

**Room temperature sensor, Pt100 DIN  
passive sensor in hazardous locations zone 1, 2**

**TFR-2G  
ATEX compliant**

**APPLICATION**

TFR-2G temperature sensors for measuring room temperatures. In combination with Ex-i transducer Type EXL-IMU-1 with intrinsic safe circuit the sensors may be used in hazardous areas zones 1, 2. The passive potential resistor output of Pt100 sensor is changed into an active signal of 0(2)... 10 V- and/or 0(4)... 20 mA. Application area is non condense, aggressive air in living, work and office rooms as well as industrial areas.

**TECHNICAL DATAS**

<b>Type</b>	<b>TFR-2G</b>
Supply	by Ex i transducer
Sensor	Pt100 DIN
Accuracy	Class B
Sensor current	< 2 mA
Ambient temperature	-30...+60 °C
Storage temperature	-40...+70 °C
Connection	screw clamps, 0,14 - 1,5 mm <sup>2</sup>
Enclosure	Plastic, IP 30, for wall and flush mounting
Dimension and weight	75 x 75 x 25 mm, 90 g
Protection class	simple apparatus acc. to EN 60079-11
Temperature Class	T6 (max 85 °C)
CE	94/9/EC (ATEX)
Included in price	TFR-2G
Installation area	Hazardous locations in zone 1, 2

**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.

Best measuring effect will achieved when air flow vertical through the device. Measuring points beside doors, windows, heating sources or air blower can be irritate the results.

suitable for  
Zone 1, 2  
acc. to ATEX



**Ex-i CIRCUITS - TABLE 1**

**Operation values maximum at terminal**  
Simple apparatus suitable for Zone 1, 2  
Only for connecting to intrinsically safe circuits with max values

Voltage	U <sub>0</sub>	10 VDC
Current	I <sub>0</sub>	10 mA
Power	P <sub>0</sub>	15 mW
Capacity	C <sub>i</sub>	0 µF
Inductivity	L <sub>i</sub>	0 mH

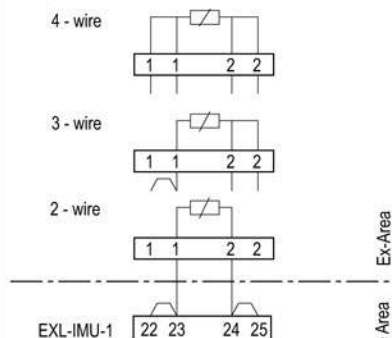
**The maximum values must not be exceeded!**  
Please check your external capacities and inductivities in acc. to the length of the cable and the methode of installation.

**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 and 2.

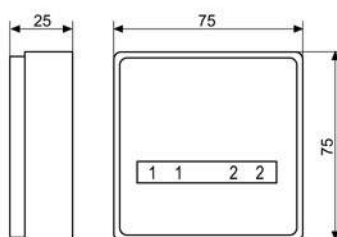
**ELECTRICAL CONNECTION**

**Temperature Sensor TFR-2G**



**Ex-i Module EXL-IMU-1**

**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.
- Pay attention to the max values for wiring , listed in table 1.
- Avoid electrostatic discharge.
- Only wet cleaning.