



FM442e

Plug & Play IoT Sensor for
Electricity Consumption Monitoring



Product Range

BelSenso

FM442e

Plug & Play IoT Sensor for Electricity Consumption Monitoring



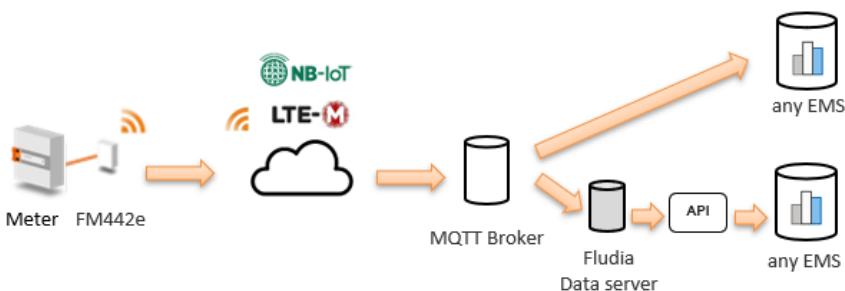
The FM442e is a plug-and-play IoT sensor designed for monitoring electricity consumption in all types of buildings. The optical head can be quickly attached to the main electricity meter or a submeter, and the NB-IoT/LTE-M modem connects through standard cellular networks. Measurement data is transmitted to an MQTT broker and can be retrieved by any EMS (Energy Management System).

Benefits

- ⇒ **Universal:** Compatible with most electricity meters (electronic with blinking LED or electromechanical with rotating disk)
- ⇒ **Plug & Play:** Optical head installed in seconds without tools
- ⇒ **Reliable:** Adaptive detection and signal filtering built into the optical head
- ⇒ **Configurable:** Measurement and transmission intervals remotely adjustable
- ⇒ **Autonomous:** Battery-powered for multiple years of operation
- ⇒ **Made in France:** Designed and manufactured by Fludia, with full support and product evolution handled in-house



Operational



Use Cases

- ⇒ **Energy audits:** Verifying time schedules, power sequences, and energy blocks
- ⇒ **Energy monitoring:** Triggering alerts and ensuring long-term energy efficiency
- ⇒ **ESG reporting:** Harmonizing data collection and formats across countries and building types

General and technical features

FM442e	
Input	<ul style="list-style-type: none">- Electromechanical meters: Optical reading via disk rotation detection→ Switch position: A- Electronic meters: Optical reading via LED flash detection→ Switch position: B
Output	<ul style="list-style-type: none">- NB-IoT and LTE-M supported- MQTTs protocol
Installation & Operation	<ul style="list-style-type: none">- Optical head mounted on a plastic holder with specialized 3M adhesive- Meter type selected via switch on the side of the optical head- Red and green LEDs for commissioning and diagnostics
Data	<ul style="list-style-type: none">- Energy index and power load curve every 5, 10, 15, 30, or 60 minutes (remotely adjustable)- Default configuration: index increment every 15 minutes, data sent every 4 hours
Power supply	<ul style="list-style-type: none">- Two replaceable A-size batteries: 3.6V Lithium-Thionyl Chloride (Li-SoCl_2)
Size & Weight	<ul style="list-style-type: none">- Optical reader: 19 g (with cable), 24 mm (height), 40 mm (width), 19 mm (depth)- Cable length: 50 cm- Radio box: 130 g, 95 mm (height), 75 mm (width), 30 mm (depth)

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Reference

FM442e_ap_15mn

IoT Sensor for Electricity Consumption Monitoring - data 15mn