POLIMETER

Prepaid Ultrasonic Heatmeter

Product Overview

POLIMETER is a next-generation prepaid metering solution designed for municipalities, utility providers, and residential complexes. Built by FNF Teknoloji, POLIMETER integrates IoT-based metering, seamless data communication, and long life more then ten years battery performance into one compact solution.
Our smart meters are engineered for durability, precision, and user-friendly experience, offering full compatibility with smart city infrastructure.

OLED Display

1. Remaining credit (monetary or volumetric)
2. Current flow rate (m³/h)
3. Total consumption (kwh)
4. Battery level indicator
5. Signal strength indicator
6. Reverse flow warning
7. High Voltage
8. Low Voltage
9. Network Cut Off Time
10. Network Come Back Time

1.3-inch OLED Screen

1. Max and Min flow indicators
2. Valve position (open/closed)
3. Error icon for alerts or malfunction
4. Last top-up amount
5. Tariff or price per unit
6. Usage mode/menu navigation
7. Fitting Removed
8. Battery Removed
9. Last Credit Loading Date

Warning icon
(activated when the meter is in warning status)

Maintenance & Repair Icon
(Activates when the meter is in fault status)

Cubic Metre Unit
(Activated when water consumption is displayed on the screen)

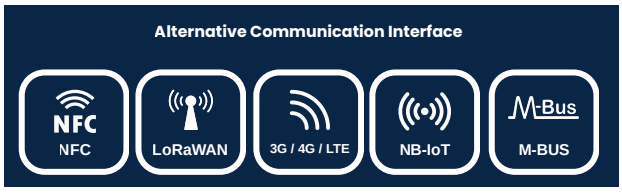
RF broadcast

Battery Level Icon
(Shows Battery Charge Status)

Currency
(activated when the currency is displayed on the screen)

Water Flow Direction

Valve Closed Icon
(Activates when the valve is closed)



- NFC (Near Field Communication) support for:
  - Instant data reading via mobile device
  - Firmware updates via NFC-enabled terminals
  - All meters control commands and warnings
- LoRaWAN Protocol for long-range, low-power wireless communication
- NB-IoT (Narrowband IoT) for deep indoor coverage and real-time data transmission
- M-Bus Protocol for wired communication and integration with existing infrastructure
- Bi-directional communication support (read/write)

Measurement & Detection Capabilities

- **Reverse Flow Detection – detects and warns of backflow**
- **Max Flow Detection – monitors peak consumption rates**
- **Min Flow Detection – useful for leakage detection**
- **Instantaneous Flow Rate Measurement in m³/h**
- **Cumulative Consumption Tracking in m³**
- **Time-stamped Consumption History for detailed usage reports**

User-Oriented Features

- **Remaining Credit Display – user can see how much balance or volume is left**
- **Usage Menu Navigation – easy access to data without external tools**
- **Last Top-Up Information – shows date and amount of last credit load**
- **Pricing Display – shows current tariff or unit pricing**
- **Supports Prepaid Model – compatible with top-up systems for prepaid billing**
- **Remote Credit Loading (Optional) – possible integration with online payment gateways**

Power & Operation

- **Battery Powered – Operates entirely on internal battery**
- **Battery Life – Up to 10 years (depending on communication frequency)**
- **Ultra-low Power Consumption – optimized for long-term unattended usage**

Security & Reliability

- **Tamper Detection – unauthorized access or reverse flow is detected and logged**
- **Automatic Error Warning – any malfunction triggers error icon and optional remote alert**
- **Balance Loading screen**

Technical Specifiction

Available Size	DN15, DN20
Precision Class	Class 2
Pressure Loss	63kPa / 40kPa
Maximum Working Pressure	1.6 MPa
Working Environment	Temperature: -25°C ~ +55°C, Humidity ≤ 100% (RH)
Liquid Temperature Class	T30 / T50
Climate and Mechanical Environment Safety Level	O
Electromagnetic Environment Class	E1
Power Supply	3.6V Lithium batteries, up to 10 years
Protection Class	IP65
Materials	Solid Brass
Data Storage	For errors, alarms and measuring values, data logging capabilities to record up to: • 3 × 24 hourly values • 366 × daily values

Measurement Temperature Range	1°C - 105°c
Measurement Temperature Difference	3K - 90K
Operating Ambient Temperature	5°C - 55°c
Min. Consumption Calculation difference	2°C
Heat Solubility	0,01°C
Energy Unit	kWh / MWh / GJ
Sensor Type and Length	PT 1000
Sensor Diameters	5,0 mm & 5,2 mm
Sensor Cable Length	1,5 m
Measurement Class	MID CLASS 2
Approves	MID & CE

Flow Rate Performance Parameter

Meter Size	Diameter	Nominal Flow Rate Qp [m³/h]	Minimum Flow Rate Qı [m³/h]	Maximum Flow Rate Qs [m³/h]	Length [mm]	Height [mm]	Width [mm]
15	1/2	0,6/1,5	0,06/0,015	1,2/3	165	80	107
20	3/4	2,5	0,025	5,00	195	80	110

Installation Dimension

Nominal Diameter (mm)
DN15
DN20