OPERATION MANUAL

Screw-in temperature transmitter with digital I²c-interface

Description





Technical data

Industrial	temperature	transducer

Temperature measuring range	see table
Temperature sensor	Pt1000
Resolution	I ² C-Bus: 14 bit
Operation temperature	-20+90 °C (electronics)
Interfaces	I ² C-Bus
Dimensions	56,5x20 mm, see dimensio- nal drawing
Material housing	Stainless steel 1.4305
Pressure connection	1/4" external thread, adapter as accessory
Ingress protection	IP65
CE-conformance	2014/30/EU
EMV-noise emission	EN 61000-6-3:2011
EMV-noise withstanding	EN 61000-6-1:2007
Article	Artno.
See table on page 2	

Characteristics

- Industrial variant in stainless steel housing
- 3 variants for following ranges:
- -32...+96 °C, -32...+224 °C, -32...+480 °C
- Digital I²C-interface
- · Calibrated and ready-to-use
- Operating voltage range 6...24 V DC
- Easy to install
- Ingress protection IP65

Areas of application

- · Industrial measuring technology
- Building automation
- · Ventilating and air-conditioning systems
- Pneumatics
- Hydraulic systems
- · Mechanical and plant engineering

Features

The temperature probes TPTR-I2C with digital interface combine the proven and innovative Temperature sensor module with a high-quality stainless steel housing.

The temperature is one of the most commonly measured physical quantities. Conventional semiconductor sensors have a limited temperature range of -50...+150 °C. Even the popular platinum sensors with wide measuring range of -100...+500 °C are not ideal for industrial appliances, because their non-linear behaviour has to be corrected.

The TPTR-I2C cmbines the advantages of both worlds: The igh-quality platinum sensor is interchangeable, guarantees a igh measuring accuracy, drift-stability and environmental resistance as well as an excellent long-term stability. The ASIC provides the measured temperature value with the digital I²C interface with high resolution as calibrated and line-arized value.

The transducer with high-quality probe housing made of stainless steel with $1/4^{\circ}$ external thread is ideally suited for measuring temperature in diverse industrial applications, which are dependent on reliability, accuracy and easy handling.

Available as an accessory is the 2 m connection cable RJ12, art.-no. 0409 3000.

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Delivery spectrum

Measuring range	Voltage output	Ordering number
-32+95 9961 °C	I ² C-Bus	TPTR-I2C-R1
-32+223,992 °C	I ² C-Bus	On request
-32+479,984 ,°C	I ² C-Bus	On request

Assignment of the I²C-output registers

Ordering number	Byte 0,1 (MSB/LSB)	Byte 2,3	Byte 4,5
	Pt1000 temperature	T1 channel (Pt1000 temperature)	T2 channel
TPTR-I2C-R1	Not used	0x0000-0x7FFF -32+95,9961 °C	Not used
On request	Not used	0x0000-0x7FFF -32+223,992 °C	Not used
On request	Not used	0x0000-0x7FFF -32+479.984 °C	Not used

Dimensions

Output scale Pt1000 temperature

Ordering number	Output	HEX range	Scale
TPTR-I2C-R1	I ² C:	0x00000x7FFF	-32,00 95,9961 °C
On request	I ² C:	0x00000x7FFF	-32,00 223,992 °C
On request	I ² C:	0x00000x7FFF	-32,00 479,984 °C

Pin assignment



4-pole pin header		
1	VDD	Voltage supply 524 V DC
2	SDA	Serial data I ² C
3	GND	Ground
4	SCL	Serial clock I ² C

Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.





Please note: The length of the stainless steel tube varies depending on the measuring range

Technical changes reserved 0141 0316-217 09.11.2022

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