



OptoSmart

LoRaWAN POINODE

SMART CITY LIGHTING
CONTROL UNIT
DATASHEET

What is the LoRaWAN Poinode?

POINODE is a smart city lighting control unit designed to operate on 230V AC. It features dimming capabilities for advanced energy efficiency and centralized lighting management. With remote control and monitoring functions, it is ideal for integration into modern urban lighting infrastructures.

Application Areas

It can be used in logistics, ports, smart factories, and smart city applications.

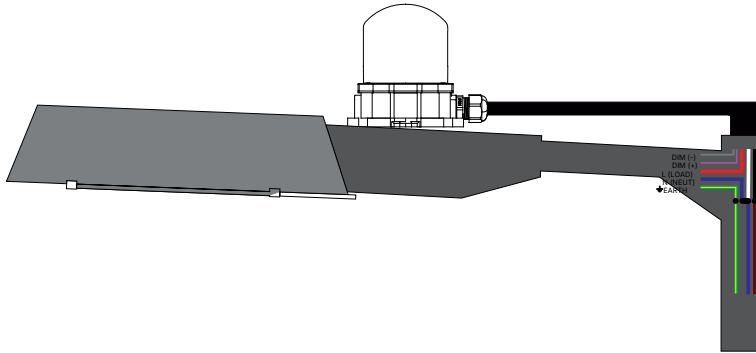
Technical Specifications

| | |
|-----------------------------|----------------------|
| Operating Voltage : | 230VAC |
| Power Consumption : | 0.6W |
| LoRaWan Power Supply: | 20mA |
| Communication Protocol: | LoRaWAN |
| Operating Frequency : | 868Mhz |
| Standby Mode Current : | 2,1uA |
| Signal Transmission Power : | 22dBm (Max.) |
| Receiver Sensitivity : | -116,5dBm~ -136dBm |
| Communication Speed : | 1.2Kbps....115.2Kpbs |
| Lifespan: | 50,000 h |

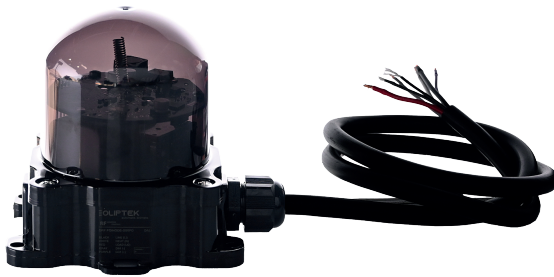
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|---|----------------------------|
| Control Type : | 0-10V/DALI/ ON-OFF/PWM |
| <i>An optional GPS module can be added.</i> | |
| Body Type : | UV Resistant Polycarbonate |
| Mounting Type : | Pole Type |
| Relay Output : | 10A |
| Surge Protection : | 10kV |
| Warranty : | 2 Years |
| Body color : | Black (RAL 9005) |
| Protection : | IP66 |
| Operating temperature : | -20°C to + 50°C |
| Dimensions L x W x H: | 119x90x103mm |
| Protection Class: | Class II |

■ Features

| SENSOR TYPE | DESCRIPTION |
|--------------------------------|--|
| RTC (Real-Time Clock) | Keeps accurate track of time independently even during network outages, ensuring that pre-programmed time-based lighting schedules are executed without interruption. |
| LDR (Light Dependent Resistor) | Detects ambient light levels to allow the POINODE controller to automatically turn the streetlights on at sunset and off at sunrise. |
| Tilt Sensor | Monitors the physical orientation of the pole or fixture, instantly triggering an alert to the central management system if a collision, tilt, or severe structural displacement occurs. |
| Power Measurement | Continuously monitors electrical parameters like voltage, current, and power consumption to report accurate energy usage and detect potential fixture malfunctions. |
| GPS Module | Automatically detects the geographical coordinates of the POINODE controller to report its position to the map-based central management system and ensures precise time synchronization. |
| Surge Protection | Safeguards the system against high-voltage spikes up to 10kV caused by lightning strikes or grid fluctuations, thereby extending hardware lifespan. |
| 0-10V Dimming Feature | Communicates analogly with the fixture driver to enable precise adjustment of light intensity between 0% and 100%, maximizing energy savings. |



- ✓ Dimming
- ✓ Power Consumption
- ✓ Measurement Fault Detection
- ✓ System Internal Relay (Except DALI Model)



Wiring & Connection Details

■ DALI CONTROLLED

LINE —
 NEUTRAL —
 DALI + —
 DALI - —
 LOAD —

CABLE DIMENSIONS : 3x1,5 + 2x0,50mm²

■ 0-10V CONTROLLED

LINE —
 NEUTRAL —
 0-10V + —
 0-10V - —
 LOAD —

CABLE DIMENSIONS : 3x1,5 + 2x0,50mm²

■ ON-OFF CONTROLLED

LINE —
 NEUTRAL —
 ON-OFF + —
 ON-OFF - —
 LOAD —

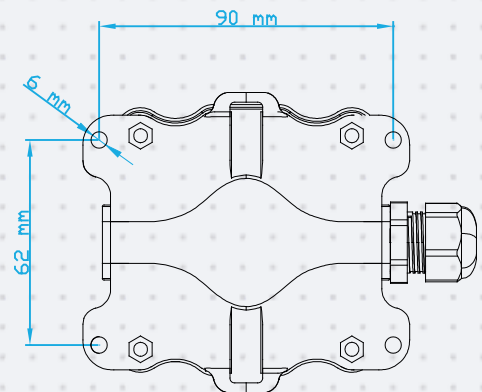
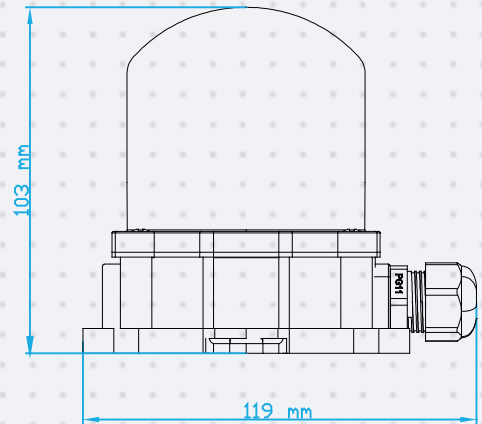
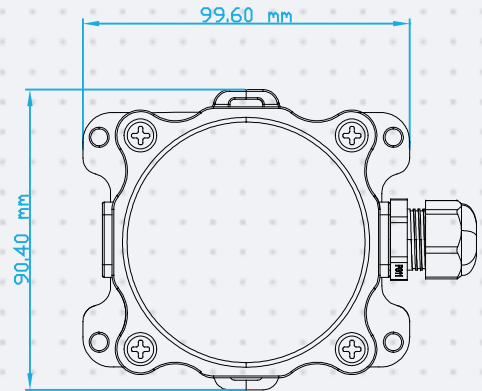
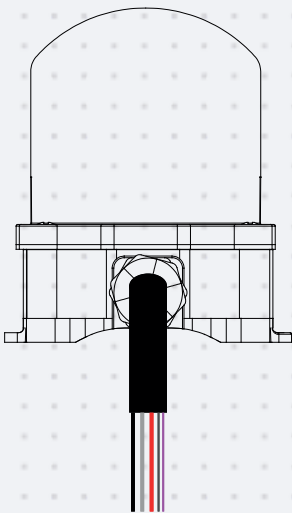
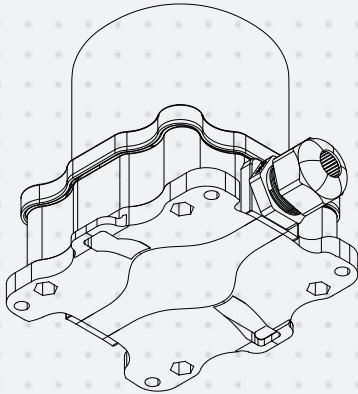
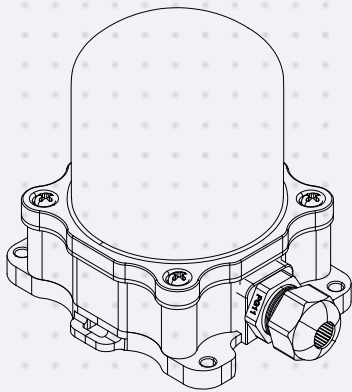
CABLE DIMENSIONS : 3x1,5 + 2x0,50mm²

■ PWM CONTROLLED

LINE —
 NEUTRAL —
 PWM + —
 PWM - —
 LOAD —

CABLE DIMENSIONS : 3x1,5 + 2x0,50mm²

■ Dimensions



LoRaWAN - POINODE Working Principle

LoRaWAN - POINODE products are controlled by the Olios application server via a network gateway.



Module Status Information

The module status information shows in which color the POINODE is in which states.

| LED INDICATOR | STATUS | DESCRIPTION |
|---------------|----------|--|
| Red | Stable | Communication module failure |
| Purple | Flashing | Test mode, awaiting data. The manufacturer used mode 40 during the test phase. If no test data is received within seconds (approximately 40 flashes), normal operation mode. |
| Turquoise | Stable | Test mode active. The mode used by the manufacturer during the testing phase. |
| | Flashing | Delayed data transmission in test mode. Delay and device address ratio flashes until it stops. |
| Yellow | Stable | Attempting to connect / pair with Lorawan Gateway via ABP or OTA Mode but the result was unsuccessful. |
| | Flashing | Attempting to connect / pair with Lorawan Gateway via ABP or OTA Mode is doing it. According to the value set in the device software, this trial period repeats. |
| Green | Stable | Link communication with Lorawan Gateway is active. |
| | Flashing | Normal mode, data transmission with delay. Delay and device address ratio flashes until it stops. |
| OFF | OFF | Operation time when the device is sending data or changing mode until the led indicator turns off. |