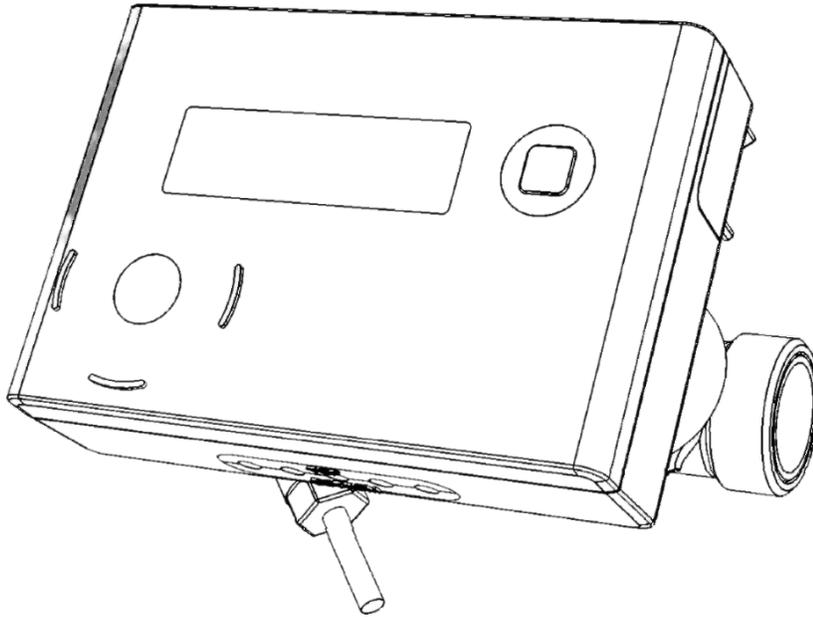


HYDRASONIC S8

ULTRASONIC HEATING/COOLING METER



Attention:

- Installation should only be carried out by qualified, trained personnel
- Violation and removal of the manufacturer's seals is not allowed, otherwise the warranties are void
- Welding on pipes near the meter is prohibited. The device must be dismantled before welding
- Eliminate the possibility of flooding the electronic unit
- The ambient temperature should be between 0 °C and 55 °

Table of content

1. General	3
1.1 Operating conditions	3
2. Transport and storage	4
3. Assembly / Installation	4
3.1 Preparatory work	5
3.2 Installation of flow sensor	5
3.2.1 Flow metering section location in a pipeline	5
3.2.2 Requirements of straight-line sections	7
3.3 Temperature sensor installation	7
3.3.1 Mounting RTD	8
4. Communication	11
4.1 M-Bus wired	11
5. Display Menu	12
5.1 Overall Menu Structure	12
5.2 Main Display	13
5.3 Test Display	14
5.4 Information Display	15
5.5 Error Display	16
6. Maintenance	17
7. Disposal	17

1. General

This guide is intended for trained specialized personnel. For this reason, no basic working steps are included.



The meter tamper-evident seal must not be damaged! A damaged seal will result in immediate invalidation of the factory warranty and verification or declaration of conformity. The cables supplied with the meter must neither be shortened, extended nor changed in any other way.



The regulations on the use of energy meters must be observed! The installation must only be carried out by a specialist company. The personnel must be trained in the installation and handling of electrical equipment.



Medium

Water according to AGFW-Worksheet FW510 (the lifecycle of the meter may be impaired if not observed).

- The temperature range depends on variant and nominal size.

1.1 Operating conditions



The temperature conditions for the flow sensor and the temperature sensor depend on the application and can be found on the printing of the meter.

Climatic conditions

The ambient temperature must be between 5...55 °C.

Temperatures > 35 °C have a positive effect on battery lifetime.

2. Transport and storage

Unpacking

Energy meter are measuring devices and must be handled with care. To protect against damage and soiling, they should only be unpacked immediately prior to installation.

Transport

The transport of the meter is permitted only in the original package.



When sending wireless measuring instruments / components by air, deactivate the wireless before shipping.

Storage

- The meter must only be stored in a dry location.
- Typical storage temperature +5 °C ... 55 °C
- Maximum storage temperature -20 °C ... 60 °C (max. 4 weeks)
- Relative humid environment < 95 %

3. Assembly / Installation



The meter may only be installed in frost-free spaces. Be careful of sharp edges. Assembly and disassembly only in depressurized system.



The meter is to be protected against damages due to impacts and vibrations.



Signal cables are to be installed far away from other power lines.



When choosing the installation location, make sure that the meter is perfectly accessible for service and operating personnel. It is recommended that shut-off valves are fitted before and after the meter to simplify removing the meter.

3.1 Preparatory work

- Rinse the conduit thoroughly.
 - Close the stop valves upstream and downstream of the meter and depressurize the pipeline.
-

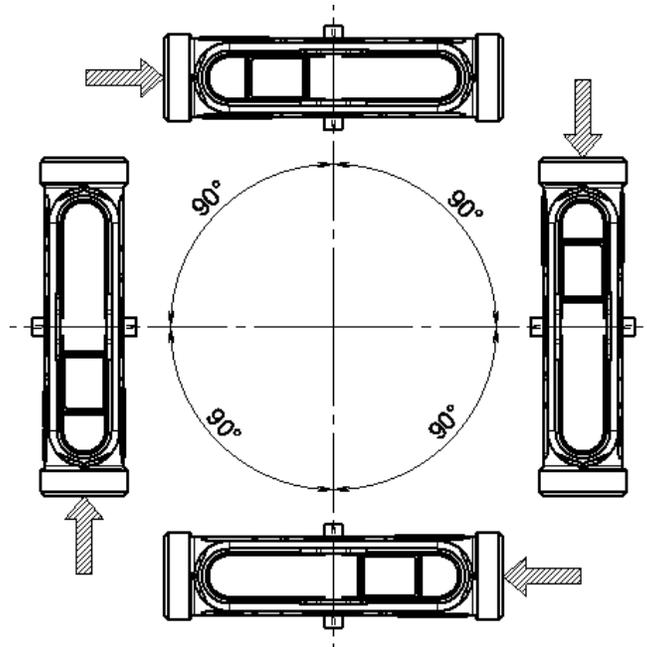


It is recommended to install a dirt trap in front of the flow sensor or at another suitable position of the circulation.

No inlet or outlet path is necessary for the installation of a flow sensor.

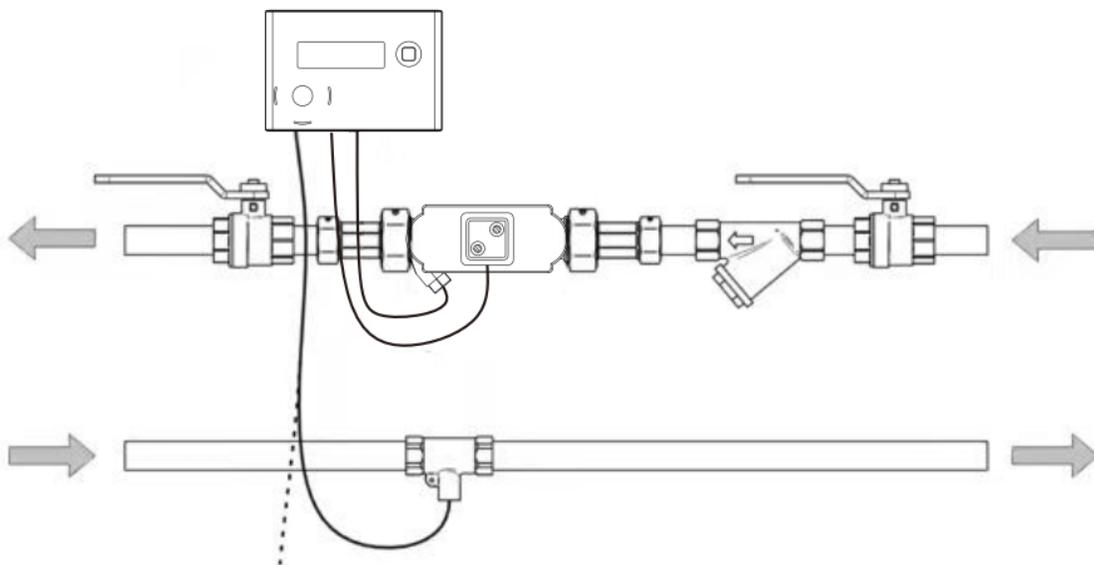
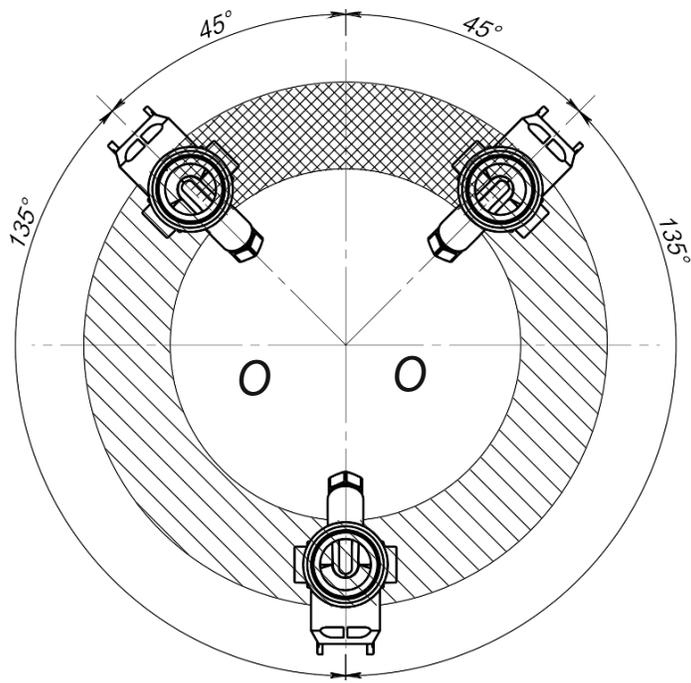
3.2 Installation of flow sensor

3.2.1 Flow metering section location in a pipeline



Flow metering section may be installed vertically, horizontally or at any arbitrary angle.

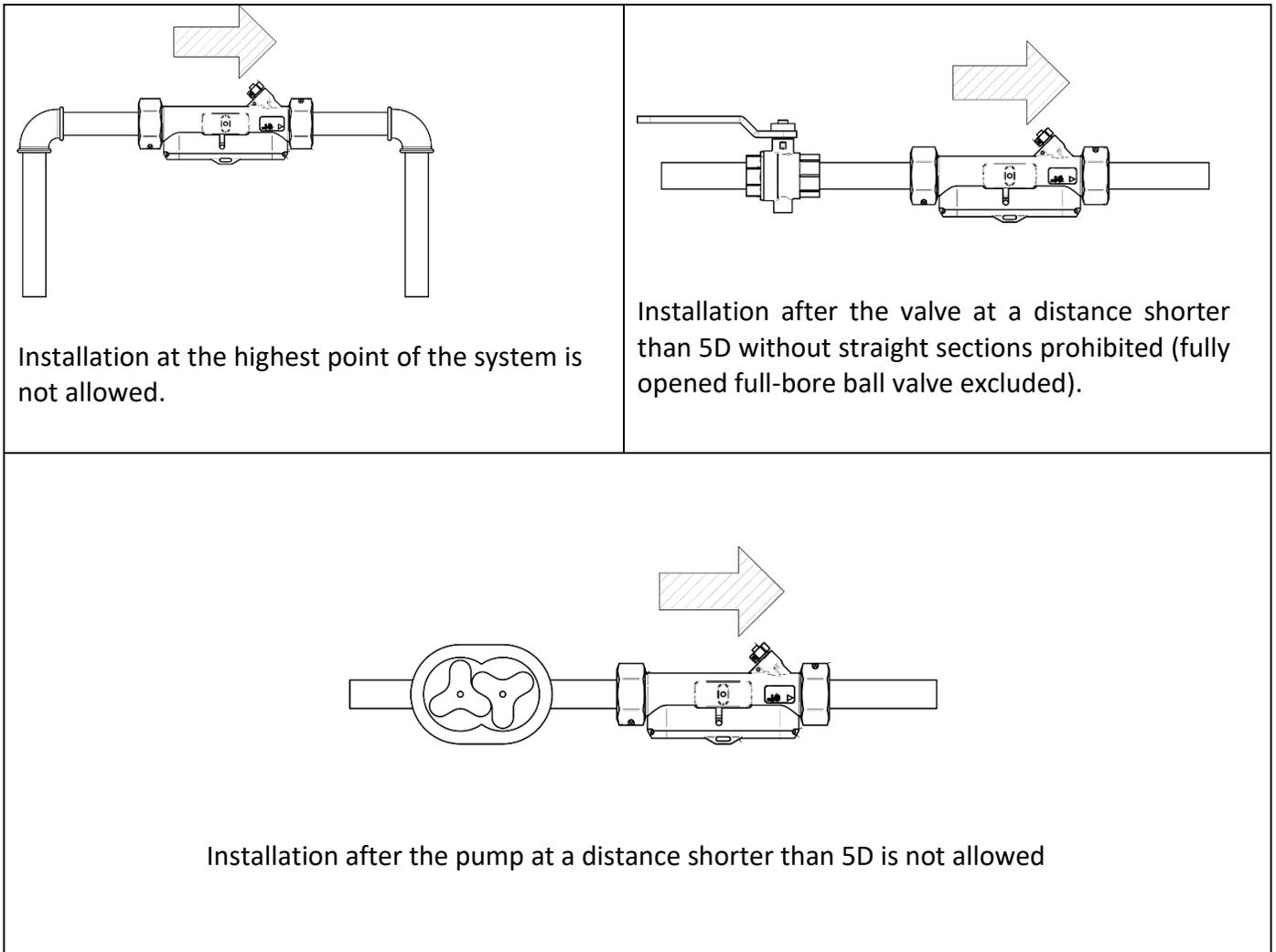
Flow metering section must be turned 45° and more degrees. Vertical installation or installation with the turn angle less than 45° is not allowed.



Example of installation of Temperature sensor pocket of the return pipeline by means of a tee

3.2.2 Requirements of straight-line sections

Flow metering section DN15...50 does not require to have straight sections before and after of flow sensor.

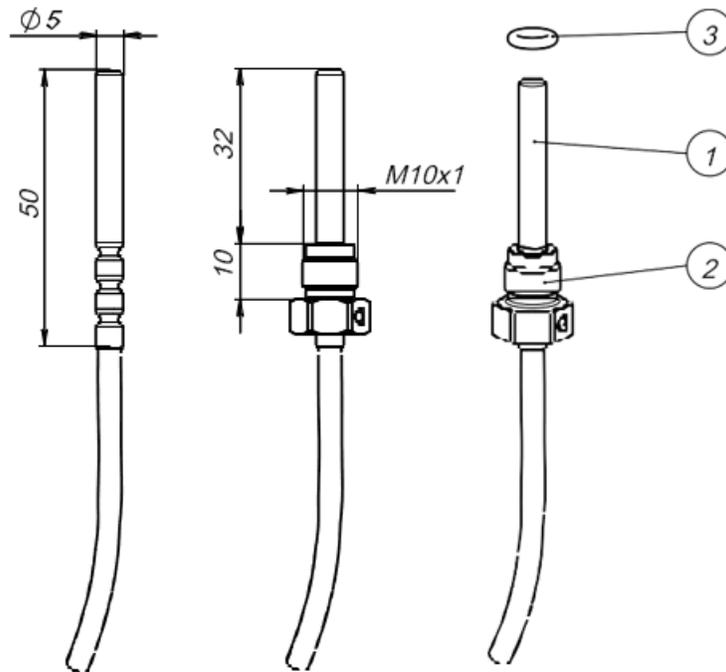


3.3 Temperature sensor installation

For heat/cooling measurement the meter use two RTD.

One of the temperature sensors T1 **always** mounted into flow meter pipe, another T2 mounted into pipe directly via an installation pocket.

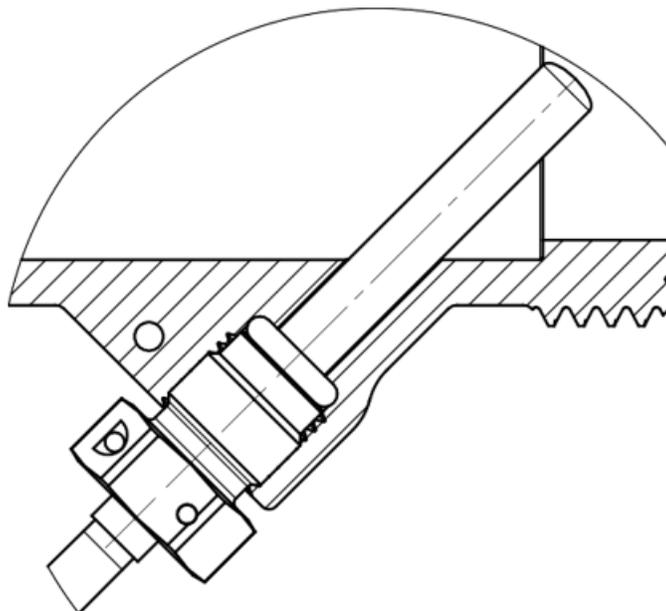
3.3.1 Mounting RTD

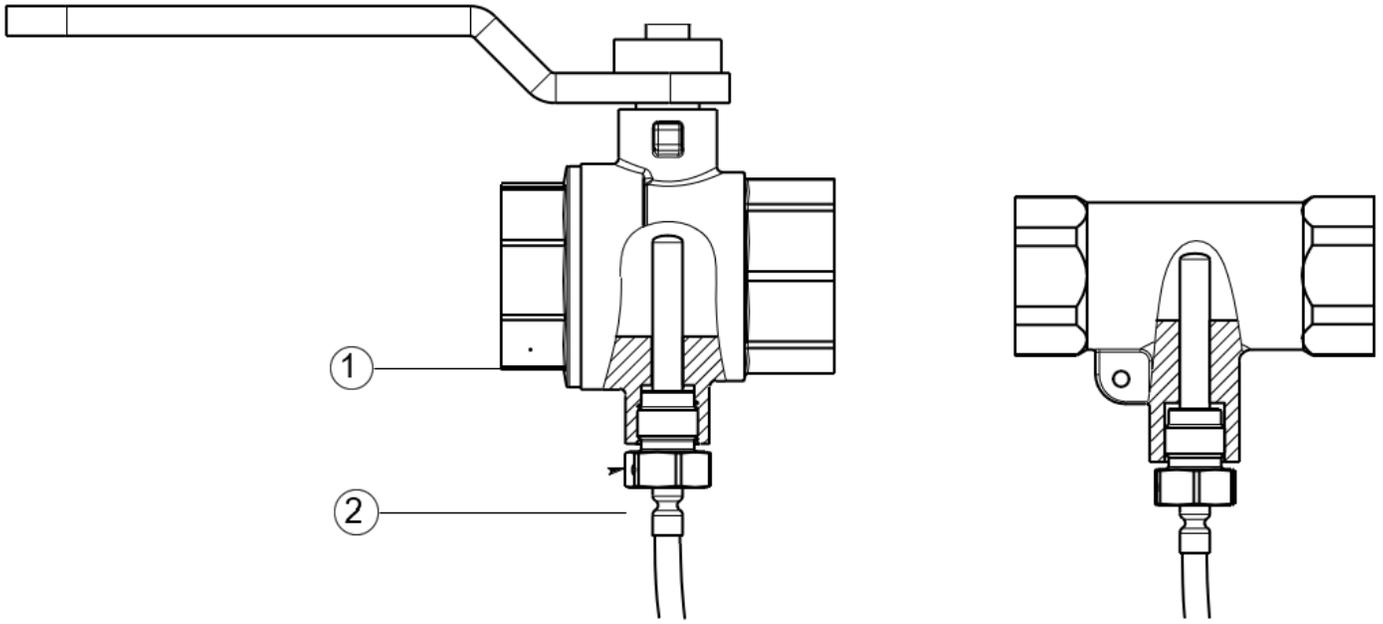


1 – temperature sensor; 2 – Temperature sensor holder; 3 – Sealing ring

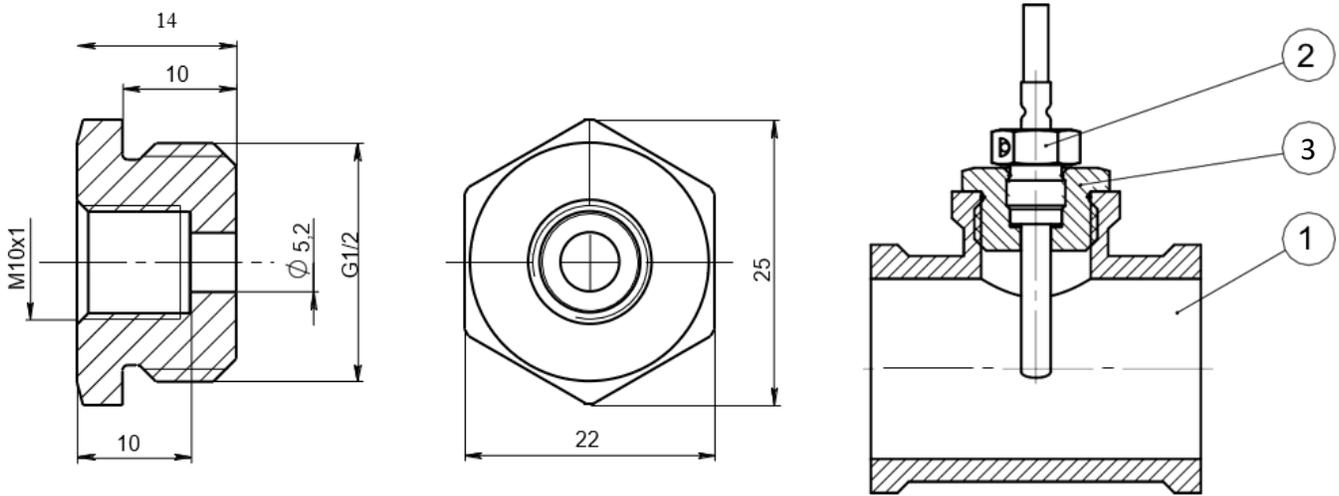
For DN15...40 T1 pre-installed into flow sensor pipe (see figure):

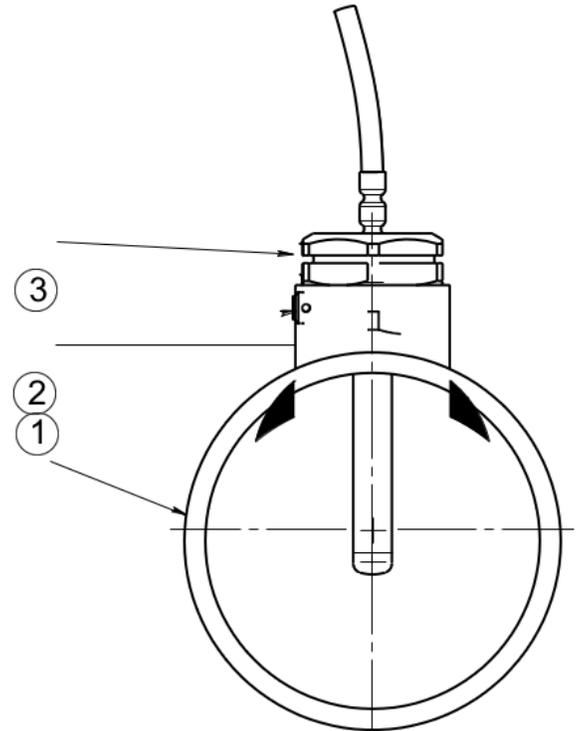
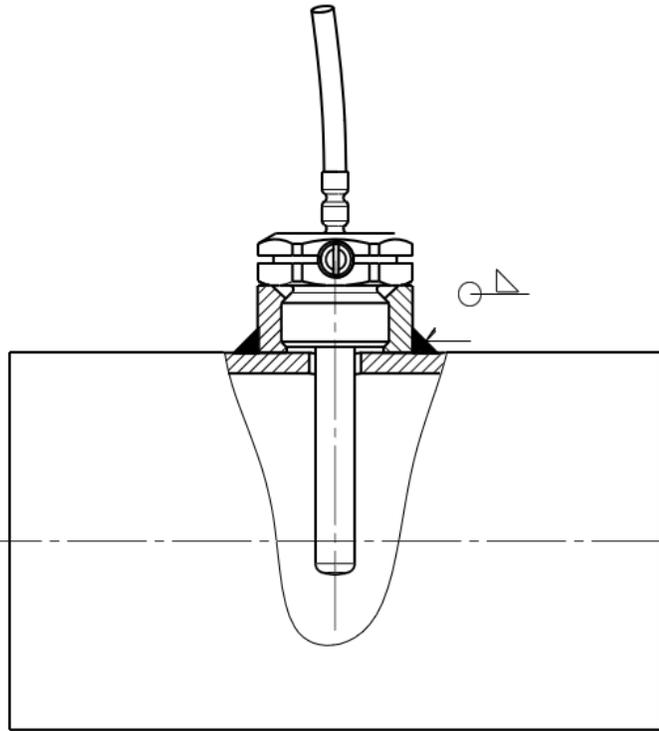
T2 should be installed in specialized fittings for DN15...25 with a thread for connecting RTD. Installation into such fittings does not require additional sealing.





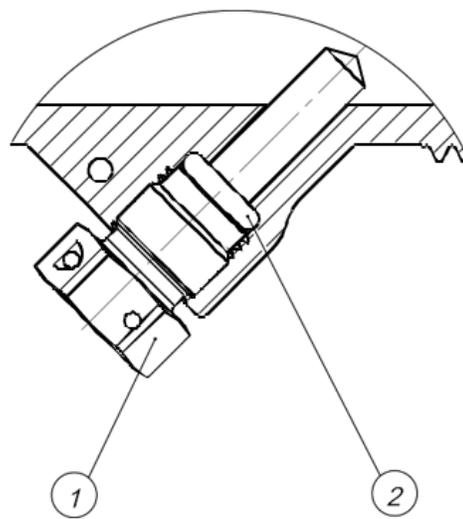
RTD can also be installed in a tee. To do this, use a special adapter (pos.3), which is directly screwed into the RTD holder (pos.2).





For DN greater than 50 installations of both RTD is carried out by means of a protective sleeve (pos.3), fig. below

If temperature sensor t1 has to be installed separately (not inside flow metering section), orifice in the flow metering section must be plugged with a blind plug from the delivery set of the meter.



1 – blind plug; 2 – sealing ring

4. Communication

4.1 M-Bus wired



A 2 pin M-Bus line lead out of the housing. Connect the M-Bus line with the marked connections of the M-Bus Master.

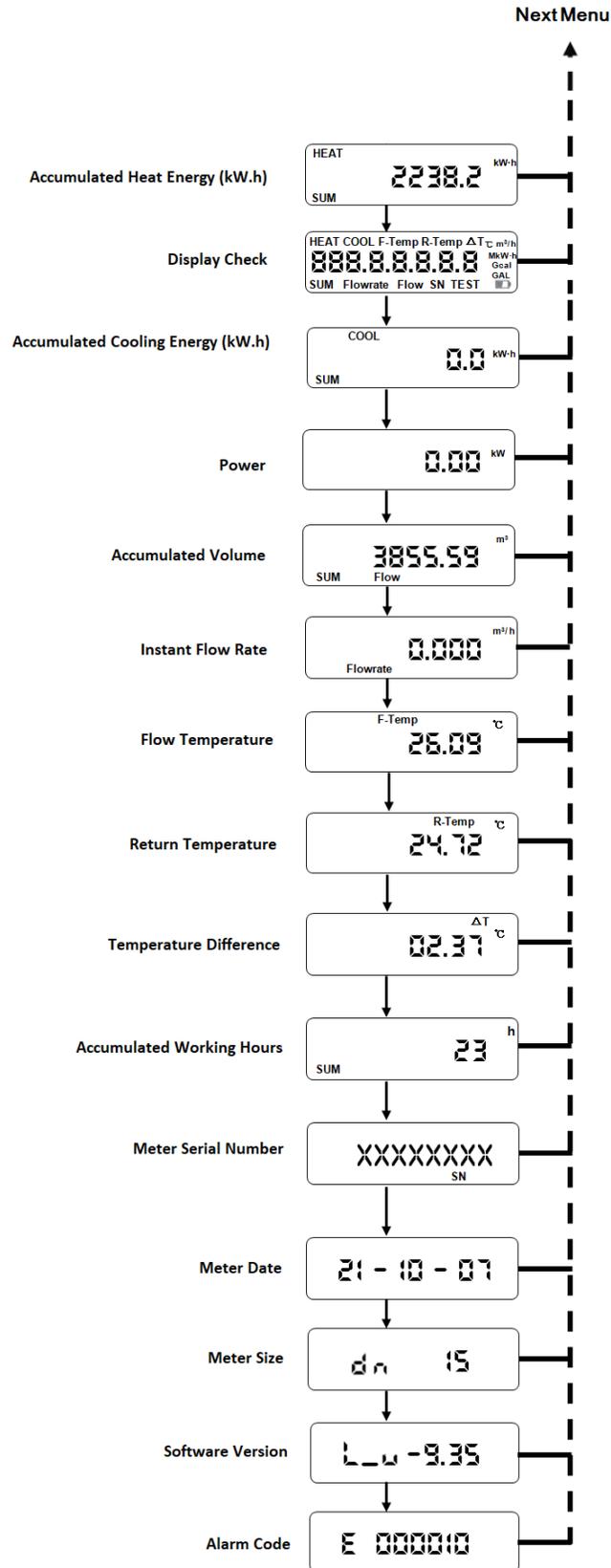
Here it concerns a serial interface for communication with external devices (M-Bus control centers),

- Standardized according to EN 13757-3
 - Galvanic isolation
 - Polarity reversal protection
 - Power consumption: One M-Bus load
 - Primary or secondary addressing
 - Baud rate 300 or 2400 baud (automatic baud rate detection)
 - Protocol: M-Bus
-

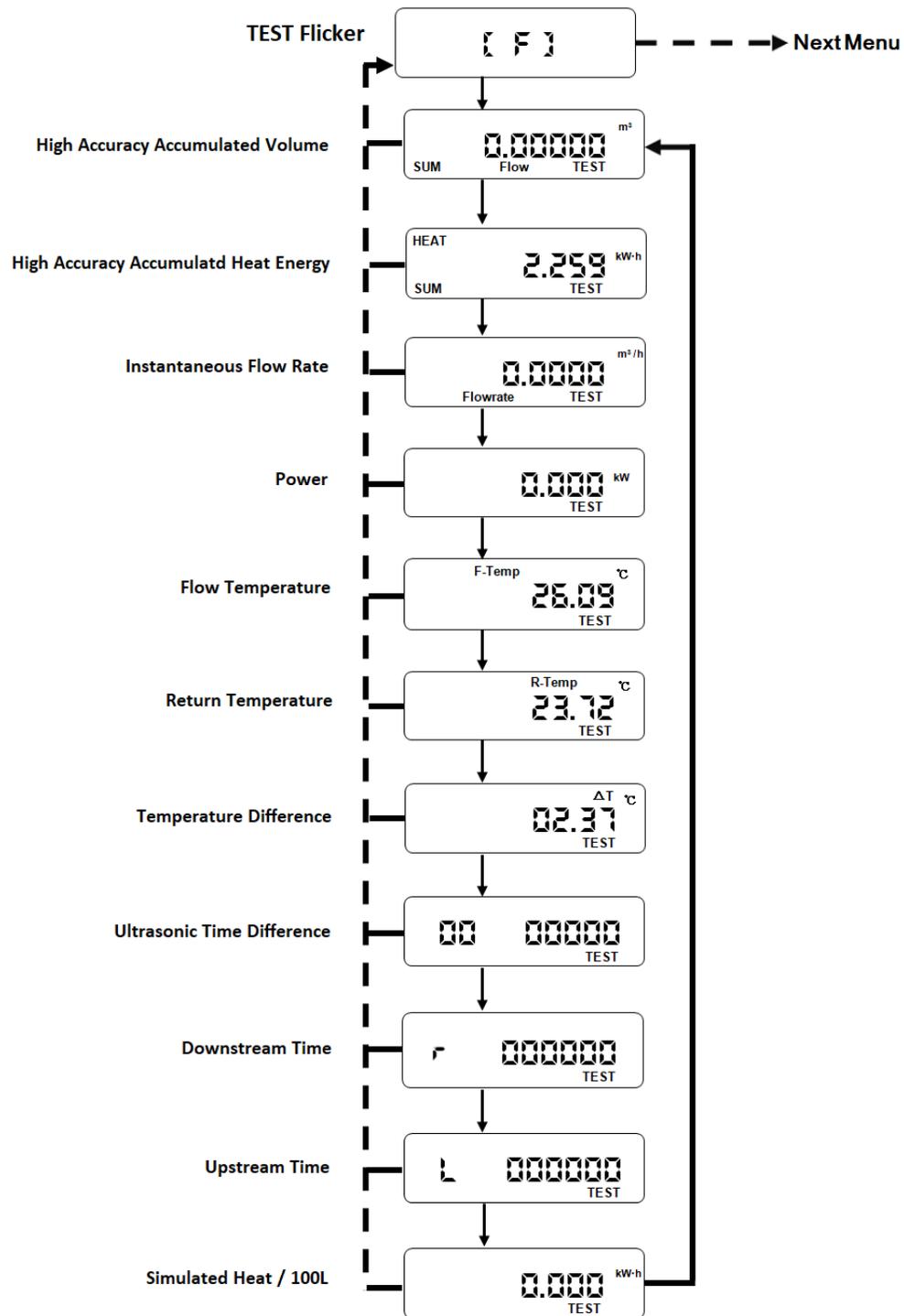
5.2 Main Display

Short press < 3 sec 

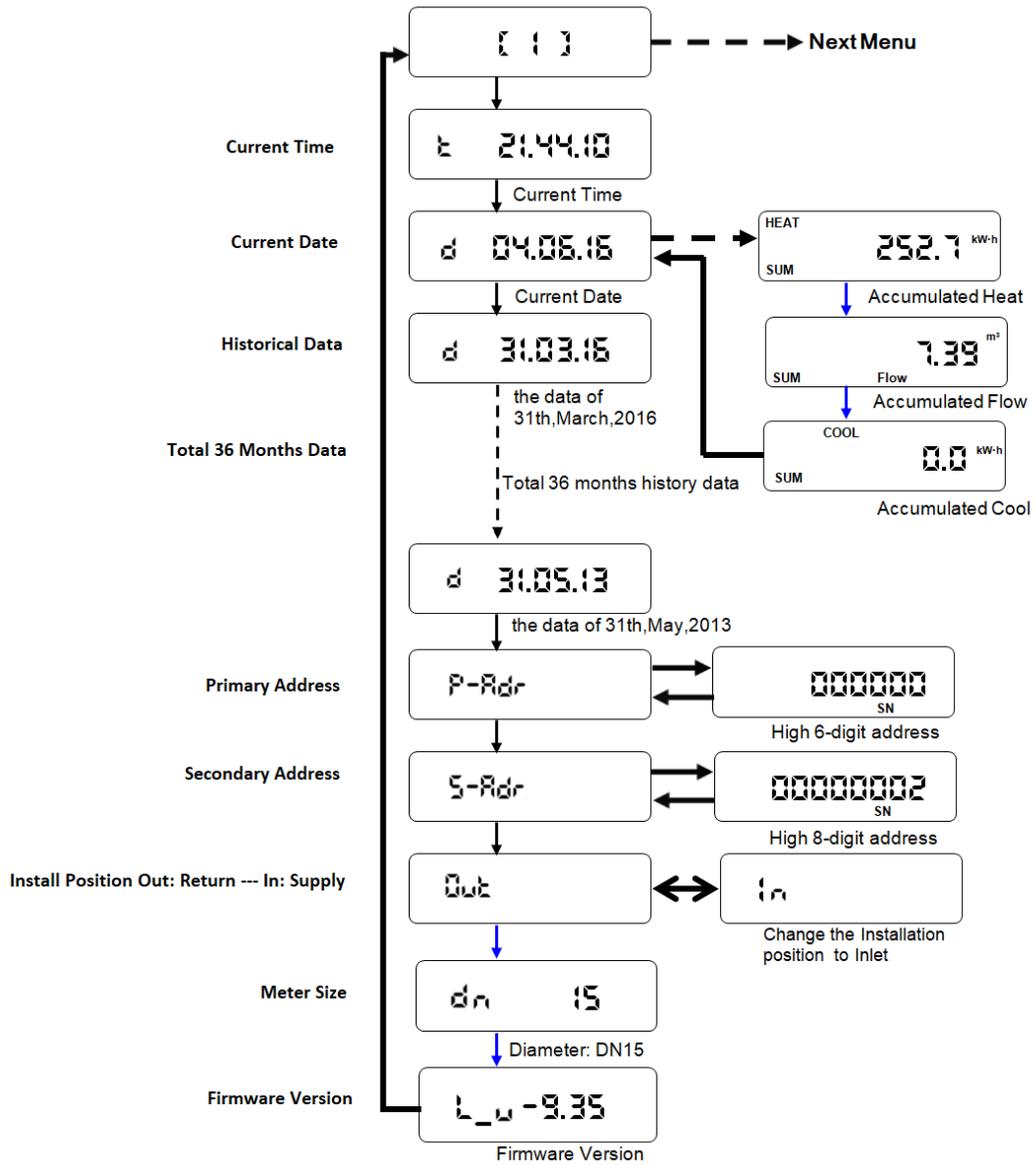
Long press > 3 sec 



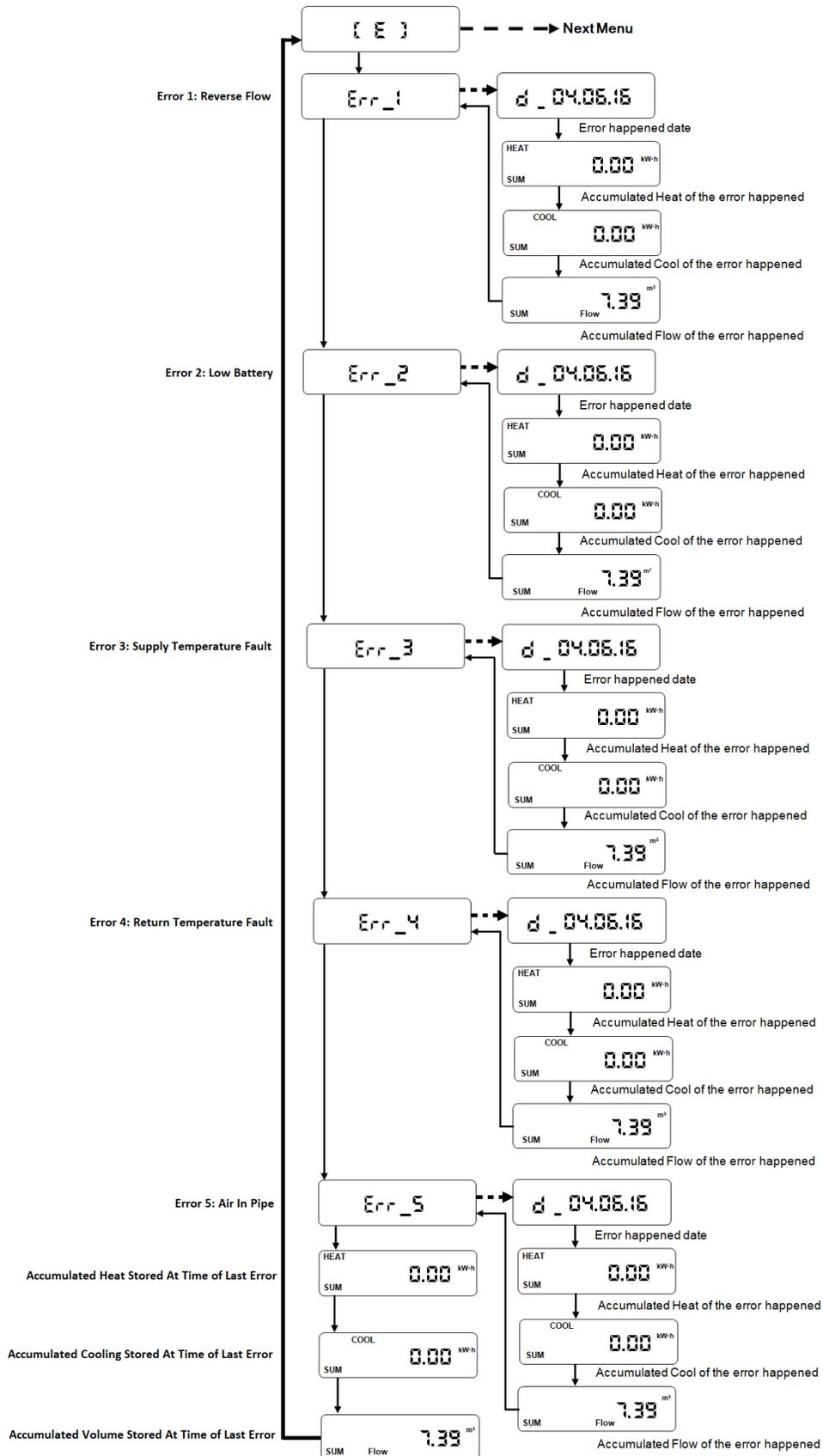
5.3 Test Display



5.4 Information Display



5.5 Error Display



6. Maintenance



Flow sensor and temperature sensor may not be disconnected from the integrator. After repair work, perform recalibration in an accredited testing agency.



Information concerning reconditioning or maintenance can be found in the processing concept (this will be made available for laboratories and testing agencies upon request).

7. Disposal



The meter contains a lithium battery, which is not rechargeable. Do not use force to open the battery. It must never come into contact with water, short-circuited or exposed to temperatures over 75 °C.

Empty batteries and no longer required electronic devices or components are hazardous waste.

This device must not be disposed together with the domestic waste.
Return it to the manufacturer for recycling.

Kimans Inc.

www.kimans.com

