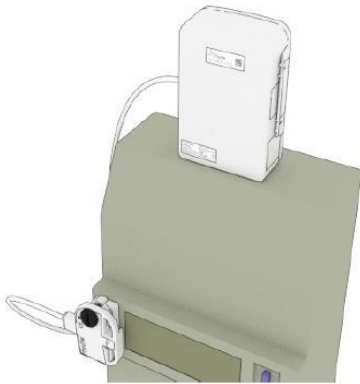
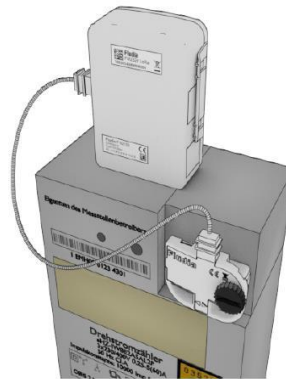


*IoT Energy Monitoring sensors based on
optical reading of existing meters*

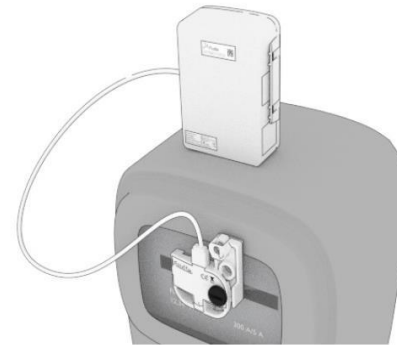
More about compatibility



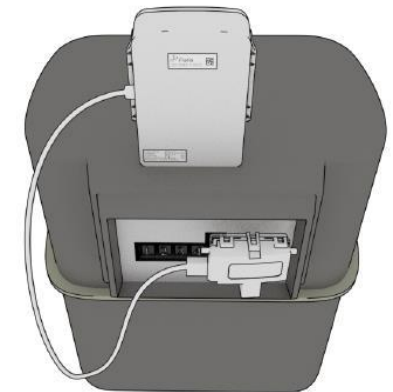
For flashing LED



For infrared port



For spinning disk



For index digit

Introduction

Fludia has designed a range of IoT products dedicated to energy monitoring. Technical solutions include optical reading (and related embedded algorithms), associated with powerful radio technologies like LoRa. This document focuses on products including optical reading of existing meters and intends to clarify the topic of compatibility depending on meter characteristics.

Complete list of products / **products concerned by this document:**

LoRaWAN

- **FM432e:** optical reading of electricity meters with LED or spinning disk
- **FM432g-n:** optical reading of gas meters with index digits
- FM432p-n: pulse detection for gas, water, electricity submeters, other meters
- **FM432ir:** optical reading of electricity meters with infrared SML or spinning disk
- FM432t: temperature

Local LoRa (same sensors but connecting to the F-Link Internet bridge)

- **FM232e:** optical reading of electricity meters with LED or spinning disk
- **FM232g-n:** optical reading of gas meters with index digits
- FM232p-n: pulse detection for water, electricity submeters, other meters
- **FM232ir:** optical reading of electricity meters with infrared SML or spinning disk
- FM232t: temperature

Same for FM442 series using NB-IoT/LTE-M



FM432e on a ferraris meter



FM432g-n on a gas meter

Electricity meters

Electricity meters with flashing LED

Products: FM432e/FM232e

Compatibility with 99% of the meters. In very rare cases, when the LED is too far and there is a transparent casing, the compatibility is questionable



compatible



compatible



compatible



compatible



questionable

A few examples:

Electricity meters with spinning disk

Products: FM432e/FM232e or FM432ir/FM232ir

Compatibility with 95% of the meters. In rare cases, when the plane surface is too small or the spinning disk is too far, the compatibility is questionable



compatible



compatible



compatible



compatible



questionable

A few examples:

Electricity meters with infrared SML

Products: FM432ir/FM232ir

Compatibility with 95% of the meters. In rare cases, when the SML protocol is not correctly implemented or if the infrared LED is too weak, the compatibility is questionable



compatible



compatible



compatible



compatible



compatible



compatible

A few examples:

Gas and water meters

Gas meters with digit index

Products: FM432g-n/FM232g-n

Compatibility with 90% of the meters. In rare cases, when the digits are too far behind the transparent panel or the transparent panel is not parallel to the digits, there is no compatibility



compatible



compatible



compatible



compatible



compatible



compatible



compatible



not compatible

Gas meters with flashing LED

Products: FM432e/FM232e

In very rare occasions, the gas meter is electronic and is equipped with a flashing LED

Gas/Water meters with pulse output

Products: FM432p-n/FM232p-n

When pulse output exists and is available, FM432p/FM232p can be used and is proposed with different cable options (with Binder connector for example)

Water meters with digit index

Products: FM432g-n/FM232p-n
Compatibility with 25% of the meters. There can be a number of complications: not enough space to position the optical head, surface not plane, condensation and so on.



compatible



compatible



not compatible