GB

Operating instructions

Temperature sensor

TM48xx
TM49xx

80297994 / 00 12 / 2020

Contents

1 Preliminary note

You will find instructions, technical data, approvals and further information using the QR code on the unit / packaging or at www.ifm.com.

1.1 Symbols used

- ✓ Requirement
- ▶ Instructions
- ▷ Reaction, result
- [...] Designation of keys, buttons or indications
- → Cross-reference

Important note
Non-compliance may result in malfunction or interference.

Information
Supplementary note

1.2 Warnings used

CAUTION

Warning of personal injury

▷ Slight reversible injuries may result.

2 Safety instructions

- The unit described is a subcomponent for integration into a system.
  - The system architect is responsible for the safety of the system.
  - The system architect undertakes to perform a risk assessment and to create documentation in accordance with legal and normative requirements to be provided to the operator and user of the system. This documentation must contain all necessary information and safety instructions for the operator, the user and, if applicable, for any service personnel authorised by the architect of the system.
- Read this document before setting up the product and keep it during the entire service life.

- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Intended use).
- Only use the product for permissible media.
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, electrical connection, set-up, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.
- Protect units and cables against damage.

3 Intended use

The unit detects the medium temperature of liquid and gaseous media.

3.1 Application area

The temperature sensor is used together with a clamp connection in the beverage and food industries.

4 Installation

CAUTION

During installation or in case of mechanical failure, high pressure or hot media can leak from the system.

▷ Risk of injury caused by pressure or burns.

▶ Ensure that the system is free of pressure during installation.

▶ Ensure that no media can leak at the mounting location during installation.

▶ Position the unit in the process connection.

▶ Secure the unit with a suitable clamp.

4.1 Use in hygienic areas according to 3-A

- Ensure that the installation of the unit in the system complies with 3-A guidelines.
- Use only process adapters with 3-A certification and marked with the 3-A symbol (→ Accessories at www.ifm.com).

- For use according to 3-A, take note of the corresponding regulations for cleaning and maintenance.

- Not suitable for systems that have to meet the criteria of E1.2 / 63-03 of the 3-A standard 63-03.

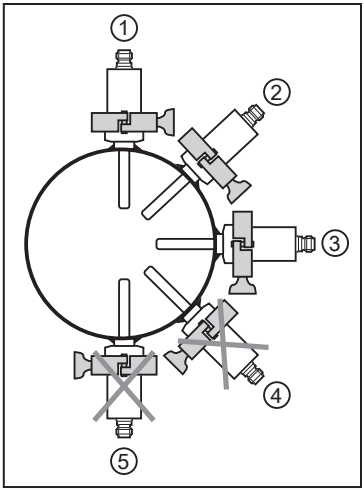


Fig. 1: Installation position for 3-A certification

- The positioning of the thermowell / sensor must be observed to ensure the mounting adapter will self-drain: do not install the unit in positions 4 and 5.

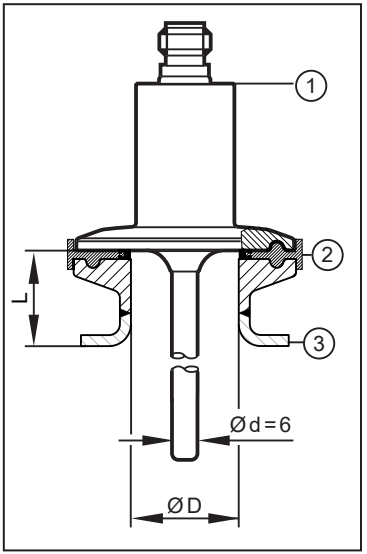
4.2 Use in hygienic areas according to EHEDG

The sensor is suited for CIP (clean in place) when installed correctly.

- Observe the application limits (temperature and material resistance) according to the data sheet.

- Ensure that the installation of the unit in the system complies with EHEDG.

- ▶ Use self-draining installation.
- ▶ Only use process adapters permitted according to EHEDG with special seals required by the EHEDG position paper.
- ▶ For any structures in a tank, direct water jet cleaning and cleaning of any dead spaces must be possible.
- ▶ Adhere to the dimensions shown in the following figure to avoid dead spaces that cannot be cleaned effectively:
  L < (D - d).



1: Sensor
2: Seal in accordance with EHEDG position paper
3: Process connection

Fig. 2: Mounting dimensions for EHEDG approval

5 Electrical connection

The unit must be connected by a qualified electrician. Voltage supply according to SELV, PELV.

- ▶ Disconnect power.

▶ Connect the unit as follows:

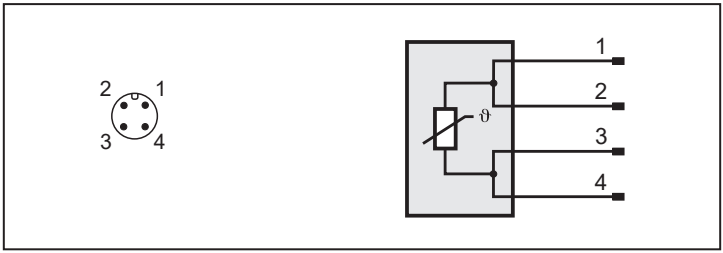


Fig. 3: Wiring diagram (colours in accordance with DIN EN 60947-5-2)

1:	BN (brown)	2:	WH (white)
3:	BU (blue)	4:	BK (black)

6 Maintenance, repair and disposal

The operation of the unit is maintenance-free.

Only the manufacturer is allowed to repair the unit.

▶ After use dispose of the device in an environmentally friendly way in accordance with the applicable national regulations.

▶ Define regular calibration intervals according to the process requirements.