



OptoSmart

**LoRaWAN PWM
RGB/RGBW/
Tunable White**

**SMART CITY LIGHTING
CONTROL UNIT
DATASHEET**

■ What is the LoRaWAN PWM RGB/RGBW/Tunable White

It is a multi-channel PWM dimmer terminal that can control each channel separately using the LoRaWAN protocol and generate a PWM signal for each channel.

■ Application Areas

Smart city lighting, Stage lighting control, Architectural LED systems, Remote lighting automation
Application Areas

■ Technical Specifications

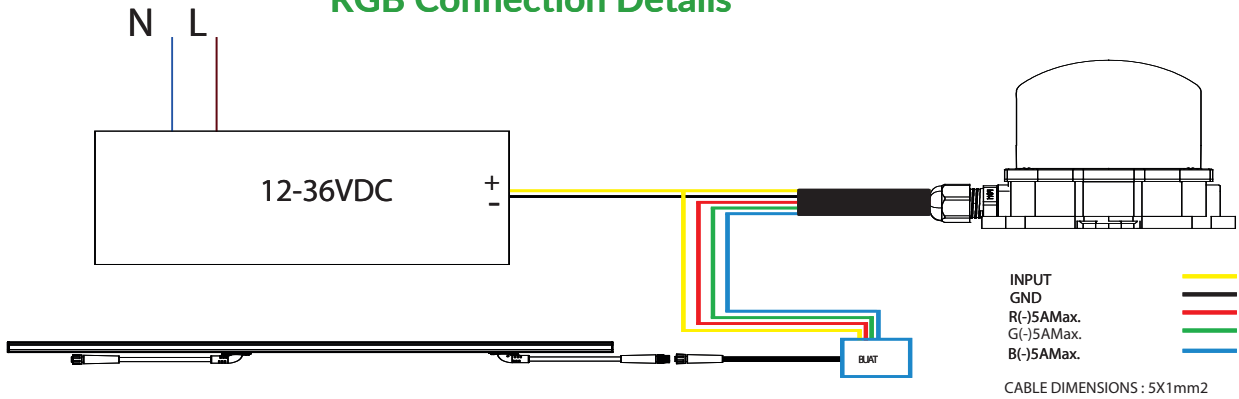
Supply Voltage:	12-36VDC	IP Class:	IP66
Input-Output Signal:	PWM	Protection Class:	Class II
LoRaWan Power Supply:	20mA	Lifespan:	50,000 h
Operating Temperature:	-20 to +55 °C	Body Material:	UV Resistant Polycarbonate
Wireless Technology:	LoRaWAN 868 Mhz	Body Color:	Black (RAL 9005)

■ Features

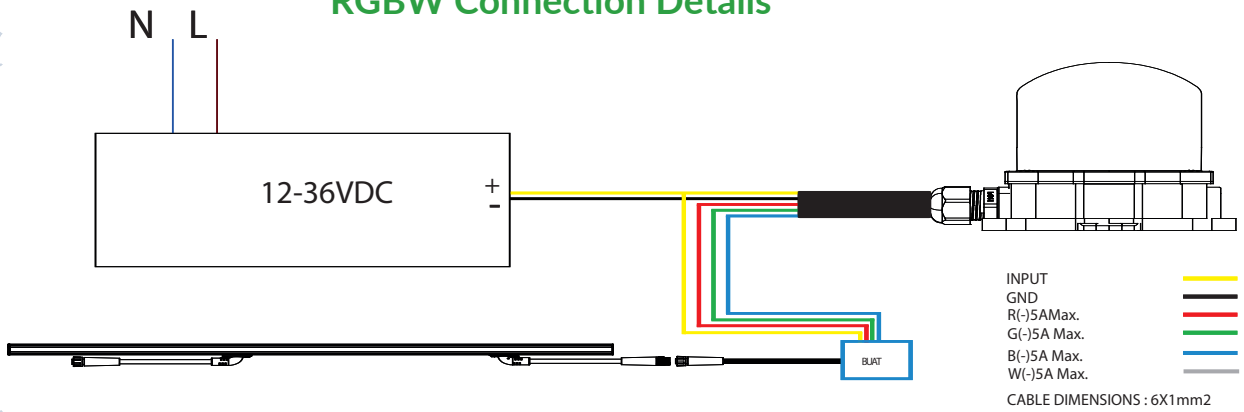
SENSOR TYPE	DESCRIPTION
RTC (Real-Time Clock)	Keeps accurate track of time independently even during network outages, ensuring that pre-programmed time-based lighting schedules are executed without interruption.
LDR (Light Dependent Resistor)	Detects ambient light levels to allow the DIMMER controller 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.
GPS Module	Automatically detects the geographical coordinates of the DIMMER controller to report its position to the map-based central management system and ensures precise time synchronization.

Wiring & Connection Details

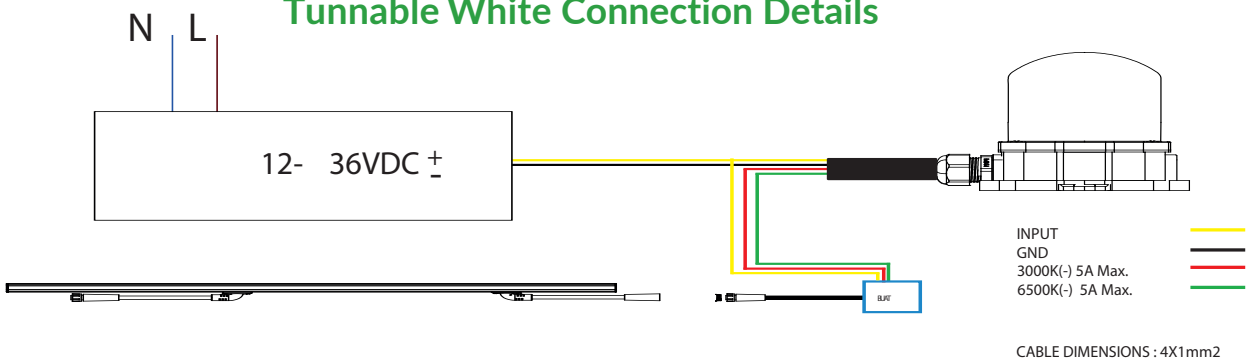
RGB Connection Details

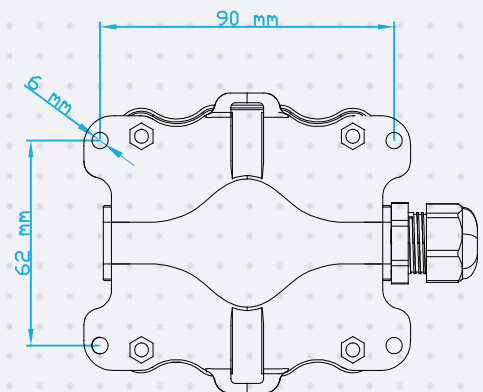
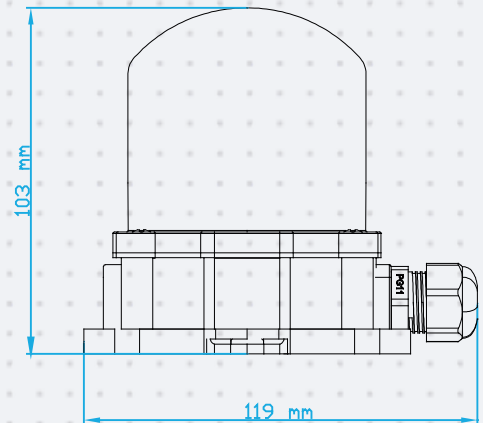
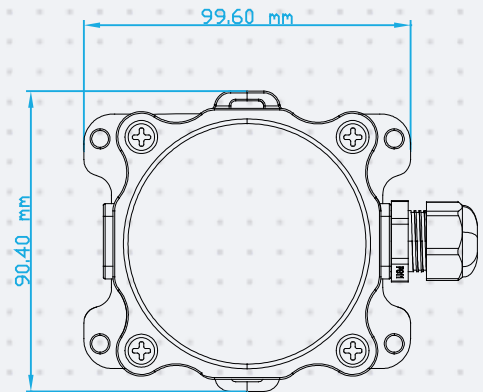
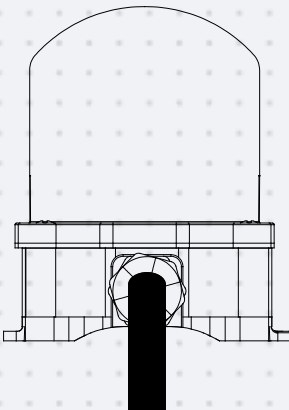
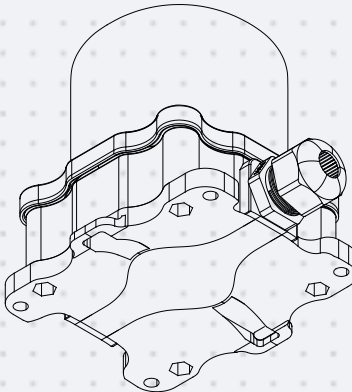
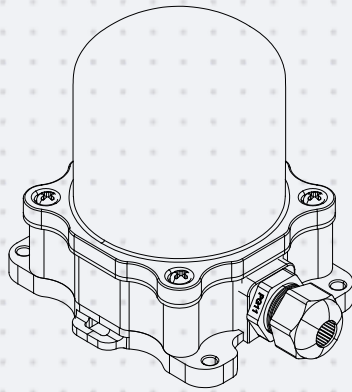


RGBW Connection Details



Tunable White Connection Details



■ Dimensions

LoRaWAN - NEMA RGB/RGBW/Tunable White Working Principle

LoRaWAN PWM RGB/RGBW/Tunable White products are controlled by the Olios application server via a network gateway.

PWM RGB/RGBW/
TUNNABLE WHITE



PWM RGB/RGBW/
TUNNABLE WHITE



Module Status Information

The module status information shows in which color the NEMA 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.

■ Specifications

Features	DIMMER-RGB-01	DIMMER-RGBW-01	DIMMER-TW-01
Operating Voltage (12-36VDC)	✓	✓	✓
LoRaWAN 868 MHz Communication	✓	✓	✓
PWM Signal Output	✓	✓	✓
IP66 / Class II Protection	✓	✓	✓
Black Body Color (RAL 9005)	✓	✓	✓
Smart City Sensors			
RTC (Real-Time Clock)	✓	✓	✓
LDR (Light Sensor)	✓	✓	✓
Tilt Sensor	✓	✓	✓
GPS Module	✓	✓	✓
Connection & Color Control			
RGB Control (R, G, B)	✓	✓	
White (W) Light Control		✓	
Tunable White (3000K & 6500K)			✓
2-Channel Output (Max 5A per channel)			✓
3-Channel Output (Max 5A per channel)	✓		
4-Channel Output (Max 5A per channel)		✓	