Temperature Measuring transducer MINI 90

Temperature measuring in tubes or channels

- **Stainless steel tube in three versions**
  smooth, tip perforated or with R1/2“ screwing

- **Pt100 sensor as per DIN 43700**

- **Output 4...20 mA in two-wire system**
  or 0...10 V or 4..20 mA in three-wire system

Description and Operation

Safety indications

Attention! Read these instructions carefully before connecting the device and putting it in operation. The device may only be connected and put into operation by experienced expert staff.

Use, Assembly

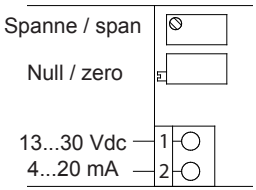
The temperature measuring transducer MINI 90 is used for temperature measuring in tubes and channels.
The measuring transducer MINI 90 can be supplied in three versions:
1. a smooth tube to be used in protection sleeves,
2. with perforated sensor tip for measuring in air channels and
3. sensor tube with R1/2“ screwing for measuring in liquids.

With the R1/2“ version, the gauge slide with the electronics is exchangeable without unscrewing the sensor tube from the tubing.
The sensor tube is made of stainless steel 1.4571, its head of ABS plastic

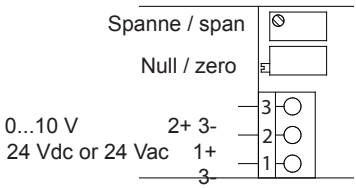
The electronics is either made in a two-wire system with an output signal of 4...20 mA or in a three-wire system with an 0...10 V output.
The supply voltage in the two-wire system is 13...30 Vdc,
in the three-wire system 24 Vdc or 24 Vac are required.
A Pt100 class A is incorporated as temperature sensor.
It is about 10 mm long and is located in the sensor tip.

Connection diagram

Two-wire system,
Output 4...20 mA

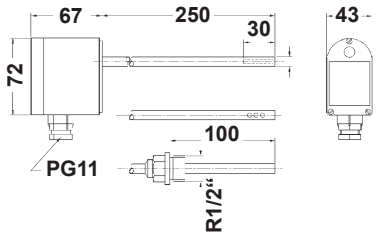


Three-wire system,
Output 0...10 V

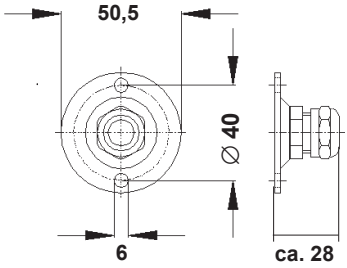


Dimensions

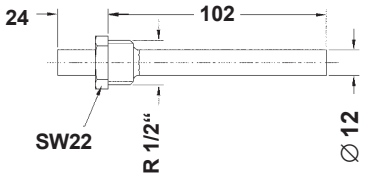
Dimensions MINI 90



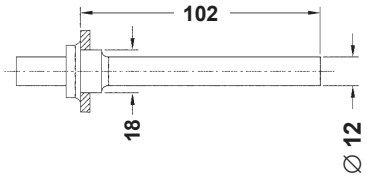
Mounting flange MF-M90



Screw-in protection sleeve SHS-M90



Weld-in protection sleeve SHE-M90



Technical details

smallest range:	25 °C
max. temperature at sensor:	400 °C
Sensor:	Pt100 as per DIN 43760

Two-wire system:

Output:	4 ... 20 mA, linear temperature
Supply voltage:	13 ... 30 V, of any polarity

Three-wire system:

Output:	0 ... 10 V, linear temperature
Supply voltage:	24 Vdc or 24 Vac, ± 25 %
Ambient temperature of electronics:	- 10 ... + 70 °C
Housing:	ABS plastic, light grey Protection class IP65 as per DIN 40050
Sensor tube:	Stainless steel, material no. 1.4571
Setting time:	see table
Weight:	ca. 250 g
Measuring tolerance:	< 0,25 % ± 0,3 °C
EMC:	Test according to 50081-2, 50082-2, CE-sign

Measuring delay at different conditions:

Medium Water	Time constant sec.
No flow	37
Flow 2 m/s	33
with protection sleeve brass	73
with protection sleeve brass, oil-filled	50
with protection sleeve steel	85
with protection sleeve steel, oil-filled	45
Medium Air	
No flow	416
Flow 10 m/s	75

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