AIUNEO aiut brand

APULSE x1F6

IoT Data Logger for Smart Water Metering

LoRaWAN sigfox imr

- Compatible with various AMR-ready water meters
- SRD wireless communication
- IoT connectivity - LoRa, Sigfox
- Bluetooth Low Energy (BLE)
- Suitable for outdoor environments (IP68)
- Long-life battery (up to 10 years)

APULSE x1F6 is an autonomous, battery-powered IoT data logger designed for various AMR-ready water meters. This module collects data from water meters and transmits it using either the Sigfox or LoRa low-power networks. With extensive IoT network support, APULSE offers full versatility and global coverage. It registers consumption profiles as well as magnet and tamper detection. The built-in Bluetooth module facilitates convenient data collection, on-site configuration, and diagnostics through a dedicated mobile application.

The device can store large amounts of data and operates efficiently with conventional IoT readout and walk-by/drive-by systems. The estimated battery life of the device is up to 10 years with daily data transmission.

aiut

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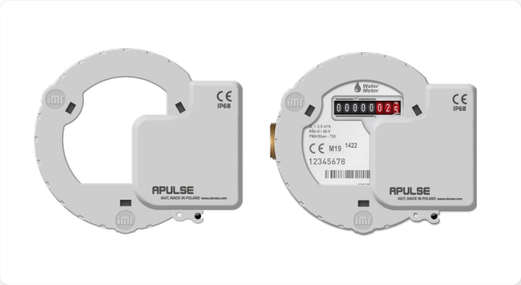
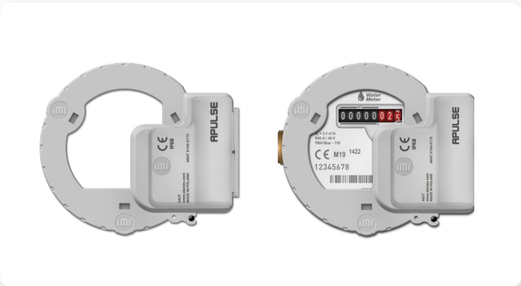


APULSE D1F6-Fxxx

DIEHL

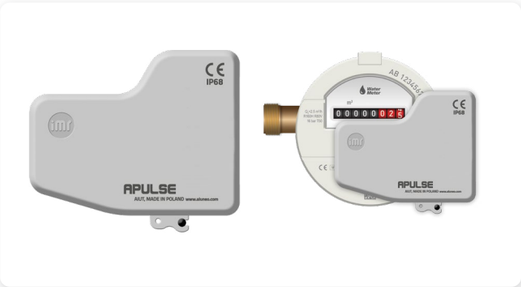
Supported water meters	Altair V4, Altair V3, Aquarius V3, Aquila V3, Aquila V4, Wesan WPVG, Wesan WP G
Dimensions	height: 36 mm (109 mm with antenna), width: 87 mm, depth: 98 mm
Battery type	Non-replaceable



APULSE D1F6-xxxx

DIEHL

Supported water meters	Altair V4, Altair V3, Aquarius V3, Aquila V3, Aquila V4, Wesan WPVG, WesanWP G
Dimensions	height: 60 mm (109 mm with antenna), width: 87 mm, depth: 98 mm
Battery type	**APULSE D1F6-Lxxx:** replaceable, single **APULSE D1F6-Ixxx:** double, non-replaceable



APULSE I1F6-Fxxx*

ITRON

Supported water meters	Flodis, Aquadis+, Flostar, Woltex M, Unimag Cyble, MSD Cyble
Dimensions	height: 35 mm (108 mm with antenna), width: 78 mm, depth: 68 mm
Battery type	Non-replaceable

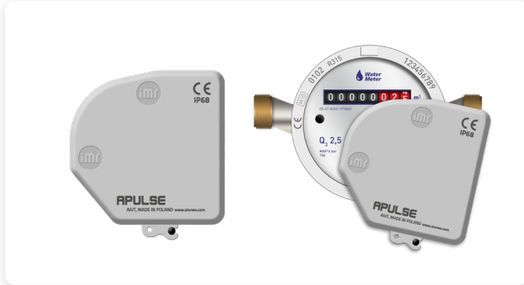
APULSE I1F6-xxxx

ITRON

Supported water meters	Flodis, Aquadis+, Flostar, Woltex M, Unimag Cyble, MSD Cyble
Dimensions	height: 56 mm (108 mm with antenna), width: 78 mm, depth: 68 mm
Battery type	**APULSE I1F6-Lxxx:** replaceable, single, **APULSE I1F6-Ixxx:** double, non-replaceable

*A dedicated version, APULSE I1F6-Fxxx, can also be installed on gas meters.
Supported gas meter types include: Itron RF1 G1.6-G6, Itron ACD G10-G100, and Itron Gallus.

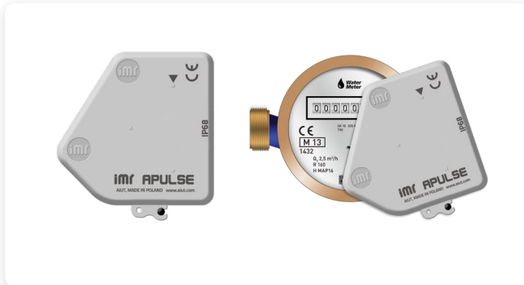
APULSE x1F6. IoT data logger for Smart Water Metering.



APULSE S1F6-Fxxx

SENSUS

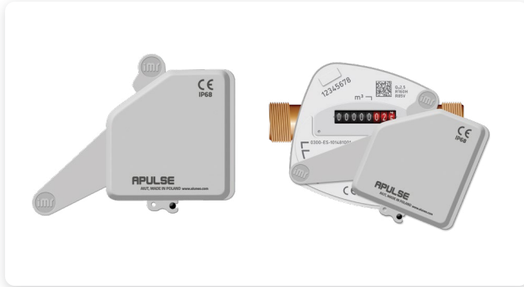
Supported water meters	120, 120C, 405S, 420, 420PC, 620, 820
Dimensions	height: 35 mm (108 mm with antenna) width: 68 mm, depth: 62 mm
Battery type	Non-replaceable



APULSE B1F6-Fxxx

BAYLAN

Supported water meters	K K-1, K K-12 , K K-13 , K K-14 , K K-16 , K K-17, TK-2, VK-6, VK-10 and VK-11
Dimensions	height: 39 mm (108 mm with antenna), width: 65 mm, depth: 64 mm
Battery type	Non-replaceable



APULSE E1F6-Fxxx

HONEYWELL

Supported water meters	S150, S220, V200, V200P,V210, V210P, C4000
Dimensions	height:35 mm (108 mm with antenna), width: 95 mm, depth: 75 mm
Battery type	Non-replaceable

APULSE v1F6-xy**

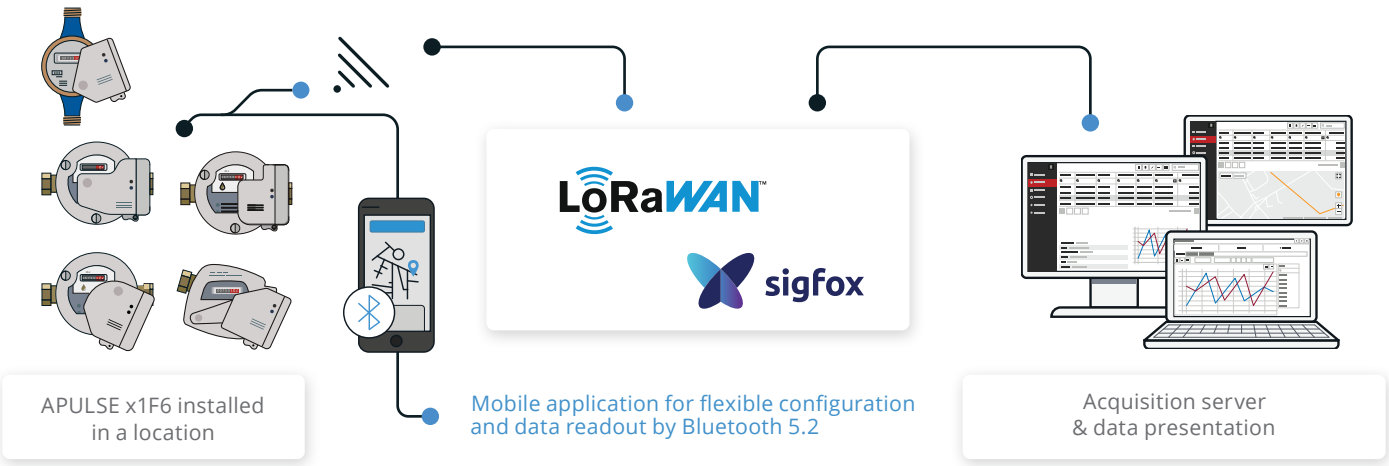
xy	BATTERY	ANTENNA	WATER METER
F0	single, non-replaceable	built-in whip	Diehl, Itron, Sensus, Baylan, Honeywell
F5	single, non-replaceable	external SMA (fig.1)	Sensus, Baylan, Honeywell
IZ	double, replaceable	built-in whip	Diehl, Itron
IV	double, non-replaceable	external SMA (fig.1)	Diehl, Itron
LZ	single, replaceable	built-in whip	Diehl, Itron
LV	single, replaceable	external SMA (fig.1)	Diehl, Itron

V - DEVICE TYPE
D - Diehl water meter
B - Baylan water meter
S - Sensus water meter
I - Itron water meter
E - Honeywell water meter

Fig.1. APULSE x1F6 with external SMA antenna

PLUG & PLAY

The APULSE x1F6 takes pulses from the water meter and transmits the calculated consumption data to the acquisition server via LoRa or Sigfox technology. Subsequently, the data can be further processed at a third-party data center. Our solution can operate in both fixed and walk-by modes, ensuring reliable and on-time readings even in cases of disturbed IoT communication.



Functional and Technical Specifications

Low Power Radio Communication

- LoRa frequency bands: EU868 / US915 / AU915 / AS923
- Sigfox ready for RC1 / RC2 / RC4 / RC6 zones
- Event transmission: Sigfox or LoRa
- Event types: device removal, external magnet, reverse/max/min/ no flow, low battery
- Bluetooth Low Energy 2,4GHz +8dBm and WM-Bus mode T1 for walk-by mode
- Summary reports with consumption profiles
- Built-in whip antenna, external SMA as an option

Environmental Parameters

- Suitable for outdoor environments, IP68
- Operational temperature -25°C to +55°C
- ATEX, IECEx certified for hazardous Zone 2 (for the dedicated version APULSE I1F6-Fxxx installed on gas meters)

Power Supply

- Non-replaceable or replaceable battery (depending on products specifications – see the table on pages 2 and 3)
- Battery lifetime: up to 10 years*

*The battery life depends on the device's target configuration, environmental conditions, and user interaction with the device.

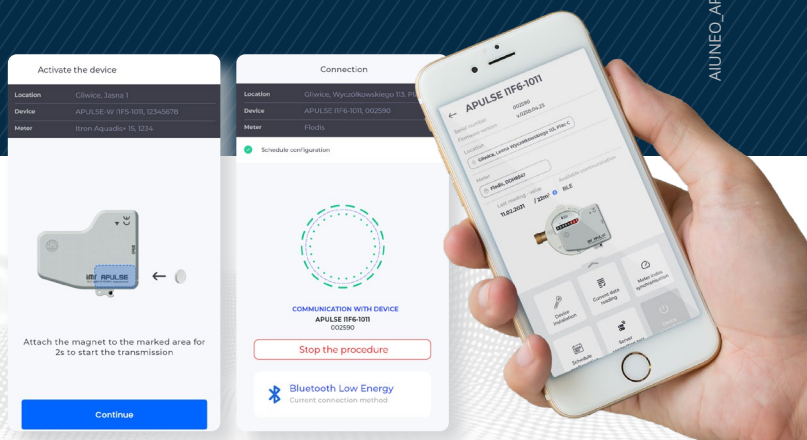
Flexible LoRa/Sigfox Configuration

Exemplary configuration ensuring 10-year battery life:

- 2x LoRa frame per day,
- WM-Bus T1 - 5 days per week for 8 hours,
- BLE module active one day per month for 16 hours and activated by magnet

SITA application

- Mobile application for readout and configuration
- On-site device support: quick data synchronisation, configuration, software update & installation
- Current and archive consumption data
- Offline version



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