

# Room Temperature Sensor

Temperature sensor for rooms, Pt100  
passive Sensor in hazardous locations zones 1, 2 and 22

Type TFR-2G3D  
ATEX compliant

## APPLICATION

TFR-2G3D sensors for measuring room temperatures. In combination with Ex-i transducer Type EXL-IMU-1, ExCos-A, RedCos-A with intrinsic safe circuit the sensor may be used in hazardous areas 1, 2 and 22. The passive potential free resistor output of Pt100 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..

## TECHNICAL DATAS

<b>Type</b>	<b>TFR-2G3D</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, IP65 acc. to EN 60529
Dimension and weight	64 x 72 x 35 mm, approx. 150 g
Protection class	simple apparatus acc. to EN 60079-0 / EN 60079-11
CE	2014/34/EU (ATEX)
Included in price	1 room temperature sensor, Type TFR-2G3D
Installation area	Hazardous locations in zone 1, 2 and 22

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	U <sub>o</sub>	10 VDC
Current	I <sub>o</sub>	10 mA
Power	P <sub>o</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.

## MOUNTING AND INSTALLATION

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

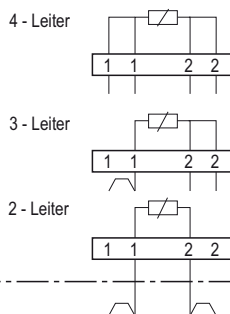
- Comply with the EMC directive
- Avoid parallel wiring of power cable this cause measurement errors.
- Recommendation: Use shielded cable. Connect shield at PLC or control room area, sensor side is open.

## RECOMMENDED TRANSDUCER

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

## ELECTRICAL CONNECTION

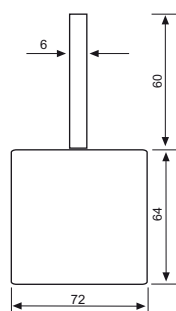
### Temperature Sensor TFR-2G3D



Safe Area  
Ex-Area

Ex-i Module

## 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