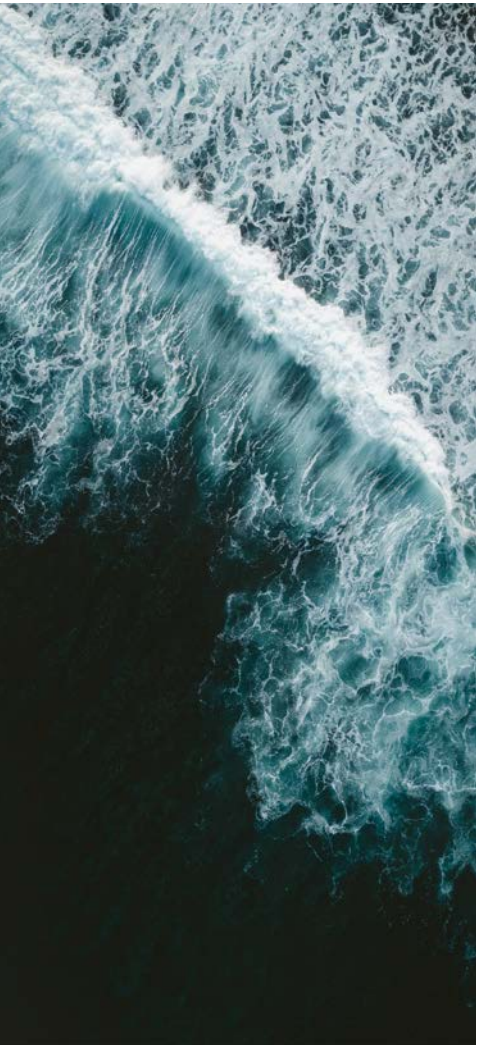
Landis+Gyr ULTRAWATER® W370 Smart water meter

Landis+Gyr
manage energy better

Simplify Water Management



The smart way of managing water resources: ULTRAWATER® W370 – the robust and IoT-ready ultrasonic water meter.

Smart city concepts play a key role for a sustainable future. They are based on intelligent and digital technologies to make urban places more sustainable, climate-friendly, and liveable. Smart water infrastructures are essential for these concepts: They generate, transmit, and analyze meter data to detect threats to the water and optimization potential for water management and distribution networks.

That's why we developed the smart W370 water meter. This IoT-ready water meter offers advanced metering and network insights from afar: It comes with highly accurate and long-term stable ultrasonic measurement technology, enhanced functionalities, including optional leakage detection, and various communication options for data transmission.

With its robust long-life design, environmentally friendly lead-free brass tube, and energy efficiency, the W370 provides actionable insights on consumption, delivery quality, and meter point status across many years without maintenance.

Smart functions for Metering Intelligence

Near-field communication (NFC)

Parameterization, data read-out, or fault finding: The integrated NFC interface allows easy meter access on site for different user roles (installers, consumers, etc.) via smartphone and UltraConnect app.

Temperature measurement

Freezing can lead to broken pipes and leaks, high temperatures to accelerated bacteria growth. The W370 triggers a frost warning or ice alarm when the temperature gets too low and a hot temperature warning when it gets too warm (cold water meter).

FOTA (Firmware update over-the-air)

Via the NB-IoT interface and cellular network, remote updates with new features, new standards, and bug fixes are possible. A meter exchange is unnecessary.

Advanced battery management

Thanks to its low-power design with NB-IoT, the W370 can operate for 15 years without battery exchange. The power consumption is monitored, and the remaining battery life is continuously predicted.

Reverse flow detection

In case of an installed meter or a flow in the wrong direction, a warning is triggered. For determination of the risk of contamination and non-revenue water, the reverse volume is registered.

Stagnation detection

Microorganisms can grow if no water is consumed. The W370 triggers a stagnation warning according to the preset number of days without flow.

Sampling rate

The W370 measures the flow 1/s (1 Hz). That allows to measure also short, intermitted consumptions.

ULTRAWATER® W370 – Excellence for Metering Intelligence

Excellent connectivity for smart communication

The W370 is available with NB-IoT (LwM2M for interoperability) interface or a combined LoRa® and wM-Bus interface. The NB-IoT model doesn't need any additional infrastructure: It uses the cellular network for data transmission, remote parameterization, FOTA, planned reports, and real-time alarms. The combined LoRa/wM-Bus (OMS 4) model can easily be integrated in an existing LoRa or wM-Bus infrastructure and allows protocol switching in the field.

Excellent information for improved decision-making

The W370 generates smart data to improve water networks. It displays and transmits vital information like detailed alarms and warnings regarding temperature, stagnation, fraud etc. Its comprehensive logbook can keep track of up to 40 events to provide a full overview over the meter's history. Its datalogger offers an extensive in-built memory to provide interface-independent historic data. And a flow histogram allows analyzing the flow profile, e.g. to estimate the water quantity lost through leaks.

Excellent design for greater sustainability

The robust and long-term stable ultrasonic measurement technology is based on more than 40 years of experience in developing and deploying this technology. It's resistant against abrasion and particles and needs no moving parts. That reduces the wear to zero. The compact UV-stabilized housing and tubes consisting of robust lead-free brass ensure a long lifetime. The low-power design enables a battery life of up to 15 years. And an advanced sealing concept ensures IP68 and IP66 protection.

Excellent sensors for intelligent leakage detection

The W370 has an integrated downstream leakage detection as standard to detect leakages within the building or appartement. Additionally, it is also available with an optional upstream leakage detection (LD): Using an acoustic vibration sensor, it helps water utilities to detect leaks within the distribution system.

If several sensors in the surrounding area detect vibrations, the noise levels can even be used to locate the leak. Additional data such as measured flow during detection or occurring errors support a plausibility check.

Sizes

Connection	Length [mm]	Q3 [m³/h]
DN15 G ¾	110	2.5
DN15 G ¾	134	2.5
DN15 G ¾	165	2.5
DN20 G1	105	4
DN20 G1	130	2.5
DN20 G1	130	4
DN20 G1	154	4 (LD)
DN20 G1	190	2.5 (LD)
DN20 G1	190	4 (LD)

Technical data

Operation / Storage temperature	+0.1 … +65 °C / -20 … +70 °C
Water temperature range	MID Class T50: +0.1 … +50 °C MID Class T30/70: +30 … +70 °C
Protection class	IP68 and IP66: Submersible and protected against water jets
Power supply	1x Li/$SOCl_2$ battery, lithium content: 5 g
Installation	Orientation: Vertical, horizontal, tilted Installation like non-smart meters: All start-up procedures are carried out automatically
Pressure class/loss class	MAP 16 / ΔP40, ΔP63
Sampling rate	1 Hz (1 integration per second)
Logbooks	Metrological log: 10 firmware updates, 5 adjustments (calibrations); event log: up to 40 events; communication log
Datalogger	Set of 9 values; 15 years, 72 months, 200 days, 168 hours
NFC user roles	– Consumer: Read only, check and analyze consumption, only own meter – Installer: Commissioning only – Service technician (certificate secured): Commissioning, parameterization, analyze meter, all own meters, test, reset – Lab (certificate secured): Adjustment, test, reset
NB-IoT	Standard: NB1 & NB2 – SIM card: Landis+Gyr or customer supplied – Protocol: OMA LwM2M – Frequency Bands: 3, 5, 8, 20, 28
LoRa	Version: 1.0.3 – Class: A (bidirectional) – Protocol: M-Bus – Frequency: 868 MHz – Activation: OTA or ABP – Transmission int.: 15min, 30min, 60min, 12h, 24h
wM-Bus	OMS Generation 4 – Modes: T1 or C1 – Protocol: wM-Bus – Frequency: 868 MHz – Security profile: Unencrypted, 5/A, 7/B – Data content: Preselected or customized – Transmission int.: 20s, 15min

About Landis+Gyr

Landis+Gyr is the leading global provider of integrated energy management solutions for the utility sector. Offering one of the broadest portfolios, we deliver innovative and flexible solutions to help utilities solve their complex challenges in smart metering, grid edge intelligence and smart infrastructure. Landis+Gyr operates in over 30 countries across five continents, with the sole mission of helping the world manage energy better.

More information is available at
www.landisgyr.eu

Landis+Gyr Business Unit
Heat & Water in short

- Competence Center for Ultrasonic Flow Measurement in Germany
- Since 1983 experiences with ultrasonic flow measurement
- Operations on all five continents
- Order-related production depending on individual order codes
- Modularity and software optimization leads to fast reaction times on orders
- Certified acc. to ISO 9001, 14001 and EC Directive D + H1 (MID)
- Service-Center for revisions and repairs
- Committed to improved energy efficiency and environmental conservation
- Solid and established partner network

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