LoRaWAN Ambient Light Sensor
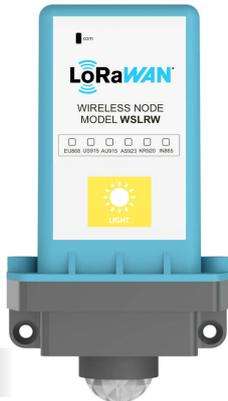
Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Farm, Smart Factory

daviteq

SKU: WSLRW-AL

OBSELETE, replaced by **WSLRWEX-G4**

✓ Safe Zone   ◯ Hazardous Zones

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

LoRaWAN

10-Year

CE FC ARIB

WSLRW-AL is a LoRaWAN ambient light sensor with built-in the ultra low power light sensor that measures the intensity of visible light. The spectral response of the sensor tightly matches the photopic response of the human eye and includes significant infrared rejection. The precision spectral response and strong IR rejection of the device enables the AL sensor to accurately meter the intensity of light as seen by the human eye regardless of light source. Measurements can be made from 0.01 lux up to 83k lux without manually selecting full-scale ranges by using the built-in, full-scale setting feature. This capability allows light measurement over a 23-bit effective dynamic range. Ultra-low-power design and smart firmware allow the sensor to run on a 2 x AA battery 1.5V for 10 years with one update per day. It can support all frequency regions in over the World. The sensor will transmit data in kilo-meters distance to the LoRaWAN gateway, any brand on the market.

Applications
Facility Monitoring, Safety Monitoring

Notes For Applications
Light Intensity Range: Choose a sensor with an intensity range suitable for the application. Power Consumption: Evaluate the power requirements of the sensor. Mounting Options: Consider the physical form factor and mounting options. Integration: Look for sensors that integrate well with your system.

✓ **LoRaWAN communication**
LoRaWAN communication standard to allow sensor connect to any LoRaWAN Gateway on the market.

✓ **Visible light measurement**
Precision Optical Filtering to Match Human Eye, Rejects > 99% (typ) of IR

✓ **10-Year battery**
Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allow the sensor can last up to 10 years with 02 x Type AA batteries.

✓ **IP68**
For both indoor and outdoor applications

SYSTEM ARCHITECTURE
LoRaWAN
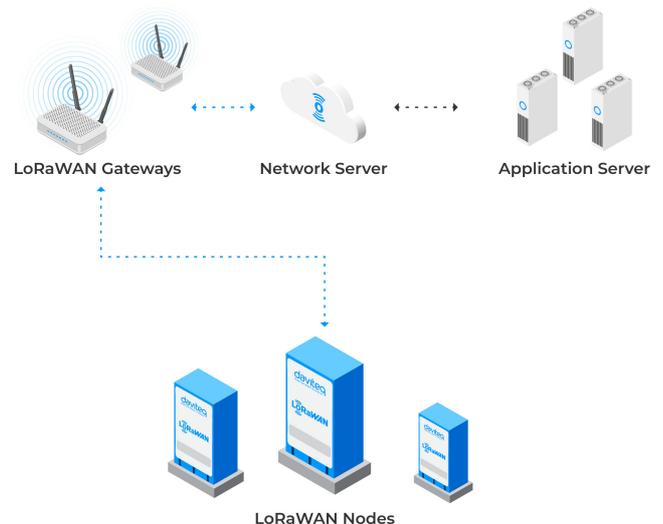
LoRaWAN Gateways   Network Server   Application Server

LoRaWAN Nodes

Specification

Sensor technology	Light sensor with Precision Optical Filtering to Match Human Eye, Rejects > 99% (typ) of IR
Measurements range	0.01 lux to 83 k lux 23-Bit Effective resolution
Linearity	2% of Reading value for > 40 Lux, 5% of Reading value when the light is less than 40 lux
Temperature drift	0.01%/℃ when light intensity is about 2000 lux
Operating Temperature Range	−40∼85℃
COMMUNICATION	
SF Factors	SF7∼SF12
Antenna	Internal Antenna 2 dbi
Power Supply	Primary batteries 02 x AA size 1.5VDC (battery not included)
RF Frequency and Power	860∼930MHz, 14∼20 dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN Class A V1.0.3
Data sending modes	interval time, alarm and manually triggering by magnetic key
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Working temperature	-40∼60℃ (with AA L91 Energizer®)
Dimensions	H106xW73xD42
Net-weight	190g
Housing	Aluminum + Polycarbonate plastic, IP68

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

APPLICATION FOR LIGHT MONITORING
IN BUILDING & FACILITY MANAGEMENT

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

APPLICATION FOR LIGHT MONITORING
IN AGRICULTURE & HORTICULTURE

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

APPLICATION FOR LIGHT MONITORING
IN MUSEUMS & ART CONSERVATION

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

51.0
35.0
129.0
⌀ 4.5
⌀ 26.0
61.8
72.8
42.0

DIMENSION DRAWING OF
WIRELESS NODE (Unit: mm)

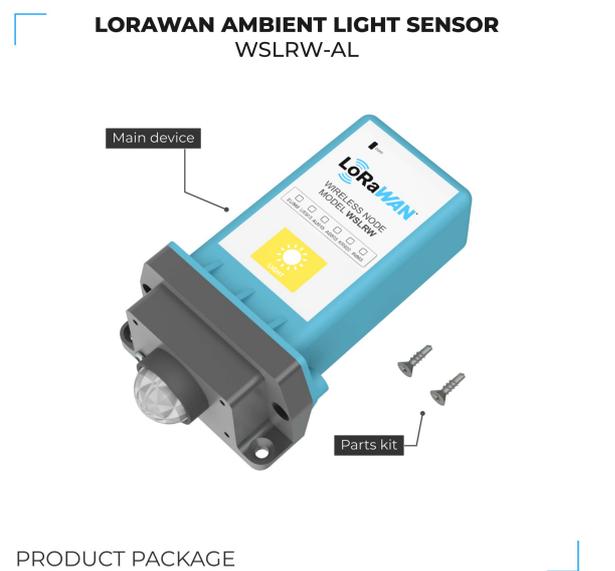### RECOMMENDED BATTERIES

DAVITEQ'S CHOICE RECOMMEND
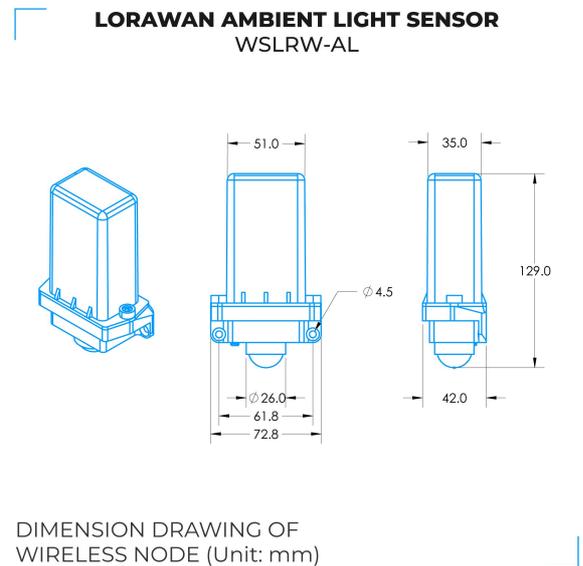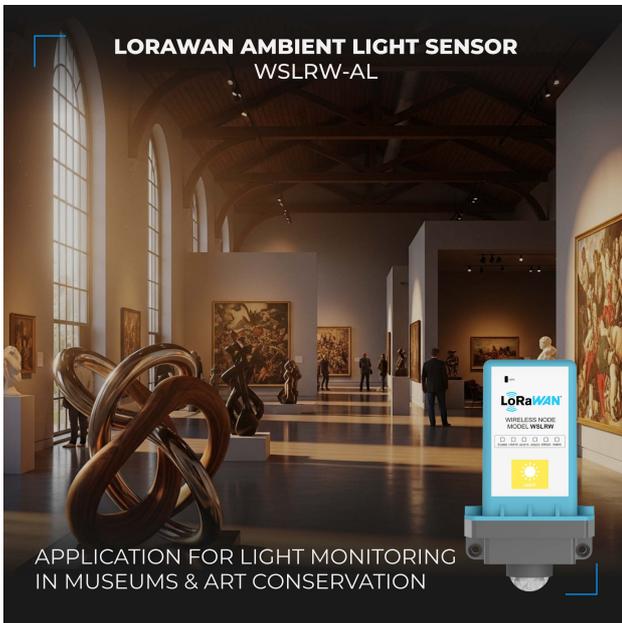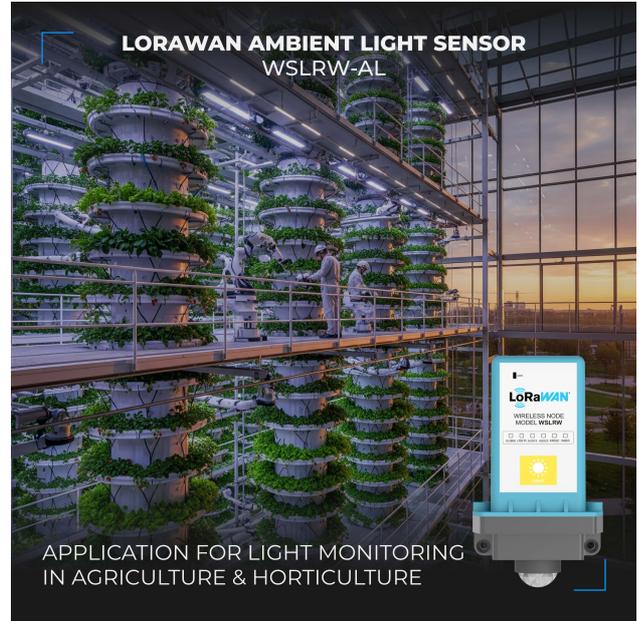
E91 AA
Alkaline battery

-18~60°C working temperature
10-year shelf life
3000 mAH capacity
Price: 1X

L91 AA
Lithium battery

-40~60°C working temperature
20-year shelf life
3500 mAH capacity
Price: 3.5X

POWERED BY PRIMARY BATTERY

LORAWAN AMBIENT LIGHT SENSOR
WSLRW-AL

Main device

Parts kit

PRODUCT PACKAGE

Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRW-AL-01	LoRaWAN ambient light sensor, Integrated sensor with protection lens, IP68, AA 1.5V battery