

# SMART CITY LIGHTING CONTROL SYSTEM

## ORION-NEMA-868 Socket Compatible LoRaWAN RF

### Smart Lighting Controller

#### General Information

The ORION-NEMA-868 is an intelligent luminaire controller for lighting fixtures with NEMA standard sockets, offering remote monitoring and control. Thanks to LoRaWAN communication technology, this device ensures that the data of the luminaires is transmitted reliably to the remote server via a gateway.

Controller; Compatible with 1–10 V assisted drives, it is designed for use in different street lighting applications, such as residential, urban, and road lighting. While the on/off and dimmer control of the luminaires can be carried out remotely through the system; Measurement parameters such as current, voltage, power, energy, temperature, humidity, and dim level can be monitored and reported periodically.



#### Key Features

- Compatible with NEMA-5 and NEMA-7 standard sockets, plug-and-play mounting,
- Wireless communication feature in accordance with LoRaWAN® 1.0.2 standard, LoRa Alliance certified, capable of operating in EU868 frequency band, Class A and Class C classes, multicast, OTAA (Over-The-Air Activation) and adaptive data rate (ADR) support,
- Remote fixture on/off and dimming control with relay output and 1-10V support,
- Internal electronic measurement circuits for the measurement of electrical quantities,
- Built-in temperature, humidity and light sensor,
- Configurable periodic data reporting with remote control and configuration linked to server commands.

#### Communication

Frequency Band	868 Mhz
Transmission Power	+16 dBm
Buyer Sensitivity	-138 dBm
Compliance	LoRaWAN 1.0.2
Antenna Connection	Internal (PCB)

#### Dimming Interface

0-10V/PWM	Available
DALI-2	Not available

#### Electrical Specifications

Operating Voltage Range	100-240V AC
Maximum Voltage	240V AC or 340V DC
Maximum load current	4.8 A
Power Consumption	< 2 W
Over-voltage	6 kV

#### Mechanical Properties

Socket connection	NEMA7-ANSI C136.41
Dimensions	98 mm height and 84 mm diameter
Weight	< 200gr
Material	Polycarbonate Enclosure

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#### Functional Properties

<b>Measurements</b>	Voltage, current, temperature, humidity, amount of light
<b>Calculations</b>	RMS voltage, RMS current, frequency, active, reactive, apparent power, power factor, active energy
<b>Accuracy</b>	< 1%

#### Environmental Operating Conditions

<b>Operating Temperature Range</b>	-20 °C to +50 °C
<b>Protection Class</b>	IP66 , IK08
<b>Lifespan</b>	5 years

#### MECHANICAL AND ELECTRICAL CONNECTIONS

Mains supply and control signals are transmitted to the luminaire driver via the NEMA socket in accordance with ANSI C136.41 standard. In addition to the phase (L) and neutral (N) lines, the 1-10 V dimming line (DIM+/DIM-) is supported. This structure enables standard and direct integration of NEMA-compliant smart lighting controllers into the fixture.

