

Installation manual

Only for trained experts

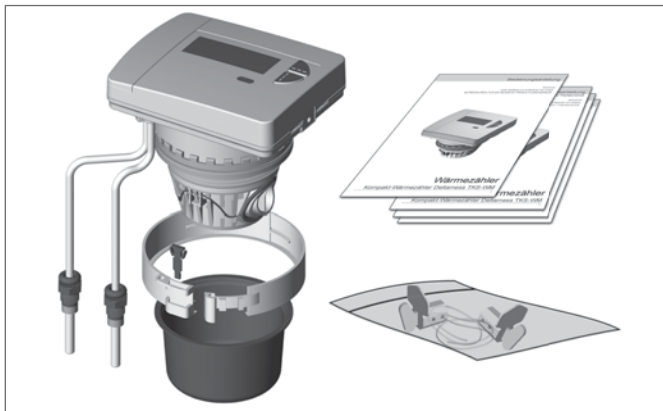
IMPORTANT!
READ THROUGH CAREFULLY BEFORE USE.
KEEP ACCESSIBLE THROUGHOUT THE PRODUCT LIFETIME.



Heat meter

Compact heat meter Deltamess TKS-WM

Scope of delivery



Heat meter (calculator unit with measuring capsule incl. mounted temperature sensor)

Blister pot (protective cap for measuring capsule)

Seal and plug-in seal

Installation manual

Operating manual

User information for stock immersion sleeves (only for D)

EU Declaration of Conformity with disposal information

Two safety seals in separate bag

Temperature sensor for ball valve/T-piece (O-ring red) is pre-assembled

- Comprising: 1 x TS nut (0352), 1 x extension ring (1520),
- 1 x O-ring black (1109), 1 x O-ring green (0787), 1 O-ring red VL (supply flow) (0759)

Temperature sensor for housing TKS (O-ring blue) is pre-assembled

- Comprising: 1 x TS nut (0352), 1 x extension ring (1520),
- 1 x O-ring black (1109), 1 x O-ring green (0787), 1 O-ring blue RL (return flow) (0760)

Please keep the documentation for the entire product service life.

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Important notes

This product must be installed professionally and in accordance with the prescribed assembly guidelines and may therefore only be installed by qualified and trained experts.

Intended use

Heat meters are used for the centralised recording of the consumption of heating energy. Heat meters must be used exclusively for this purpose.

Non-intended use

Any use other than the use described above and any changes made to the device constitute non-intended use, must be queried in writing beforehand and are subject to special approval.

Warranty and guarantee

Warranty and guarantee claims are only valid if the parts in question have been used in accordance with their intended use and if the technical requirements and any applicable technical regulations have been observed.

Safety Instructions

Improper handling and excessively forceful tightening of threaded connections can cause leaks. Observe the maximum torque stated in the manual. The dimensions and thermal loads of seals must be appropriate for their application. You should therefore only use the seals delivered with the device.

Radio system

The radio system rcu4 or the matching radio add-on modules are not compatible with this heat meter.



The installed meter is a pressurized component.
There is a risk of persons suffering scolds from hot water.

Safety notes for lithium batteries



Certain heat meter components can be equipped with a lithium battery.

This type of battery is classified as hazardous.

VALID TRANSPORT REGULATIONS ARE TO BE ADHERED TO IN EACH CASE! Inspection documents for the batteries used are available on request.

Handling of lithium batteries

- Store protected from dampness and moisture
- Do not heat to above 100 °C or throw into fire
- Do not short-circuit
- Do not open or damage
- Do not charge
- Keep out of reach of children

In the event of an accident, the following points must be heeded:

In case of a leak:

- Cover with sodium carbonate or an equivalent crystal soda
- Make gases and vapours precipitate by spraying with water
- Make sure of sufficient ventilation
- Avoid any direct contact

In the event of injuries:

- If interior components of the dry element should come into contact with the eyes, rinse thoroughly with water for 15 minutes.
- In the event of contact with the skin, wash with plenty of water and take off soiled clothing.
- Move away from the accident spot following inhalation.
- Always consult a doctor.

In the event of fire:

- Use a Lith-X or Class-D fire extinguisher.
- NEVER USE WATER FOR EXTINGUISHING PURPOSES
- Do not use CO₂, halogen fire extinguishers with dry substances or foam extinguishers.
- Move away from the accident spot following inhalation and ventilate the area.
- Always consult a doctor.

Norms and standards

Conformity	see EU Declaration of Conformity (enclosed)
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Electromagnetic compatibility

Interference resistance	EN 61000-6-2
Emitted interference	EN 61000-6-3

Protection rating

IP protection rating	IP65 according to EN 60529
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Heat meter

European Measuring Instruments Directive (MID)	2004/22/EC and 2014/32/EU
EC-type examination certificate	DE-12-MI004-PTB009
Heat meter	CEN EN1434
Quality of heat medium	in accordance with VDI guideline 2035 in accordance with AGFW standard 510

Influencing quantities

Electromagnetic class	E1
Mechanical class	M1
Environment class	A
Precision class	3

Calculator unit

Temperature range

as heat meter	20 °C ... 105 °C
Approved temperature difference	3 K - 70 K
Start of metering temperature difference	Heat: 0.2 K
Ambient temperature	5 °C ... 55 °C

Power supply

Lithium battery	Nominal voltage 3.0 V
Service life	> 6 (opt. 10) years + 6 months reserve
Measuring cycle	36 seconds (opt. 6 seconds)

Display levels

Standard	min. 2, up to max. 10 (depending on the version and options included)
Display	8-digit LCD + pictograms
Energy display	kWh (opt. MWh, MJ, GJ)

Connection sizes and dimensions

Connection sizes and dimensions	1.5 m ³ /h	
Installation location	Return flow	
Installation length of the EAT	110 mm	130 mm
Pipe connection	3/4 inch OT	1 inch OT
Weight (capsule + calculator unit)	380 g	380 g
Installation position	horiz./vert.	horiz./vert.
Meter thread at the EAT	M60x2	M60x2
Nominal flow q _p	1.5 m ³ /h	1.5 m ³ /h
Minimum flow q _i horizontal	30 l/h	30 l/h
vertical	60 l/h	60 l/h
Ratio q _p /q _i horizontal	50:1	50:1
vertical	25:1	25:1
Ratio q _s /q _p	2:1	2:1
Start-up limit q ₀	< 6.0 l/h	< 6.0 l/h
Max. permissible operating pressure	1.6 MPa (16 bar)	1.6 MPa (16 bar)
Min. system pressure to avoid cavitation	0.1 MPa (1 bar)	0.1 MPa (1 bar)
Pressure loss at q _p	~ 220 mbar	~ 220 mbar
Temperature range	20 °C ... 90 °C	20 °C ... 90 °C

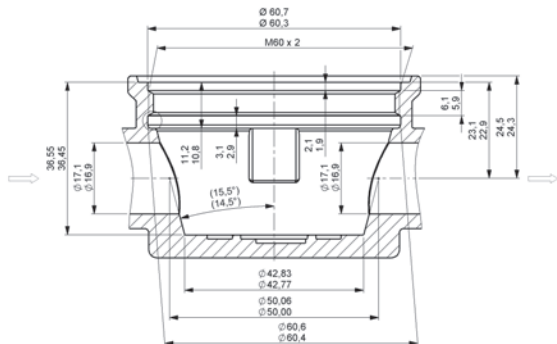
Temperature sensor

Sensor diameter and cable lengths		
Temperature sensor supply flow (red)	5.2 mm	1.5 m (opt. 3 m)
Temperature sensor return flow (blue)	5.2 mm	0.8 m

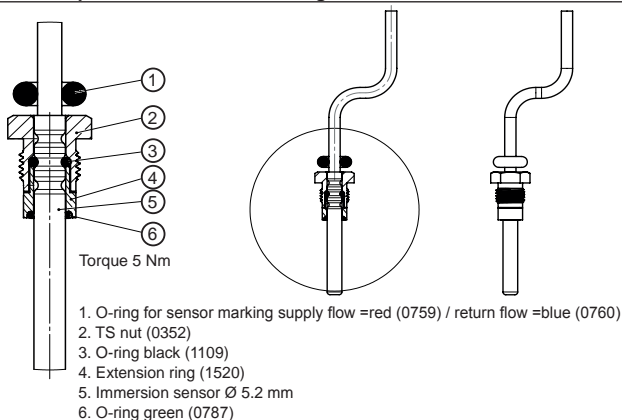
Connection cable calculator unit - volume meter

Cable length (calculator unit wall installation)	30 cm
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TKS-WM interface DM1

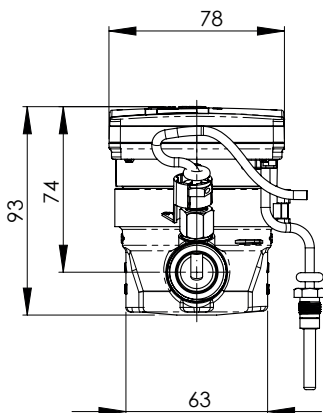
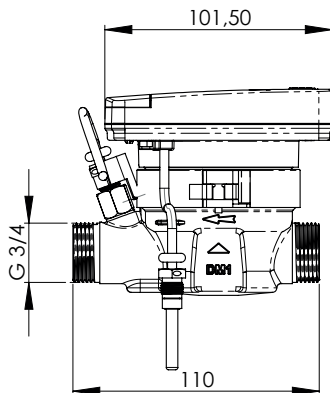


TKS-WM temperature sensor for housing



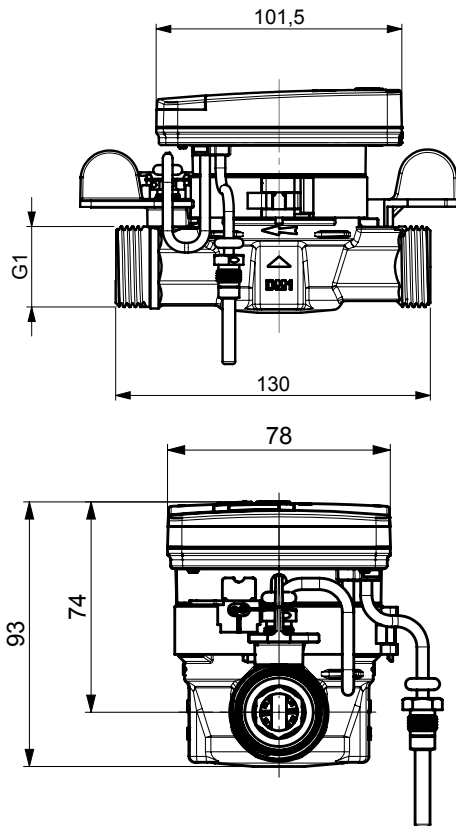
TKS-WM design lengths

Design length 110 mm



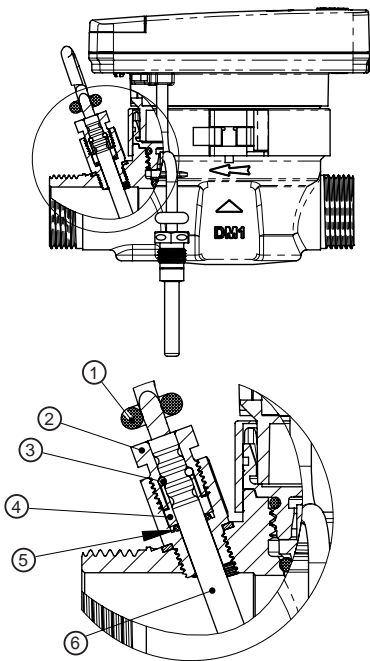
TKS-WM design lengths

Design length 130 mm



TKS-WM housing sensor installation

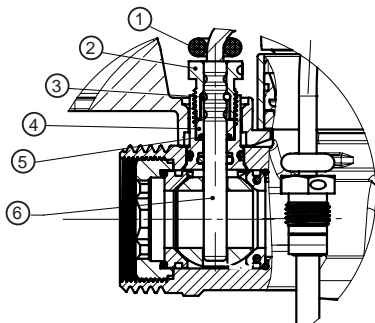
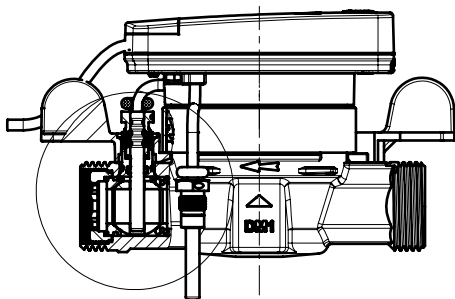
Design length 110 mm / 130 mm



1. O-ring for sensor marking supply flow =red (0759) / return flow =blue (0760)
2. TS nut (0352)
3. O-ring black (1109)
4. Extension ring (1520)
5. O-ring green (0787)
6. Immersion sensor \varnothing 5.2 mm

TKS-WM housing sensor installation

Design length 130 mm with 2 valves



1. O-ring for sensor marking supply flow =red (0759) / return flow =blue (0760)
2. TS nut (0352)
3. O-ring black (1109)
4. Extension ring (1520)
5. O-ring green (0787)
6. Immersion sensor \varnothing 5.2 mm



This type of battery is classified as dangerous goods.

Certain heat meter components can be equipped with a lithium battery.



Risk of scalding by hot water.

An installed meter is a pressurized component.

Fitting only by trained experts.

EN
14154

The heat meter may only be installed in single pipe connectors (EAS) and without the use of any adapter rings or transition pieces.

EN
1434-6

The sensor cables (e.g. temperature sensor cable) must be routed at a distance of at least 50 mm to sources of electromagnetic interference (switches, electric motors, fluorescent lamps).



Directly immersed installation variant

This variant is always recommended.



Indirectly immersed installation variant

Please note national and country-specific regulations concerning the use of immersion sleeves.



Direction of flow

Heed correct supply flow or return flow installation and the installation position (direction of flow) of the flow sensor.



Important notes

Please note the information in the notes and requirements.



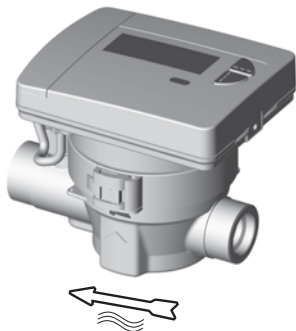
Supplementary information

Helpful and supplementary installation information.

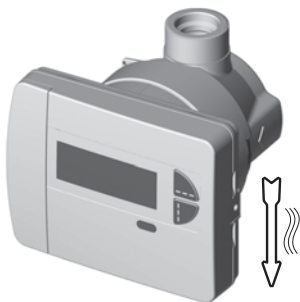


Refer to operating manual, operating conditions and installation requirements in accordance with EN 1434-6.

Horizontal installation



Vertical installation



Tilted vertical installation

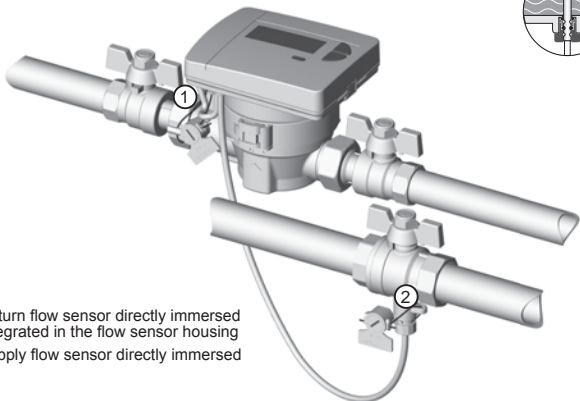


NO overhead installation



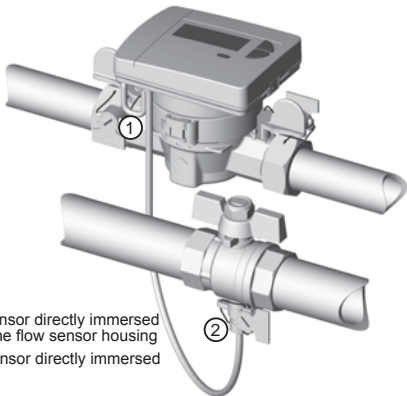
Installation variants - directly immersed

Housing without shut-off valves



1. Return flow sensor directly immersed integrated in the flow sensor housing
2. Supply flow sensor directly immersed

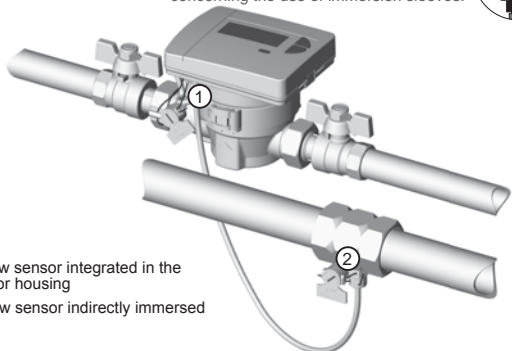
Housing with shut-off valves



1. Return flow sensor directly immersed integrated in the flow sensor housing
2. Supply flow sensor directly immersed

Housing without shut-off valves

Note national and country-specific regulations concerning the use of immersion sleeves.



1. Return flow sensor integrated in the flow sensor housing
2. Supply flow sensor indirectly immersed

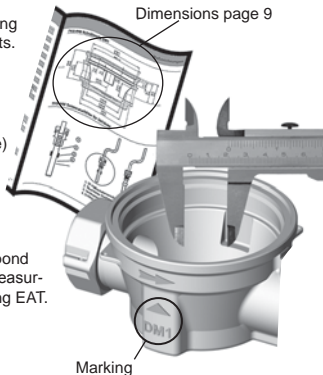
Identify EAT

- Check whether the housing is marked "**DM1**".

If the housing has this marking, the measuring capsule can be used without any further tests.

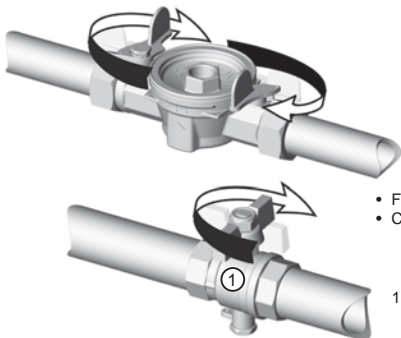
If the housing does not have any marking:

- Check whether there is a delta sign (triangle) on the housing. If in doubt, check the housing to make sure it corresponds to the dimensions given on page 9 of this manual.
- If the dimensions determined do not correspond with the specifications in this manual, the measuring capsule cannot be installed in the existing EAT.



Preparing installation - directly immersed

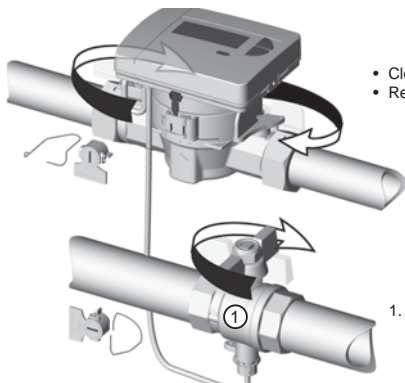
- for new installation



- Flush the system
- Close ball valves

1. Ball valve with connection for directly immersed supply flow sensor available

- for device replacement



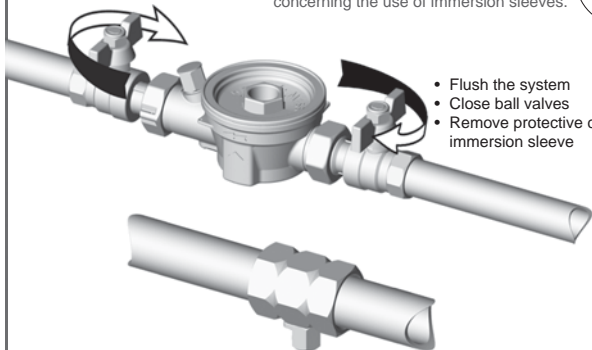
- Close ball valves
- Remove seals

1. Ball valve with connection for directly immersed supply flow sensor available.

Preparing installation - indirectly immersed (immersion sleeve)

- for new installation

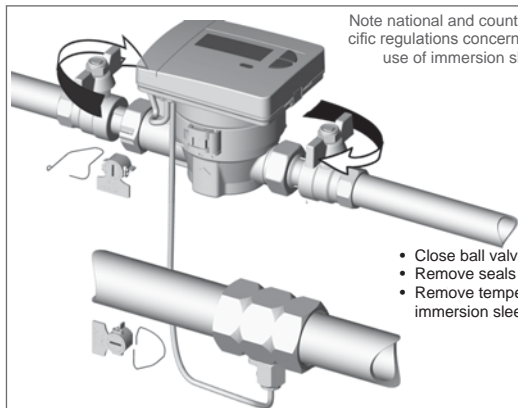
Note national and country-specific regulations concerning the use of immersion sleeves.



- Flush the system
- Close ball valves
- Remove protective cap from immersion sleeve

- for device replacement

Note national and country-specific regulations concerning the use of immersion sleeves.

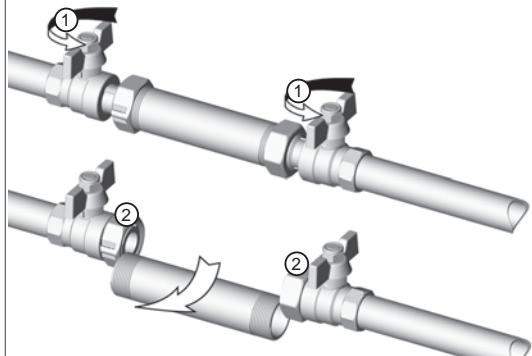


- Close ball valves
- Remove seals
- Remove temperature sensor from immersion sleeve

Fitting the heat meter (heat meter replacement piece available)

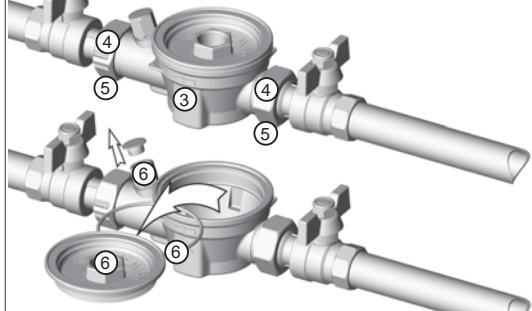
Prepare installation

1. Close valves (shut off water supply)
2. Loosen union nuts and remove replacement piece

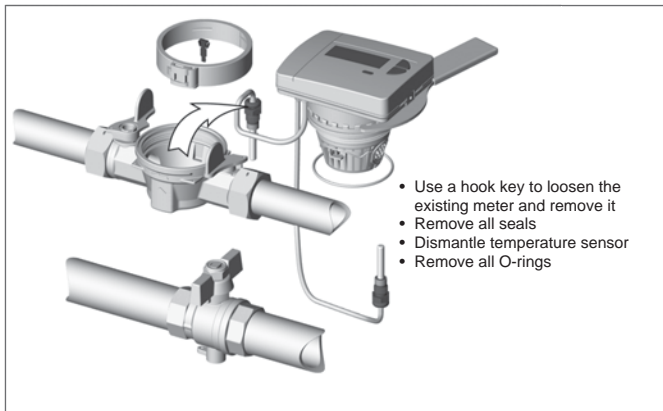


Install housing

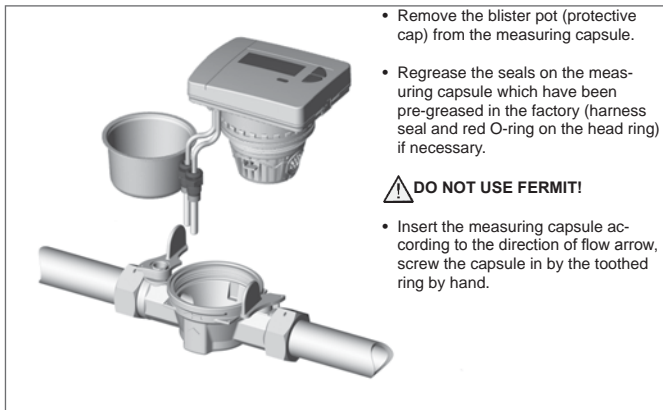
3. Install housing, **note direction of flow!**
4. Insert enclosed seals
5. Tighten union nuts
6. Remove blind plug M10x1, blind flange with seal



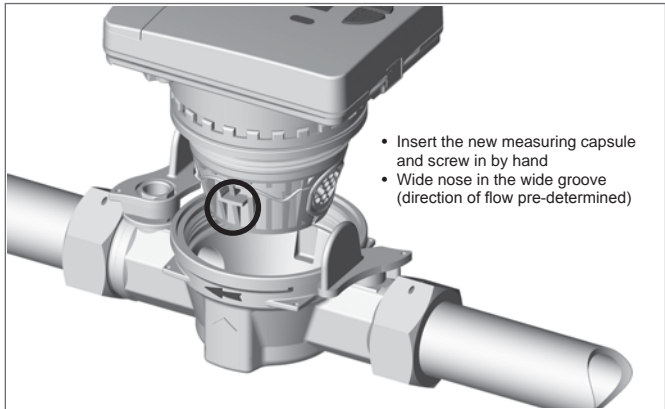
Prepare installation (remove old meter)



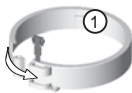
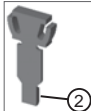
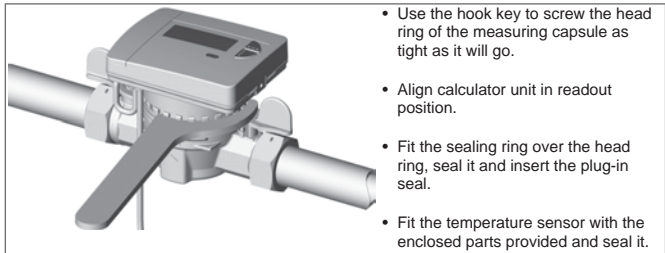
Insert measuring capsule, heed direction of flow



Insert the measuring capsule



Fix the measuring capsule in place

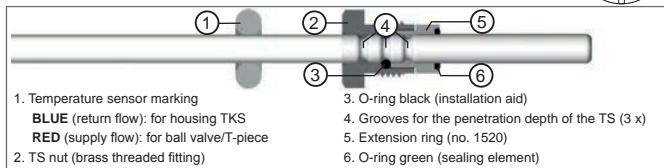


1. Position the sealing ring and put it together.
2. Insert the plug-in seal completely, with the "nose" on the seal tip facing the housing.

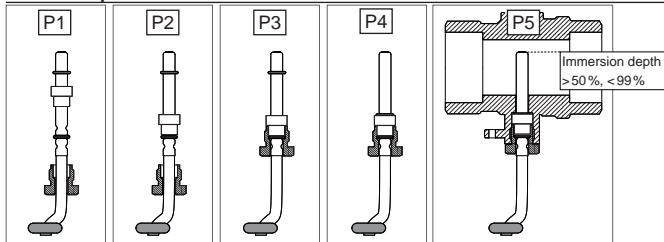
Fitting the temperature sensor - directly immersed (ball valve)

Temperature sensor – diameter 5.2 mm (pre-assembled)

i The temperature sensors for supply and return flow are pre-assembled with the necessary installation material.

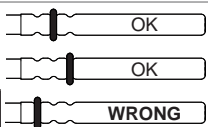


Fit the temperature sensor



- 1.) Position all the installation parts as shown in **P1**.
IMPORTANT: The black O-ring (3) should be in the central groove^(*) for this.
- 2.) Push the extension ring (5) as shown in **P2** flush to the black O-ring.
- 3.) Push the TS nut (2) as shown in **P3** over the black O-ring to the collar of the extension ring (5).
- 4.) Push the green O-ring (6) under the extension ring. **P4**
- 5.) Screw the pre-assembled temperature sensor into the ball valve or into the T-piece or into the housing. **P5**

(*) The black O-ring must not be positioned on the 1st groove. If the temperature sensor is immersed too deeply into the measuring point, the black O-ring is pushed onto the 3rd groove.



⚠ The temperature sensor must not touch the base.

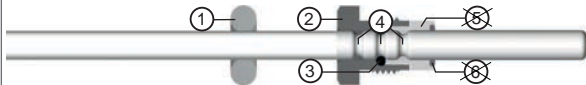
Fitting the temperature sensor - indirectly immersed (immersion sleeve)

Note national and country-specific regulations concerning the use of immersion sleeves.

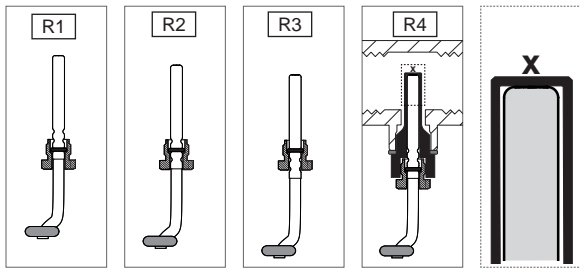


- i** In EU states (except Germany) immersion sleeves are also approved for new installations if they are MID-conform.
- i** Immersion sleeves are not approved for new installations in Germany. For replacement installations, note and follow the enclosed user information for stock immersion sleeves.

For the immersion sleeve installation of a pre-assembled temperature sensor, the O-ring (6) and the extension sleeve (5) are removed.



- 1. Temperature sensor marking
BLUE (return flow): for housing TKS
RED (supply flow): for ball valve/T-piece
- 2. TS nut (brass threaded fitting)
- 3. O-ring black (installation aid)
- 4. Grooves for the penetration depth of the TS (3 x)
- 5. Extension ring (no. 1520)
- 6. O-ring green (sealing element)



Try out steps **R1** - **R3** in succession with the positions of the black O-ring in the 3 grooves of the temperature sensor shown until you are sure that the temperature sensor is inserted in the immersion sleeve as far as it will go (**x**) and the TS nut engages with the thread in the immersion sleeve **R4**.

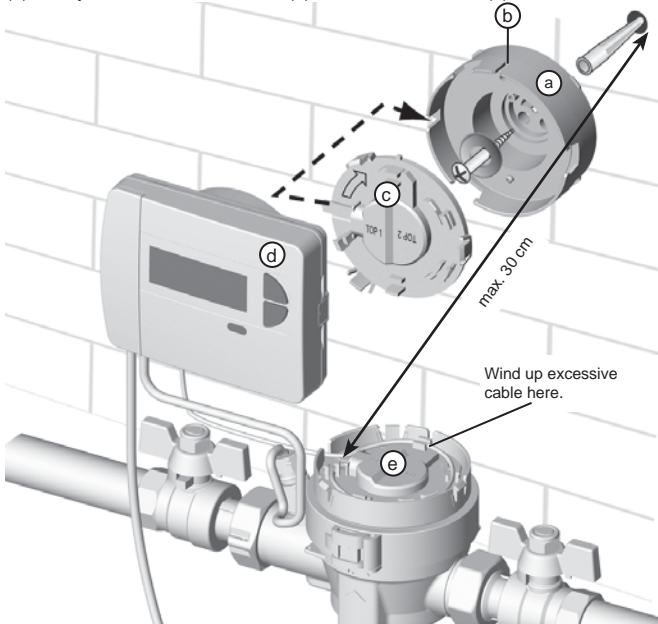
- R4** Use a tightening torque of approx. 3 Nm (hand-tight) to tighten the temperature sensor with TS nut in the immersion sleeve.

- i** When the temperature sensor is installed in immersion sleeves from other manufacturers the type of attachment can deviate from the above description. If necessary, use the attachment material of the device you have removed.

Wall installation with removable calculator unit

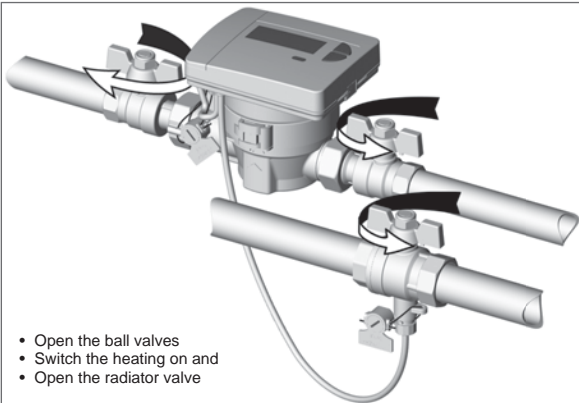
Variants with removable calculator unit can be installed up to max. 30 cm away from the flow sensor using the optional wall bracket (art. no. 11012).

- (1) Attach the wall bracket (a) in the required position using the enclosed material. Align the wall bracket in such a way that the groove (b) is pointing upwards.
- (2) Fit the cover (c) in such a way that the marking "TOP1" can be read horizontally, and click it into the wall bracket.
- (3) Remove the calculator unit (d) from the flow sensor (e), unwind or wind up excessive calculator unit cable.
- (4) Firmly latch the calculator unit (b) into the wall bracket (a).

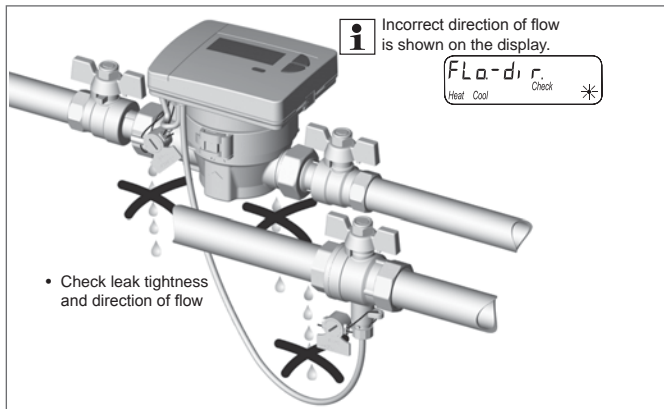


Checking installation

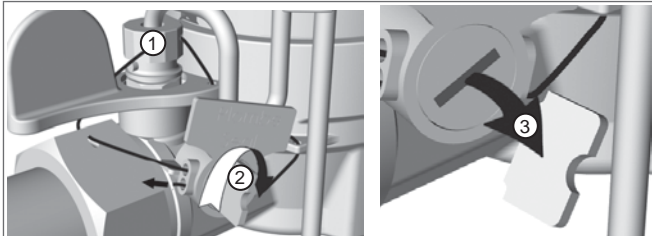
Open the valves



Check leak tightness and direction of flow



Sealing the flow sensor



- (1) Thread the seal wire through the seal bore holes on the nut, the threaded sensor fitting, the shut-off valve and the housing.
- (2) Insert the wire through the free opening in the seal body and wind the seal wire up tight using the seal wing.
- (3) After you have finished winding, break the seal wing off.
Sealing is guaranteed by breaking the seal wing off.

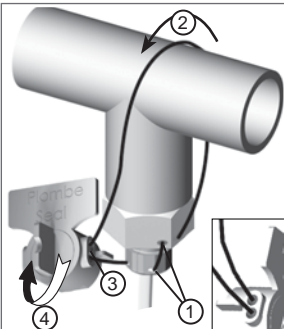
Sealing the temperature sensor in a ball valve



- (1) Thread the wire of the seal through the seal holes on the ball valve and the threaded sensor fitting.
- (2) Insert the wire through the available opening in the seal body.
- (3) Wind the wire tightly by turning the wing in the seal.
- (4) Break the wing off the seal.
Sealing is guaranteed by breaking the seal off.

Sealing the device

Sealing the temperature sensor in an immersion sleeve

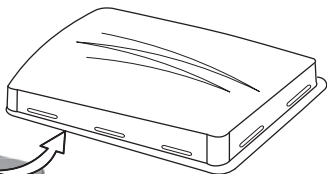


Note national and country-specific regulations concerning the use of immersion sleeves.

- (1) Thread the wire of the seal through the seal holes on the threaded sensor fitting and immersion sleeve.
- (2) Route the seal wire around the tee-piece.
- (3) Insert the wire through the available opening in the seal body.
- (4) Wind the wire tightly by turning the wing in the seal.
- (5) Break the wing off the seal.
Sealing is guaranteed by breaking the seal off.


Noting the meter readings

- Remove the installation protection

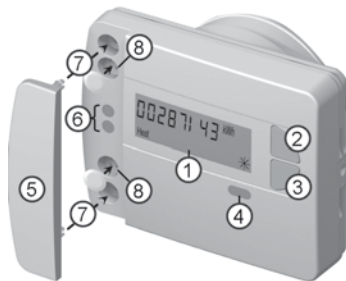


Note the installation date, meter numbers, any seal numbers
Note the old and new meter readings.

Handover log is available at:
www.deltamess.de

 **Dispose of a used device according to national waste disposal regulations.**

Control elements and interfaces


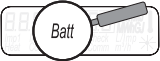




- (1) LC display
The display is off as standard (sleep mode). The display can be activated by pressing a key.
- (2) Key <H> (horizontal)
- (3) Key <V> (vertical)
- (4) IrDA interface
- (5) Interface cover
- (6) Module interface
- (7) Attachment holes for external optical modules
- (8) User protection and slots for external cable connections

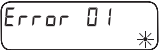
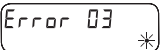
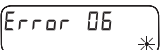
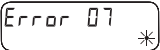


Status displays

Display	Description
	<p>The data displayed apply for:</p> <ul style="list-style-type: none"> • Heat • Cool = Cold • Imp1 = Impulse input 1 • Imp2 = Impulse input 2
	<ul style="list-style-type: none"> • (empty) = Displayed value is the current value • M (Memory) = Value on a monthly or due date
	<p>Displayed value is a date value:</p> <ul style="list-style-type: none"> • Day = Current date • M-Day = Date applies for a saved annual or monthly value
	<p>Displayed value is a checksum:</p> <ul style="list-style-type: none"> • Check = Checksum refers to the current consumption value • M-Check = Checksum is valid for a saved annual or monthly value
	<ul style="list-style-type: none"> • Current flow available • No energy counting -> no temperature difference
	<ul style="list-style-type: none"> • Current flow available • Energy counting
	<ul style="list-style-type: none"> • IrDA communication is currently active

Special operating states

Display	Description	Measures/Notes
	<ul style="list-style-type: none"> Communication credit of the module interface or IrDA exceeded 	<ul style="list-style-type: none"> Is eliminated after the credit period (module = current day; IrDA = current month) has passed
	<ul style="list-style-type: none"> Operating time expired 	<ul style="list-style-type: none"> Device must be replaced
	<ul style="list-style-type: none"> Wrong direction of flow 	<ul style="list-style-type: none"> Check installation (note arrow on flow sensor) Check piping Check recirculating pumps and thermostats for correct function
	<ul style="list-style-type: none"> Temperature sensors have been mixed up or fitted incorrectly 	<ul style="list-style-type: none"> Check whether flow sensor has been fitted in the right strand or check type of installation of temperature sensor

Error messages

Error display	Error description	Measures/Notes
	<ul style="list-style-type: none"> Hardware error or damaged firmware 	<ul style="list-style-type: none"> Check flow sensor, connection cable and calculator unit for external damage Device must be replaced
	<ul style="list-style-type: none"> Add-on module has been paired with another meter before 	<ul style="list-style-type: none"> The module has the measuring data of another heat meter Save data, since these are overwritten after a short time Press any key to delete the display
	<ul style="list-style-type: none"> Supply flow sensor broken 	<ul style="list-style-type: none"> Check temperature sensor and pipes for mechanical damage Device must be replaced
	<ul style="list-style-type: none"> Short circuit supply flow sensor 	<ul style="list-style-type: none"> Check temperature sensor and pipes for mechanical damage Device must be replaced
	<ul style="list-style-type: none"> Return flow sensor broken 	<ul style="list-style-type: none"> Check temperature sensor and pipes for mechanical damage Device must be replaced
	<ul style="list-style-type: none"> Short circuit return flow sensor 	<ul style="list-style-type: none"> Check temperature sensor and pipes for mechanical damage Device must be replaced

Navigating within the levels

1. To open the display loop or level operating scheme



Press the <H> or <V> key **briefly** to open the fast readout display loop.



Press the <H> or <V> key **longer than 3 seconds** to open the level operating scheme.

2. To change from any position on one level to the next level



Press the < H > key

3. To change to the next display within one level



Press the < V > key

Key assignment in programming mode

(level L3 or L4 only)

i To be able to activate programming mode, you have to be authorised for programming by entering a PIN.

Once the PIN has been accepted, further values can be programmed without PIN input. Validity is lost if a level other than L3 or L4 is set.

1. To activate programming mode



Use the < H > key to navigate to the level.



Use the < V > key to navigate within the level and display the value for which the parameter is to be set.



(Key combination)



First press and hold the < H > key,
then press and hold the < V > key as well.

2. To change parameters



Press the < V > key briefly several times until the parameter section flashing has reached the desired value.



Press the < H > key briefly to jump to the next parameter section.

3. Confirm entry
















(Key combination)


















First press and hold the < H > key,
then press and hold the < V > key as well.

To activate programming mode

-  Use the < H > key to navigate to the respective display level (L3 or L4).
 
-  Use the < V > key to display the respective value (here: due date).
 
-  Activate programming mode using the key combination < H > + < V > (see page 31). Keep this key combination pressed until the display for password entry appears.
 
-  Press the < V > key several times briefly until the value for the flashing segment block has been reached.
 
-  Press the < H > key to jump to the next segment block.
 
- Repeat steps 4 and 5 until the password has been entered completely.
 
-  Confirm acceptance of the password using the key combination < H > + < V > (see page 31). When the password has been entered, the display changes to the value to be programmed.
 


Example: Programming the due date

-  Display level L3 -  display "due date"
-  Activate programming mode using the key combination < H > + < V > (see page 31).
  When programming mode has been activated, the segment block for setting the value "year" flashes first.
 
 -  Press the < V > key several times briefly until the value "year" for the new due date has been reached.
 
 -  Only press the < V > key if you want to skip the first due date.
  Press the < H > key in order to jump to the segment block for setting the value "month".
 
 -  Press the < V > key several times briefly until the value "month" for the new due date has been reached.
 
 -  Confirm the setting by means of the key combination < H > + < V > (see page 31).
 

 Only the last day of a month can be chosen as the due date.

Example: Activate / deactivate levels

Display level L3 - display "possible + active levels"


1.  Activate programming mode using the key combination $\langle H \rangle + \langle V \rangle$

(see page 31). When programming mode is activated, the "M-" symbol will flash.




2.  Press the $\langle H \rangle$ key several times briefly until the segment block for setting the respective level flashes.



3.  Press the $\langle V \rangle$ key briefly in order to deactivate or activate the respective level.




4.  Press the $\langle H \rangle$ key briefly to jump to the number of the next available level.

5. Repeat steps 3 and 4 until the required levels have been activated / deactivated.



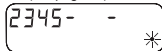
If display level 3 is deactivated, the device can then only be parameterised using the parameterisation software.

6.  Confirm the setting by means of the key combination $\langle H \rangle + \langle V \rangle$ (see page 31).

Result of this example:

Levels 2, 3, 4 and 5 are shown,
- = Level 6 is hidden,

2 x space = Levels 7+8 are not available - = Level 9 is hidden


**Example: Switch the checksum display on/off (postcard readout)**

Display level L3 - display "possible + active levels"


1.  Activate programming mode using the key combination $\langle H \rangle + \langle V \rangle$


(see page 31). When programming mode is activated, the "M-" symbol will flash.



2.  If the marking is not set on the "M-" symbol, press the $\langle H \rangle$ key briefly until the "M-" symbol flashes.




3.  Press the $\langle V \rangle$ key briefly if the "display checksum" option is to be switched on or off.

4.  Confirm the setting by means of the key combination $\langle H \rangle + \langle V \rangle$ (see page 31).




Example: Changing the dimensioning unit (kWh ↔ MWh or MJ ↔ GJ)


☞ Display level L3 - ☞ display "possible + active levels"

1.  Activate programming mode using the key combination < H > + < V > (see page 31). When programming mode is activated, the "M-" symbol will flash.




2.  Press the < H > key briefly several times until the symbol for the dimensioning unit with the decimal frame flashes.



3.  Press the < V > key briefly to change the dimensioning unit.

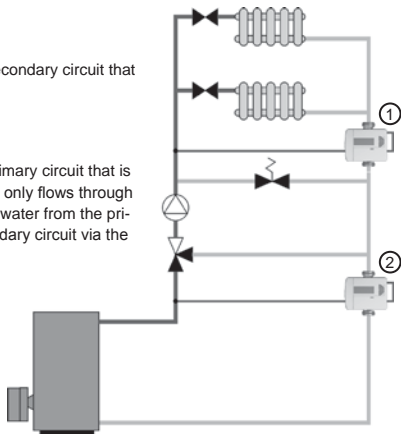


4.  Confirm the setting by means of the key combination < H > + < V > (see page 31).

 All other device parameters can be set according to the pattern in the examples shown.

(1) Installation in a part of the secondary circuit that is not constantly under flow.

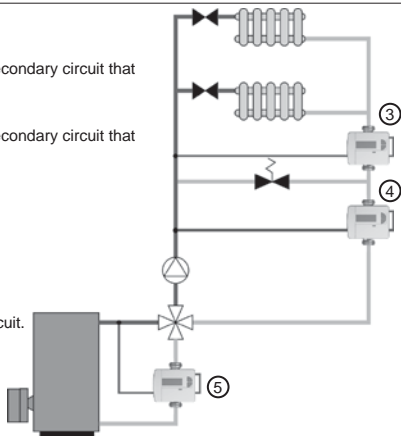
(2) Installation in a part of the primary circuit that is not constantly under flow. Water only flows through the heat meter when hot supply water from the primary circuit flows into the secondary circuit via the three-way mixing valve.



(3) Installation in a part of the secondary circuit that is not constantly under flow.

(4) Installation in a part of the secondary circuit that is constantly under flow.

(5) Installation in the primary circuit.



Heed national and country-specific regulations!

Before installation

1. Are the security points on the meter undamaged?
(seal on the return flow meter, seal)

2. Is there a suitable installation kit available?
(ball valves, installation parts, seals)

3. Is the installation kit in the right place?

4. Is the heat meter dimensioned correctly?
(flow $q_i/q_p/q_s$, pressure, temperature)

5. Are the geometrical connection conditions of the flow sensor, the temperature sensor and the immersion sleeves if appropriate suitable for the installation location?

6. If immersion sleeves are used:
Are the immersion sleeves suitable for the heat meter with regard to country-specific and national regulations?

7. Are all the installation parts required available?
(seals, threaded fittings)

8. Are all the parts required for sealing available?

9. Is the installation manual for the heat meter available?

10. Has the system been flushed properly?
(clean filters and screens)

After installation

1. Have the temperature sensors (supply flow / return flow sensors) been installed in the respective pipes?
2. In addition where immersion sleeves are used:
Has the sensor been pushed to the base of the immersion sleeve and screwed in place tightly?
3. Has the flow sensor been installed in the right strand?
4. Has the flow sensor been installed tension-free?
(no tensile, compression or torsion loads)
5. Have the valves in the right strand been opened?
6. Are all installation points leakproof?
7. Are all displays plausible?
(temperatures and current flow)

After commissioning

1. Is the supply flow sensor sealed? (manipulation risk)
2. Are the return flow sensor and the flow sensor sealed?
3. Has the device number been noted (on the type plate)?
4. Has the initial meter status been noted?
(Level 0 - important for billing)
5. Has the handover log been completed?
(available at www.deltamess.de)

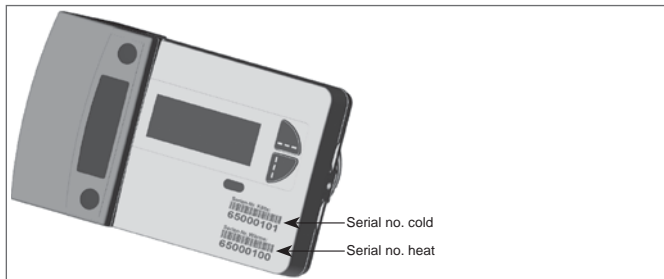
Use of combined heat/cold meters with add-on module

With the introduction of the new heat meter generation, the housing colour of the heat meter add-on modules has been changed from blue to white.

In addition, the serial number concept has been optimised for the new heat meters.

Please note the following instructions:

The add-on modules listed below use the < Serial no. > to interpret the < System ID channel 2 > using an algorithm that is invalid for the serial number concept of the new heat meters.



This means that these add-on modules delivery a value for the address allocation of the 2nd channel (< System ID channel 2 >) that no longer correlates with the serial no. cold printed on the meter.

This results in the following anomalies for **previous modules** in conjunction with a **combined heat/cold meter**:

WFZ16x.Ox – add-on radio module

Calibration replacement (blue add-on module)

The add-on module delivers the value

< Serial no. for heat - 3.000.000 > as system ID channel 2

Example:

Printed on heat meter:


Serial no. heat:	65 000 100
Serial no. for cold:	65 000 101

The following system ID is generated from the serial no. for heat:

System ID channel 1: 65 000 100 for heat

System ID channel 2: 62 000 100 for cold

The combined heat/cold meter is identified and managed in the radio systems Q AMR and Q walk-by on the basis of these numbers.

 With the < System ID channel 2 > generated by the module, there can be an address collision with other devices in the radio network. To preclude the danger of data loss, check the device directory for multiple system IDs for channel 2!

So that address collisions can be excluded from the outset, we offer the following solution:

With the programming stick WFZ.PS3 the module can be parameterised to the serial number algorithm of Q heat 5.

The programming stick WFZ.PS3 is available on request.

R99/0005-02 - M-Bus add-on module

New installation and calibration replacement (white and blue add-on module)

For < System ID channel 2 > the module sets a "9" as the first digit. Digit positions 2 - 8 correspond to those of the serial number for heat.

Example:

Printed on heat meter:

Serial no. heat: 65 000 100

Serial no. for cold: 65 000 101

The following system ID is generated from the serial no. for heat:

System ID channel 1: 65 000 100 for heat

System ID channel 2: 95 000 100 for cold

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Issue version: 04.16
Print no.: FIM-DMHE-EN0-HMTKS
V 4.0
