

COMPACT TEMPERATURE SENSOR



- PT100 · PT1000
- 4...20 mA · 0...10 V · CANOPEN
- RESOLUTION 24 BIT
- MEDIUM UP TO +200 °C
- IP 65 / IP 68



KEY DATA

Property	Value	Property	Value
Input	1x or 2x Pt100 · Pt1000	Medium	-50 ... +200 °C
Output	4...20 mA · 0...10 V · CANopen · direct	Ambient	-20 ... +80 °C with transmitter (1)
Accuracy	max. 0.1 % of span (3)	without transmitter	-30 ... +100 °C
Resolution	24 bit, filter 5 ... 5000 ms	System pressure	max. 25 bar
Supply	12 ... 30 VDC · CANopen 8 ... 40 VDC	Product code	MK (2)

Compact screw-in temperature sensor with a programmable transmitter — one housing for twelve kinds of output, from the bare Pt100 on the connector to a CANopen node.



TECHNICAL DATA

INPUT AND OUTPUT

Sensor	1x or 2x Pt100 · Pt1000
Sensor connection	2-, 3- or 4-wire
Classes	A · B · AA · C on request
Maximum range	-50 ... +200 °C
Minimum span	50 K
Current output	4 ... 20 mA, 2-wire
Current range	3.8 ... 20.5 mA
Fault signal low	3.6 mA on short circuit or underrange
Fault signal high	21 mA on break or overrange
Voltage output	0...10 V · 0.5...10.5 V · 2...10 V, 3-wire
CANopen	CiA 404 · CAN 2.0A · CAN 2.0B, 2 transmit PDOs

PERFORMANCE

Accuracy transmitter	max. 0.1 % of span + sensor error (3)
Resolution	24 bit
Filter	5 ... 5000 ms
Switch-on delay	5 ms
Setting	with the TrComm software
Accuracy CANopen	±0.1 K
Resolution CANopen	16 bit, 0.1 K
Conversion time CANopen	20 ms
Transmission rate CANopen	50 kbit/s ... 1 Mbit/s
Setting CANopen	baud rate and module address over LSS (4)

SUPPLY AND ENVIRONMENT

Supply analogue	12 ... 30 VDC, short-circuit proof
Supply CANopen	8 ... 40 VDC, max. 500 mW
Reverse polarity	protected, no destruction
Ambient with transmitter	-20 ... +80 °C (1)
Ambient without transmitter	-30 ... +100 °C
Medium	-50 ... +200 °C
Storage	-40 ... +85 °C
Condensation	< 95 % rH
Weight	approx. 200 g (1/2", 50 mm, M12)

MECHANICS

Process connection	none · 1/4" · 3/8" · 1/2" · 3/4" · 1" · 1/4NPT · 3/8NPT · 1/2NPT
Sensor tube	Ø 6 mm, stainless steel 1.4571
Housing	stainless steel 1.4571
Connector insert	PBT GF30 · option stainless steel 1.4571
Mounting position	any
System pressure	max. 25 bar
Protection	IP 65 electronics · IP 68 sensor, potted inside

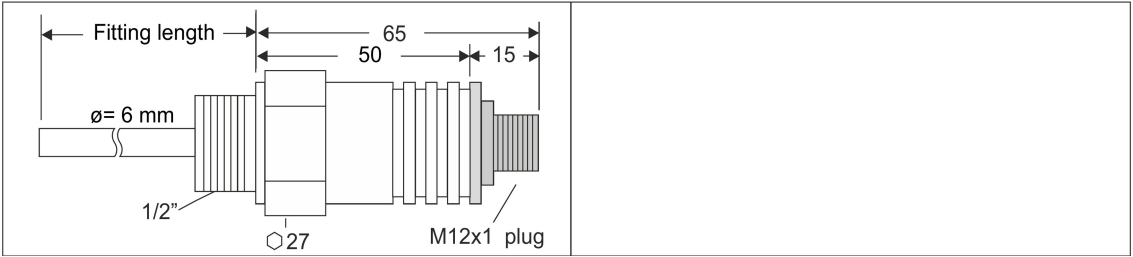
- (1) The ambient temperature is not the medium temperature.
 (2) Other versions carry the product code MK as well, with a different meaning of the following positions. When ordering, the product designation belongs in plain text, not just the code.
 (3) The 0.1 % apply between 0 and +40 °C ambient only.
 (4) The CANopen transmitter is adjusted in the factory and cannot be configured by the customer afterwards. Only the analogue transmitter can be changed with DEV-KMA and TrComm.

ELECTRICAL CONNECTION

Ten electrical connections are available: M12x1 four-, five- and eight-pole, Deutsch DT04 three- and four-pole, Super Seal 1.5 three-pole, bayonet (DIN) four-pole, valve plug to EN 175301-803 type A, MIL six-pole and cable. The pin assignment depends on the number of wires and on the connector. Two sensors do not fit every connector: the Super Seal and the Deutsch DT04 three-pole carry one only.



DIMENSIONS



Dimensions in mm.



CONFORMITY

EC declaration of conformity	dated 25.07.2011, issued to DIN EN ISO/IEC 17050-1
Directives named	2004/108/EC (EMC) and 97/23/EC (pressure equipment)
Standards applied	DIN EN 61000-6-2:2005 and DIN EN 61000-6-4:2007
Protection	IP 65 electronics, IP 68 sensor

ORDER INFORMATION

Accessories

- Configurator DEV-KMA with the TrComm software. Without it the transmitter cannot be programmed; the software is included with the configurator and is also available separately on request. Without a transmitter there is nothing to configure: the sensor then sits directly on the connector.

ORDER KEY

Field	Value	Meaning
Product code	MK	stands at the beginning of every order code
Transmitter	F · G · H · 4	none · 4...20 mA · CANopen · voltage 0...10 VDC
Sensor	1 ... 4	Pt100 · Pt1000 · 2x Pt100 · 2x Pt1000 (2x only without transmitter)
Sensor connection	1 · 2 · 3	2-wire · 3-wire · 4-wire
Accuracy	1 ... 4	class A · B · AA · C on request
Fitting length	50 ... A00	50 · 100 · 160 · 200 · 250 · 400 · 600 · 1000 mm (A00), intermediate values in 5 mm steps
Diameter	6	Ø 6 mm — the only possibility
Process connection	0 ... 9	none · 1/4" · 3/8" · 1/2" · 3/4" · 1" · 1/4NPT · 3/8NPT · 1/2NPT
Connector insert	1 · 2	plastic · metal (surcharge)
Electrical connection	1 ... A	M12x1 4/5/8-pole · Deutsch DT04 3/4-pole · Super Seal · bayonet · valve · cable 2 m · MIL
Configuration	0 · 1 · 2	none · factory setting -50...200 °C, span 0...100 °C · customer-specific
Special model	0 · 1	no · yes, please state

The order code is formed from the product code and the fields of the key.

