

FM442e

Plug & Play IoT Sensor for
Electricity Consumption Monitoring



FM442e

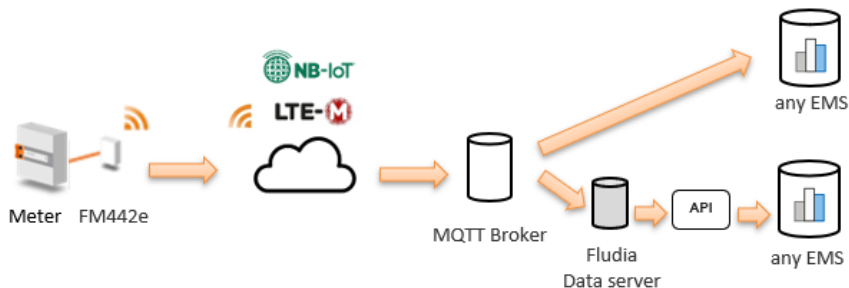
Plug & Play IoT Sensor for Electricity Consumption Monitoring

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	<div><div>- Electromechanical meters: Optical reading via disk rotation detection</div><div>→ Switch position: A</div><div>- Electronic meters: Optical reading via LED flash detection</div><div>→ Switch position: B</div></div>
Output	<div><div>- NB-IoT and LTE-M supported</div><div>- MQTTs protocol</div></div>
Installation & Operation	<div><div>- Optical head mounted on a plastic holder with specialized 3M adhesive</div><div>- Meter type selected via switch on the side of the optical head</div><div>- Red and green LEDs for commissioning and diagnostics</div></div>
Data	<div><div>- Energy index and power load curve every 5, 10, 15, 30, or 60 minutes (remotely adjustable)</div><div>- Default configuration: index increment every 15 minutes, data sent every 4 hours</div></div>
Power supply	<div><div>- Two replaceable A-size batteries: 3.6V Lithium-Thionyl Chloride (Li-SoCl₂)</div></div>
Size & Weight	<div><div>- Optical reader: 19 g (with cable), 24 mm (height), 40 mm (width), 19 mm (depth)</div><div>- Cable length: 50 cm</div><div>- Radio box: 130 g, 95 mm (height), 75 mm (width), 30 mm (depth)</div></div>

FM442e



Reference

FM442e_ap_15mn

IoT Sensor for Electricity Consumption Monitoring - data 15mn

To contact us:

Fludia - 37 avenue Edouard Vaillant - 92150 Suresnes - France
Phone: +33 (0)1 83 64 13 90 - Mail: contact@fludia.com - www.fludia.com