000-3-3:2013  
EN 301 489-3 V2.1.1  
EN 301-489-52 V1.1.0  
EN 55015:2013+A1:2015  
EN 61547:2009

Directive 2014/53/EU Radio Equipment (RED)

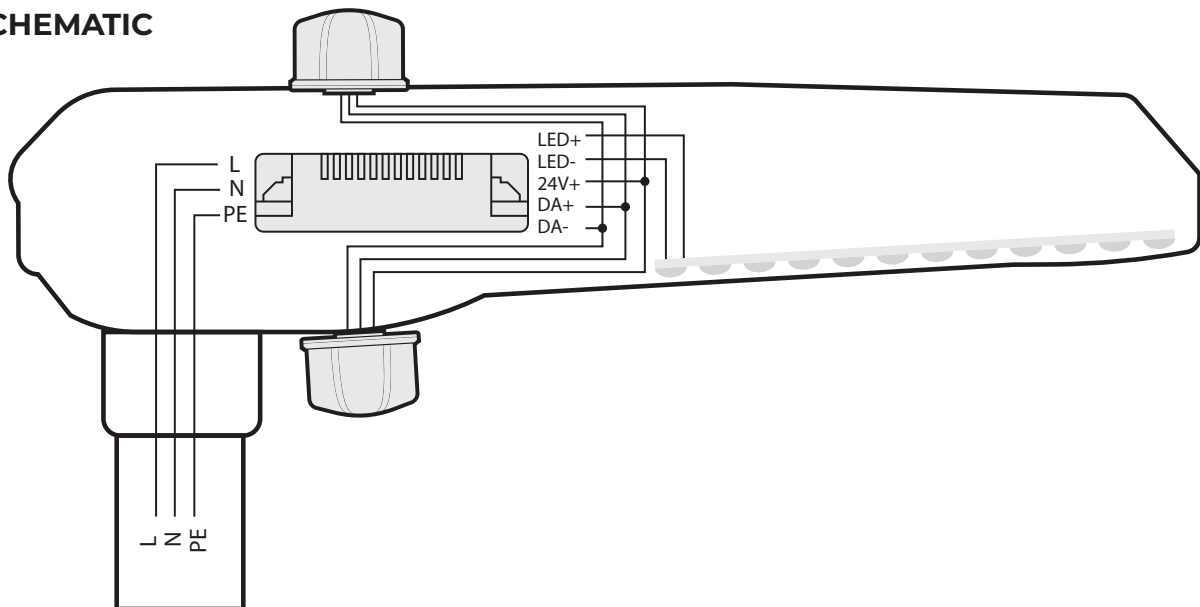
EN 300 440 V2.1.1  
EN 301 511 V12.5.1  
EN 300 328 V2.1.1  
EN 300 220-2 V3.1.1

Directive 2011/65/EU RoHS directive  
Directive 2012/19/EU WEEE directive

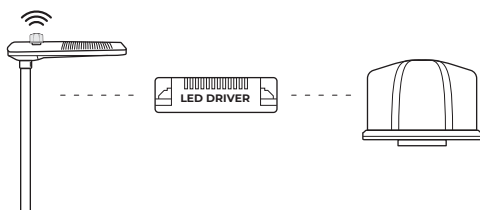
### WIRING DIAGRAM



### SCHEMATIC



### LUMINAIRE DATA



**DATA:**

- Dimming level/status (%)
- Mains Voltage (V)
- Mains Current (mA)
- Power (W)
- LED voltage (V)
- LED temperature (C)
- LED current (mA)
- Driver working hours (h)
- Driver temperature (C)
- Day Energy Consumption - Active (Wh)
- Total consumption (kWh)
- Digital count (No.)
- Day Sensor worktime (min)
- Inclination X/Y angle (°)

**ALERTS:**

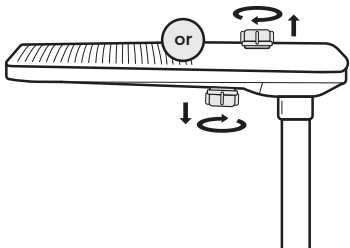
- Power failure
- Power level below set threshold
- Luminaire Inclined failure
- Luminaire working hours overreached
- Dimming profile difference between node and driver.

# INSTALLATION INSTRUCTIONS

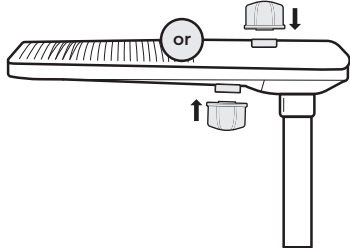
LORA MODULATION

## FIELD INSTALLATION

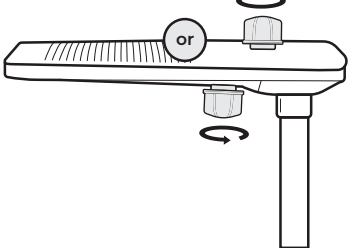
**1** Remove protective cover





**2**





**3**

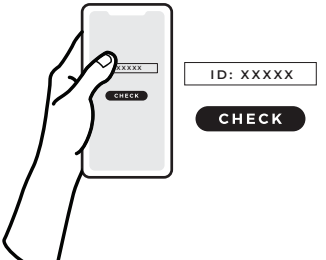


**4** Download APP






**5**




**6**



**7**

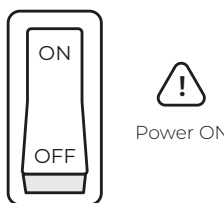


**8**



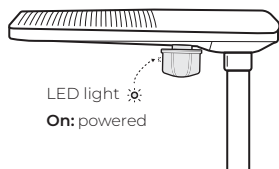
Upload device ID numbers from file


**9**



Power ON

**10**



LED light   
On: powered