

TR 021 – TEMPERATURE SENSOR WITH A CONNECTOR

C03.04en

DESCRIPTION AND APPLICATION

These resistance temperature sensors TR 021 with a connector are designed for temperature measurements of gaseous or liquid substances. The temperature range is -50 to 150 °C and these limits must not be exceeded even for a brief period. The temperature sensors with a connector consist of a metal case, in which the temperature sensing element is placed, and DIN 43650 connector, which is an integral part of the case. The temperature sensors with a connector meet ingress protection IP 67 according to EN 60529, as amended and they are designed for temperature measurement in pipelines. Their design allows faster response to changes in temperature compared to sensors with a thermowell. They can be used as pressure accessories within the meaning of the government regulation No. 26/2003 Coll. as amended. The temperature sensors are designed to be operated in a chemically nonaggressive environment. The use must be chosen with regard to temperature chemical resistance of the case and the connector.

DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard) or in an Accredited laboratory.

SPECIFICATIONS

Sensor type	TR 021
Measuring range	-50 to 150 °C (can be limited by type of the sensor, determine in documentation)
Sensing element	all types (Pt 100, Pt 1000, Ni 1000, Ni 10000, Ni 2226=T1, NTC, PTC, KTY, TSIC, DALLAS and so on)
Ingress protection	IP 67 in accordance with EN 60529, as amended
Thread	G1/2; M 20 x 1.5; M 27 x 2 and others according to customers requirements
Case material	stainless steel DIN 1.4301
Diameter of the case	6,0 ± 0,1 mm
Length of the case L	20 to 500 mm
Connector	Hirschmann GDM/GSP (DIN 43650)
Ambient temperature around connector	-25 to 80 °C
Wire resistance	0.254 Ω / 1 m at the temperature 25 °C
Time response	t0.9 < 9 s (in flowing water at 0.4 m.s-1)

Operating conditions:

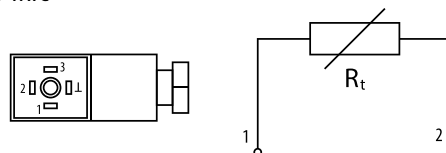
- Ambient temperature around connector: -25 to 80 °C
- Relative ambient humidity: 10 to 100%
- Atmospheric pressure: 70 to 106 kPa
- Maximum speed of water/air flow or water vapour flow when measuring the temperature in pipelines:

Length of case in mm	up to 60 mm	> 60 to 100	> 100 to 160	> 160 to 220	> 220 to 400
Water flow speed	2 m.s-1	1.5 m.s-1	1 m.s-1	0.6 m.s-1	0.3 m.s-1
Air flow speed	20 m.s-1	15 m.s-1	8 m.s-1	2.5 m.s-1	0.6 m.s-1

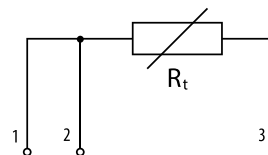


WIRING DIAGRAM

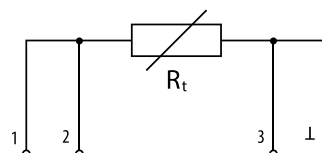
2-wire



3-wire



4-wire



DIMENSIONAL DRAFT

