



## Safety instructions



**Caution!** Read these instructions carefully before connecting and operating the device.

Specialist personnel will connect and commission the system.

## Application, assembly

The MINI 90 temperature transmitter is used for temperature measurement in pipes and ducts.

The MINI 90 transmitter is available in three versions: 1. a smooth tube for use in protective sleeves,

2. with perforated sensor tip for measurement in air ducts and

3. Sensor tube with R1/2" screw connection for measurement in liquids.

In the R1/2" version, the measuring insert with the electronics can be replaced without unscrewing the sensor tube from the pipeline.

The sensor tube is made of stainless steel 1.4571, the head of ABS plastic.

The electronics are either designed using two-wire technology with an output signal of 4...20 mA or three-wire technology with an output of 0...10 V.

The supply voltage in two-wire technology is 13...30 Vdc, in three-wire technology 24 Vdc or 24 Vac are required.

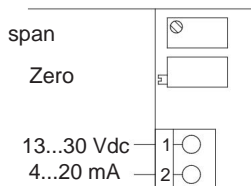
A Pt100 Class A temperature sensor is installed.

It is approximately 10 mm long and is located at the tip of the antenna.

## Connection diagram

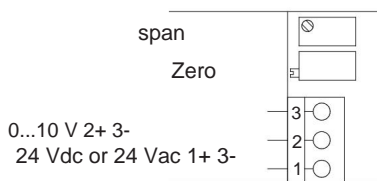
Two-wire technology

Output 4...20 mA

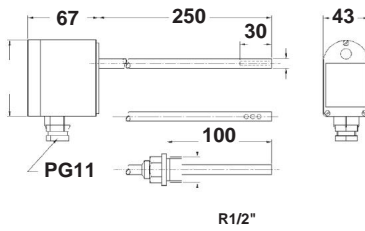


Three-wire technology

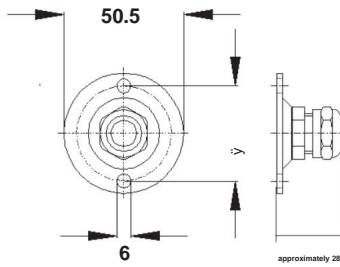
Output 0...10 V



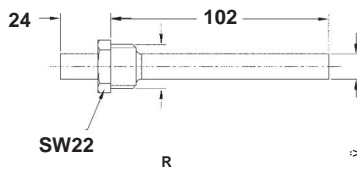
### MINI 90 dimensions



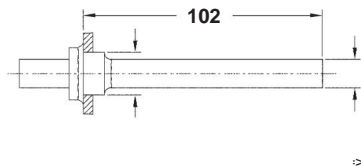
### Mounting flange MF-M90



### Screw-in protective sleeve SHS-M90



### Weld-in protective sleeve SHE-M90



## Technical data

Smallest measuring range: 25 °C  
 max. temperature at the sensor: 400 °C  
 Sensor: Pt100 according to DIN 43760

### Two-wire technology:

Exit: 4 ... 20 mA, temperature-linear  
 Supply voltage: 13 ... 30 Vdc, polarity arbitrary

### Three-wire technology:

Exit: 0 ... 10 V, temperature-linear  
 Supply voltage: 24 Vdc or 24 Vac,  $\pm 25\%$   
 Ambient temperature of the electronics: -10 ... +70 °C  
 Housing: ABS plastic, light grey  
 Protection class IP65 according to DIN 40050  
 Sensor tube: Stainless steel, material no. 1.4571  
 Setting time: See table  
 Weight: approx. 250 g  
 Measurement tolerance:  $< 0.25\% \pm 0.3\text{ °C}$   
 EMC: Testing according to 50081-2, 50082-2, CE marking

Measurement delay under various conditions:

Medium Water Time constant sec.

no current 37

Flow rate 2 m/s 33

with protective sleeve Ms 73

with protective sleeve Ms, oil-filled 50

with protective sleeve St 85

with protective sleeve, oil-filled, 45

Medium: Air

no current 416

Flow rate 10 m/s 75

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