

Duct Temperature Sensor

Temperature sensor for duct / room mounting, Pt100 resp. Pt1000 passive Sensor in hazardous locations zones 1, 2 and 22

Type TFK-2G3D ATEX compliant

APPLICATION

TFK-2G3D temperature sensors for measuring duct temperatures. In combination with EEx-i transducer Type EXL-IMU-1 with intrinsic safe circuit the sensor may be used in hazardous areas 1, 2 and 22. The passive potential free resistor output of the sensor is changed into an active signal of 0(2)... 10 V- and/or 0(4)... 20 mA. Applications area is non condense, aggressive air in living, work and office rooms as well as industrial areas.

| | | | |
|-----------------------|------------------|----------------------|----------|
| TFK-2G3D /100/Pt100 | PT100 | Sensor length 100 mm | 057.1214 |
| TFK-2G3D /200 | PT100 | Sensor length 200 mm | 057.1215 |
| TFK-2G3D /300 | PT100 | Sensor length 300 mm | 057.1210 |
| TFK-2G3D /400 | PT100 | Sensor length 400 mm | 057.1209 |
| TFK-2G3D /200 /PT1000 | PT1000 | Sensor length 200 mm | 057.1217 |
| TFK-2G3D /400 /PT1000 | PT1000 | Sensor length 400 mm | 057.1216 |
| TFK-2G3D /400 /PT1000 | PT1000 1/3 DIN B | Sensor length 400 mm | 057.1208 |

TECHNICAL DATA

| Type | TFK-2G3D |
|----------------------|--|
| Supply | by Ex-i transducer |
| Sensor | Pt100 DIN resp. Pt1000 DIN |
| Thermowell | Stainless steel / flange connection |
| Accuracy | Class B or special |
| Sensor current | < 2 mA |
| Ambient temperature | -30...+60 °C |
| Measure temperature | -30...+150 °C |
| Storage temperature | -40...+70 °C |
| Connection | screw clamps 0,14 - 1,5 mm ² |
| Enclosure | Plastic, IP65 acc. to EN 60529 |
| Dimension and weight | 68 x 58 x 35 mm, approx. 150 g |
| Protection class | simple apparatus acc. to EN 60079-0 / EN 60079-11 |
| CE | 94/9/EC (ATEX) |
| Includes in price | 1 duct temperature sensor, Type TFK-2G3D incl. flange connection |
| Installation area | Hazardous locations in zone 1, 2 and 22 |

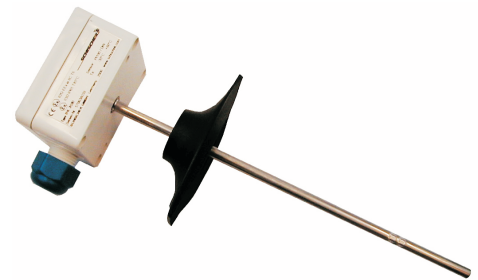
MOUNTING AND INSTALLATION

Notes to mechanical installation. The installation must comply with relevant directives and standards

Particularly with regard to:

- Comply with the EMC directive
- Avoid parallel wiring of power cable this cause measurement errors.
- Recommendation: Use shielded cable. Connect shield at PLC or control room area, sensor side is open.
- Measuring range
- permitted pressure, flow velocity
- choose fitting length and installation depth in such way that failures caused by heat abstraction keep small and the maximum ambient temperature are not reached
- Avoid oscillations, vibrations, impacts,
- Tighten screws at flange consistently. Tight lateral safety screw to avoid sliding of the sensor shaft out of position.
- choose fitting length and installation depth in such way that failures caused by heat abstraction keep small and the maximum ambient temperature are not reached

suitable for
Zone 1, 2, 22
acc. to ATEX



Ex-i CIRCUITS - TABLE 1

Operation values maximum at terminal

Simple apparatus suitable for Zone 1, 2 and 22

Only for connecting to intrinsically safe circuits with max values

| | | |
|-------------|----|--------|
| Voltage | Uo | 10 VDC |
| Current | Io | 10 mA |
| Power | Po | 15 mW |
| Capacity | Ci | 0 µF |
| Inductivity | Li | 0 mH |

The maximum values must not be exceeded!

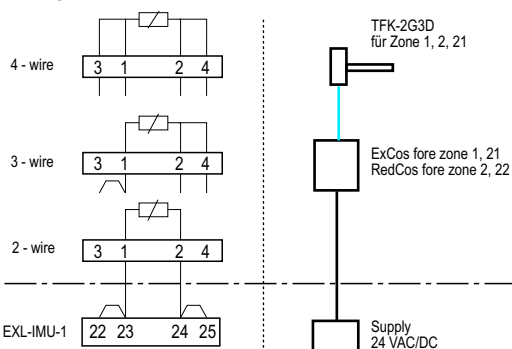
Please check your external capacities and inductivities in acc. to the length of the cable and the methode of installation.

RECOMMENDED TRANSDUCER

- Transducer Mfr. Schischek Type EXL-IMU-1.
- In combination with transducer EXL-IMU-1 is intrinsic safety proof for simple circuits given.
- Manufacturer declaration zone 1, 2 and 22.

ELECTRICAL CONNECTION

Temperature Sensor TFK-2G3D

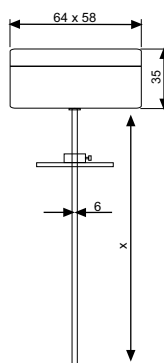


Solution with EXL-IMU-1

with Red-ExCos

Sicherer Bereich Ex-Bereich

DIMENSIONS



ATTENTION!

- For installation, use and maintenance the official standards and rules must be applied.
- The energy of intrinsically safe circuits are below the level to start an explosion in case of a spark..
- Intrinsic safe circuits must be installed with light blue coloured and separate from non intrinsic safe circuits.
- The sensor is passiv and potential free for use in hazardous locations in zone 1, 2 and 22.
- Pay attention to the max values for wiring , listed in table 1.
- Avoid electrostatic discharge.
- Only wet cleaning.
- After mounting the protection class IP65 acc. to EN 60529 must be fulfilled

Subject to change