



PRODUCT DATASHEET

LoRaWAN LIGHT METER SENSOR

OVERVIEW

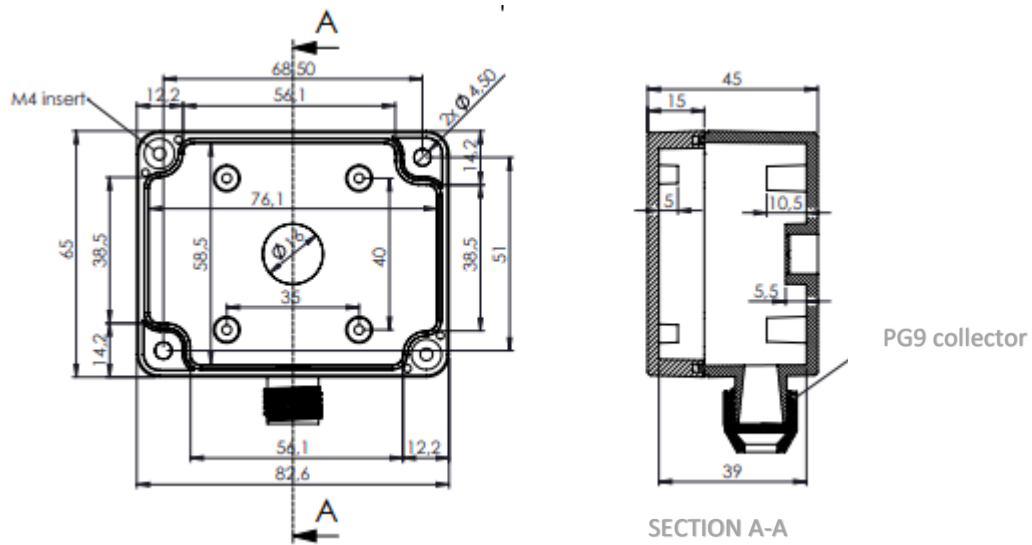
NETOP Light Meter Sensor is a longrange wireless sensor which measures the intensity of visible light. The spectral response of the sensor tightly matches the photopic response of the human eye and includes significant infrared rejection. Measurements can be made from 0.01 lux up to 83k lux (luminescence/unit area). This sensor is compatible with LoRaWAN technology.



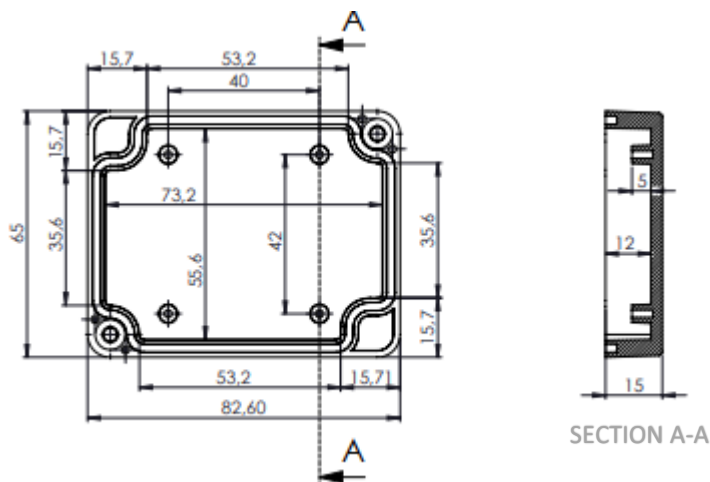
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TECHNICAL DRAWING

Box With Terminal Seal



Cover Page





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KEY FEATURES

Real Plug & Play

Easy to mount & install

Compatible with LoRaWAN™ specification

Maintenance free

Secure communication (AES-128)

Ultra -Low Power Consumption

Certificate: LoRaWAN™

COMMUNICATION SPECS

Compatible with LoRaWAN Specification 1.0.3

The sensor uses Low Power Wide Area Network-LPWAN technology (LoRa) for connectivity

Compliant with Low and High Frequencies (AS923, AU915, CN470, CN779, EU433, EU868, IN865, KR920, RU864, US915 MHz ISM bands)

Supports High power and Low power LoRa RF applications: - Up to +22 dBm at US915 and AU915, - Up to +14 dBm elsewhere

Ultra -low power consumption. Excellent long-term stability.

170 dB maximum link budget

Radio Performance: High RX sensitivity down to -148 dBm

Full ADR, OTAA and ABP support

Long range wireless data transmission





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MECHANICS

Housing: ABS (IP65 or higher)

Dimensions: 82.5 x 65 x 45 mm

Operating Temperature: -40°C to 85°C

POWER SUPPLY

AA Battery 3.6 V Li-SOCl₂-Saft LS 14500

INDICATORS

Status LED (on board)

LoRaWAN LIGHT METER SENSOR SPECIFICATIONS

Measurement Range: 0.01 lux to 83000 lux

Resolution: 0.01 lux

CERTIFICATIONS & RELIABILITY

EN 60950-1;2006/A2:2013

ETSI EN 301 489-17 V3.1.1(2017-02)

EN 55032:2015



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LoRaWAN FRAME FORMAT

Standard packet size: 24 Bytes

00-01-02-03-04-05-06-07-08-09-10-11-12-13-14-15-16-17-18-19-20-21-22-23

1 byte: Connection Type(1->LoRaWAN)

INFORMATION

012345678: Device ID

|1|: Indicates the type of connection the device uses.





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LoRaWAN LIGHT METER SENSOR PROTOCOL

01-0E-01-02-03-04-YY-YY-YY-YY-YY-YY-YY-YY-YY-YY-YY-01-2C-25-01-12-0D-EF

01: Selected Slot (1 byte)

0E: ALS Sensor Board ID (1 byte)

01020304: ALS Sensor Data 0x01020304H ->16909060D (4 bytes) LUX

YY-YY: Empty Data (11 bytes)

012C: Sleeping Period 0x012CH -> 300D Seconds (2 bytes)

25: Payload Counter 0x25H -> 37D (1 byte)

01: Sensor Message Type Periodic (02->Sensor Message Type Interrupt) (1 byte)

12: Sensor FW Version (1 byte)

- i. Main Version 1
 - ii. Sub Version 2
-

0DEF: 0x3567H -> 3567D -> 3567mV -> 3.567V (2 bytes)



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INFORMATION

01: Selected slot

0E: This slot determines the sensor type.

01020304: Indicates Output Data as 16909060D LUX

YY-YY: Dummy Data

012C: Sleep interval along 300S.

25: Data is live or not. Each measurement is incremented by degree.

01: When the sensor message 02 comes, it enters the interrupt.

12: Sensor firmware version 1.2

0D-EF: Outputs the measurement in Volt (3.567V).

