jooby

Radio module for Elster gas meter

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

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

It helps a utility company, developer, housing cooperative, 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)
- Remote configuration of data reporting intervals
- Hourly, daily, monthly, and yearly usage logs
- Body IP rating: IP50
- Warranty period: 4 years

How the radio module works

The device is mounted on the meter body and fixed with standard fasteners. 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 from the meter using a magnetic field sensor that registers rotation of the meter dial. In one full turn of the dial, the sensor registers the magnetic response of the field, 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:

- ✓ 2 months (hourly usage);
- ✓ 1 year (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 gas consumption, conveniently prepare reports, and promptly balance accounts.

Housing cooperatives get detailed reporting on gas 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

Jooby 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	2 months
Daily usage log capacity	1 year
Event and error log capacity	256
Battery status monitoring	AV
Removal warning	AV
Magnetic tampering warning	AV
ADR (Adaptive Data Rate) support	AV

Operation

Operating temperature	−30…+85 °C
Body IP rating	IP50
Service life without battery replacement	From 5 to 15 years
Meter model	Elster BK-G1.6 Elster BK-G2.5 Elster BK-G4 Elster BK-G6 Elster BK-G10 Elster BK-G16 Elster BK-G25

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

General data

Body material	ABS Plastic
Weight	42 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