Product List

May 2025.

Brunata

Use Energy with Care

USE ENERGY SMARTER

in buildings, utilities and smart cities

Water meters, heat allocators

and intelligent sensors

Network, IoT and

data infrastructure

Platform, applications and solutions

Services

Billing services

Data and analytics

WELCOME TO
A WORLD OF OPPORTUNITIES

EXPLORE BrunataZENNER's
PRODUCT LIST

BrunataZENNER is an innovative cleantech company specialising in measuring and optimising energy usage in urban environments and buildings across Europe.

We offer intelligent energy metering, consumption accounting, and IoT solutions to residential and commercial properties, public institutions, organisations, and associations – with the strongest portfolio of Zenner products.

By harnessing the power of intelligent meter and measurement technology, data, and IoT solutions, we empower our customers to use energy in their properties more efficiently and sustainably. We firmly believe that technology can make the future more human.

Explore our products and solutions in this brochure to see how we can help you get more out of less.

Brunata
ZENNER

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THE EUROPEAN ENERGY EFFICIENCY DIRECTIVE (EED)

EED AIMS TO REDUCE ENERGY CONSUMPTION AND IMPROVE ENERGY EFFICIENCY ACROSS EU

With the Energy Efficiency Directive, the EU has put the green transition on the agenda. We all need to become better at utilising energy and conserving the Earth's resources.

The purpose of the EED is to make residents and tenants more aware of how much energy they use to heat their homes. By doing so, we become better at saving energy.

Therefore, everyone must be informed to check their current consumption every month during the heating season. Of course, this data must be fully accessible to the residents. The EED was adopted in 2018 and must be fully implemented by January 1, 2027. BrunataZENNER's EED Notification Service will help you comply with EED.

WHAT DOES OUR EED NOTIFICATION SERVICE INCLUDE?

AN INTELLIGENT AND EASY-TO-USE SERVICE HELPING YOU COMPLY WITH EED

1. **Monthly updates:** On the 15th of every month in the heating season, residents receive an updated consumption notification (PDF) including all relevant consumption figures for the previous month.

2. **Comparison and analysis:** The consumption overview provides a comparison with previous periods, allowing residents to track how their consumption evolves over time.

3. **Access via app or online portal:** Residents can easily access their consumption data through our user-friendly app or online portal, Brunata Online. This ensures they can check their consumption anytime, anywhere.

4. **Online archive:** All consumption overviews are securely stored in the Brunata Online archive. Residents can always access previous consumption overviews to compare data and track progress.

5. **Email distribution:** EED Notifications are sent to all residents who have registered an email address in Brunata Online. The building owner or administrator receives a list of residents who have not provided an email address and can access, print, and distribute the consumption overviews via Brunata Online.

To subscribe to the EED Notification service, you need an Brunata Online Plus or Brunata Online Premium subscription.

WANT TO LEARN MORE?

Visit us at brunata.com/eed-notification or contact us at brunata@brunata.com to learn more about the EED Notifcation Service.

NETWORK OVERVIEW

INNOVATIVE COMMUNICATION TECHNOLOGY: M-BUS, WIRELESS M-BUS, AND LORAWAN® IOT

ZENNER provides you with support during the planning, installation and operation of remote reading systems.

In addition to the hardware for wired M-Bus solutions, we provide two innovative alternatives for the wireless remote reading of your water meters, heat and cooling energy meters and gas meters with the wireless M-Bus system and the stationary LoRaWAN® IoT radio system:

- Reading without needing access to the property
- Simple and secure transmission of meter data
- Avoidance of reading errors
- Optimum data quality and continuous availability of data
- Shorter reading and billing intervals
- Simple reading of difficult to access measurement points

LORAWAN® IOT SOLUTIONS FROM ZENNER

LoRaWAN® enables you to read data from water, heat and cooling energy and gas meters via a stationary radio system.

ZENNER offers you a full range of LoRaWAN® capable measurement technology and innovative radio modules for all types of meters.

Your benefits of LoRaWAN® solutions include:

- Reading of main and sub-metering meters or sensors remotely
- Meter readout without appointments
- Visualisation of consumption and energy monitoring
- Simplifying the readout of meters in hard-to-reach measuring points

BRUNATA ONLINE

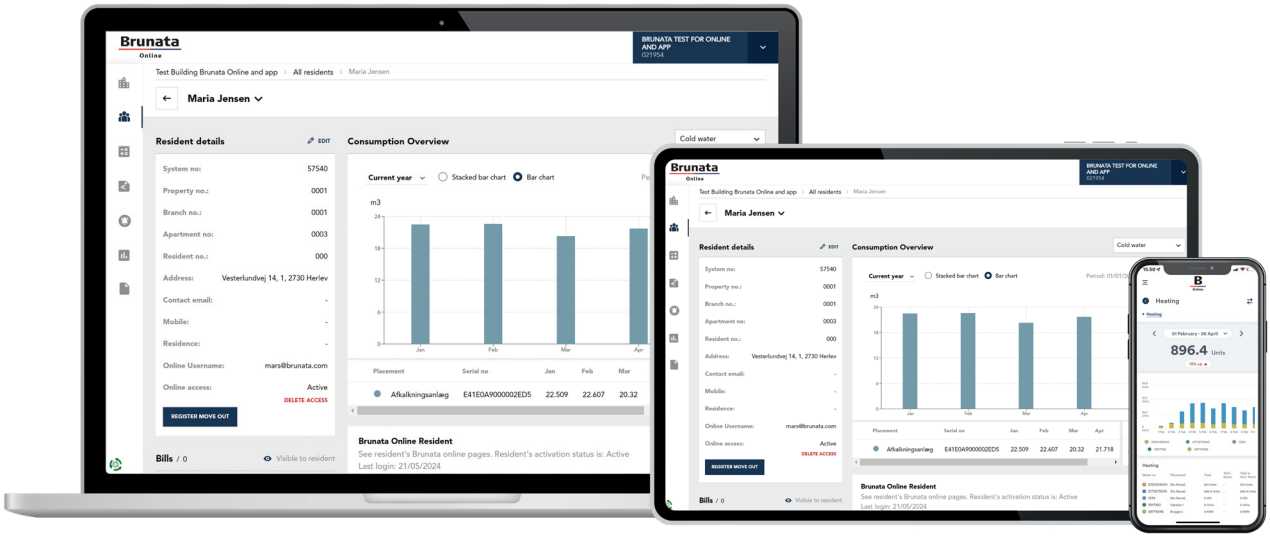
A PLATFORM FOR ADMINISTRATORS AND RESIDENTS - WITH A COMPREHENSIVE OVERVIEW OF DATA

Regardless of whether you need to prepare consumption accounts, manage your Smart Building solutions or monitor the waterworks, Brunata Online is where it takes place. It is the digital control tower that gives the administrators an overview of and insight into the consumption of water, heat and electricity.

This is also where you can report consumption expenses, register resident information, get an overview of issued EED consumption notifications, keep track of the indoor climate, monitor smoke alarms, download consumption reports and much more – depending on which of our solutions you have purchased.

GET QUICK ACCESS VIA COMPUTER, SMART PHONE OR TABLET

The platform is of course accessible via computer, tablet and smart phone. We also offer Brunata Online as a resident app for iPhone and Android.



FOR A FUTURE THAT COUNTS

We focus on intelligent solutions for a sustainable future in which resources, efficiency and quality of life count more than ever. We live a strong international partnership and group of world leading companies in energy metering.

We offer a complete and unique value chain for several industries from large scale industrial solutions to domestic energy metering – from manufacturing of advanced precision meters to providing the relevant data, visualization, services and managed solutions.

FULL SCALE IS THE WAY TO GO

A complete value chain has a lot of advantages – for us and for you as a client. We can secure quality from manufacturing of every single product to installation, handling of data and services. Based on that we can offer you the best possible customer experience from first contact. From product to solutions and full service.

GLOBAL KNOW-HOW

With representation in over 40 countries and export to more than 90 markets worldwide we have a substantial knowhow, which you can draw on when planning on your next project.

BRUNATA MINOMETER M8

HEAT COST ALLOCATOR

The Brunata Minometer M8 is an electronic heat meter for recording heat consumption from a radiator. The heat meter has a built-in radio module and can register each resident's individual heat consumption in a property. Experience shows that individual metering of heat consumption results in energy savings - benefiting both the environment and residents' finances.

One of the most accurate heat meters on the market with dual-sensor measurement
With dual-sensor measurement, the meter can ensure accurate readings even at low radiator temperatures, while not detecting the heat impact from external sources such as solar heat or heat from a stove.

READING THE HEAT METER

The meter has an easy-to-read display where residents can read their actual consumption for this year and compare it to last year. With a built-in radio module, the meter is read remotely and readings can be viewed/accessed via Brunata Online. Brunata Online is a platform that can give the administrator a comprehensive overview of energy consumption. Our intelligent network collects large amounts of data from meters and sensors in a building and sends it to the platform where it is included in various data analyses.

QUICK FACTS

- wM-Bus or LoRaWAN radio module
- Internal or external sensor
- Annual reset on accounting date
- Battery life minimum 10 years
- Meter fulfils EED requirements for remote reading

WATER METERS RESIDENTIAL

SUBMETERING

IUWS

ULTRASONIC APARTMENT / DOMESTIC WATER METER FOR COLD WATER

The IUWS ultrasonic water meter guarantees reliable recording of the meter data for individual consumption bill-ing in the residential or domestic water sector.

The IUWS is equipped with a 9-digit LCD display. The integrated radio interface is preset at the factory to wireless M-Bus (OMS) or LoRaWAN®. If required, this can also be changed at a later date.
All variants are approved for any installation and are therefore also available in the usual lengths for riser and downpipe installation. A head-down mounting is also possible.

All materials, which are used in the drinking water section, comply with the required standards, guide-lines and the current German drinking water approval (other country specific drinking water approvals on request).

PERFORMANCE CHARACTERISTICS AT A GLANCE

- Switchable radio technology
- Highest precision and reliability even in case of low flow rates
- Protection class IP68
- Insensitive to deposits and particles
- No straight inlet or outlet needed (U0/D0) ac-cording to OIML R49 and DIN EN ISO 4064
- Electronic, battery powered LCD register with NFC interface
- Smart Metering functions
- Alarm and statistic functions
- Galvanically separated NFC interface
- Battery life up to 15 years (depending on config-uration and environmental conditions)
- Approved in accordance with MID (2014/32/EU)
- OMS certification for BSI-compliant smart meter gateway connection
- Plug and play detection of radio technology via NDC radio module
- Configuration-App

APPLICATIONS

- For consumption measuring of drinking water and unpolluted service water up to 50 °C

AMR options

- Integrated wM-Bus or LoRaWAN® radio inter-face
- NFC interface (=Near Field Data Capture) for connecting an external NDC module and for device configuration

WITH INTEGRATED WIRELESS M-BUS INTERFACE, OMS CERTIFIED

for cold water up to 50 °C
approved for any installation (also overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	½"	¾"
4	130	20	¾"	1"
4	190	20	¾"	1"
10	260	25	1"	1 ¼"
16	300	40	1 ½"	2"

for installation in risers or downpipes

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"
10	150	25	1"	1 ¼"
16	150	40	1 ½"	2"
16	200	40	1 ½"	2"
16	300	40	1 ½"	2"

WITH INTEGRATED LORAWAN® INTERFACE

for cold water up to 50 °C
approved for any installation (also overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	½"	¾"
4	130	20	¾"	1"
4	190	20	¾"	1"
10	260	25	1"	1 ¼"
16	300	40	1 ½"	2"

for installation in risers or downpipes

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"
10	150	25	1"	1 ¼"
16	150	40	1 ½"	2"
16	200	40	1 ½"	2"
16	300	40	1 ½"	2"

ETKD / ETWD

SINGLE-JET DRY-DIAL METER FOR COLD AND HOT WATER

The ETKD / ETWD is a single-jet dry-dial water meter for cold and hot water and is available in 3 register variants. The special advantage is its compact design. Due to its very low installation height, the meter can be easily adapted to any installation situation. The meter guarantees reliable recording of meter data for individual consumption billing.
All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request).

ETKD-M / ETWD-M

ETKD-N / ETWD-N

ETKDI-N / ETWDI-N

ETKD-M (-CC) / ETWD-M (-CC)
ETKDE-M (-CC) / ETWDE-M (-CC)

The ETKD-M / ETWD-M is a single-jet meter with a modular 8-digit register with protected magnetic coupling that can be retrofitted with EDC-Module.
The modulator disc enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus/pulse module is also possible.

ETKD-M for cold water up to 30°C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

ETWD-M for warm water up to 90 °C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

The ETKD-N/ ETWD-N is a single-jet meter with a 7- or 8-digit register with protected magnetic coupling and it is prepared for a mechanical reed switch. The ETKD-N/ ETWD-N guarantees reliable recording of meter data for individual consumption billing. Alternatively, the reed switch interface enables remote reading of the meter data via PDC via radio with LoRaWAN® or wM-Bus.

ETKD-N for cold water up to 30°C with remote count pulse output
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

ETWD-N for hot water up to 90 °C with remote count pulse output
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

The ETKDI-N / ETWDI-N is a single-jet meter with a 7- or 8-digit register with protected magnetic coupling. A mechanical pulser is already factory-assembled.
The ETKDI-N / ETWDI-N guarantees reliable recording of meter data for individual consumption billing. Alternatively, the reed switch interface enables remote reading of the meter data via PDC via radio with LoRaWAN® or wM-Bus.

ETKDI-N for cold water up to 30°C with remote count pulse output
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

ETWDI-N for hot water up to 90 °C with remote count pulse output
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

The ETKD-M-CC / ETWD-M-CC is a single-jet meter with a modular 8-roller copper-glass register (IP 68) with protected magnetic coupling and protective cap.
The modulator disc enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus / pulse module is also possible

ETKD-M-CC for cold water up to 30°C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

ETWD-M-CC for warm water up to 90 °C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

The ETKDE-M (-CC)/ ETWDE-M (-CC) is a single-jet meter modular 8-roller copper-glass register (IP 68) with protected magnetic coupling and protective cap.
The modulator disc enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus.
EDC-Module (-CC = IP68) is factory fitted.

ETKDE-M-CC for cold water up to 30°C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

ETWDE-M-CC for warm water up to 90 °C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

EDC Modules for Multi-Jet Water Meter Dry-Dial Version (Type-CC)

Description
EDC-S Communication Module with Pulse-Interface
EDC-S Communication Module with wireless M-Bus-Interface
EDC-S Communication Module with LoRaWAN®-Interface

MINOMESS®

SURFACE MOUNTED SINGLE JET WATER METER LORAWAN® OR WIRELESS M-BUS-INTERFACE

The radio water meter Minomess® is a dry-dial meter with 7-digit-rollers register and shielded magnetic coupling.

The individual advantage of the meter an exceptional compact design. With its very small height, the meter easily adapts to any installation situation. The meter is available in various lengths and dimensions. It can be used in horizontally and vertically position.

Minomess® is equipped with a LoRaWAN® or wireless M-Bus radio module ex works and can be integrated in LoRaWAN® readout-systems.

All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request).

for cold water up to 30°C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

for hot water up to 90 °C
for horizontal and vertical installation (also for risers and downpipes), incl. seals and seal set

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	80	15	½"	¾"
2,5	110	15	½"	¾"
4	130	20	¾"	1"

MINOLIST CAPSULE

WATER METER MEASURING CAPSULE WITH LORAWAN® OR WIRELESS M-BUS INTERFACE

Minolist offers precision and ease of use for the cold and hot water area in dwellings and flats.

The ZENNER flush-mounted meters are coaxial measuring capsule water meters with rotatable register. The meters can be used both in the initial equipment as well as the exchange outstanding. The current connection dimension allows for use in both flush-mounted connection interfaces as well as in surface-mounted fittings. The insert is intended for the vertical installation position, for the connection interfaces according to DIN EN ISO 4064.

All types have a 7-digit roller register with modulator disc and are equipped ex works with a LoRaWAN® or wireless M-Bus radio module and can be integrated into LoRaWAN® or wireless M-Bus readout systems.

All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country specific drinking water approvals on request).

Capsule Minolist

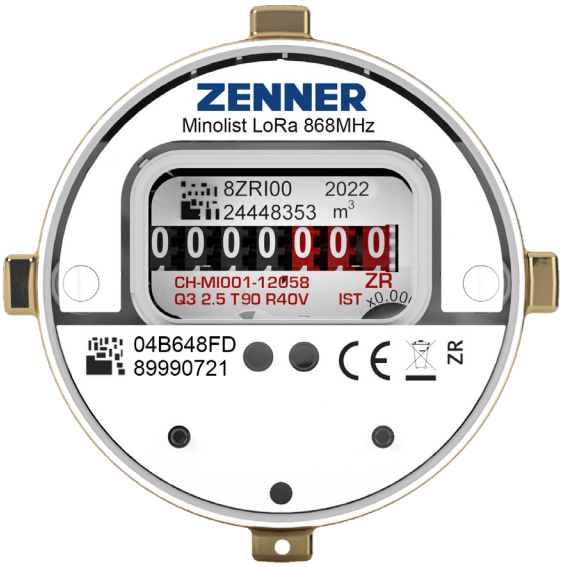
Article	Size	Thread	Temperature
Capsule Minolist wireless M-Bus	Q3=2,5	G2B	30°C
Capsule Minolist wireless M-Bus	Q3=2,5	G2B	90 °C
Capsule Minolist LoRa	Q3=2,5	G2B	30°C
Capsule Minolist LoRa	Q3=2,5	G2B	90 °C

Flush-mounted piece for Capsule Minolist

Article	Lenght mm	Ø pipe R x
Installation set EAS incl. plastering aid	110	¾" AG / 18 mm
Installation set EAS incl. plastering aid	110	¾'' IG
Installation set EAS incl. plastering aid	110	½" AG / 15mm Lot.
Installation set EAS incl. plastering aid	110	½'' G
Extension 40 mm for EAS		
Extension 20 mm for EAS		

Mounting block for Capsule Minolist with integrated shut-off valve

Article		Ø pipe R x
Mounting block Messing		¾"
Mounting block gunmetal		¾"
Surface-mounted set V2 chrome	180x150	
Surface-mounted set V2 chrome mono	180x150	
Extension 60 mm	Block 2 piece	
Additional extension for extension set 2" / micro Ms 30mm		
Upper valve part for mounting block 2"/micro (without handle)		



Capsule Minolist

Flush-mounted piece for Capsule Minolist

Mounting block for Capsule Minolist with integrated shut-off valve

Surface-mounted set chrome mono

MNK

MULTI-JET METERS WITH PROTECTED ROLLERS

The multi-jet wet dial meter MNK is an ideal domestic water meter for tamper-proof, high-precision consumption measurement. The meter is an MID compliant for service connection and it can be retrofitted with a pulser (Reed) for remote readout.

All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request).

MNK-N

MNK-RP-N

REED for MNK

The MNK-N is equipped with a reed switch interface as standard. The interface enables remote reading of the meter data via PDC radio module with LoRaWAN® or wM-Bus.

MNK for cold water

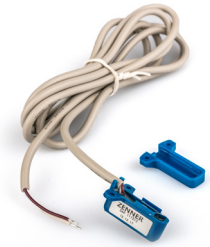
Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	½	¾"
2,5	165	15	½	¾"
2,5	130	20	¾	1"
2,5	190	20	¾	1"
2,5	175	25	1	1¼"
2,5	105	20	¾	1"
4	130	20	¾	1"
4	165	20	¾	1"
4	220	20	¾	1"
4	175	25	1	1¼"
4	105	20	¾	1"
6,3	175	25	1	1¼"
6,3	260	25	1	1¼"
10	175	25	1	1¼"
10	260	25	1	1¼"
10	260	32	1¼	1½"
10	150	25	1	1¼"
16	300	40	1½	2"
16	270	40	1½	2"
16	150	40	1½	2"
16	200	40	1½	2"
25	270	50	2	2½"

MNK-RP-N is equipped with a reed switch interface as standard. The interface enables remote reading of the meter data via PDC radio module with LoRaWAN® or wM-Bus (according to DIN EN 13757-4).
The rollers of the MNK-RP-N are protected in a separate chamber that is filled with a special protective liquid. This means that the rollers can always be read even when the water is very dirty.

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	1/2″	¾"
2,5	145	15	1/2″	¾"
4	190	20	¾"	1″
6,3	260	25	1″	1¼"
10	260	32	1¼"	1½"
16	300	40	1½"	2″
25	300	50	2″	2½"

Reed for MNK

Description
Reed for MNK



MTKD-M (-CC) / MTKD-N / MTKDI-N

MULTI-JET DRY DIAL METER FOR COLD WATER

The MTKD-M (-CC) is equipped with an 8-digit dry dial meter register and a modulator disc. This enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus (according to DIN EN 13757-4). A combined M-Bus/ pulse module is also possible.

The MTKD-N and MTKDI-N are equipped with an 8-digit register and 1 l/pulse as standard or is available with a 7-digit register and 10 l/pulse.

The MTKDI-N is a multi-jet dry-dial meter for cold water with factory-assembled reed pulser.

MTKD-M (-CC)
MTKD-N

MTKDI-N

MTKD-M (-CC) for cold water up to 50 °C
for horizontal and vertical installation, also available in standpipe and downpipe design on request

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	1/2″	¾"
2,5	170	15	1/2″	¾"
4	190	20	¾"	1″
6,3	260	25	1″	1¼"
10	260	25	1″	1¼"
10	260	32	1¼"	1½"
16	300	40	1½"	2″
25	300	50	2″	2½"

MTKD-N and MTKDI-N for cold water up to 50 °C
for horizontal and vertical installation, also available in standpipe and downpipe design on request

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	1/2″	¾"
2,5	170	15	1/2″	¾"
4	190	20	¾"	1″
6,3	260	25	1″	1¼"
10	260	25	1″	1¼"
10	260	32	1¼"	1½"
16	300	40	1½"	2″
25	300	50	2″	2½"

The MTKDI-N is a multi-jet dry-dial meter for cold water with factory-assembled reed pulser.

MTKDE / MTKDE-ST / MTKDE-FA

DRY DIAL MULTI-JET WATER METER

The MTKDE PULSE meters are equipped with a Hybrid EDC module (Pulse & M-Bus). Standard in 1/h, but programmable to the desired pulse weight.

The MTKDE water meters guarantees the most precise measurement results, minimum bearing load and a long service life. The MTKDE is equipped with an 8-digit dry dial meter register and a modulator disc. This enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio.

Factory mounted EDC communication module enables radio communication by either 868MHz LoRaWAN® or wM-Bus according to DIN EN 13757-4.

MTKDE

MTKDE-FA

MTKDE-ST

MTKDE for cold water up to 50 °C, with factory-assembled EDC communication module
for horizontal and vertical installation (also for risers and downpipes

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	½"	¾"
4	190	20	¾"	1"
10	260	25	1"	1 ¼"
10	260	32	1 ¼"	1 ½"
16	300	40	1 ½"	2"
25	300	50	2"	2 ½"
25	270	50	Flange	

MTKDE-ST for cold water up to 50 °C, with factory-assembled EDC communication module
for replacement of existing meters in risers

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"
10	150	25	1"	1 ¼"
16	150	40	1 ½"	2"
16	200	40	1 ½"	2"

MTKDE-FA for cold water up to 50 °C, with factory-assembled EDC communication module
for replacement of existing meters in downpipes

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"

MTWD / MTWD-N / MTWDI

MULTI-JET DRY DIAL METER FOR HOT WATER

The MTWD is ideally suited to measuring tasks at temperatures up to 90°C. By using special materials, outstanding measurement readings can be combined with a high maximum temperature.

The MTWD-N multi-jet meter ith flood-proof (IP68) hermetically sealed glass/copper register guarantees a rellable collection of meter data for individual consumption billing and can optionally be retrofitted with a pulser.

The MTWD-N is equipped with an 8-digit register and 1 l/ pulse as standard or is available with a 7-digit register and 10 l/pulse and it is optionally available with brass register box.

MTWD-N for hot water up to 90 °C
for horizontal and vertical installation, also available in standpipe and downpipe design on request

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	½	¾
2,5	170	15	½	¾
4	190	20	¾	1
4	105	20	¾	1
6,3	260	25	1	1 ¼
6,3	150	25	1	1 ¼
10	260	25	1	1 ¼
10	260	32	1 ¼	1 ½
10	10	25	1	1 ¼
16	300	40	1 1/2	2
16	150	40	1 1/2	2
16	200	40	1 1/2	2
25	300	50	2	2 ½

MTWDI for hot water up to 90 °C

for horizontal and vertical installation, also available in standpipe and downpipe design on request

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	½	¾
2,5	170	15	½	¾
4	190	20	¾	1
4	105	20	¾	1
6,3	260	25	1	1 ¼
6,3	150	25	1	1 ¼
10	260	25	1	1 ¼
10	260	32	1 ¼	1 ½
10	10	25	1	1 ¼
16	300	40	1 ½	2
16	150	40	1 ½	2
16	200	40	1 ½	2
25	300	50	2	2 ½

MTWD-M-CC

MULTI-JET DRY DIAL METER FOR HOT WATER

The current level of development of the MTWD-M-CC guarantees the most precise measurement results, minimum bearing load and a long service life.

It is ideally suited to measuring tasks at temperatures up to 90°C. By using special materials, outstanding measurement readings can be combined with a high maximum temperature.

The meter is equipped with an 8-digit glass/copper register (IP68) and a modulator disc. This enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus/pulse module is also possible.

MTWD-M-CC

MTWD-M-CC-ST

MTWD-M-CC-FA

MTWD-M-CC for hot water up to 90 °C, can be retrofitted for remote reading
for horizontal and vertical installation (also for risers and downpipes), counter protection class IP68

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	165	15	½"	¾"
4	190	20	¾"	1"
10	260	25	1"	1 ¼"
10	260	32	1 ¼"	1 ½"
16	300	40	1 ½""	2"

MTWD-M-CC-ST for hot water up to 90 °C, can be retrofitted for remote reading
for replacement of existing meters in risers, counter protection class IP68

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"
10	150	25	1"	1 ¼"
16	150	40	1 ½"	2"
16	200	40	1 ½"	2"

MTWD-M-CC-FA for hot water up to 90 °C, can be retrofitted for remote reading
for replacement of existing meters in downpipes, counter protection class IP68

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
4	105	20	¾"	1"

EDC Modules for Multi-Jet Water Meter Dry-Dial Version (Type-CC)

Description
EDC-S Communication Module with Pulse-Interface
EDC-S Communication Module with wireless M-Bus-Interface
EDC-S Communication Module with LoRaWAN®-Interface

RTKD-M-CC

ROTARY PISTON DRY-DIAL METER FOR COLD WATER

Available with flood-proof (IP 68) hermetically seal glass/copper register

The RTKD positive displacement meter records the flow rate according to the volumetric measuring principle. It offers a very high measuring range, excellent measuring stability and therefore guarantees extremely precise consumption recording.

The RTKD-M features a very low starting flow and is permitted for all installation positions.

The meter is equipped with an 8-digit dry-dial meter register and a modular disc. This enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus/pulse module is also possible.

RTKD-M for cold water up to 50 °C
rotary piston dry-dial meter for any installation position (except overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
1,6	110	15	½	¾
1,6	115	15	½	¾
1,6	165	15	½	¾
1,6	170	15	½	¾
2,5	110	15	½	¾
2,5	115	15	½	¾
2,5	165	15	½	¾
2,5	170	15	½	¾
2,5	165	20	¾	1
2,5	190	20	¾	1
4	105	20	¾	1
4	165	20	¾	1
4	190	20	¾	1

RTKD-M-CC for cold water up to 50 °C

rotary piston dry-dial meter for any installation position (except overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
1,6	110	15	½	¾
1,6	115	15	½	¾
1,6	165	15	½	¾
1,6	170	15	½	¾
2,5	110	15	½	¾
2,5	115	15	½	¾
2,5	165	15	½	¾
2,5	170	15	½	¾
2,5	165	20	¾	1
2,5	190	20	¾	1
4	105	20	¾	1
4	165	20	¾	1
4	190	20	¾	1
6,3	165	25	1	1 ¼
10	260	25	1	1 ¼
10	260	32	1 ¼	1 ½
16	300	40	1 ½	2

RTKD-L-M / RTKD-L-M-CC

POSITIVE DISPLACEMENT DRY DIAL METER FOR COLD WATER

The RTKD-L-M positive displacement meter records the flow rate according to the volumetric measuring principle. It offers a very high measuring range, excellent measuring stability and therefore guarantees extremely precise consumption recording. The RTKDL-M features a very low starting flow and is permitted for all installation positions.

The meter is equipped with an 8-digit dry dial meter register and a modulator disc. This enables electronic, non-reactive scanning and is the basis for remote reading of meter data via radio with LoRaWAN® or wMBus. A combined M-Bus/pulse module is also possible.

The housing of the RTKD-L-M comprises glass-fibre reinforced plastic approved for drinking water with brass connection threads and is designed for an operating pressure of up to 16 bar.

RTKD-L-M for cold water up to 30 °C
for any installation position (except for overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	½	¾
2,5	115	15	½	¾
1,6	165	15	½	¾
1,6	170	15	½	¾
2,5	165	15	½	¾
2,5	170	15	½	¾
4	165	20	¾	1
4	190	20	¾	1

RTKD-L-M-CC for cold water up to 30 °C
for any installation position (except for overhead)

Q3 m³/h	Lenght mm	DN	Ø pipe R x	Counter attachment Ø G x B
2,5	110	15	½	¾
2,5	115	15	½	¾
1,6	165	15	½	¾
1,6	170	15	½	¾
2,5	165	15	½	¾
2,5	170	15	½	¾
4	165	20	¾	1
4	190	20	¾	1

EDC Modules for Multi-Jet Water Meter Dry-Dial Version (Type-CC)

Description
EDC-S Communication Module with Pulse-Interface
EDC-S Communication Module with wireless M-Bus-Interface
EDC-S Communication Module with LoRaWAN®-Interface

ACCESSORIES FOR MULTI-JET METERS

Article		DN	Ø pipe R x	Counter attachment Ø G x B
Fittings brass with gasket (2 pieces per meter are required)		15	½"	¾"
		20	¾"	1"
		25	1"	1 ¼"
		32	1 ¼"	1 ½"
		40	1 ½"	2"
		50	2"	2 ½"
Backflow Preventer incl. gasket		15	½"	
		20	¾"	
		25	1"	
		40	1 ½"	
Sealing Clamp	one-piece	15	½"	¾"
		20	¾"	1"
Sealing Clamp (Half shell)	two-piece	15	½"	¾"
		20	¾"	1"
		25	1"	1 ¼"
		40	1 ½"	2"
Sealing wire Brass / Plastic 1 Role (100m)				
Sealing wire Copper/Copper 1 Role (100m)				
Plastic seal 10 mm				
Sealing clamp Incl. Sealing Clamp Insert without engraving				
Sealing Clamp Insert with 2 Numerals				
Transition piece		25 / 32	for Q_3=4 / Q_3=10	
		32 / 50	for Q_3=10 / Q_3=16	

Article		DN	Ø pipe R x	Temperature
Fiber Seal (Aramid ST-2058)	17x24x2	15	½"	50 °C/90 °C
	24x30x2	20	¾"	50 °C/90 °C
	29,2x38x3	25	1"	50 °C/90 °C
	35x44x2	32	1 ¼"	50 °C/90 °C
	43,2x56x2	40	1 ½"	50 °C/90 °C
	59x70x4	50	2"	50 °C/90 °C
Aqualit gasket (EPDM) for cold water	17x24x2	15	½"	50 °C
	23,2x30x2	20	¾"	50 °C
	29,2x38x3	25	1"	50 °C
	35x44x3	32	1 ¼"	50 °C
	43,2x55x3	40	1 ½"	50 °C
Plastic gasket LDPE white for cold water	18x24x3	15	½"	50 °C
	23,2x30x2	20	¾"	50 °C
	29,2x38x2	25	1"	50 °C
	36,2x44x2	32	1 ¼"	50 °C
	43,2x54x2,5	40	1 ½"	50 °C

BULK WATER METERS

PRODUCTION

IUW

ULTRASONIC BULK WATER METER FOR USE IN DRINKING WATER DISTRIBUTION AND INDUSTRIAL APPLICATIONS

The IUW ultrasonic bulk water meter is used to record high and fluctuating flows in drinking water distribution and in industry, with a very low pressure loss at the same time. Two pairs of ultrasonic sensors ensure optimum measurement accuracy.

The IUW is factory-fitted with a 9-digit LCD display and an NFC interface. This enables a subsequent connection of a wM-Bus (OMS) or LoRaWAN®-NDC module.

Via the plug and play function of the NDC module, the radio technology set on the meter is automatically adopted by the NDC module. All variants are approved for any installation and are therefore also suitable for riser and downpipe installation. A head-down mounting is also possible.

All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request).

PERFORMANCE CHARACTERISTICS AT A GLANCE

- Switchable radio technology
- Highest precision and reliability even in case of low flow rates
- Protection class IP68
- No moving parts in the flow sensor
- Insensitive to deposits and particles
- No straight inlet or outlet needed (U0/D0) according to OIML R49 and DIN EN ISO 4064
- Battery powered LCD register with NFC interface
- Smart functions
- Alarm and statistic functions
- Galvanically separated NFC interface
- Battery life > 15 Years
- Operating pressure MAP 16
- Approved in accordance with MID
- Plug and play detection of radio technology via NDC radio module
- Configuration-App
- Mechanical/electromagnetic environment class M2/E2

APPLICATIONS

- For measuring the consumption of cold and clean drinking water or service water up to 50° C
- For measuring high flow rates

AMR options

- NFC interface (= Near Field Data Capture) for connecting an external NDC module and for device configuration

READOUT OPTIONS OF THE MEASURING DEVICE VIA THE NFC INTERFACE (NEAR FIELD COMMUNICATION)

- Device ID (serial number)
- Current (balanced) consumption display or Total volume in case of an overflow
- Date / Time
- Firmware version
- Up to 15 previous month's value
- Temperature
- Key date / key date volume
- Flow volume / return volume
- Alarm or error message
- Battery end

WITH INTEGRATED NFC INTERFACE FOR RETROFITTING A LORAWAN® RADIO MODULE

for cold water up to 50 °C

approved for any installation (including overhead), remote reading via NFC interface

Q3 m³/h	Lenght mm	DN	PN
25	200	50	16
25	270	50	16
40	200	65	16
40	300	65	16
63	225	80	16
63	300	80	16
100	250	100	16
100	360	100	16
160	250	125	16
250	300	150	16
250	500	150	16
400	350	200	16

WITH INTEGRATED NFC INTERFACE FOR RETROFITTING A wM-BUS RADIO MODULE

for cold water up to 50 °C

approved for any installation (including overhead), remote reading via NFC interface

Q3 m³/h	Lenght mm	DN	PN
25	200	50	16
25	270	50	16
40	200	65	16
40	300	65	16
63	225	80	16
63	300	80	16
100	250	100	16
100	360	100	16
160	250	125	16
250	300	150	16
250	500	150	16
400	350	200	16

NDC communication module

Description
NDC communication module with LoRa/wireless M-Bus interface

WPD (E) / WPHD (E)

WOLTMAN METER WITH IMPELLER AXIS ARRANGED IN PARALLEL TO THE FLOW DIRECTION

The bulk water meter WPD / WPHD is used to record high flows in drinking water distribution and in industry, with low pressure loss and a predominantly constant flow profile at the same time.

The meter is equipped with a 6-roller dry dial register (IP68) and a modulator disc. This enables electronic, reaction-free scanning and is the basis for remote reading of the meter data via radio with LoRaWAN® or wM-Bus.

A combined M-Bus / pulse module is also possible.
A mechanical pulser can also be connected in parallel.

WPD/WPHD Woltman for cold water up to 50 °C
for installation in horizontal and vertical pipelines, can be retrofitted for remote reading

Q3 m³/h	Lenght mm	DN	PN
25	200	50	16
40	200	65	16
63	225	80	16
100	250	100	16
100	250	125	16
250	300	150	16
400	350	200	16

EDC retrofit modules for large water meters type WPD / WSD

Description	Interface	Assembly	Impulse value (L/impulse)
EDC-C for WPD/WSD DN50-125	M-Bus + Pulse output Mode U	Clip	10
EDC-C for WPD/WSD DN150-300	M-Bus + Pulse output Mode U	Clip	100
EDC-C for WPD/WSD DN50-125	wireless M-Bus	Clip	10
EDC-C for WPD/WSD DN150-300	wireless M-Bus	Clip	100
EDC-C for WPD/WSD DN50-125	LoRa	Clip	10
EDC-C für WPD/WSD DN150-300	LoRa	Clip	100

WSD (E)

WOLTMAN METER WITH IMPELLER AXIS ARRANGED VERTICALLY TO THE FLOW DIRECTION

The WSD bulk water meter is used to record high and greatly varying flows in drinking water distribution and industrial applications.

The meter is equipped with a 6-roller dry dial register (IP68) and a modulator disc. This enables electronic, reaction-free scanning and is the basis for remote reading of the meter data via radio with LoRaWAN® or wM-Bus.

A combined M-Bus / pulse module is also possible.
A mechanical pulser can also be connected in parallel.

WSD Woltman for cold water up to 50 °C
vertical for installation in horizontal pipelines, can be retrofitted for remote reading

Q3 m³/h	Lenght mm	DN	PN
25	270	50	16
40	300	65	16
63	300	80	16
100	360	100	16
250	500	150	16

WSD Woltman with attached EDC-S communication module

WPVR / WPVM

COMPOUND WATER METER WITH PISTON / CARTRIDGE AS SECONDARY METER

The compound meter for use in drinking water distribution and industrial applications.

The WPVR / WPVM was designed to record fluctuating flows, for use in drinking water distribution and industrial applications.

The main meter is based on the proven Woltman parallel technology. As a secondary meter a rotary piston (WPVR) or a multi-jet wet dial meter (WPVM) is used, with which even small flows can be reliably recorded.

All the materials used in the drinking water sector correspond to the required standards, directives and current Drinking Water Ordinance (German environmental ministry recommendation of hygienically suitable metal materials for drinking water, KTW guidelines and DVGW worksheet W270).

(Other country-specific drinking water approvals on request).

WPVR Woltman for cold water up to 50 °C
main meter, switching valve and ring piston measuring cartridge as secondary meter, pressure level PN 16

Main meter Q3 m³/h	Secondary meter Q3 m³/h	Lenght mm	DN
25	4	270	50
40	4	300	65
63	4	300	80
100	4	360	100

Measurement inserts for WPVR

Main meter Q3 m³/h	PN
25	16
40	16
63	16
100	16

WPVM Woltman for cold water up to 50 °C

Main meter Q3 m³/h	Secondary meter Q3 m³/h	Lenght mm	DN
25	4	270	50
40	4	300	65
63	4	300	80
100	4	360	100

Measurement inserts for WPVM

Main meter Q3 m³/h	PN
25	16
40	16
63	16
100	16

EDC retrofit modules for secondary meters for compound water meters type WPVR

Description
EDC-S Communication Module with m-Bus + Pulse-Interface
EDC-S Communication Module with wireless M-Bus-Interface
EDC-S Communication Module with LoRaWAN®-Interface

WBD

WELL WATER METER

The WBD are used to record high flow rates in drinking water distribution, which transition from a vertical pipe to a horizontal pipe.

The WBD can be mounted directly on the well head instead of a 90 ° elbow according to DIN 28537 / 28637.

The meter is equipped with a 6-roller dry dial register (IP68) and a modulator disc. This enables electronic, reaction-free scanning and is the basis for remote reading of the meter data via radio with LoRaWAN® or wM-Bus.

A combined M-Bus/pulse module is also possible. A mechanical pulser can also be connected in parallel.

WBD Woltman for cold water up to 50 °C
for installation in the transition from a vertical to a horizontal line
leg lengths compatible with 90° pipe elbows in accordance with DIN EN 545 (formerly DIN 28537 / 28637)
can be retrofitted for remote reading

Q3 m³/h	Leg Lenght mm	DN	PN
25	150 (DIN 28537)	50	16
63	165 (DIN 28637) 180 (DIN 28537)	80	16
100	180 (DIN 28637) 200 (DIN 28537)	100	16
250	220 (DIN 28637) 250 (DIN 28537)	150	16
250	500	150	16

WI-N

IRRIGATION WATER METER

The WI-N water meter is designed fur use with heavily contaminated water, e.g. in agriculture, in sewage treatment plants or wastewater systems.

Our irrigation meters guarantee functional reliability under the most difficult conditions by positioning the measuring insert in the upper section of the pipe, where there is generally only a small number of suspended particles in the running water. The meter easily takes a level of impurity of up to 30% in its stride. Where there is very heavy contamination, external filters can be inserted upstream of the water meter.

The factory-tested measuring insert is the same for all meter sizes and can be delivered with the following measurement accuracy:

Qmax-Qt: ± 3% (value class A+B)
Qt-Qmin: ± 5% (value class A)

The mechanical counter is completely encapsulated and hence protected against impurities. As standard, the meters are supplied with a lockable protective metal cap[nbsp] which acts as a dependable protection for the counter, even in harsh conditions. Reed pulser can be retrofitted at any time without damaging the calibration seal.

Pulser values for Woltman Meters*
DN 40 – DN 125 Standard 100 L/Imp.
DN 150 – DN 300 Standard 1.000 L/Imp.
DN 400 – DN 500 Standard 10.000 L/Imp.

(* other values on request)

WI-N Woltman for cold water up to 50 °C

Q3 m³/h	Lenght mm	DN	Counter attachement
30	200	50	Flange
50	200	65	Flange
90	250	100	Flange
125	250	125	Flange
250	300	200	Flange

ENERGY METERS

HEATING

zelsius® C5-IUF

COMPACT HEAT METER WITH ULTRASONIC FLOW SENSOR (IUF)

The thermal energy meter (also called heat or cold meter) zelsius® C5-IUF operates with an innovative ultrasonic technology, specially developed for a broad scope of application from submetering to domestic and district heating and cooling.

Specially for district heating transfer and compact apartment stations with fast temperature changes, zelsius® C5-IUF is also available as a "fast response meter" in accordance with DIN EN 1434-1.

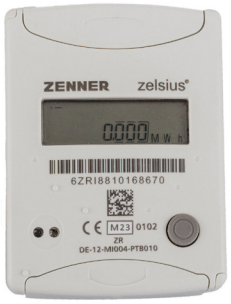
This wear-free ultrasonic technology is stable in the long run, insensitive to dirt and measures reliably, even with very small flow volumes.

The ultrasonic flow sensors can be operated permanently up to a heat medium temperature of 130 °C and are optimally suited for application in district heat supply.

Because of the high overload capacity and the wear-free measurement technology they can also be used to measure energy in hot water supply systems in accordance with § 9 (2) of the German heating costs ordinance.

A single button is used to call up all the important device and consumption data, such as reference date values, maximum values or the stored monthly values over the entire lifetime of the meter.

Its diverse, optionally selectable communication interfaces mean that the zelsius® C5 guarantees efficiency and precision in the recording of consumption data, whether by M-Bus or radio.



PERFORMANCE CHARACTERISTICS AT A GLANCE

- Ultrasonic flow sensor in a robust metal design
- Consumption display in MWh with 3 decimal places
- Calculator rotatable and removable as standard
- Connection cable length approx. 1.2 m, including wall bracket
- Versions with thread in pressure rating PN 16
- Versions with flange in pressure rating PN 25
- Conformity assessment in metrological class 2
- MID type examination certificate DE-12-MI004-PTB010 in the metrological class 2
- Domestic type examination certificate DE-20-M-PTB-0046 for cooling energy metering in metrological class 2
- OMS certification for BSI-compliant smart meter gate-way connection
- Flow sensor with protection class IP 68
- No straight inlet or outlet sections required
- Permanent temperature load depending on the model up to 105 °C or 130 °C
- Any installation position - even "head down"

HEAT METER WITH ULTRASONIC FLOW SENSOR (IUF)

for heating and/or cooling systems
Version with temperature sensors L = 45 mm, D = 5.2 mm
Operating temperature of the flow sensor either up to 105°C or 130°C
Sensor cable length approx. 1.5 m
Flow temperature optionally up to 105°C or 150°C

Nominal size qp (m³/h)	Nominal diameter	Length	Connection thread
0,6	R ½	110	G ¾B
1,5	R ½	110	G ¾B
2,5	R ¾	130	G 1B
M-Bus interface according to DIN EN 13757			
Wireless M-Bus interface			
LoRaWAN® interface			
Temperature sensor type DS 27.5 ("AGFW sensor") Temperature measuring interval 4 seconds "Fast responding" according to DIN EN 1434-1			
Temperature sensor L=45 mm, D=5.0 mm			
Designed as a combined heat/cold meter with automatic switching			
Temperature sensor cable length approx. 5 m (instead of approx. 1.5 m)			

zelsius® C5-ISF

COMPACT HEAT METER WITH SINGLE-JET FLOW SENSOR (ISF)

The thermal energy meter (also called heat or cold meter) zelsius® C5-ISF with single-jet flow sensor combines efficiency with compact design, highest precision and most advanced communication interfaces for M-Bus, wireless M-Bus or LoRa®.

Specially designed for sub-metering applications, it is very well prepared to be used in all real estate with central heat supply:

- Industrial and business buildings
- Apartment buildings and residential complexes
- Multi-family buildings

The combi version with removable calculator allows installation even in the smallest distribution boxes.

Zelsius® C5-ISF is a threaded meter, equipped with a rugged single-jet flow sensor (ISF) with reaction-free electronic impeller detection, available for new instal-lations as well as for simple calibration replacement in all common sizes.

for heating and/or cooling systems
Version with temperature sensor L = 45 mm, D = 5.2 mm
Sensor cable length approx. 1.5 m

Nominal size qp (m³/h)	Nominal diameter	Length	Connection thread
Version with rotating and removable calculator, Connection cable length approx. 1.2 m, including wall bracket			
0,6	R ½	110	G ¾B
1,5	R ½	110	G ¾B
2,5	R ¾	130	G 1B
M-Bus interface according to DIN EN 13757			
Wireless M-Bus interface			
LoRaWAN® interface			
Temperature sensor L=45 mm, D=5.0 mm			
Temperature sensor type DS 27.5 (“AGFW sensor”)			
Designed as a combined heat/cold meter with automatic Switching (only for versions with removable calculator)			
Temperature sensor cable length approx. 5 m (instead of approx. 1.5 m)			
Version as a "glycol meter" for water-antifreeze mixtures, type of glycol (ethylene or propylene glycol) and 15 mixing ratios can be programmed on site directly on the meter, not capable of being calibrated or subject to calibration			

zelsius® C5-CMF

COMPACT HEAT METER WITH MEASURING CAPSULE FLOW SENSOR (CMF)

The thermal energy meter (also called heat or cold meter) zelsius® C5-CMF with measuring capsule flow meter combines compactness with rugged construction.

The calculator on the zelsius® C5-CMF is removable as standard with a cable length of approx. 1.2 m and provides a real practical advantage in tight spaces and transfer stations with covers. A matching wall adapter with mounting hardware is included in the delivery.

The flow sensor on the zelsius® C5-CMF has electronic, non-reactive impeller scanning and has metrological approval for horizontal and vertical installation (downpipe and riser) according to the current European Measuring Instruments Directive 2014/32 /EU (MID).

The zelsius® C5-CMF is ideally suited for regular meter replacement as well as for installation in pre-equipped single-pipe connectors thanks to the large selection of compatible and commercially available interfaces.

Version with connection interface type IST according to DIN EN 14154-2
Connection thread 2", compatible with ISTA, among others
Temperature sensor L = 45 mm, D = 5.0 mm
Sensor cable length approx. 1.5 m
Return flow temperature sensor integrated in the flow sensor

Nominal size qp (m³/h)	Connection thread
0,6	2"
1,5	2"
2,5	2"

Version with connection interface type TE1 according to DIN EN 14154-2
Connection thread M 62x2, compatible with TECHEM
Temperature sensor L = 45 mm, D = 5.2 mm
Sensor cable length approx. 1.5 m
Return flow temperature sensor integrated in the flow sensor

Nominal size qp (m^3/h)	Connection thread
0,6	M 62x2
1,5	M 62x2
2,5	M 62x2

Version with connection interface type A1 according to DIN EN 14154-2
Connection thread M 77x1.5, compatible with ALLMESS / ITRON
Temperature sensor L = 60 mm, D = 6.0 mm (DS6)
Sensor cable length approx. 1.5 m
Both temperature sensors are external

Nominal size qp (m^3/h)	Connection thread
0,6	M 77x1,5
1,5	M 77x1,5
2,5	M 77x1,5

Version with connection interface type PCC according to DIN EN 14154-2
Connection thread M 60x2, compatible with SENSUS (Xylem) PolluCom C
Temperature sensor L = 45 mm, D = 5.2 mm
Sensor cable length approx. 1.5 m
Return flow temperature sensor integrated in the flow sensor

Nominal size qp (m^3/h)	Connection thread
0,6	M 60x2
1,5	M 60x2
2,5	M 60x2

Version with connection interface type M60 according to DIN EN 14154-2
Connection thread M 60x1.5, compatible with MINOL
Temperature sensor L = 45 mm, D = 5.0 mm
Sensor cable length approx. 1.5 m
Return flow temperature sensor integrated in the flow sensor

Nominal size qp (m^3/h)	Connection thread
0,6	M 60x1,5
1,5	M 60x1,5
2,5	M 60x1,5

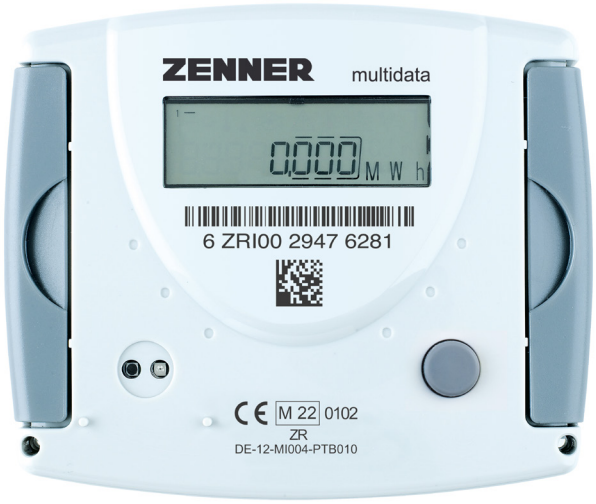
Optional

Description
M-Bus interface according to DIN EN 13757
Wireless M-Bus interface
LoRaWAN® interface
Designed as a combined heat/cold meter with automatic switching
Temperature sensor cable length approx. 5 m (instead of approx. 1.5 m)
Assembly wrench / hook wrench for screwing the measuring capsule into the respective single-pipe connection piece (EAS), robust design
Assembly key for zelsius type C5-A1(N)

MULTIDATA WR3

CALCULATOR FOR HEAT AND COOLING METERS

Multidata WR3 is used to measure hea-ting and cooling energy in closed circulation systems. This is a so called split heat meter, for which a calculator, flow sensor and temperature sensor pair are required.



HIGH LEVEL OF COMPATIBILITY

The multidata WR3 is a real all-rounder that can be combined with nearly all standard temperature sen-sors and flow sensors. A special version is available for flow sensors with a high frequency pulse output.
All appliances allow the connection of both the flow sensor and two additional appliances via the pulse gen-erator as standard, e.g. a cold and hot water meter. The meter readings can be called up via the menu on the appliance or via reading systems.

SUITABLE FOR HEATING AND COOLING

The multidata WR3 is optimally suited for the measure-ment of heating and cooling energy. The measured con-sumption values for cold and heat are saved in se-parat-ed registers. Areas of application are air-conditio-ning systems in which both heating and cooling energy is emitted through the same pipeline network.

for connecting temperature sensor pairs type Pt 500
Version for connecting flow sensors with reed switches or Open Collector output, input frequency up to 1 Hz

Data interface	Temperature sensor type	Pulse inputs or outputs (can be confi-gured on site via optical interface)		Pulse value of the flow meter (liters)
		Impulse inputs ex factory	Pulse outputs from the factory	
Version for heat counting with MID type test certificate				
with M-Bus	Pt 500	-	2	1
with M-Bus	Pt 500	-	2	10
with M-Bus	Pt 500	-	2	25
with M-Bus	Pt 500	-	2	100
with M-Bus	Pt 500	-	2	250

IZM Multipulse

PULSE MODULE

The new multipulse pulse counter stands out for its innovative housing concept and modern measuring technology: the module can be opened without using any tools.

The multifunctional and self-explanatory display always shows the current meter status. Additional symbols can be used to quickly and easily recognize other less common operating states.

Using the button on the front, all consumption and instrument data can be called up on three different levels, including the values for the set day! The multipulse pulse counter module is used wherever it is necessary to integrate existing meters that only have pulse outputs into an M-Bus system.

With this instrument, M-Bus networks can be created without having to use expensive electronic meters and M-Bus.

With the multilog, the variant with a large memory, it is possible to program numerous data loggers.

Data interface	Temperature sensor type	Pulse inputs or outputs (can be configured on site via optical interface)		Pulse value of the flow meter (liters)
		Impulse inputs ex factory	Pulse outputs from the factory	
Version for heat counting with MID type test certificate				
with M-Bus	Pt 500	-	2	1
with M-Bus	Pt 500	-	2	10
with M-Bus	Pt 500	-	2	25
with M-Bus	Pt 500	-	2	100
with M-Bus	Pt 500	-	2	250

FLOW SENSORS

ETH SINGLE-JET FLOW SENSOR (TYPE ISF)
Pulse generator cable length approx. 1.5 m
ETH single-beam flow sensor (type ISF) with electronic impeller scanning and high volume pulse resolution for horizontal and vertical installation, pressure rating PN 16,
with temperature sensor mount M10x1, operating temperature up to 90 °C

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)	Counter attachment Ø G x B
0,6	110	15	½"	¾"	1
1,5	110	15	½"	¾"	1
2,5	130	20	¾"	1"	1

MTH MULTI-JET FLOW SENSOR (TYPE IMF)
for horizontal installation, pressure rating PN 16,
Operating temperature up to 120° C

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)	Counter attachment Ø G x B
3,5	260	25	1"	1 ¼"	10
6	260	25	1"	1 ¼"	10
6	260	32	1 ¼"	1 ½"	10
10	300	40	1 ½"	2"	10

MTH MULTI-JET FLOW SENSOR (TYPE IMF)
for horizontal installation, pressure rating PN 25,
Operating temperature up to 120° C, with flange connection according to EN 1092

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)
3,5	260	25	Flange	10
6	260	25	Flange	10
10	300	40	Flange	10

ETH single-jet
Flow sensor (type ISF)

MTH multi-jet
Flow sensor (type IMF)

MTH multi-jet
Flow sensor (Type IMF)

MTH-ST MULTI-JET FLOW SENSOR (TYPE IMF)
for installation in risers, pressure rating PN 16,
Operating temperature up to 120 °C

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)	Counter attachment Ø G x B
3,5	135	25	1"	1 ¼"	10
3,5	150	25	1"	1 ¼"	10
6	135	25	1"	1 ¼"	10
6	150	25	1"	1 ¼"	10
6	150	32	1 ¼"	1 ½"	10
10	150	40	1 ½"	2"	10
10	200	40	1 ½"	2"	10

MTH-F MULTI-BEAM FLOW SENSOR (TYPE IMF)
for installation in downpipes, pressure rating PN 16,
Operating temperature up to 120 °C

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)	Counter attachment Ø G x B
3,5	135	25	1"	1 ¼"	10
3,5	150	25	1"	1 ¼"	10
6	135	25	1"	1 ¼"	10
6	150	25	1"	1 ¼"	10
6	150	32	1 ¼"	1 ½"	10
10	150	40	1 ½"	2"	10
10	200	40	1 ½"	2"	10

MTH-ST multi-jet
Flow sensor (type IMF)

MTH-F multi-jet
Flow sensor (type IMF)

ULTRASONIC FLOW SENSOR (TYPE IUF)

for any installation (including overhead), pressure rating MAP 16/25
Cable length approx. 5 m.

qp (m³/h)	Lenght mm	DN	Ø pipe R x	Impulse value (L)	Nominal pressure PN
Versions for combined heat/cooling metering					
15	200	50	Flange	25	25
15	270	50	Flange	25	25
25	200	65	Flange	25	25
25	300	65	Flange	25	25
40	225	80	Flange	25	25
40	300	80	Flange	25	25
60	250	100	Flange	25	16
60	360	100	Flange	25	16
60	360	100	Flange	25	25
Heat metering versions					
100	250	125	Flange	250	16
100	350	125	Flange	250	16
150	300	150	Flange	250	16
150	500	150	Flange	250	16
150	500	150	Flange	250	25
250	350	200	Flange	250	16
250	500	200	Flange	250	16
Cold metering versions					
100	250	125	Flange	250	16
100	350	125	Flange	250	16
150	300	150	Flange	250	16
150	500	150	Flange	250	16
150	500	150	Flange	250	25
250	350	200	Flange	250	16
250	500	200	Flange	250	16

Note: A complete heat meter requires a flow sensor, an electronic calculator including an M-Bus interface and a pair of sensors. Please specify the required variant when ordering.

Ultrasonic Flow sensor (Type IUF)

FITTINGS

IMPULSE CABLE EXTENSION SET

Description
Impulse cable extension set, consisting of: Cable connector with protection class IP 65 / 68 Two-core cable, length approx. 7 meters, assembled with ferrules 2 adhesive seals

TEMPERATURE PROBES – PAIRS AND ACCESSORIES

TEMPERATURE SENSOR PAIRS TYPE PT 500

	Diameter (mm)	Installation length (mm)	Cable length (approx., m)	Matching immersion sleeve (mm)
PSC (Pocket Short Cable)	5,0	45	3,0	
	5,0	45	10,0	
	5,2	45	3,0	
	6,0	50	3,0	
DS (Direct Short) 27.5 for heat and cold measurement		27,5	1,5	
		27,5	5,0	
DS (Direct Short) 38 for heat and cold measurement		38	1,5	
		38	5,0	
"Universal 6 x 60 - 230" for heat and cold measurement, suitable for: Immersion wells 85, 120 and 210 mm with clamping screw	6,0	60 to 230	3,0	85 to 210
Immersion wells 100 and 150 mm with ¼" internal thread Installation locations for temperature sensor type "DS6"	6,0	60 to 230	10,0	85 to 210

Pocket Short Cable

Temperature sensor for heat and cooling meter

Stainless steel thermowell with ½" connection thread

IMMERSION SLEEVES FOR "UNIVERSAL TEMPERATURE SENSORS 6 X 60 - 230" FOR HEAT AND COLD MEASUREMENT INCLUDING COPPER SEAL (2 PIECES ARE REQUIRED PER PAIR OF SENSORS)

	Immersion sleeve (mm)	For temperature sensors Installation length (mm)
Stainless steel with ½" connection thread	85	105
	120	140
	210	230

SMART BUILDING

SMART SYSTEM

INDOOR T+H SENSOR

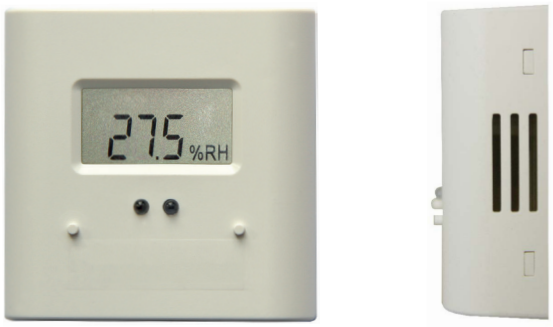
TEMPERATURE AND HUMIDITY SENSOR

The Indoor T+H Sensor determinds the temperature and relative humidity of indoor spaces.

The sensor supports the user in optimizing the heating and ventilation behavior. The current temperature and humidity values can be read at any time on the display of the device.

The temperature and humidity are measured inside the device every three minutes. The average value of the last quarter of an hour is determined from the measured values, saved and summed up in the register of the respective temperature or humidity range.

The radio transmission takes place every 20 seconds for wireless M-Bus and every hour for LoRaWAN®.



PRODUCT FEATURES

- Measurement, display and data transmission of temperature and humidity
- Data transmission via wireless M-Bus or LoRaWAN®
- Battery life up to 10 years + storage reserve
- Internal antenna
- Plug & Play – start-up mode
- Optical interface for configuration and readout of stored data
- Wall mounting with sealing option

SENSORS

- Temperature measurement range: -20°C to 50°C
- Measuring accuracy: ±0.3°C in the range from 5°C to 50°C
- Humidity measurement range: 0% to 100% RH
- Measuring accuracy: ±2% RH in the range from 20% to 80%
- Resolution of the measured values: 0.1°C and 0.1% RH

COMMUNICATION TECHNOLOGIES

- Radio via LoRaWAN®
- Radio via wireless M-Bus

Temperature and humidity sensor with wireless M-Bus and LoRaWAN® interface and LCD display measuring the indoor temperature and relative humidity

Indoor T+H Sensor LoRa Sz204 868 ID IP40
Indoor T+H Sensor wMB Sz331 868 ID IP40

ZENNER CO_2 INDICATOR

INDOOR LORAWAN® CO_2 SENSOR

The ZENNER CO_2 INDICATOR is a compact indoor LoRaWAN® radio sensor (868 MHz) for measuring the CO_2 content of indoor air. This product uses the photo-acoustic principle to detect the CO_2 concentration (ppm) in real time, enabling more efficient ventilation behaviour and faster response time.

With the integrated display and the colour-changing LED display, the sensor always provides real-time information about the current CO_2 value, the battery level and the status of the LoRaWAN® connection.

It can be placed on any flat surface. In addition, the device can also be used "stand alone", i.e. without a LoRaWAN® connection - however, no remote monitoring or alarming can take place. The CO_2 limits can be set individually by radio command (downlink).

The device can be operated with the integrated rechargeable battery or permanently powered by a standard USB-A power supply unit. Please note that only the USB-A to USB-C charging cable is included, a power supply unit is required.

ZENNER CO2 INDICATOR L868 ID A for LoRaWAN® with LCD display and integrated battery
measuring CO_2, configuration Over the Air (OTA)

ZENNER CO_2 INDICATOR L868 ID A for LoRaWAN®

EASY PROTECT Radio

SMOKE ALARM WITH WIRELESS M-BUS OR LORAWAN® RADIO INTERFACE

The EASY PROTECT Radio smoke alarm was specially developed for use in radio remote reading systems and offers optimum protection. The annual remote inspection via radio saves the annual on-site appointment.

The detector's innovative environment monitoring detects objects located within a radius of up to at least 50 cm.

Smoke alarm with optical detection method and additional temperature sensor
DIN EN 14604 compliant
KRIWAN and Q-Label certified
with environment detection

Description
EASY PROTECT with wireless M-Bus interface
EASY PROTECT with LoRaWAN® interface
Adhesive pad for smoke detectors
Smoke alarm without individual packaging in an outer box Minimum purchase is one packaging unit (16 pieces)

HEAT COST ALLOCATOR

ELECTRONIC HEAT COST ALLOCATORS

caltos E

ELECTRONIC HEAT COST ALLOCATOR WITH RADIO MODULE

The electronic heat cost allocator caltos E with integrated radio interface serves to record the share of heat produced by radiators.

The electronic heat cost allocator caltos E with its many possible uses and its convenient recording and data transfer technology (LoRaWAN® or wireless M-Bus) fully satisfies the high level of requirements for the housing industry and the increasing demand for comfort by home owners and tenants.

The caltos E can be used within a particularly wide range of temperatures from 35 °C to 130 °C (average design temperatures for the heating medium) and is optimally suited for heating systems with all design temperatures (particularly low temperature systems).

The caltos E can be used in single-pipe heating systems as well as the two-pipe systems that are standard today.

The caltos E works in accordance with the dual sensor measuring principle in which high-precision sensors constantly record the actual temperature difference between the radiator and room temperature. The recorded measurement data is reliably recorded and assessed for consumption measuring purposes.

Also an automatic switch takes place from dual sensor measuring principle to single sensor measuring principle if there is a thermal effect (e.g. manipulation or heat accumulation).

Differentiation already occurs between heating operation and external heating in the heating-up phase by means of plausibility tests on the measured room air and radiator temperature in the equipment.

PRODUCT FEATURES

- Use range from 35 °C to 130 °C (average design temperatures for the heating medium)
- Display of the current consumption data for the specified due date value and the last 18 month-end values in the equipment memory (each in a unit scale)
- Stored in the equipment memory: current consumption, 2 due date values and 18 mid-month and month-end values and 31 daily values
- The specified reading date can be chosen freely with corresponding parameterisation software
- Battery lifetime up to 12 years
- Infrared interface for data reading, display retrieval and equipment programming
- Consumption data reading using LoRaWAN® radio (standard: scenario for monthly values) or wireless M-Bus radio module
- Unit scale and alternative product scale programmable with corresponding parameterisation software
- Permanent internal self-monitoring
- Electronic registration of manipulation attempts
- High level of protection against thermal, electrical and magnetic failures

Electronic heat cost allocator with wireless M-Bus or LoRaWAN® radio radio module

Description
caltos E heat cost allocator with wireless M-Bus interface
caltos E heat cost allocator with LoRaWAN® interface
caltos E heat cost allocator with wireless M-Bus interface Split version with remote sensor
caltos E heat cost allocator with LoRaWAN® interface Split version with remote sensor
Heat cost allocator without individual packaging, without back part, in an outer box Minimum purchase is one packaging unit (20 pieces)

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