DIGISENSOR JSC

Your Trusted Global Sensor Partner

EWM

ELECTRONIC WATER METER

Electronic register EWM is designed to replace the traditional mechanical counter of multijet and piston water meter. This device uses AMR sensor to determine the number of turns, then calculate the volume and the flow rate. The EWM is a breakthrough solution for low power consumption, along with many other notable features that the mechanical counter does not have:

- High accuracy across the scale from Qmin to Qmax.
- Detect and record the time of tampering.
- Detect and record the time of overflow.
- Detect and record the time of leakage.
- Detect and record the time of reverse.
- Low Battery warning.
- Record the volume per hour in memory and read by communication near NFC.
- Data transmission LORAWAN interface. Equivalent interface options: Wireless Mbus, NB-IoT.
- IP68 water resistance.
- Easy maintenance.
- Battery life for 5 years.
- Warranty for 1 year.

All EWM products comply with ISO 4064:2005 standard.

Severity level	Class B & C
Electromagnetic environment class	Class E1
Meter temperature class	T50
Ambient temperature working range	From +5°C to +55°C
Ambient humidity working range	From 0% to 100% (at 40°C)
Water pressure class	MAP 10
Ingress protection rating	IP68 (IEC standards)
DC power supply	ER18505 lithium battery, 3.6 volt
Approximate battery life	5 years

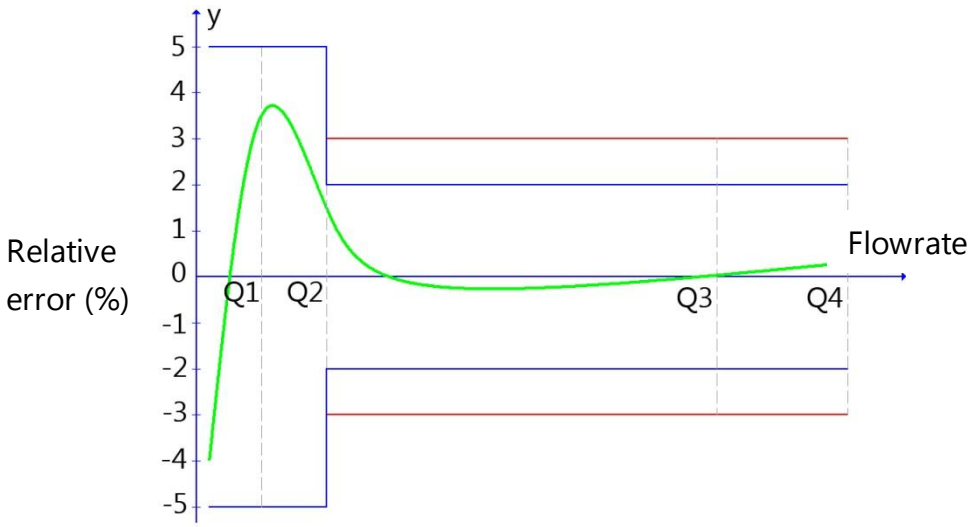
Diameter [mm]	Q3 [m^3/h]	Q2 [l/h]	Q1 [l/h]	Q4 [m^3/h]	R=Q3/Q1	Q min [l/h]	Q max [m^3/h]	Pressure loss
15	1.6	25.6	16.0	2.0	100	3	4.5	Δp 63

Maximum permissible error

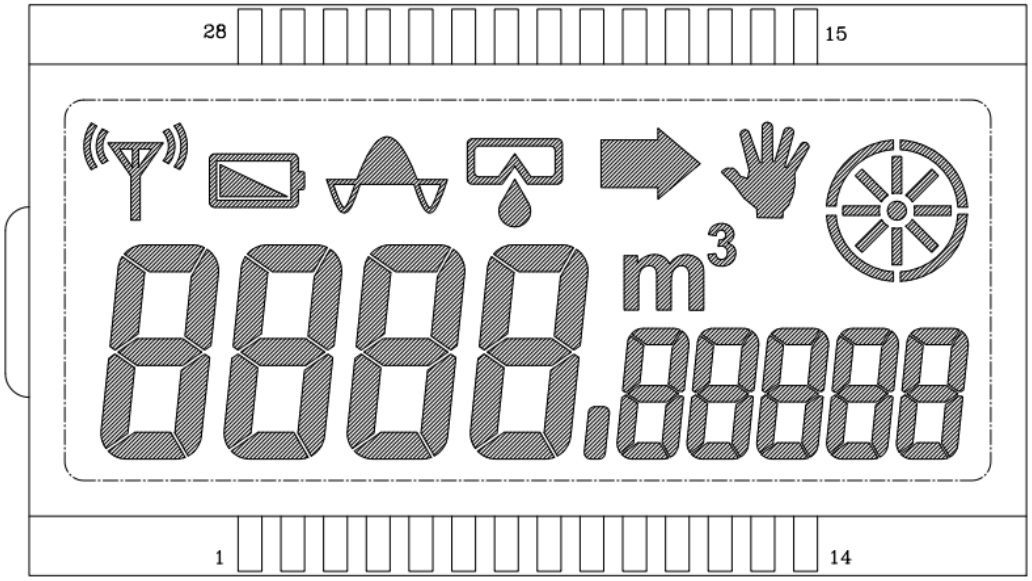
±5% at flowrate between Q_1 and Q_2

±2% at flowrate between Q_2 and Q_4 (water temperature ≤ 30°C)

±3% at flowrate between Q_2 and Q_4 (water temperature > 30°C)



Display information



The total amount of water consumption appears permanently on the meter's display. In detail, the four large figures indicate number of cubic meter and the five small figures are decimals.

The "CAL" symbol appears whenever the meter is in calibration mode. This mode is used during the manufacturing process only.

The meter's display contains several warning symbols, which have the following meanings:

Symbol	Meaning
Transmitting	**On:** the meter is transmitting data via wireless communication **Off:** the meter is not transmitting data via wireless communication
Low battery	**On:** the current battery voltage is lower than 3.3 VDC. Battery replacement is necessary. **Off:** the current battery voltage is higher than 3.3 VDC.
Overflow	**On:** the current flow through the meter is higher than the overload flowrate (Q4) **Off:** the current flow through the meter is lower than the overload flowrate (Q4)
Leakage	**On:** the water in the meter has not been stagnant for 1 continuous hour during the latest 24 hours. **Off:** the water in the meter has been stagnant for at least 1 continuous hour during the latest 24 hours.

Reverse flow	**On:** the water is flowing through the meter in the wrong direction. **Off:** the water is flowing through the meter in the correct direction.
Tampering	**On:** the external magnet is detected near the electronic register. **Off:** the external magnet is not detected near the electronic register.
Flow wheel	The flow wheel's speed changes according to the current flow through the meter. The flow wheel spins faster at high flowrate, spins slower at low flowrate and stops when flowrate equals zero.

Communications

EWM products support 2 methods of communication, including near field communication (NFC) and LORAWAN 923MHz.

Near field communication (NFC)

Any device with NFC support, such as smart-phones or tablets can communicate with the meter. The specifications of NFC components inside EWM products are complied with ISO/IEC 15693 standard. For data reading operation, the NFC device should be placed on top of the meter as demonstrates in the picture above.

LORAWAN 923MHz

The LORAWAN module (using the frequency of 923MHz) transmits a packet of data with interval 24h. Data is available to collect by Gateway within the radius of 1000 meters (this distance may reduce in the presence of many obstacles).

Each packet of data contains the following information:

- Meter's serial number
- Total amount of water consumption
- Meter's warnings

Data registers

All logging data are saved permanently inside the internal memory (EEPROM) of the meter. These logs can be accessed via near field communication only.

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