

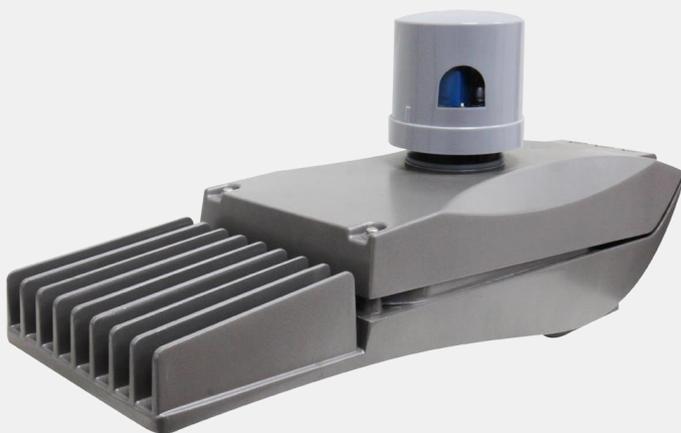


# Smart Lighting Controller LoRa Slave Series

## Feature

Lighting system, corresponding with LPWAN technology  
Lighting Slave utilized LoRa communication protocol

- Designed and optimized by Low Power Wild Area Network (LPWAN) with LoRa network technology
- NEMA socket connected (ANSI C136.41)
- Smart Control function (ON/OFF/Dimming)
- Smart power saving mode
- Electrical parameters monitoring
- Fault detection
- Intelligent operation based on predestinate schedule
- Wild operating temp range  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Platform connection - supporting MQTT and CoAP transfer protocol
- Supporting content management system (CMS)
- Supporting integrated ambient light sensor and accelerometer



## Introduction

ORing's smart lighting series managed wireless transporting is designed for street lamp. OLS-L series stands as cell controller in the smart street lamp application. It is proposed to connect on the top of LED lamp device with standard NEMA socket (ANSI C136.41), which is compliant with DALI (Digital Addressable Lighting Interface) dimming control function, is according to international standard design. The advantage of digital dimming is that fixtures are addressable. You can also have many more different levels of light output when using digital dimming. The benefits of DALI dimming control are lower energy cost to user, higher level of maintenance to the facility manager, and more flexible sensor controlled dimming and switching. On the other hand, OLS-L series is also compliant with traditional 0-10V dimming control function. It is based on analogue signal percentage increased or decreased as the voltage on the analog signal increases or decreases.

In addition, OLS-L series supports **electrical parameters monitoring - Vrms(V), Irms(I), Power Factor(PF), Frequency(Hz), Power(W)**. According to above monitored parameters, it also provides fault detection information – **Over/under voltage, Over/under current, Lamp/Driver fault, Device failure**. Furthermore, it is the autonomous sensing device, which is **dimming with sunrise time, smart dimming procedure through analyzing data**, and so on.

OLS-L series is designed by the whole intelligent system, including smart power saving mode, fault detection, intelligent operating based on predestinate schedule, dimming control, turn-on, turn-off, and so on. Moreover, each lighting controller is easily managed through content management system (CMS). For the reason that ORing Industrial Networking Corp. also provides users to apply to the intelligent products easily, proposing **ORing IIoT MagiCity**, which is based on MQTT and CoAP architecture implementation and is going to realize economic data more clearly. Let users operate each device reliably in the whole world, only get the certification from **ORing IIoT MagiCity**.

## NEMA Socket Exterior



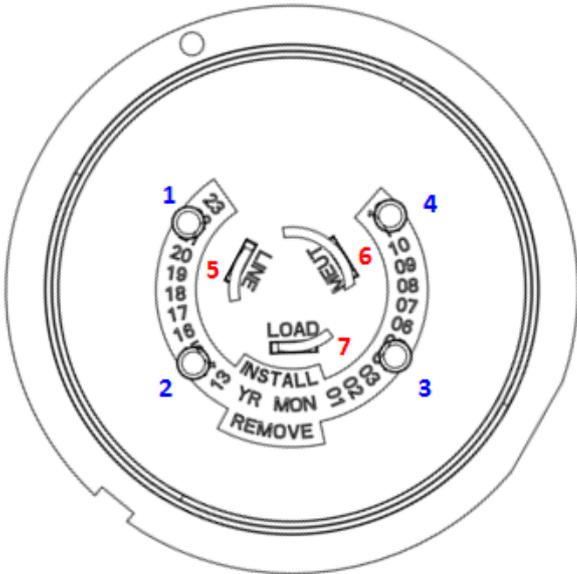
**BOTTOM VIEW**



**TOP VIEW**

## Pin Define

- Dimensional requirements following ANSI C136.41 Dimming Receptacle
- 7 position: 3 power contacts + 4 dimming/signal contacts



PIN NO.	DESCRIPTION
1	DALI+ / 0-10V DIMMING CONTACT
2	N/A
3	N/A
4	DALI- / GND DIMMING CONTACT
5	POWER CONTACT - LINE
6	POWER CONTACT - NEUT
7	POWER CONTACT - LOAD

## Specification

ORing Lighting Model		OLS-L SERIES	
<b>NEMA Socket connected</b>			
Pin Define		7pin NEMA socket ( Follow ANSI C136.41 Receptacle )	
<b>Controller Feature</b>			
Dimmable Function Feature		DALI	AO(0-10Vdc)
Electrical parameters monitor		Vrms(V) 、 Irms(I) 、 Power Factor(PF) 、 Frequency(Hz) 、 Power(W)	
Lighting Control	ON	●	
	OFF	●	
<b>LoRa Technology</b>			
Specification		Slave	
Transmission Distance		Up to 1.5km (open space)	
Data Rate		1-37.5kbps (programmable), 1kbps(Typ.)	
TX Power Gain Range		Typ. : 14dBm ; Max. : 20dBm	
RX Sensitivity		Up to -137dBm	
Security		128-bit AES encryption algorithms	



## Ordering Information

**OLS - A B B N C - D D**

Code Definition	LoRa Mode	RF Band	Dimming Control Type	-Sensor Support*
<b>Option Feature</b>	<b>L:</b> LoRa P2P	<b>01:</b> 902-928MHz	<b>D:</b> DALI	<b>G:</b> Accelerometer
	<b>W:</b> LoRaWAN	<b>02:</b> 863-870MHz	<b>T:</b> 0-10V	<b>P:</b> Ambient light Sensor
		<b>03:</b> 779-787MHz		<b>GP:</b> Accelerometer & Ambient light Sensor
		<b>04:</b> 433MHz		

**\*No Sensor Support place -DD empty**

	Model Name	Description
<b>Available Product</b>	<b>OLS-L01ND</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA Receptacle, DALI, OLS-L01ND
	<b>OLS-L01ND-G</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, DALI, with G-sensor, OLS-L01ND-G
	<b>OLS-L01ND-P</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, DALI, with Photo-Sensor, OLS-L01ND-P
	<b>OLS-L01ND-GP</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, DALI, with GP-sensor, OLS-L01ND-GP
	<b>OLS-L01NT</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA Receptacle, 0-10V, OLS-L01NT
	<b>OLS-L01NT-G</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, 0-10V, with G-Sensor, OLS-L01NT-G
	<b>OLS-L01NT-P</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, 0-10V, with Photo-Sensor, OLS-L01NT-P
	<b>OLS-L01NT-GP</b>	ORing Lighting Controller LoRa Slave, 920MHz, NEMA, 0-10V, with GP-sensor, OLS-L01NT-GP

## Packing List

- OLS-L Series Cell Controller x1
- RF Antenna x1(RF Band optional)
- LoRa RF Module x1
- 0-10V AO/DALI Dimming Control module x1
- ANSI C136.41 Standard NEMA Socket & Cover x1