YO Meter. Reader 2.0

DATASHEET

Telemetry experts

LoRaWAN-based communication

BLE 5.0 support

Efficient device deployment& management

Support for multiple LoRaWAN regions

High-quality products made in EU

YOSENSI.IO

LoRa Alliance™ Member CE

Release notes

Released	Version	Key changes
26.03.2024	1.0	Initial release.

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Application

- YO Meter Reader 2.0 is a LoRaWAN device for reading data from a dedicated LED pulse detector. The sensor enables remote reading of e.g. electricity or water consumption by reading LED pulses on energy, water meters.
- Additionally, the YO Meter Reader 2.0 has built-in temperature and humidity sensors.
- The device is used wherever remote reading of the meter reader is essential, both in industrial and domestic conditions.
- The LED pulse detector is used to count flashing LEDs, which can be found, for example, on electricity and water meters.
- Based on the data collected by the device, it is possible to get, for example, the number of pulses or electricity consumption from metering devices.

Components

- The device consists of a **microcontroller** (with Bluetooth Low Energy), communication modules (LoRa), temperature sensor and a port for connecting an external meter
- YO Meter Reader 2.0 includes an **ABS enclosure**, ideal for a wall or ceiling mount and smart applications.

Operation of the device

- A LoRaWAN network is required for data transmission.
- It is possible to configure or reconfigure device parameters, **at any time**, via BLE.
- **Yosensi** provides access to a convenient **Mobile Application**, enabling adaptation, device configuration, as well as firmware updates and many other options to facilitate the use of Yosensi **devices.**
- It is recommended to add the device to the **Yosensi Management Platform**, which allows detailed and easy monitoring of the data transmitted by the devices.

Device configuration

LoRaWAN settings	Network type (private or public) operating mode selection (OTAA or ABP) **OTAA** • Device EUI • Application EUI • Application Key • Number of trails **ABP** • Device address • Network session key • Application key
Bluetooth Low Energy (BLE) settings	Transmission power Advertising frame interval
Device settings	Measuring interval Configuration of external meter Settings of output data

Advantages

- **Production quality** - made in the **European Union** by **qualified engineers**.
- The device improve energy management processes.
- The YO Meter Reader 2.0 provides convenient operation and secure data transmission.
- Easy integration into existing measurement systems.
- Possibility of remote data reading of electricity, water and other consumption data.
- Depending on the version, the **LoRa radio** can operate in different regions (e.g., EU868, US915, AU915, AS923) adapted to several ISM frequency bands.
- Using **Bluetooth** Low Energy (BLE) provides:
  - *Configuration convenience (in a user-friendly way via a JSON data exchange format)*
  - *Possibility of firmware update via OTAA*
  - *Very low energy consumption*
- **Supported LoRaWAN** network type: private or public and connection over **ABP** or **OTAA**.
- Access to the **Yosensi Management Platform** and **Yosensi Mobile Application** for device configuration, firmware updates and infrastructure management.

Technical details

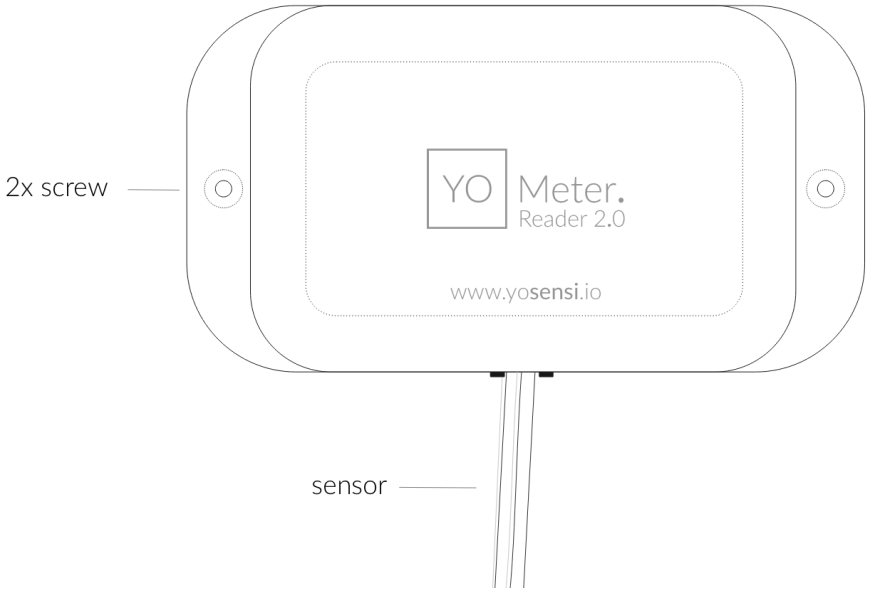

Figure 1 Top view of the device.

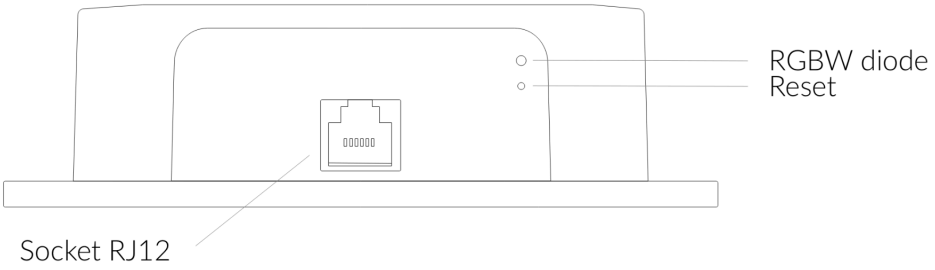

Figure 2 Side view of the device.

Enclosure of the device

Dimensions	Height: 35 mm Width: 67,3 mm Depth: 124,3 mm
Colour	White
Installation	Horizontal Vertical (can be screwed to the wall)
Enclosure material	ABS (FR)
Level of protection	IP40

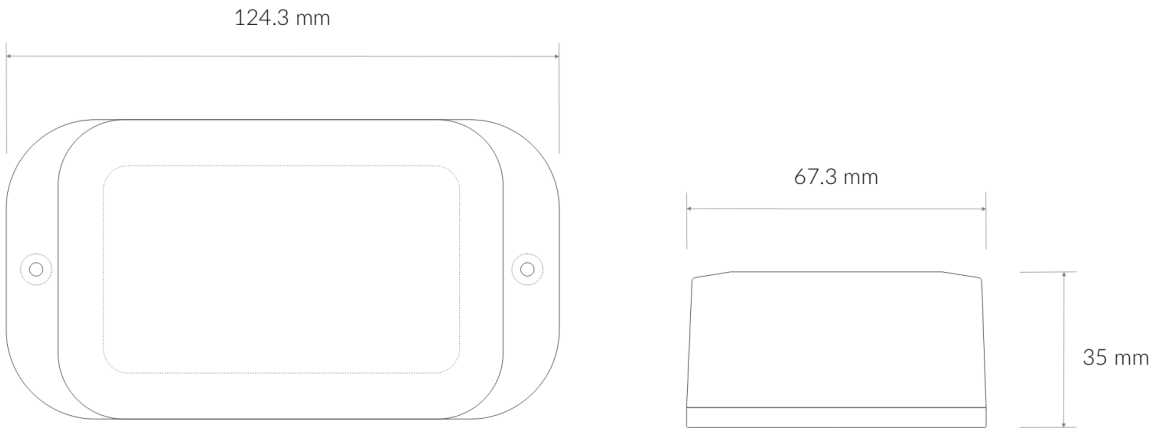

Figure 3 Dimension of the device.

Parameters

Tx power	LoRa EU868: to +14 [dBm] LoRa US915, AU915, AS923: to +22 [dBm] Bluetooth Low Energy (BLE): -20 to +6 [dBm]
Power supply	3 x AA battery (3 x 1,5 V)
Power consumption	Maximum: 120mA (4,5 VDC)
Measuring range	**Temperature:** Measuring range: –40°C to 125°C *(-40°F to 257°F)* Accuracy: ±0,2°C *(at temperatures between 5°C and 60°C (41°F to 140°F))* **Humidity:** Measuring range: 0% to 100% Accuracy: ±2% *(relative humidity from 20% to 80%)*
Weight	106 g (without batteries)
Certificates	CE

Sample charts

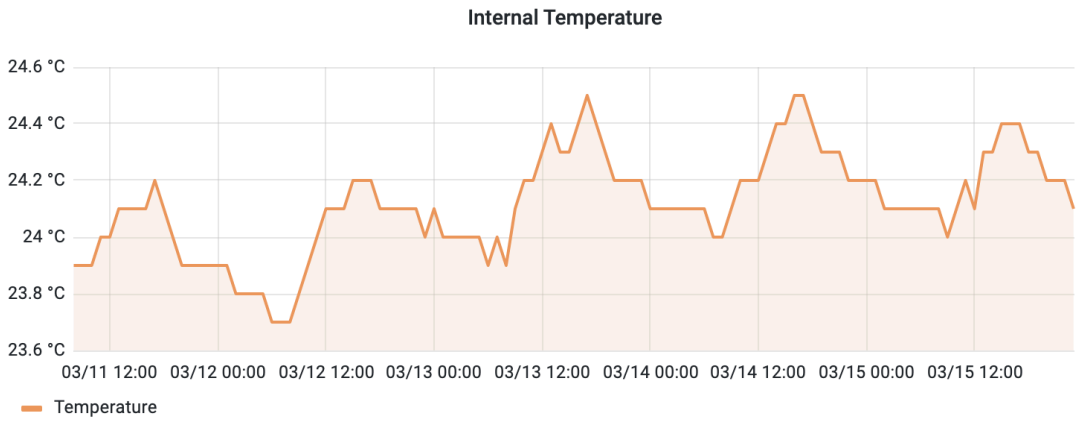

Figure 4 Internal temperature example chart.

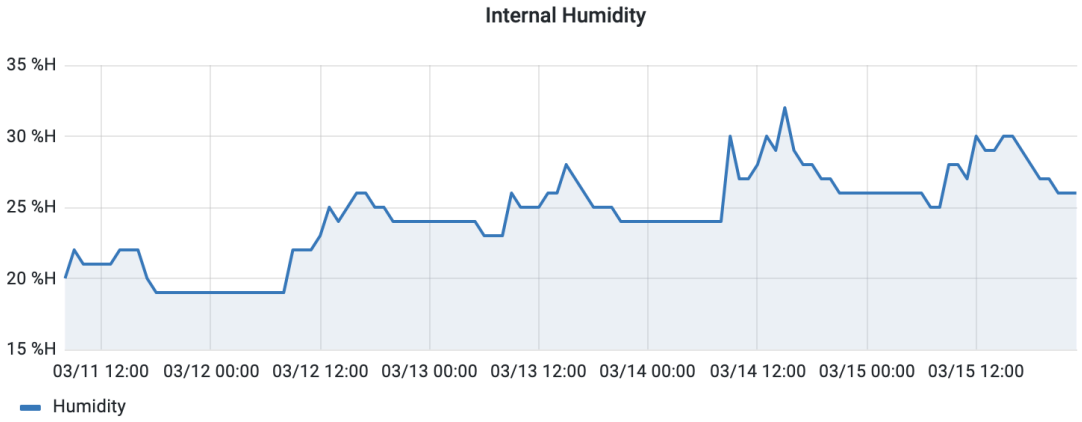

Figure 5 Internal humidity example chart.

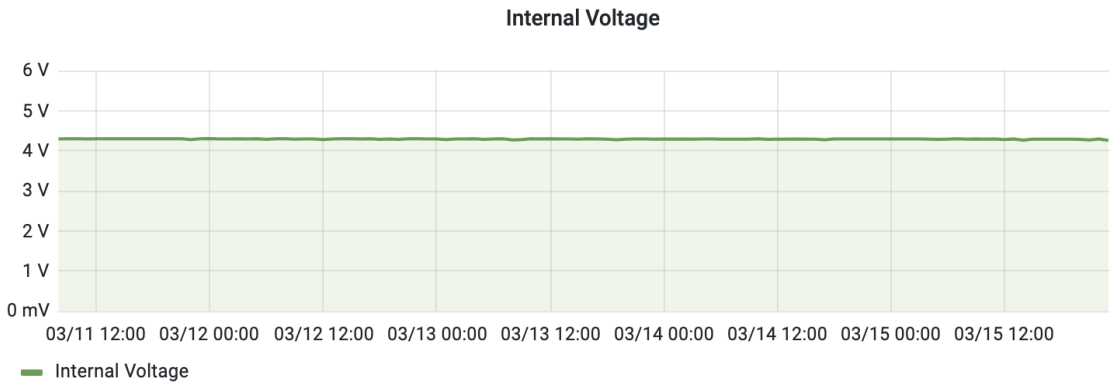

Figure 6 Example of battery voltage monitoring chart.

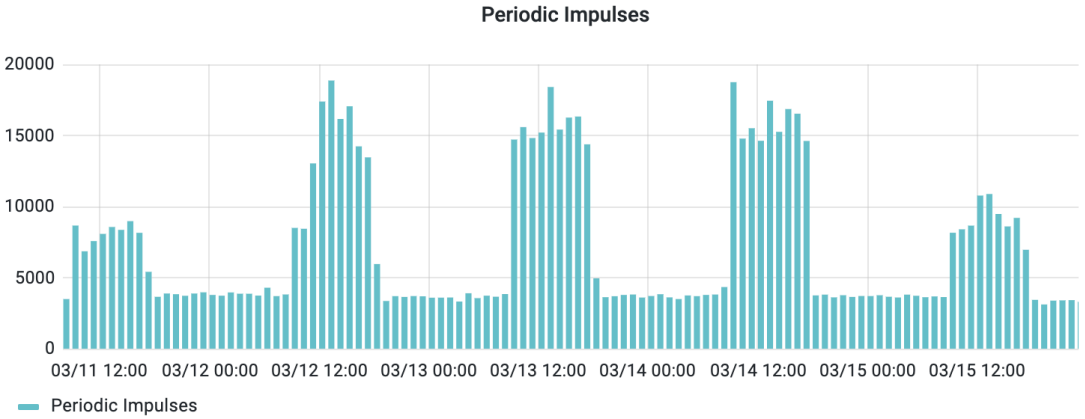

Figure 7 Example of periodic impulses monitoring chart.

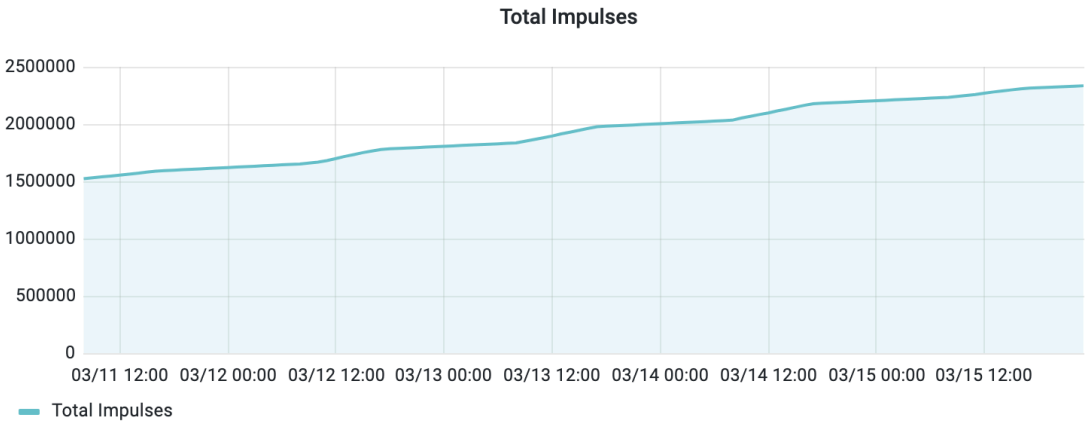

Figure 8 Example of total impulses monitoring chart.

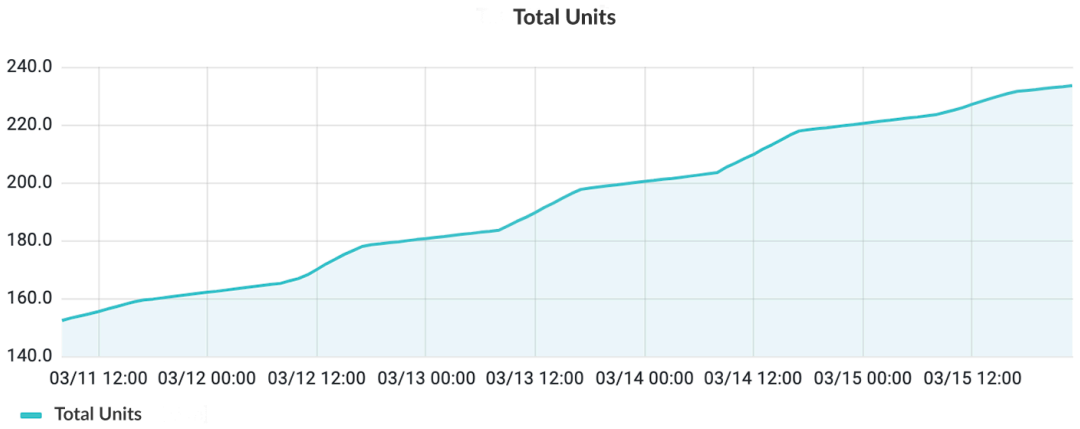

Figure 9 *Example of total energy monitoring chart.*

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