# Magnetic-Inductive Flow Sensor

# PITe with UMF2

## Installation and operating manual

This operating manual contains important information for the operation.

Please read the instructions carefully and store them in a safe place.

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# 1 Introduction

Prior to the installation and operation, it is essential that the operator reads all of the instructions and information contained in this manual, as well as the associated UMF2 transmitter installation and operating manual. If any part of either manual is missing, contact Heinrichs Messtechnik GmbH to request a new manual or check our download area on our website www.heinrichs.eu for the documents.

The device is supposed to be installed and serviced by a qualified technician only.

This manual does not contains custom designs and special applications.

All devices are thoroughly tested and checked for order compliance and functionality prior to shipping. However, if you have any queries or problems concerning your purchased product, please contact our head office in Cologne.

**Heinrichs Messtechnik GmbH accepts no liability for any loss or damage of any kind arising from improper operation of any product, improper handling or use of any replacement part, or from external electrical or mechanical effects, overvoltage or lightning. Any such improper operations, use or handling shall automatically invalidate the warranty for the product concerned**.

## 1.1 Hazard warnings

The purpose of the hazard warnings listed below is to ensure the safety of the operators and maintenance personnel, and the prevention of damages to the flowmeter and any connected device.

The safety advisories and hazard warnings in this document are characterised in four terms, and are aimed to prevent putting operators and maintenance personnel at risk and to avoid material damage. The used terms have, with respect to this document and the products described within, the following meanings:

**Danger**
means that failure to take the prescribed precautions **will result** in injury, substantial material damage or even death. Always comply with caution to these warnings and proceed!

**Warning**
means that failure to take the prescribed precautions **could result** in injury, substantial material damage or even death. Always comply with caution to these warnings and proceed!

**Caution**
means that failure to take the prescribed precautions **could result** in material damage or destruction of the device. We advice always to abide to these instructions.

**Note**
means that the accompanying text contains important information about the product, handling the product or about a section of the documentation that is of particular importance.

## 1.2 Assembly, commissioning and operating personal

Only trained specialist personnel authorized by the plant operator may carry out assembly, electrical installations, commissioning, maintenance work and operation. The qualified personnel must have read and understood the operating instructions and follow their instructions!

The regulations and provisions applicable in the country of the operator have to be observed at all times.

**Observe the technical data on the nameplate and the safety instructions in the separate operating manual of the associated converter!**

# 2 Identification

## Manufacturer/supplier

Heinrichs Messtechnik GmbH
Robert-Perthel-Str. 9
50739 Cologne
Germany

Phone: +49 (221) 49708 – 0
Fax: +49 (221) 49708 – 178
Web: www.heinrichs.eu
E-mail: info@heinrichs.eu

## Product type

Magnetic–inductive flow sensor based upon Faraday's law of induction.

## Application

Bi-directional measurement of fluids with a minimum conductivity of 50 µS/cm

## Product name

PITe-xxx

## Issue date

29.12.2021

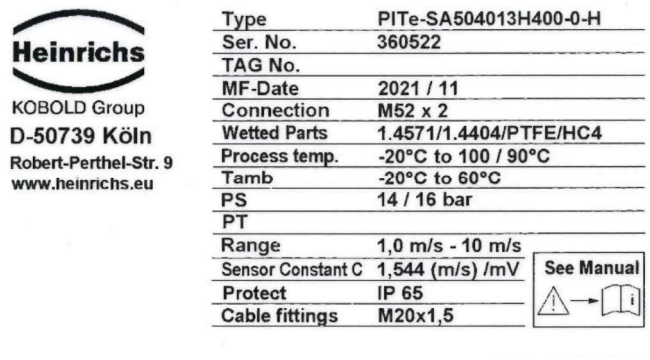
## File version no.

PITE_BA_22.02_EN

## Converting Transmitters

UMF2

## 2.1 Designation / Nameplate




| Type | Modelcode |
|---|---|
| Ser. No. | Serial number (for tracking reasons) |
| Tag No. | Operator's measuring point number (if stated in the order) |
| MF-Date | Year and month of manufacture |
| Connection | Process connection |
| Wetted parts | Material of wetted parts such as tube liner, electrode material and gasket |
| Process temp. | Max. range of process temperature |
| T amb | Max. range of ambient temperature |
| PS | Max. permissible process pressure |
| PT | Test pressure (only with certificate 2.2 or 3.1) |
| Range | Measuring range |
| Sensor constant C | Sensor constant |
| Degrees of protection | Degrees of protection in accordance with DIN EN 60529:2000 |
| Cable fittings | Origin thread |

## 2.2 Use in hazardous areas

The flow meter PITe-xxx is not intended for use in hazardous areas.

# 3 Area of application

The magnetic-inductive flow sensor PITe measures or monitors the volume flow of liquids with and without solids concentration, slurries, pastes and other electrically conductive media while minimizing pressure drops. The conductivity of the medium must be at least 50 µS/cm. Pressure, temperature; density and viscosity do not affect the volume measurements.

Small quantities of solid particles and small gas bubbles are also measured as part of the volume flow. A larger number of solid particles or gas bubbles will lead to incorrect measurements. Special electrodes are available for media that tend to form greasy films or crusts.

The performance of flow measurement with the PITe sensor is only possible in combination with the transmitter UMF2. Transmitter UMF2 is programmable, processes the measurement data received from the sensor and displays the results on its built-in control panel. Furthermore, it is capable of transmitting various types of measurement results via a communication interface.

# 4 Safety aspects

## 4.1 Usage of this manual and targeted personnel

This document contains all the necessary information to ensure a correct operation of the herein described product. The document is meant for the usage of qualified personnel. This means personnel who possess the necessary knowledge to ensure a safe operation, such as electronic and electrical engineers, or service technicians who are conversant with the safety regulations pertaining to the usage of electrical and automated technical devices.

Such personnel has to be authorized by the facility operator for the installation, commission and service of the product described herein. These operational manual has to be thoroughly red and understood before any work carries out on the device.

**The principle rules and regulations in the country of the operator have to be observed.**

## 4.2 Intended use of the device

The magnetic-inductive flow sensor PITe only measures the volume flow of liquids, slurries and pastes with a conductivity of at least 50 µS/cm. The operator is responsible to ensure that the used fluids fit the requirements and the ambient site conditions. The manufacturer is not liable nor responsible for damage caused by inadequate material as well as improper or non-intended use. The concequence is the loss of warranty.

Before using corrosive or abrasive media, the operator has to check the resistance of all wetted materials with the medium. In case of special media, including media for cleaning applications, Heinrichs Messtechnik GmbH will support and assist with the verification. Small changes in the temperature, concentration or the amount of particals/contamination can cause a change in corrosion resistance. Overall, the final responsibility remains with the operator!

## 4.3 Packaging / storage / transport

Whilst removing the package be aware not to damage or destroy the device.

The device should be stored in a clean and dry room until installation to prevent impurities from entering the device. It is necessary to ensure that the temperature in the storage room is within the prescribed ambient temperature range. Upon receipt of the product, the content of the packaging and the product accessories have to be checked against the information on the delivery note to ensure that all ordered components have been delivered.

If the device needs to be forwarded, the recommendation is to use the original packaging and transport protection. Transit damage identified before or after the unpacking of the goods has to be reported immediately. In this case, a fault description, the type of device and its serial number are required at declaration. Delayed notification of the damage are not accepted.

## 4.4 Installation commissioning and maintenance

Only qualified technical personnel such as a qualified Heinrichs Messtechnik electronics engineer or service technician should install in service the devices described in this manual.

Before servicing, the device has to be de-energised and disconnected from all peripheral devices. The technician has to check and ensure that the device is completely off-circuit. Only original replacement parts are allowed and recommended.

## 4.5 Replacing the transmitter electronics

Before replacing the transmitter electronics be sure to read the safety instructions in this section.

Ensure to comply with the applicable standards and regulations pertaining to electrical devices, device installation and process technology when replacing the transmitter electronics. The highly integrated electronic components in the device carry the risk of ESD hazards and are protected only when installed according to EMC standards.

The complete electronic stack has to be replaced with all of its printed circuit boards (except for the memory chip (DSM)). Only if the entire electronic stack is replaced, the specified accuracy and interchangeability of the electronics are guaranteed.

Heinrichs Messtechnik GmbH accepts no liability for loss or damage of any kind arising caused by improper operation of any product, improper handling of any replacement part, or by external electrical or mechanical effects, overvoltage or lightning. Any such operation automatically invalidates the warranty for the concerned product.

In the event of any technical problem, please contact our service department for assistance and repair requirements:

Phone: +49 221 49708-0
Fax: +49 221 49708-178

## 4.6 Warranty

The flowmeter is manufactured according to the highest quality standards and is thoroughly tested prior to shipment. In the event of any technical problem during the intended use of the flowmeter, our service department will provide assistance based on the warranty. A warranty claim requires proper installation and mounting in accordance with this operation manual. The scope and period of the warranty are mentioned in the terms and conditions of delivery. Only qualified and authorized technician is allowed to perform any kind of mounting, commissioning and/or maintenance work.

## 4.7 Returning the device for repairs or servicing

According to German waste legislation, the owner and / or customer is responsible for the disposal of hazardous waste.

Prior to the return of any device, the following steps have to be performed:

1) Enclose a detailed description of the fault and the specific application, as well as the chemical-physical properties of the measurement medium.
2) Remove all residues of the measurement medium that may be present with special attention to the gasket grooves and crevices. The cleaning is of high important if the medium is detrimental to health and safety, for example: corrosive, poisonous, carcinogenic or radioactive etc.

Costs, which result from insufficient cleaning (disposal and/or personal injuries), will invoiced to the customer. A decontamination certificate, as in section 11 Declaration of Decontamination (See page 25), has to be completed and enclosed in the return delivery!

# 5 Mode of Operation and System Design

## 5.1 Measurement principle

According to Faraday's law of electromagnetic induction, an electrical field (E) develops in a conductive liquid when moving with a velocity (v) through a magnetic field (B) in accordance with the vector product

$$E = [v \times \mathrm{B}]$$

A liquid with a velocity (*v*) and a flow rate (*Q*) flows through the measuring pipe (4) producing a measuring-circuit voltage ($U_m$) at the two electrodes (E1 and E2). The electrodes are placed at right angles to the direction of flow and the magnetic field (*B*), generated by the field coils (3). The size of the measured voltage is proportional to the average flow velocity and thus the volume flow rate.

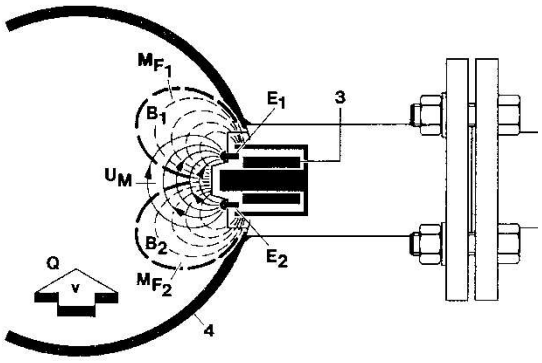



Figure 1 measurement principle of electro-magnetic induction

## 5.2 System configuration

The magnetic-inductive flow meter PITe with UMF2 consists of the sensor (PITe), that captures the measuring signal induced by the medium flowing through the pipe with a known diameter, and the transmitter UMF2, that transforms this signal into an standardized output signal (4 ... 20 mA or pulses).

The sensor is inserted in the pipe while the transmitter is mounted separately for better access (field mounting).

## 5.3 Installation of the transmitter

The sensor is equipped with a pigtail cable. During the installation, the cable has to be connected to the junction box of the transmitter. The electrode cable is shield and protected against disturbing interferences.

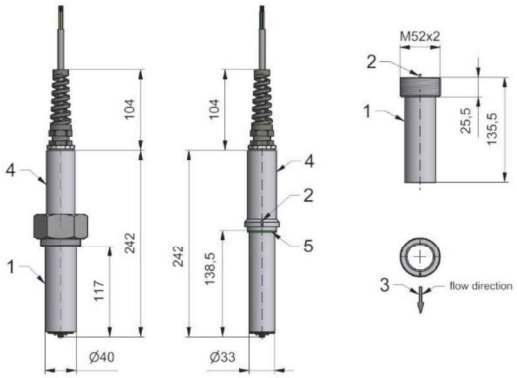
The required cable length for the connection to the transmitter has to be mentioned in the purchase order. The open end of the pigtail cable is prepared for direct connection to the transmitter's junction box. A subsequent shortening or lengthening of the cable can cause EMC and/or measurement issues if not correctly implemented. In the case of disregard, Heinrichs Messtechnik GmbH is not taking any responsibility.

## 6 Sensor versions

Sensor connection: union nut (threaded version M52x2) or flange

### Threaded version

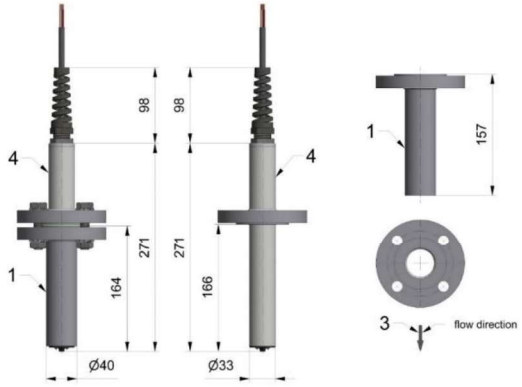
(Standard)




Weight 2,1kg
incl. welding socket and 5m cable

### Flanged version DN25 PN40

(other flange design on request)




Weight 2,6kg
incl. welding socket and 5m cable

# 7 Performance Characteristics

## Measurement accuracy

Q ≥ 30 % full scale (FS): ± 1.5 % of actual range
Q ≤ 30 % full scale (FS): ± 1.5 % of actual range ± 2.5 % of FS
(under reference conditions)

## Reference conditions

According to DIN EN 29104

- Fluid temperature 22 °C ± 4 K
- Ambient temperature 22 °C ± 2 K
- Inlet section ≥ 10 x DN and outlet section ≥ 5 x DN
- Earthing of sensor and transmitter

## Repeatability

± 0.75 %
(under reference conditions)

## Medium Conductivity

≥ 20 µS/cm

## Influence of medium temperature

None

## Influence of ambient temperature

For the sensor: none
For the transmitter: refer to the operational manual of the used transmitter

## Degree of protection

IP 65 (EN60529) - PVC cable
IP 68 (EN60529) - PE cable

## Materials in contact with medium

Stainless steel / Hastelloy / PTFE

## Medium temperature and medium pressure

| | |
|---|---|
| Temperature: | -20 °C ... +100 °C |
| Pressure: | 16 bar up to 90 °C |
| | 14 bar from 91 °C ... 100 °C |

# 8 Installation requirements

Heinrichs Messtechnik GmbH does not supply cable glands for signal outputs and power supply - therefore the operator has to provide the correct connection. For the installation, only use tools intended for the partucular purpose to provide damage of the sensor.

## 8.1 Example of installation positions

To ensure the indicated accuracy, the device needs to be installed according to EN 29104 *"Measurement of Fluid Flow in Closed Conduits – Methods of Evaluating the Performance of Magnetic-Inductive Flow meters."*

Refering to this standard, the minimum length of the inlet section is 10 pipe diameters (≥ 10 x DN) and of the outlet section 5 pipe diameters (≥5 x DN) [DN = nominal diameter of pipe].

At the mounting location, the product and ambient temperature have to be adhere to the limit values. Corrosive atmospheres have to be avoided.

NOTE

Before the insertion of the device into the pipe, consider the space requirements needed for potential deinstallation.

### Horizontal pipeline routing

Where possible install the sensor in slightly ascending pipes. In this way, the possibilities of air pockets or drainages of the installation pipe are minimised.

In top sections of the pipeline, air pockets accumulate around the sensor head causing large fluctuatios in the measurement, as well as the drainage in declining sections.

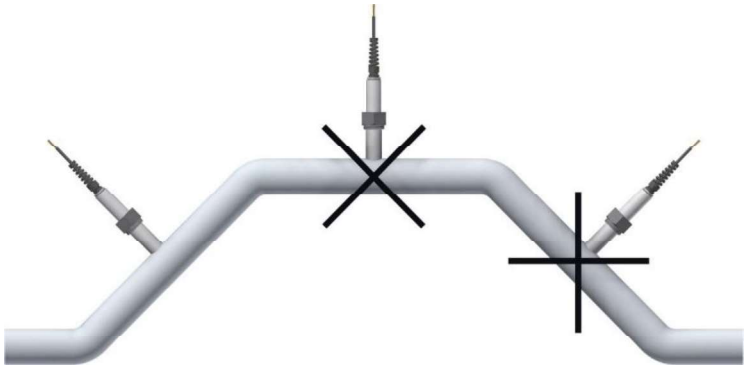


Figure 2: horizontal pipeline routing

### Open inlet or outlet

At an inlet or an outlet, the installation of the device in a siphon is recommended. This installation ensures that the pipe section cannot autonomously drain. The empty pipe detection of the transmitter is an additional safety feature.

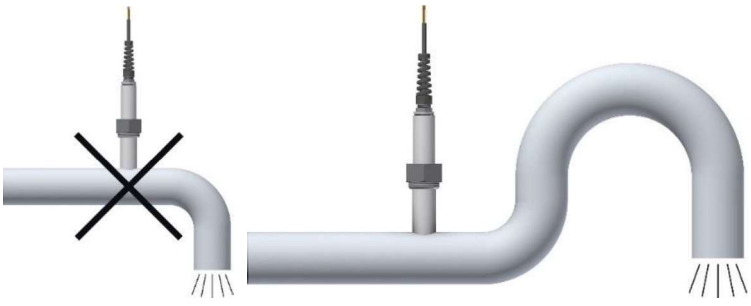


Figure 3: open inlet or outlet

The danger of accumulation of solids in the vacinity of a siphon is solvable through a cleaning aperture in the pipe.

### Downpipe

In downpipes, the installation of either a siphon or a ventilation valve behind the sensor is recommended. Thus, negative pressure in the pipeline is avoided, preventing a breakdown of the flow and reducing the risk of air inclusions in the measurement medium.

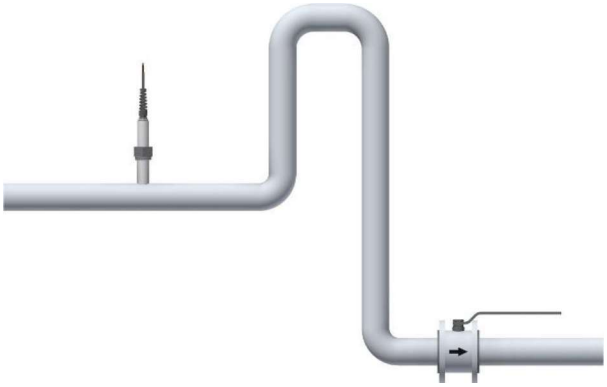


Figure 4: Downpipe

### Long pipelines

In long pipelines, there is always a danger of pressure surges. Therefore, disturbing elements such as regulating and shut-off devices should be arranged downstream of the sensor. An installation in vertical pipelines, especially when operating at high temperatures, the regulating and shut-off devices should be placed in front of the sensor (reduced danger of negative pressure).

Figure 5: Installation if regulating an shut-off devices in long pipelines

If such installations are not possible, flow breaker have to be installed for turbulences not to reach the sensor. The selection of the insertion location has to ensure the sensor is continuously in touch with the medium. The usage of drains and check valves can meet this requirement.

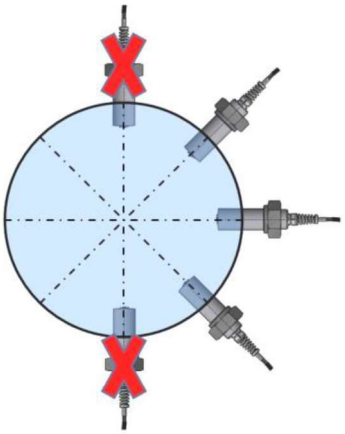
### Arrangement of pumps

To avoid negative pressure and prevent damage to the sensor head, the installation of the PITe flowmeter on the suction side of pumps is prohibited.

Provide pulsation dampeners if required when using piston, diaphragm or peristaltic pumps.

Figure 6: Arrangement of pumps

### Preferred mounting position



To avoid sources of error, the mounting position of the sensor should be choosen wisely. The ideal angle of installation is between 45° and 135°.

When installed in the top of the pipe (0°), gas bubbles may gather around the sensor head causing large fluctuations in the measurement signals, whereas the installation in the bottom (180°) may affected by sediment deposed in the pipe.

Figure 7: Mounting position of the sensor

### Immersion depth of PITe in the pipe

The installation of the weld spigots has to esure that the sensor head projects 40 mm starting at the interal wall into the pipeline, regardless of the pipes nominal diameter.

Before welding the socket onto the pipe, it is essential to remove the sensor from the welding socket!

## 8.2 Installation of the threaded version

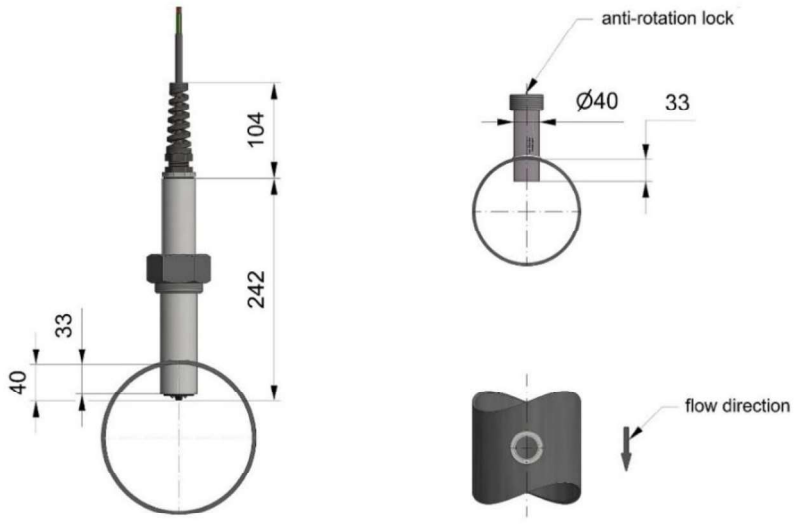



Figure 8: Installation of the thread version

## 8.3 Installation of the flanged version

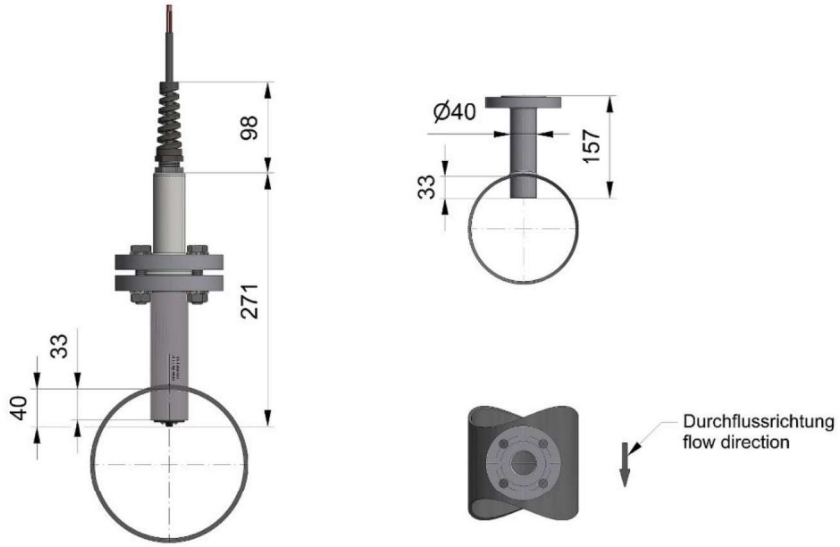



Figure 9: Installation of the flanged version

## 8.4 Grounding – potential equalisation

The proper grounding of the flowmeter is necessary for safety reasons as well as to ensure a trouble-free operation. In accordance to VDE 0100 Part 410 and VDE 0100 Part 540, the grounding connects at protective conductor potential. **For metrological reasons, this potential must be identical to the potential of the fluid**! The grounding cable is not supposed to transmit any interference voltage. For this reason, do not attach other electrical devices to this cable.

The measuring signal tapped at the electrodes amounts only a few millivolts. Therefore, correct grounding of the electromagnetic flow sensor is essential to achieve reliable measurements. The transmitter requires a reference potential to evaluate the measured voltage at the electrodes. The grounding of the medium for PITe is achieved via the wetted part of the sensor tube.

## 8.5 Environmental conditions

### Ambient temperature range

-20 °C ... 60 °C (limited readability of the LCD display below 0°C)

### Storage temperature

-20 °C ... 60 °C

### Climatic category

In accordance with IEC 654-1: Non weather-protected, Class D locations exposed directly to open-air climate

### Ingress Protection

PITe sensor: IP65 (EN60529) / IP68 (EN60529) on request

Ingress protection IP65 is achieved if suitable and tightly secured cable glands or conduits are used. If the cable glands are only tightened handtight, water may leak or seep into the terminal compartment of the housing.

Take immediate action if the window of the transmitter becomes fogged over or discoloured. These signs signalize the entry of moisture, water or product medium into the terminal compartment of the housing, for example via the cable sheath!

Electromagnetic compatibility is guaranteed only if the electronic housing is sealed. An open enclosure can lead to electromagnetic disturbances.

## 8.6 Shock resistance / vibration resistance

The flow meter has to be protected against extreme shocks and vibrations larger than 1G that may cause damage to the sensor or transmitter.

# 9 Commissioning

## 9.1 Installation of magnetic-inductive flowmeters

During the installation of the magnetic-inductive flow sensor, the instructions and notes of the assembly instruction and operational manual have to be followed. The oberservation of the regulation guidelines of grounding, potential equalization and company-internal grounding practices are required.

## 9.2 Potentials

The outputs of the UMF2 transmitter are electrically isolated from the auxiliary power, the sensor circuit and among each other. The housing and the interference suppression filters of the power supply are connected to the protective earth (PE).

The electrodes and measuring electronic are connected to the potential of the sensor's functional earth (FE). FE is disconnected to PE, but can be connected in the sensor junction box if needed.

UMF2 transmitter with a power supply of 24 $V_{DC}$ possess a jumper on the display board. For remote sensors connected to the transmitter, it is essential that this jumper is removed before commissioning the sensor.

Since the sensor and transmitter are mounted separately, the outer shield of the connecting cable connects the transmitter housing via the cable gland and receives PE potential. The inner shields of the electrode and exciter wires are connected to the FE inside the junction box of the sensor and therefore to the ground (Gnd) of the transmitters electronic.

## 9.3 Cathode protective unit

The use of a cathode protective unit avoids corrosion and thereby a voltage at the pipewall. The unit has to be connected to the terminal FE. The transmitter electronic, control panel and internal switches refer to the FE potential.

According to EN 50178:1997 all electrical circuits with "protective safety isolation", that do not possess contact protection, have to fullfil the following conditions:
Maximum AC voltage (effective value): 25 $V_{RMS}$
Maximum DC voltage: 60 V
**The connection of the FE to a higher voltage is strictly forbidden!**

## 9.4 Connecting the sensor cable to the terminal box of the UMF2

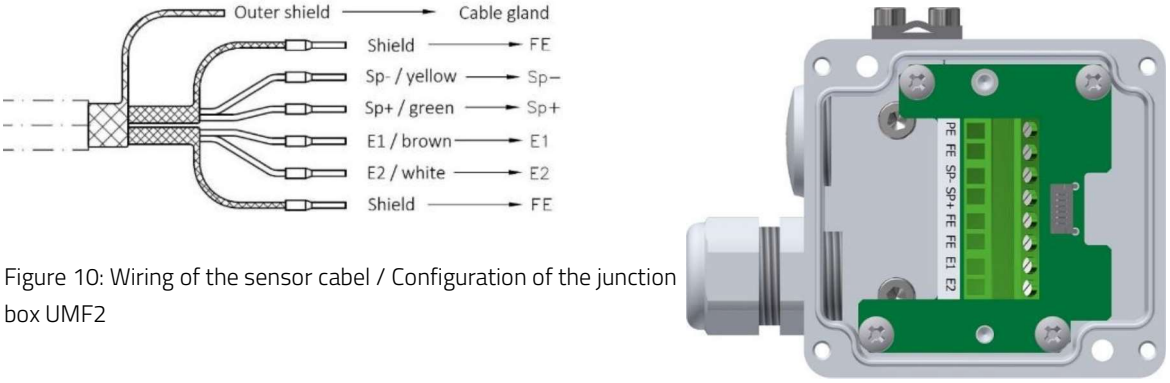



Figure 10: Wiring of the sensor cabel / Configuration of the junction box UMF2

## 9.5 Placing of the cable shield in the cable gland

To suit the EMC requirements, the outer shield of the cable has to be unbraid, fold back over the plastic insert and cut to length (Figure 11). The unbraided strands cover the O-ring, whos function it is to press these braids onto the metal cable gland. This O-ring does **not** serve as a sealant.

Figure 11: Placing of the cable shield

## 9.6 Power supply

Note nameplate and operating instructions of the UMF2 transmitter.

The outer shield connects with the "PE" Terminal. Each of the inner shields connect to their respective "FE" terminal.

When placing the blank shield wires into the respective terminals, be aware not to cause short circuits.

## 9.7 Cable specification

### IP 65/67

The following connection cable between sensor and converter is used
Cable LIYCY-CY 2 x 2 x 0,25 mm² - each pair with shield and overall shield
Material: PVC/CU tinned

### IP 68

The following connection cable between sensor and converter is used
SILYCY-C11Y 2 x 2 x 0 ,75 mm²
Conductor: 24 x 0,20 mm bkl
Wire colors: white/brown; green/yellow
Insulation: PVC
Two cores to pair - each pair with foil and CU braid tinned intermediated PVC sheath
Two elements with two fillers and polyester foil stranded, above CU braid tinned
Banding: swelling fleece tape longitudinally watertight
Sheath: PUR black / matt
Diameter: 12,4 mm ± 0,5 mm

Do not connect or disconnect the exciter coil cable to the transmitter before the disconnecting the main power supply of the meter!

## 9.8 Zero point calibration

To ensure precise measurements, zero point calibration is essential before the device is put into first operation and any regular operations. For zero point calibration, the sensor head must be inserted approx. 40 mm into the medium.

### Procedure of zero point calibration

Install the sensor as described in the manufacturer's instructions. Ensure that the sensor head is completely covered with the fluid without any gas bubbles in the pipe and around the sensor head.

Define the process conditions such as pressure, temperature and density.

Mount a potential shut-off device behind the sensor.

Turn on the transmitter and ensure sufficient time for the electronics to warm up (approx. 20 minutes).

Initiate the sequence for zero point calibration in the transmitter according to the transmitter-operating manual.

**Allowing fluid to enter the sensor section during the calibration procedure will falsify the zero point and cause false ongoing measurements.**

## 9.9 Startup conditions

The device is not subject to specific startup conditions. However, avoid pressure surges. To ensure the transmitter correct calculations of the volume flow velocity, the installation requirements, regarding position and mounting depth are correctly adhered.

If the manufacturer has not performed the calibration of the sensor / UMF2 transmitter combination, the necessary settings need to be implemented in the transmitter before the operation. This applies in particular if the sensor changes, or if the pipe diameter at the sensor location alters.

# 10 Modelcode

| Code | Description | | | |
|---|---|---|---|---|
| PITe | | | | |
| - | **Model** | | | Temperature |
| S | Stainless steel (1.4571/1.4404)/PTFE, for pipe sizes DN80/3" DN400/16" | | | |
| X | Special (on request) | | | |
| | **Process connection** | | | Pressure ratinge |
| A504 | Weld on adaptor for pipe sizes DN80/3" ... DN400/16" c/w. cap nut | | | PN 16 bar |
| 309B | Flange DN25 PN40 | | | PN 16 bar |
| XXXX | Special (on request) | | | |
| | **Sensor length** | | | |
| 013 | 138,5 mm | (166 mm for process connection flange DN25 PN40) | | |
| XXX | Special (on request) | | | |
| | **Electrode Material** | | | |
| H | Hastelloy C-4 | | | |
| X | Special (on request) | | | |
| - | **Mounting of transmitter** | Protection class | | Connection to sensor |
| 4 | Remote transmitter | IP65 | | Cable 5m |
| 5 | Remote transmitter | IP68 | | Cable 5m |
| | **Approval** | | | |
| 0 | without | | | |
| | **Certificate** | | | |
| 0 | without | | | |
| 1 | Material certificate 2.1 | | | |
| 2 | Material certificate 2.2 | | | |
| B | Material certificate 3.1 (DIN EN 10204:2004) | | | |
| C | Material certificate 3.2 (DIN EN 10204:2004) | | | |
| | **Supplement equipment** | | | |
| 0 | without | | | |
| X | Special (on request) | | | |
| - | **Design** | | | |
| H | Heinrichs | | | |
| K | Kobold | | | |

| Code | Transmitter | | | |
|---|---|---|---|---|
| UMF2 | Mounting | | | |
| - | IP 65 | Terminal conn. box on transmitter (standard) | | |
| E | remote electronics | incl. DN50/2" pipe mount kit | Terminal connection box on transmitter | ½" NPT (f) |
| F | remote electronics | incl. DN50/2" pipe mount kit | Terminal connection box on transmitter | M20 x 1,5 |
| | IP 68 | Terminal conn. box on transmitter (standard) | | |
| G | remote electronics | incl. DN50/2" pipe mount kit | Terminal connection box on transmitter | ½" NPT (f) |
| H | remote electronics | incl. DN50/2" pipe mount kit | Terminal connection box on transmitter | M20 x 1,5 |
| | **Display / Interface board** | | | |
| 1 | Integral within transmitter housing | | | |
| | **Power supply** | | | |
| 1 | 230 $V_{AC}$ (-15...10 %), 50/60Hz | | | |
| 2 | 115 $V_{AC}$ (-15...10 %), 50/60Hz | | | |
| 4 | 24 $V_{DC}$ (±15%) | | | |
| | **Output signal** | | | |
| F | Current output 1: 4 ... 20mA<br>Pulse output: passive $U_m$=24 $V_{DC}$<br>Status output: passive $U_m$=24 $V_{DC}$ | | | |
| G | Current output 1: 4 ... 20mA mit HART® - Protokoll<br>Pulse output: passive $U_m$=24 $V_{DC}$<br>Status output: passive $U_m$=24V DC | | | |
| | **Design** | | | |
| 0BH | Heinrichs | | | |
| 0BK | Kobold | | | |

| | Cable | | |
|---|---|---|---|
| IP 65 | | | |
| 1 | 5m | Cable fixed on sensor | Terminal connection box on transmitter |

| | | | |
|---|---|---|---|
| **2** | 10m | Cable fixed on sensor | Terminal connection box on transmitter |
| **3** | 15m | Cable fixed on sensor | Terminal connection box on transmitter |
| **4** | 20m | Cable fixed on sensor | Terminal connection box on transmitter |
| **5** | 30m | Cable fixed on sensor | Terminal connection box on transmitter |
| **6** | 40m | Cable fixed on sensor | Terminal connection box on transmitter |
| **7** | 50m | Cable fixed on sensor | Terminal connection box on transmitter |
| **IP 68** | | | |
| **B** | 5m | Cable fixed on sensor | Terminal connection box on transmitter |
| **C** | 10m | Cable fixed on sensor | Terminal connection box on transmitter |
| **D** | 15m | Cable fixed on sensor | Terminal connection box on transmitter |
| **E** | 20m | Cable fixed on sensor | Terminal connection box on transmitter |
| **F** | 30m | Cable fixed on sensor | Terminal connection box on transmitter |
| **G** | 40m | Cable fixed on sensor | Terminal connection box on transmitter |
| **H** | 50m | Cable fixed on sensor | Terminal connection box on transmitter |

# 11 Declaration of Decontamination

## for the cleaning of the device

Company:_____ Town/City: _____

Department:_____ Name: _____

Tel.-N°.: _____

**The enclosed flowmeter**

Modelcode PITe: _____

Operating with the following fluid: _____

Since the used fluid is potentially **hazardous to water / toxic / corrosive / combustible***, we have:

- checked all cavities on the device to ensure that they are free of fluid residues*
- washed and neutralized all cavities in the device*

*) Delete if not applicable

We hereby confirm that no health or environmental hazard will arise from any fluid residues on or in the device enclosed for return.

Date:_____ Signature: _____

Company stamp

## 13 Final Notes

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