

LoRaWan ZHAGA MPPT Node DATASHEET



■ What is the LoRaWan Zhaga MPPT Node?

ZHAGA is a smart city lighting control unit developed for use with ZHAGA socket-compatible luminaires. It operates with 24 VDC voltage and supports both LoRaWAN and DALI communication protocols. Featuring the ability to read MPPT devices, it enables real-time monitoring of energy and power data. Featuring dimming functionality, it offers energy savings and centralized lighting management. With remote control and monitoring capabilities, it is ideal for integration into modern urban lighting infrastructures.

■ Application Areas

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

■ Technical Specifications

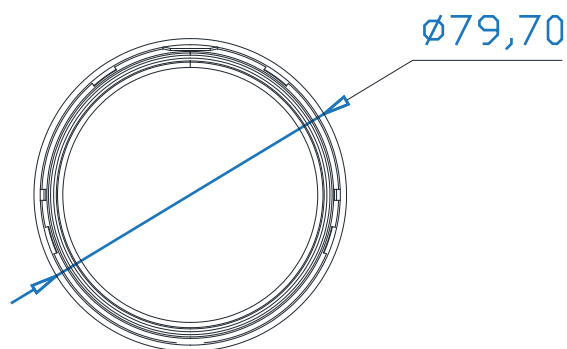
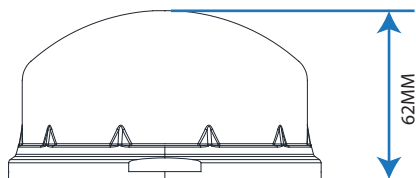
Operating Voltage :	24VDC
Power Consumption :	0.6W
LoRaWan Power Supply:	20mA
Communication Protocol:	LoRaWAN
Operating Frequency :	868Mhz
Standby Mode Current :	2,1uA
Signal Transmission Power :	22dBm (Max.)
Receiver Sensitivity :	-116,5dBm~ -136dBm
Communication Speed :	1.2Kbps....115.2Kpbs
Lifespan:	50,000 h

Body Type :	UV Resistant Polycarbonate
Mounting Type :	Twist Lock Type
Body color :	Black
Protection :	IP66
Operating temperature :	-20°C to + 50°C
Dimensions Hx Ø:	62X79.7mm
Protection Class:	Class II

■ Features

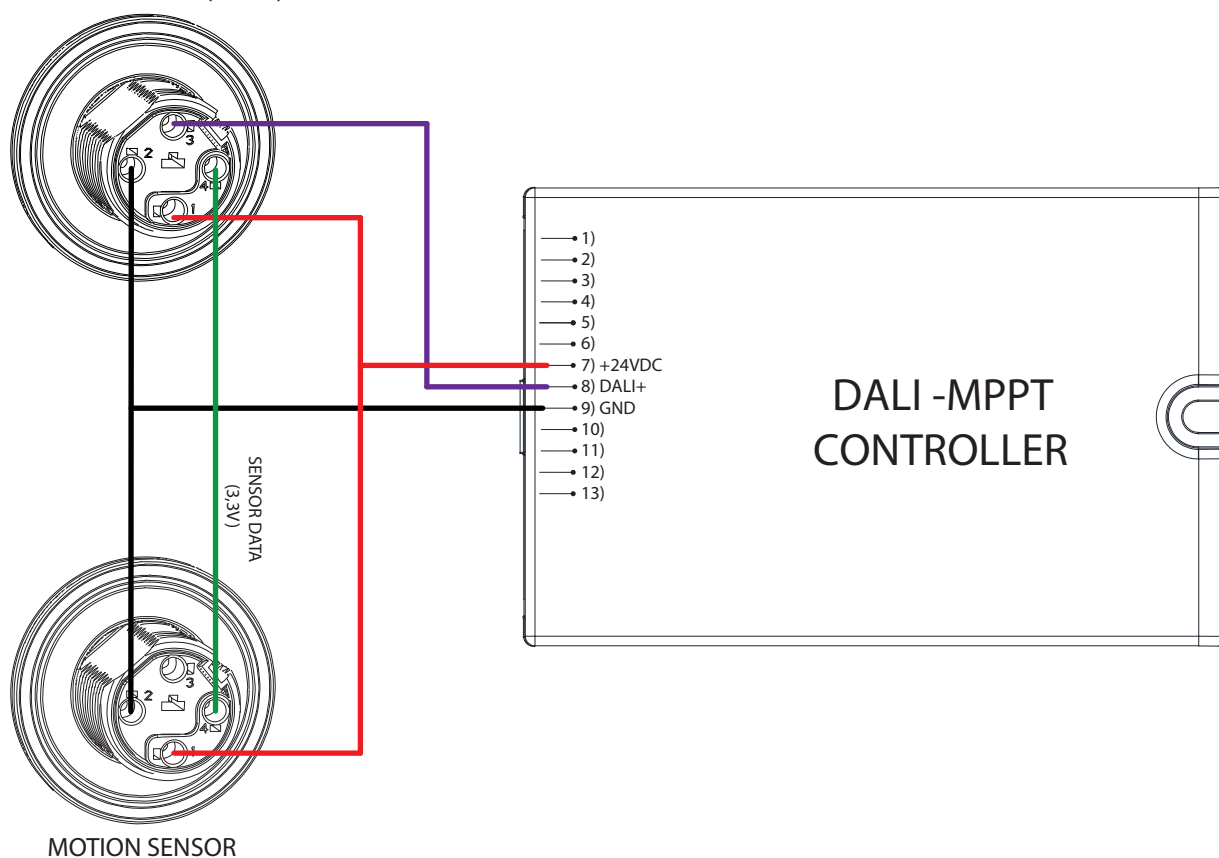
SENSOR TYPE	DESCRIPTION
RTC (Real-Time Clock)	Keeps accurate track of time independently even during network outages, ensuring that pre-programmed time-based lighting schedules are executed without interruption.
LDR (Light Dependent Resistor)	Detects ambient light levels to allow the NEMA controller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

■ Dimensions

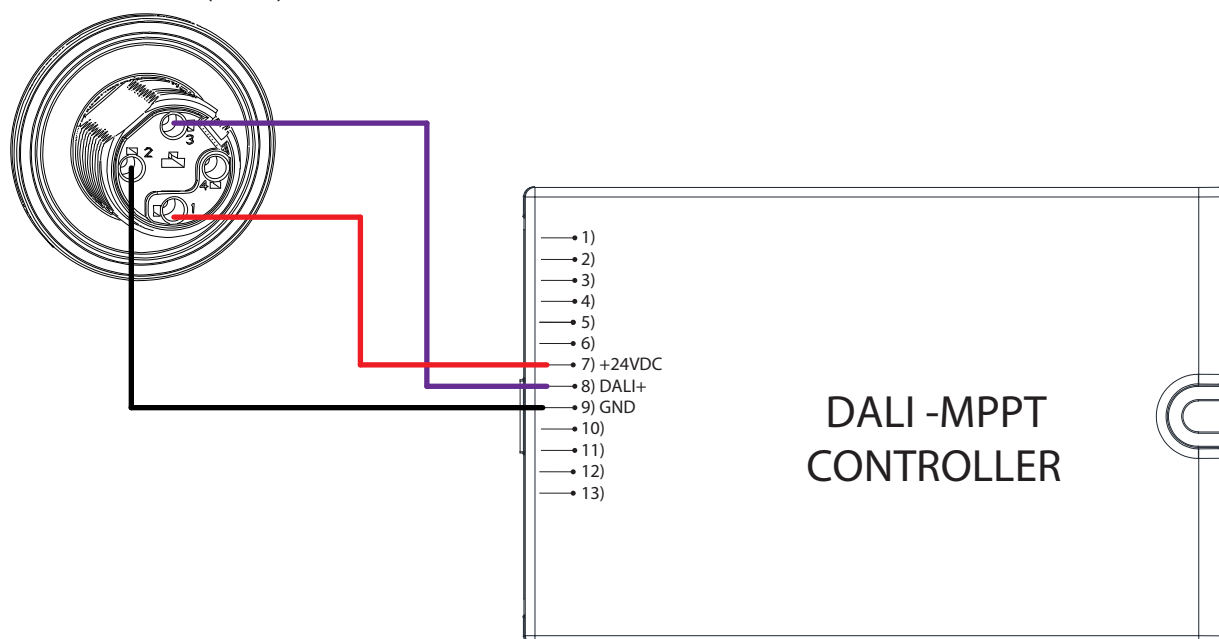


■ Wiring and Connection Details

LORAWAN ZHAGA (MPPT)

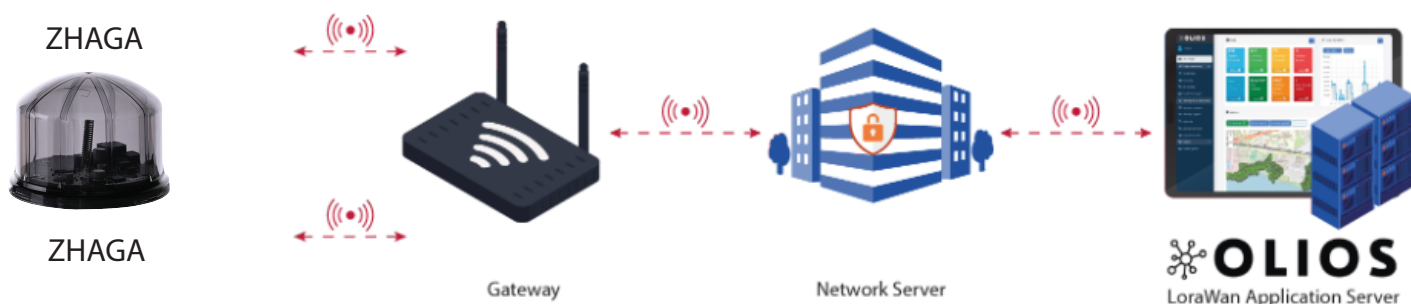


LORAWAN ZHAGA (MPPT)



■ LoRaWAN ZHAGA MPPT Node Working Principle

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



■ Module Status Information

The module status information shows in which color the ZHAGA 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.