

## Installation Manual

### TEF 1058 Heat Trace Pipe & Wall Mounted Thermostat

Zone 1, Zone 2 & Safe Area

#### Document properties (TUM5134)

Revision	Comment	Revision date	Approved
I	New design	07.03.2022	CKR
J	Editorial changes	08.09.2022	MRE
K	Added UKCA	14.12.2022	TBH

# Installation and operating manual

---

## Contents

- Document properties (TUM5134) ..... 1
- Warnings and risk levels..... 3
- General information ..... 3
- Marking and intended use ..... 4
- Special conditions for safe use..... 5
- Technical data ..... 5
- Product description..... 5
- Transport and storage ..... 5
- Mounting and installation..... 6
  - Mounting of wall mounted type (Typical installation, fig. 01) ..... 6
  - Mounting of pipe mounted type (Typical installation, fig. 03) ..... 7
  - Temperature sensor..... 7
  - Termination ..... 7
  - Electrical connections ..... 8
- Setting the limit value in accordance with the scale: ..... 8
- Setting the limit value in accordance with installation specific operational characteristic: ..... 8
- Maintenance and cleaning..... 8
- Disposal..... 9
- Compliance/Conformity ..... 10

## Warnings and risk levels

### DANGER

Non-compliance with the instruction results in risk of severe or fatal injuries to persons

### WARNING

Non-compliance with the instruction may result in risk of severe or fatal injuries to persons

### CAUTION

Non-compliance with the instruction may result in risk of injuries or damage to equipment

### NOTICE

Non-compliance with the instruction may result in reduced lifetime of equipment, malfunctions etc.

## General information

Before installation, make sure to read and understand this installation and operating manual.

Observe national assembly and installation regulations.

Always contact the manufacturer if anything is unclear, or if you notice any faults on the product or in this document.

This installation and operating manual shall be available to anyone operating, installing, inspecting, modifying or repairing the equipment.

## Marking and intended use

<b>DANGER</b>
Not for use in Zone 0
<b>CAUTION</b>
The empty enclosures of these enclosure series are suitable for the installation of explosion protected components. The empty enclosures feature a component certificate. Therefore, the equipment may only be used for its intended use. Improper or impermissible use or non-compliance with the information in these operating instruction voids any warranty. Changes to the equipment that impair the function of the equipment or the explosion protection are not permissible.



**Ex marking:** Ex db eb IIC Gb

Ex eb IIC

Ex eb mb IIC Gb

T6/T5/T4

For use in Zone 1, Zone 2 & Safe Area

## Special conditions for safe use

### DANGER

Special conditions for safe use are critical conditions to maintain the explosion protection of the equipment. These shall be adhered to in all cases and under all circumstances.

- Follow this manual for installation and maintenance.
- Only qualified personnel are allowed to perform installation and maintenance tasks to this equipment.
- The junction box is equipped for termination of heat tracing and is ready for installation when leaving the production facilities of R. Stahl Tranberg AS.
- Changes made to the product which do not confirm to the approvals of this equipment, is a safety violation. The manufacturer is under no circumstances responsible for personal injuries, death or any other damage caused by such activities.
- Any damage done to the equipment during transportation is not the responsibility of R. Stahl Tranberg AS.
- If the content is not complete, file a claim to the producer immediately.

## Technical data

Property	Value	Value
Explosion protection	Ex db eb IIC Gb	T6 / T5 / T4
	Ex eb IIC	
	Ex eb mb IIC Gb	
Tamb:	-50°C ...+50°C (Silicone)	-20°C...+40°C
Nominal voltage	230 VAC	
Main switching capacity:	16 (2.5)A PF=1(0.6) (N/C contact)	6.3 (2.5)A PF=1(0.6) (N/O contact)
Ingress protection	IP66 / IP67*	* IP67 without drain plug
Max. cable diameter	6 mm <sup>2</sup>	
Housing material	Acid proof stainless steel	

## Product description

TEF 1058 thermostat is according to NORSOK requirements and is used for a various range of applications such as hazardous areas, chemical and petrochemical industries and industrial plants (for frost protection or temperature maintenance).

## Transport and storage

- Transport and store the equipment only in the original packaging
- Store the equipment in a dry and vibration free place
- Do not drop!

## Mounting and installation

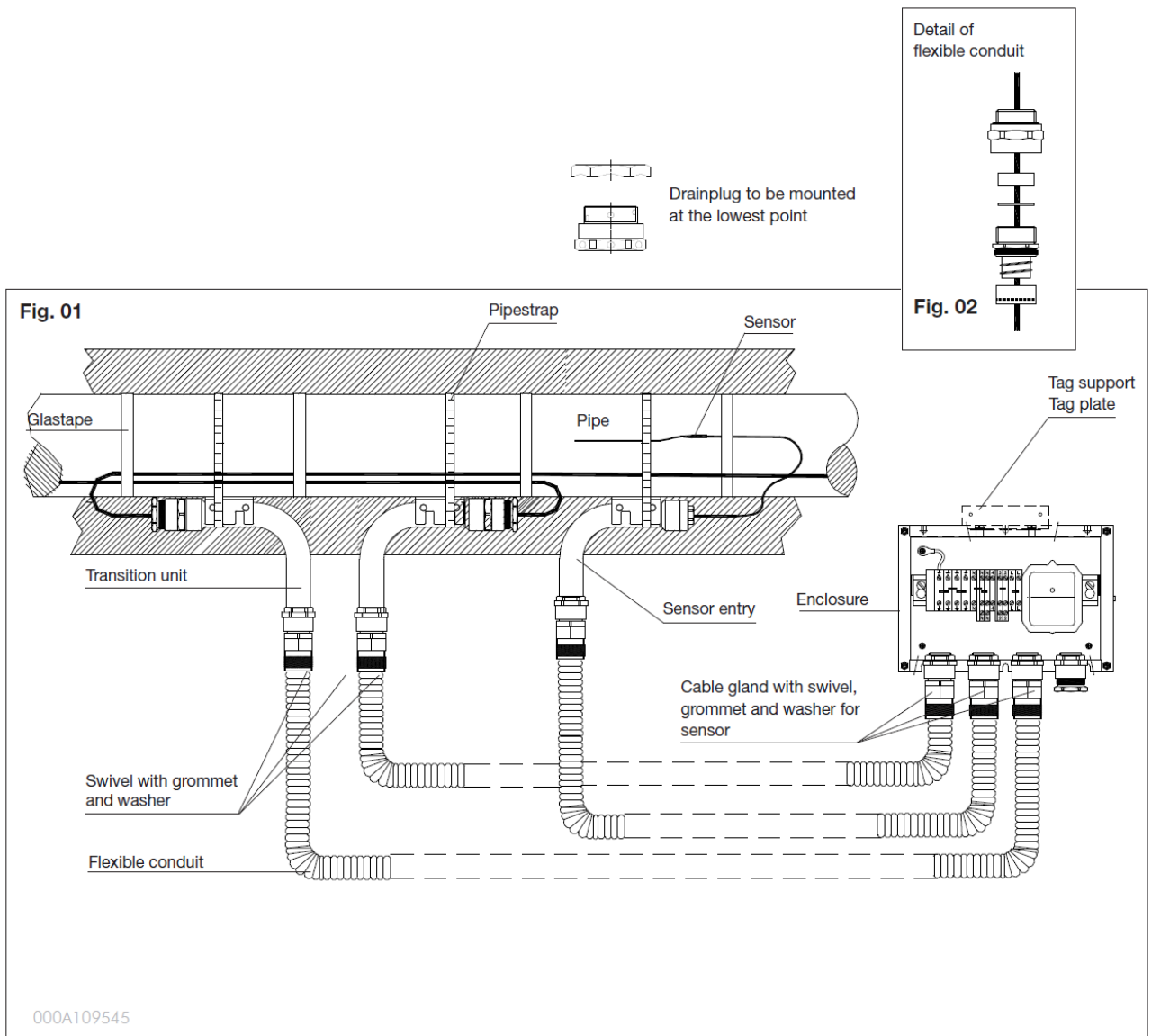
### DANGER

Incorrect mounting and installation may lead to explosion risks, risk of falling objects, risk for electric shock and risk for equipment malfunction. In turn, this can lead to severe damage and/or injuries.

### Mounting of wall mounted type (Typical installation, fig. 01)

- Mount the thermostat junction box by at least two Pcs. M6 bolts placed diagonally on a wall or proper supported rack.
- Remove dust protection or stopping plugs and install selected gland. Use stopping plugs for unused entries. Only certified cable glands and stopping plugs may be used. Select gland according to the cable diameter used.
- Strap the transition unit to pipe with pipe straps.
- Assemble the flexible conduit according to the special gland. see fig. 02

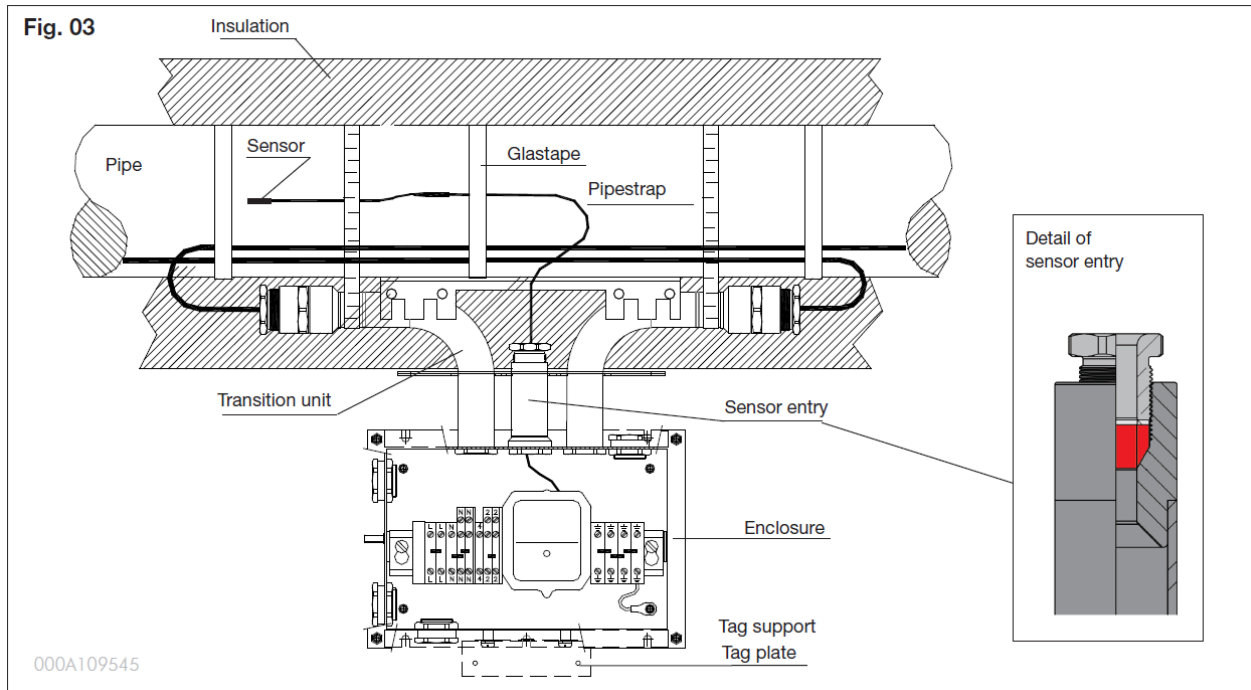
Note: For vertical installation, drain plug should be relocated to the lowest side.



### Mounting of pipe mounted type (Typical installation, fig. 03)

- Mount the thermostat junction box either standing or hanging to pipe with pipe straps.
- Remove dust protection or stopping plugs and install selected gland. Install the drain plug at the lowest point. Use stopping plugs for unused entries. Only certified cable glands and blinds may be used. Select gland according to the cable diameter used.

Note: For vertical installation, drain plug should be relocated to the lowest side.



### Temperature sensor

The sensor must be strapped in good thermal contact with the pipe or equipment. In addition to general mechanical protection, the sensor must be protected so that the thermal insulation cannot be tapped between the sensor and the heated surface. The sensor is normally fixed to pipe or object by use of aluminum tape. Other methods could be thermos-well suitable for the application.

#### **Note!**

*The widened area of the capillary tube, shall be clamped by the cable gland sealing ring. The sealing ring is not dimensioned for the  $\varnothing 1,5$  mm capillary tube.*

### Termination

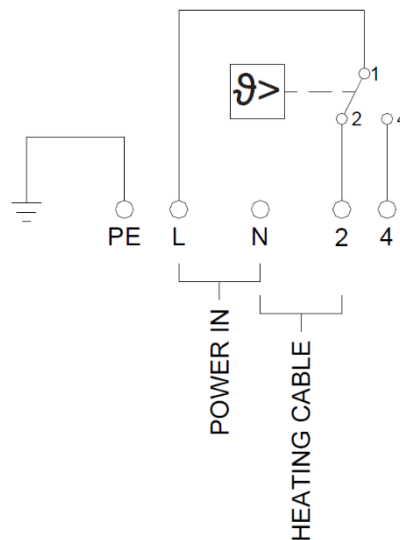
In order to maintain the mode of protection, connect the conductors with special care. The isolation must reach up to the terminals and do not damage the conductor. Termination of heat cables must be according to cable specification given by the supplier of these. Tighten all the terminals, also those vacant. Reinstall the lid and tight bolts firmly with suitable tool by hand force. Over tightening may impair the protection category.

## Electrical connections

L-N: Power cable / Input

2-N: Heating cable / output N/C contact

4-N: Output N/O contact



100A107492

## Setting the limit value in accordance with the scale:

Use the internal scale to set the limit value on the set point adjuster. (Do not exert mechanical pressure to the set point value spindle).

## Setting the limit value in accordance with installation specific operational characteristic:

- Heat the temperature probe-in the unit- to the required limit temperature (temperature adjustment time at least 5 minutes), recording and monitoring the exact temperature on the temperature probe with a calibrated reference measuring device.
- Turn the set point adjuster from the scale limit value towards the scale start value, determine the required switching point position (circuit opens and electrical circuit 1-4 is closed).

## Maintenance and cleaning

- Maintenance according to national regulations and company practice.
- Before opening the junction box, make sure that the power is disconnected.
- Servicing the junction box is done by checking the intactness of the junction box, gasket and glands. If necessary, lubricate the lid bolt threads with grease type Renolit Unitemp 2 from Fuchs.
- If repair or overhaul is necessary, this may only be with Tranberg spare parts.
- Modification of the JB or change of design are not permitted, except for installing additional glands and terminals according to the approval of the JB.
- Clean only with a damp cloth, water and mild detergents. Avoid chemicals with high or low pH, abrasives, high-pressure washer, strong detergents, solvents, petroleum- or alcohol based cleaning agents and similar. Avoid any corrosive media.



## Disposal

### CAUTION

This equipment or part of this equipment is considered EE-Waste, and shall be handled accordingly

- Observe national and local regulations and statutory regulations regarding disposal
- Separate materials when sending it for recycling
- Ensure environmentally friendly disposal of all components
- No component or packaging shall end up in the ocean during any stage of the product's lifetime

## Compliance/Conformity

- Presafe 14ATEX4124
- IECEx PRE 14.0001
- Applicable standards 2014/34/EU ATEX Directive: EN 60079-0:2012 [ 2018], EN 60079-1:2007 [2014], EN 60079-7:2007 [2015/A1:2018], EN 60079-18:2009 [2015/A1:2017]
- Document no DoC: TDC3131
- Document no UKCA DoC: TDC7838