

## Room Temperature Sensor

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

ATEX compliant

Type TFR-2G

### APPLICATION

TFR-2G temperature sensors for measuring room temperatures. In combination with EEx-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 EEx 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	II2G EEx ia IIC T6, nach EN 50014/ EN 50020 simple apparatus
CE	94/9/EC (ATEX)
Included in price	TFR-2G
Installation area	Hazardous locations in zone 1, 2

II2G EEx ia IIC T6  
Zone 1, 2  
acc. to ATEX



### EEx-i CIRCUITS - TABLE 1

Operation values maximum at terminal

Voltage	Ui	30 VDC
Current	Ii	5 mA
Power	Pi	10 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 method of installation.

### MOUNTING AND INSTALLATION



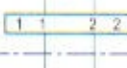

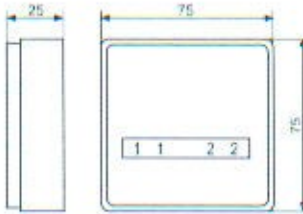
Notes to mechanical installation. The installation must comply with relevant directives and standards. Particularly with regard to:

- 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.

### 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	DIMENSIONS
<p><b>Temperature Sensor TFR-2G</b></p> <p>4 - wire</p>  <p>3 - wire</p>  <p>2 - wire</p>  <p>EXL-IMU-1</p>  <p><b>EEx-i Module EXL-IMU-1</b></p> <p style="text-align: right;">ExpArea Safe Area</p>	

### 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.

Subject to change