Temperature Sensor with Double-Pt100 and two Transmitters

Application / Specified Usage

· Redundant temperature measurement in a UHT-plant
· Synchronous measurement for a local display and for a recorder

Hygienic Design / Process Connection

· Flow optimized, hygienic and easy sterilizable installation by build-in system ESP or sleeve EMZ or build-in system EHG.
· Product contacting materials compliant to FDA
· Sensor made of stainless steel, sensor tip made of PEEK
· Additional process connections:
TriClamp, dairy flange (DIN 11851), DRD, Varivent, APV, BioControl
Build-in system ESP in accordance with 3-A-Standard 74-03
Build-in System CLEANadapt EHEDG certified

Features

· Two galvanically isolated analog outputs
· Redundant measurement system in one sensor
· Costs and time saving for wiring because of integrated 2-wire transmitters

Options / Accessories

· Programable transmitters MPU-4
· Pt100 chip with other classes of accuracy (1/3B, 1/10B)
· Sensor tips with diameter 3 mm and 4 mm

Authorizations

FDA EHEDG 3-A 74-03

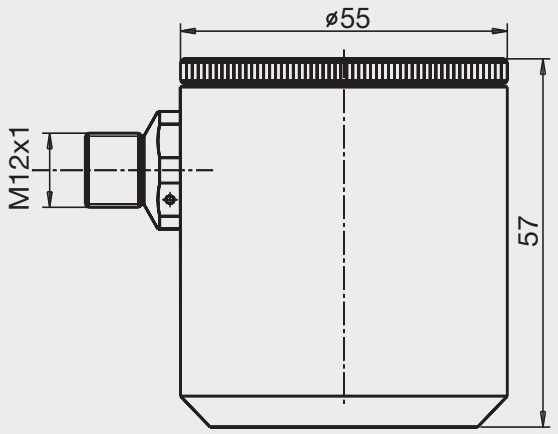
Temperature Sensor TFP-61 / 050 with 2 x MPU-4 and weld-in sleeve EMZ

Temperature Sensor			
Process Connection	thread G1/2" TFP-60 thread G1/2" hygienic TFP-61 thread M12 hygienic TFP-62 thread G3/8" TFP-68P ohne thread TFP-69	thermowell weld-in sleeve weld-in sleeve build-in system weld-in sleeve	e.g. ESH-G1/2"/050 e.g. EMZ-132 e.g. EMK-032 e.g. ESP-G e.g. EMK-25/76
Torque	TFP-61 TFP-62	5...20 Nm 5...10 Nm	
Insertion Length	standard	50 mm, 100 mm, 150 mm, 250 mm	
Materials	connecting head thermowell	stainless steel 1.4305 stainless steel 1.4404	
Operating Pressure	 with thermowell	10 bar maximum 50 bar maximum	
Temperature Ranges	ambient sensor tip	-50...+80 °C -50...+250 °C	
Sensing Resistor	acc. to ITS 90	2 x Pt100 class A	
Electrical Connection		M12-plug, 1.4305, 4 pin	
Protection Class		IP 69 K	

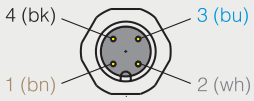
Transmitter MPU-4		
Temperature Ranges	ambient storage	-40...+85 °C -55...+90 °C
Measuring Ranges	standard MPU-4	-10...40 °C, 0...50 / 100 / 150 / 200 °C free programable
Accuracy		< ±0,1 % of full scale
Temperature Drift	zero, span	< 0,01 % / K
Electrical Connection	supply	8...35 V DC
Output	analog	4...20 mA
Humidity	without condensation	0...98 %

Dimensiond Drawing | Electrical Connection

Drawing of the higher connection head



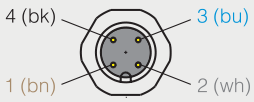
With 1 x M12-plug (sensor 1 + sensor 2)



Configuration M12-plug

1: + supply (sensor 1)
2: - supply 4...20 mA (sensor 1)
3: - supply 4...20 mA (sensor 2)
4: + supply (sensor 2)

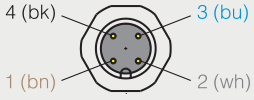
With 2 x M12-plug (sensor 1)



Configuration M12-plug

1: + supply (sensor 1)
2: - supply 4...20 mA (sensor 1)
3: not connected
4: not connected

With 2 x M12-plug (sensor 2)



Configuration M12-plug

1: + supply (sensor 2)
2: - supply 4...20 mA (sensor 2)
3: not connected
4: not connected

Disposal

- This instrument is not subject to the WEEE directive 2002/96/EG and the respective national laws.
- Pass the instrument directly on to a specialised recycling company and do not use the municipal collecting points.

Installation

Adequate process connections as well as drawings of the process connections you will find in following product informations:

- TFP-60 > temperature sensor G1/2" standard (chapter 2)
- TFP-61 > temperature sensor G1/2" hygienic (chapter 2)
- TFP-62 > temperature sensor M12 hygienic (chapter 2)
- TFP-68P > pharma temperature sensor ESP (chapter 2)
- TFP-69 > temperature sensor without thread (chapter 2)

see also: **CLEANadapt** (chapter 1)

Transport / Storage

- No outdoor storage
- Dry and dust free
- Not exposed to corrosive media
- Protected against solar radiation
- Avoiding mechanical shock and vibration
- Storage temperature -55...+90 °C
- Relative humidity maximum 98 %

Cleaning / Maintenance

- In case of using pressure washers, dont‘t point nozzle directly to electrical connections!

Reshipment

- Sensors shall be clean and must not be contaminated with dangerous media!
- Use suitable transport packaging only to avoid damage of the equipment!

Standards and Guidelines

- You have to comply with applicable regulations and directives.

Advice to EMC

- The device agrees to following standards: EMC directive 2004/108/EG.
- You have to guarantee the EMC directives for the entire equipement.

Order Code

TFP-60 temperature sensor with thread G1/2" standard
TFP-61 temperature sensor with thread G1/2" hygienic
TFP-62 temperature sensor with thread M12 hygienic
TFP-68P temperature sensor with thread G3/8" for ESP
TFP-69 temperature sensor without thread

Spacer (only for TFP-60, TFP-61 and TFP-62)
X without
H with spacer (extension of 92 mm)

Sensor Length in mm (not for TFP-68P: see product information TFP-ESP!)
050 (length 50 mm)
100 (length 100 mm)
150 (length 150 mm)
250 (length 250 mm)
xxx special length (up to 2500 mm maximal)

Diameter Thermowell in mm (not for TFP-68P: see product information TFP-ESP!)
6 standard
8 (only for TFP-60, TFP-61 and TFP-69)
10 (only for TFP-60, TFP-61 and TFP-69)
12 (only for TFP-60, TFP-61 and TFP-69)

Diameter Sensor Tip in mm (not for TFP-68P: see product information TFP-ESP!)
6 standard
4 (without extra charge at sensor length ≤ 20 mm)

Accuracy Class
A
1/3B
1/10B

Electrical Connection
M12 1 x M12-plug
2xM12 2 x M12-plug

1. Transmitter
MPU-4

Measuring Range
-10...40 °C
0...50 °C
0...100 °C
0...150 °C
0...250 °C
xx...yy special range

2. Transmitter
MPU-4

Measuring Range
-10...40 °C
0...50 °C
0...100 °C
0...150 °C
0...250 °C
xx...yy special range

TFP-61 / H / 100 / 6 / 6 / A / M12 / MPU-4 / 0...100 ° C / MPU-4 / 0...100 °C

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