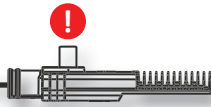
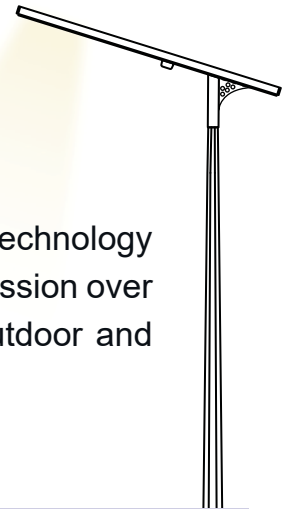


LoRaWAN



LoRaWAN is a low-power, long-range wireless communication technology designed for large-scale IoT applications. It enables reliable data transmission over long distances with minimal power consumption, making it ideal for outdoor and citywide deployments such as street lighting networks.



LoRaWAN AC Powered LED Street Lighting

- Enables wireless control and monitoring of mains-powered street lights.
- Each light is equipped with a LoRaWAN controller for remote switching, dimming, and real-time status monitoring
- Allows centralized management, reduced maintenance effort, and improved energy efficiency.

LoRaWAN DC Powered LED Solar Street Lighting

- Provides intelligent control for off-grid solar lighting systems.
- The controller monitors lamp operation, battery charging and discharging status, and system performance in real time, ensuring reliable operation, efficient energy use, and easy remote management without the need for wired communication.

LoRaWAN Devices

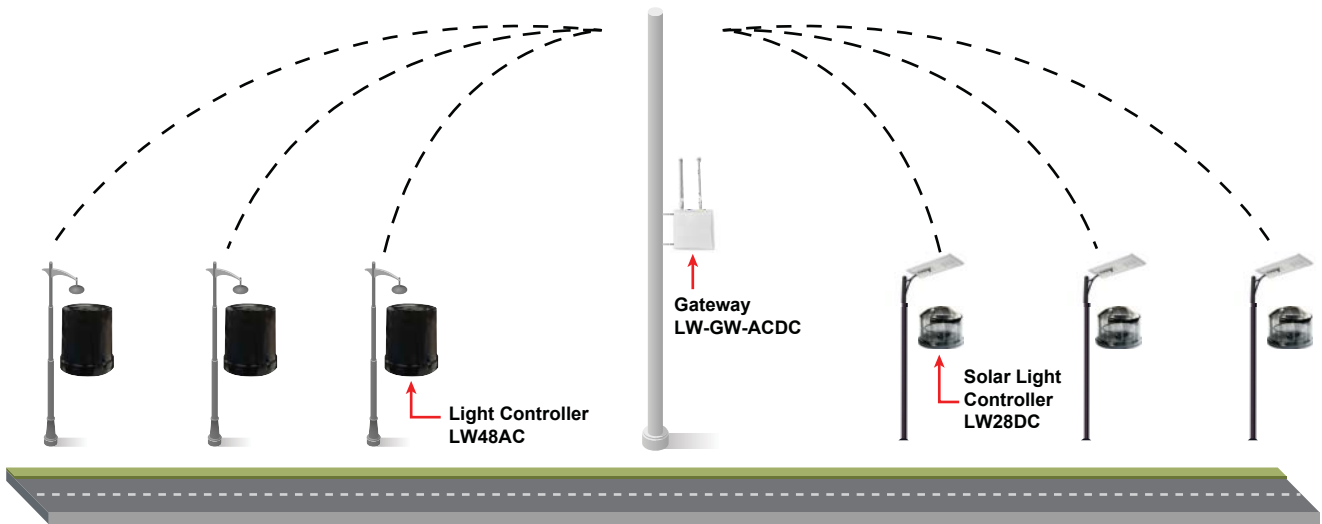
- Gateway (LW-GW-ACDC)
- Street Light Controller (LW48AC / LW28DC)

Area of Application

- Highway
- Long Range Distance
- Highmast



Connector Diagram



Light Controller

LW48AC



Solar Light Controller

LW28DC



LoRaWAN Gateway

LW-GW-ACDC

Each street light is fitted with a **Light Controller** to manage on/off switching, dimming, and lamp status. The controllers communicate wirelessly over long distances using LoRaWAN technology.

All controllers connect to a central **LoRaWAN Gateway**, which collects data from multiple lights and sends it to the management platform for centralized monitoring and control.

Features

LoRaWAN Gateway

LW-GW-ACDC



LoRaWAN Gateway
LW-GW-ACDC



Multi-Network Connectivity

4G cellular and Ethernet access with simultaneous multi-network operation



High-Speed WAN Interface

10/100/1000 Mbps Ethernet port with 4G SIM slot



Reliable Cellular Compatibility

Fully compatible with major 3G/4G operator networks



Network Backup & Auto Switching

Intelligent wired and wireless failover for continuous data transmission



Data Buffering & Recovery

Local data storage during network interruption with automatic upload after recovery



Multiple LoRaWAN Bands

Supports CN470, IN865, EU868, RU868, US915, AU915, AS923, KR920



Zigbee Master (Optional)

2.4 GHz global license-free Zigbee support



Protocol Compatibility

Supports MQTT, TCP/IP, and MODBUS RTU to TCP conversion



Industrial-Grade Design

Durable ABS enclosure for 24/7 stable operation in harsh environments



Wide Voltage Input

AC 110–277V or DC 9–24V (optional) for flexible installation

Specifications LoRaWAN Gateway (LW-GW-ACDC)

Interface Definition

Interface	Description	Remarks
Power Supply	AC110~277V Power Input / DC 9-24V	Do not reverse polarity
SIM Card Slot	nano-SIM card <small>*chip side downward, notch side inward</small>	Pull out the SIM card module, insert SIM card and press to lock
WAN	10/ 100/ 1000Mbps, waterproof connector	
Wi-Fi	Built-in	
GPS	Built-in	
RST	Reset button, long press 10s to restore factory settings	
4G	4G antenna port	
LoRa	LoRa antenna port	
Zigbee	Built-in or external antenna	Optional

Product Specification

Interface	Description	Remarks
Power Model	LW-GW-ACDC	LoRaWAN Outdoor Base Station
Network Type	WAN port	10/100/1000Mbps Adaptive network port
	4G	Selective 4G module for targeted country
Power Supply	Power supply range	AC110 ~ 277V
Others	Dimensions	205MM(L) × 205MM(W) × 74MM(H)
	Working Temperature	-40 ~ +80°C
	Storage Temperature	-40 ~ +85°C
	Relative humidity	≤95%RH (No condensation)

Product Specification

Interface	Description	Remarks
4G	Working Frequency	FDD LTE: B1/B3 TDD LTE: B38/B39/B40/B41 TDSCDMA: B34/B39 CDMA2000 1x/EVDO: BC0 GSM: 900/1800MHz
	Transmission Rate	LTE-FDD: Max 100Mbps (DL) Max 50Mbps (UL) LTE-TDD: Max 61Mbps (DL) Max 18Mbps (UL) SCDMA-TD: Max 4.2Mbps (DL) Max 2.2Mbps (UL) CDMA: Max 5.4Mbps (DL) Max 14.7Mbps (UL) GPRS: Max 85.6Kbps (DL) Max 85.6Kbps (UL)
	Transmission Power	FDD LTE: 23dbm±2db TDD LTE: 23dbm±2db TDSCDMA: 24dbm +1/-3db GSM 900Mhz: 33dbm±2dbm GSM 1800Mhz: 30dbm±2dbm
	Transmission Rate	FDD B1: -97dBm (20M) FDD B3: -96dBm (20M) TDD B38: -94dBm (20M) TDD B39: -94dBm (20M) TDD B40: -94dBm (20M) TDD B41: -93.5dBm (20M) TDSCDMA B34: -110dbm TDSCDMA B39: -110dbm CDMA BC0: -108dbm GSM 900: -110dBm GSM 1800: -109dBm
System	CPU	MIPS1004Kc, dual-core, main frequency 880MHz
	RAM	256MB
	eMMC	8GB

Specifications LoRaWAN Gateway (LW-GW-ACDC)

Product Specification





Interface	Description	Remarks
NPU (Optional)	CPU	Dual-core Cortex-A53 processor, Highest main frequency 1.4GHz
	Computing Power	3TOPS Support IN8/INT16/FP16 Support TensorFlow, Caffe, ONNX and Darknet model 1080p@60fps H.264 decode 1080p@30fps H.264 decode
	System	Debian10
	RAM	1GB
	eMMC	8GB
LoRaWAN Frequency	Optional frequency band	CN470MHz, IN865MHz, EU868MHz, RU868MHz, US915MHz, AU915MHz, AS923MHz, KR920MHz


Features

Light Controller

LW48AC



-  **Electrical Monitoring**
Current, voltage, power, energy & temperature
-  **Switching & Dimming**
On/off control with 0–10V / PWM dimming
-  **Protection & Alarms**
Over-current protection and lamp fault detection
-  **Smart Control**
Time-based and location-based control

-  **Lamp Compatibility**
LED, HPS, and metal halide lamps
-  **Built-in Photocell**
Automatic on/off by ambient light
-  **LoRaWAN Multi-Band**
CN470, IN865, EU868, RU868, US915, AU915, AS923, KR923
-  **Industrial Temperature**
Operates from -40°C to +85°C
-  **Easy Installation**
Fast response to control commands

Specifications Light Controller (LW48AC)

Parameter	Value	Remarks
Supply Voltage	AC110-277V	
Dimensions	Φ84MM x 97.8MM	
IP Code	IP66	
Rated Output Current	2A	400W Max
Dimming Type	0-10V/ PWM	Optional
Product Output	Single-phase AC	
Data Collection	U, I, P, Q, COSΦ	
Transmit Power	20dBm±1dBm (max)	

Parameter	Value
Sensitivity	-136dBm±1dB (@SF=12)
Antenna Gain	3DB
Antenna VSWR	≤2.0
Antenna Type	Built-in
Photo Sensor Type	Built-in
GPS	Optional
Title Sensor	Optional

Features

Light Controller

LW28DC



Zhaga Book 18 Interface

Standard plug-and-play Zhaga interface



DC 5V Input

Designed for solar lighting systems



Wireless Monitoring

Real-time remote monitoring and control



Switching & Dimming

Remote on/off and dimming control



System Status Monitoring

Monitors solar panel, battery, and load status



Fault Alarm

Automatic fault detection and alerts



GPS Location (Optional)

Supports location tracking for maintenance



Wide Temperature Range

Operates from -40°C to +85°C



Multi-Band LoRaWAN

Supports 470MHz, 868MHz, 915MHz, 923MHz

Specifications Light Controller (LW28DC)

Parameter	Value
Model	LoRaWAN
IP Code	IP66
Output Interface	RS485
Data Collection	U, I, P, Q, COSΦ
Wireless Frequency	As per channel plan (868MHz, 915MHz, 923MHz, etc.)

Parameter	Value	
Antenna Type	Built-in	
Antenna Gain	3dB	
Antenna VSWR	≤1.5	≤2.0
Transmission Distance	400M (*)	2KM