Water



UNICOe - MI-001 - 915 MHz

Singlejet meter

Your benefits

- Utility grade and sustainable technology (robust & high grade wear resistant materials with brass body):
  Excellent measuring stability and reliability over meter lifetime and awareness of using a recyclable product
- NFC Tap and go:
  Simple commissioning process
- Plug & Play:
  Easy and fast on-site installation with automatic radio activation (no programming required)
- Performance driven design:
  Range up to 10 miles (line of sight)
- Integrated monitoring of connectivity and reconnecting mechanism:
  Robust operation with automatic repair options, e.g. due to gateway failures

Applications

- Multi-Family residential and Retail/Commercial applications for consumption monitoring of water and identification of critical events

Properties

- Singlejet dry-dial meter with magnetic coupling
- Inlet strainer
- Permanent flow rate Q_3 2,5 or Q_3 4
- Max. operating pressure 16 bar
- Max. operating temperature 90 °C
- Horizontal or vertical installation
- Measuring range: horizontal R80, vertical R40
- Typical battery lifetime up to 15 years
- 18 monthly volume key date values
- CE Conformity according to European Measuring Instruments (MID)
- NSF/ANSI 61-G & 372 certified and marked
- LoRaWAN transmission in license free 915 MHz frequency band
- Data security via AES-128-bit end-to-end encryption over 2 independent security layers
- ADR (adaptive data rate) support gives higher transmission intervals with consistent battery life

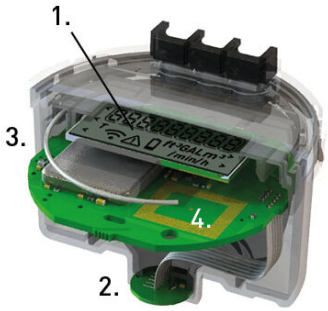
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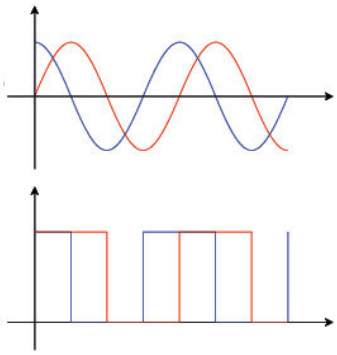
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Electronic Register - Hybrid - Technology



(1) LCD
(2) Sensors
(3) Communication antenna
(4) NFC interface

Signal Processing:



- The ERH register is designed to detect the rotations of either two or four-pole magnets. Its electronic filter protects it from external magnetic disturbances, while two sensors filter and digitally convert the magnetic field.
- A highly efficient microcontroller is responsible for determining the rate and direction of flow while also having the capability to detect a range of events and alarms, such as backflow. Furthermore, the LCD display allows for maximum flexibility when viewing the measurement data.
- Lastly, the ERH register is fitted with an energy-saving, access-protected NFC interface for parameterization and activation, as well as a wireless communication transceiver for LoRaWAN 915 MHz.

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Technical Data

Nominal diameter	**DN**	**mm**	**20**	**20**
Nominal pressure	**PN**	**bar**	**16**	**16**
Connection thread on meter (NPSM)		Inch	1	1
Permanent flow rate	**Q_3**	**m^3/h**	**2,5**	**4**
Overload flow rate	Q_4	m^3/h	3,125	5
Transitional flow rate	Q_2	m^3/h	50	80
Minimum flow rate	Q_1	m^3/h	31,3	50
Max. register reading		m^3	1'000'000	1'000'000
Kvs-value		m^3/h	3,4	3,4
Temperature range T90		°C	0,1...90 [1]	0,1...90 [1]
Measuring range horizontal			R80	R80
Measuring range vertical			R40	R40

1] T30: 0,1 - 30 °C

Dimensions and weights				
Length without couplings	A	mm	130	130
Height	B	mm	94	94
Height from pipe centre line	C	mm	76	76
Installation depth from pipe centre line	W	mm	43	43
Weight without couplings		app. g	770	710

Ambient conditions	
Ambient temperature	+ 5 °C to + 55 °C
Transport & Storage temperature	- 20 °C to + 70 °C
Register protection class	IP67

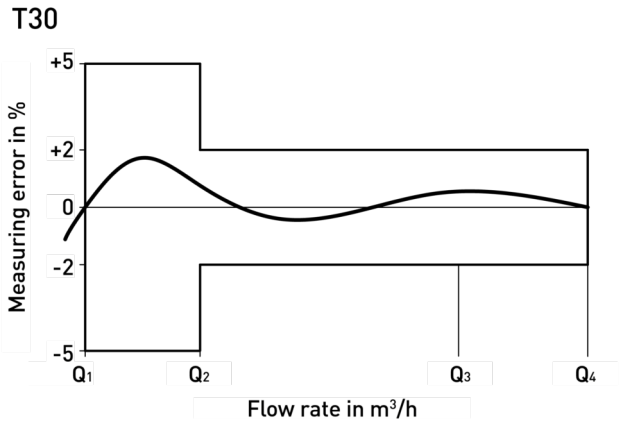
Power supply	
Lithium/Mangan battery (not replaceable)	3 V DC
Typical battery lifetime (depending on environment and configuration conditions)	Up to 15 years

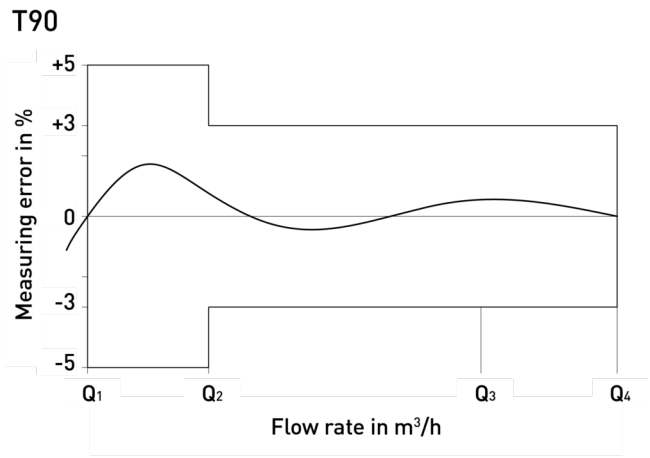
Type examination/Approval	**Unico2e**
MI-001 No. CH-MI001-07004	■
IC: 28165-ERH	■

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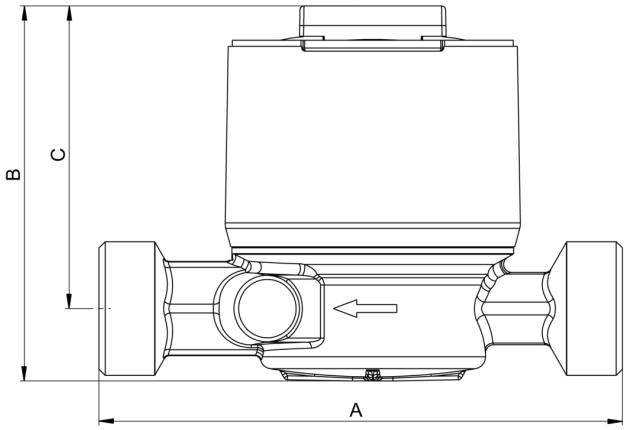
Certifications	Unico2e
NSF/ANSI 61-G & 372 D.Hot / incl. cold	■
LoRa Alliance Certification (1.0.4 spec.)	■
UL2043	■

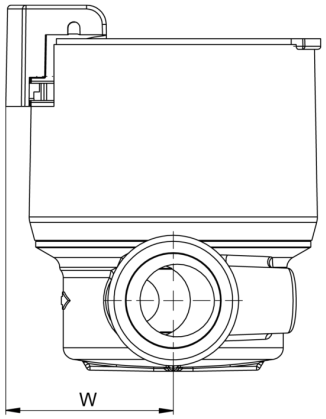
Measuring error curve



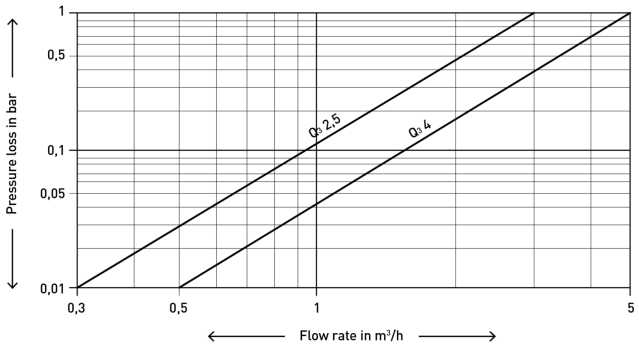


Dimension Diagram





Typical Head Loss Curve



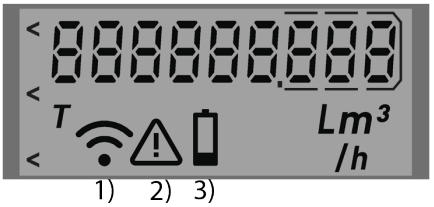
Installation

Pipeline:	horizontal	—
	vertical	|
Meter head:	facing up	↑
	sideways	←→

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Technical Data

Display	
LCD	9 digits
Volume unit	m^3
Volume resolution	0.001 m^3
Flow rate unit	m^3/h or L/h
Test mode	T
Low battery Icon	see image 3)
Alarm Icon	see image 2)
Radio indicator (On/Off) and LoRaWAN connectivity status	see image 1)



LoRaWAN specifications	
Regional parameters (Frequency band)	US902-928 MHz ISM Band (902 - 928 MHz)
Transfer protocol (payload)	GWF specific
Radiated power	max. 20 dBm (100 mW)
Class	A
ADR (Adaptive data rate)	Yes
Activation type (LoRaWAN)	OTAA

Information data package	
DevEUI	70B3D538700000AB
Meter manufacturer	GWF
Medium	Water
Meter S/N	23132356
Absolute meter reading (down to 15 min values)	359.761 m^3
Remaining battery life	Years
Alarms	Meter alarms, Low Battery, Burst pipe, Potential leak, Backflow, No Usage, Max. flow rate exceeded, Min./Max. temperature

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