jooby

Optical radio module for Novator water meter

Automatic collection of water meter readings based on LoRaWAN® technology.

The optical radio module is designed for automatic collection of water meter readings and their transmission to the accounting system over the LoRaWAN® wireless network. Smart sensors detect external interference in the device operation and give immediate warning.

It helps a resource company, developer, condominium association, managing company, or enterprise to fully automate the metering collection process and receive accurate, on-time data.

- Remote collection of readings from all metering points
- Installation in a matter of minutes, activation with an app
- Warning about removal or magnetic tampering
- The service life of 5 to 15 years without battery replacement (depends on the data reporting frequency and the amount of interference between the unit and the base station)
- Water backflow monitoring
- Remote configuration of data reporting intervals
- Hourly, daily, monthly, and yearly usage logs
- Body IP rating: IP65
- Warranty period: 4 years

How the optical radio module works

The device is mounted on the meter body and secured with a clamping screw. The module is activated and deactivated through a short magnetic action. Then, the device is activated in the installer mobile application. The entire process only takes a few minutes, and no removal of the meter is required.

The pulse counter gathers data using an optical sensor that registers the rotation of the meter dial. The sensor captures one full turn of the dial, generates the impulse, and transmits it to the data transmission module. Then the readings are transmitted over the LoRaWAN® wireless network to the server.

For security purposes, the data is stored in the built-in non-volatile memory:

✔ 1 month (hourly usage);
✔ 4 months (daily usage).

Data reporting intervals vary from once every hour to once every day depending on the customer's preferences.

The autonomous power supply is ensured by the pre-installed long-life battery with the lifetime from 5 to 15 years.

Universal solution

Automatic data collection from all metering points.

Jooby RDC Dashboard

Reports and user interfaces for 24/7 device status monitoring and readings accounting.

Utility companies cut resource accounting costs and get accurate consumption data.

Managing companies remotely track water consumption, conveniently prepare reports, and promptly balance accounts.

Housing cooperatives get detailed reporting on water consumption per flat and promptly detect reading tampering.

Developers get an innovative advantage over their competitors, provide cost-cutting opportunities for the managing company, and improve amenities for residents.

Enterprises improve the efficiency of resource consumption.

API for data exchange

ooby devices use LoRaWAN® standard communication protocols and are easily integrated into any accounting system of the customer. A quick way to run your own IoT solution on our equipment.

Integrators quickly integrate their devices into the existing dispatch system and get access to the necessary documentation complete with a detailed device functionality list and customer service and support.

Specification checklist

LoRaWAN® device class	A
Cyclic data transmission	Configurable (every 4 hours by default)
Remote change of data reporting intervals	AV
Data storage in non-volatile memory	10 years (minimum)
Hourly usage log capacity	1 month
Daily usage log capacity	4 months
Event and error log capacity	64
Battery status monitoring	AV
Removal warning	AV
Magnetic tampering warning	AV
Water backflow monitoring	AV
Internal sensors performance monitoring	AV
ADR (Adaptive Data Rate) support	AV

Wireless transmission specifications

Operating frequency	EU868 MHz
Communication protocol	LoRaWAN®
Transmitter power	25 mW
Receiver sensitivity	To −148 dBm
Data rate	From 250 to 50,000 bit/s
Communication range in conditions of urban development	Up to 5 km
Communication range in LOS conditions	Up to 15 km

Operation

Operating temperature, °C	−30…+85
Body IP rating	IP65
Service life without battery replacement	From 5 to 15 years
Meter model	NOVATOR ЛК-15Х NOVATOR ЛК-15Г

General data

Body material	PA12 Polyamide
Weight	~70 g
Overall dimensions	97 × 32 × 45 mm
Warranty period	4 years

Power supply source

Battery voltage	3.6 V
Battery rated capacity	2.5 Ah
Battery chemistry	Li-SOCl2