Pressure- and temperature sensor PTM




Advantage
- compact pressure-/ temperature sensor
- ideal for filter monitoring or for process monitoring
- pressure range up to 10 bar
- available in 2 designs: PTM standard (compact version) and PTM Flex (remote sensor version with cable)

Intended Use
- The PTM can be used as a dry run protection device for pumps. The temperature of the medium is measured by the sensor in addition to the pressure.

Application
- Pressure transducer for determining the pressure and temperature, for mounting in pipes. Comprehensive operating and display possibilities with relay or signal output 0/4 ... 20 mA.
- The device is designed to process monitoring and to protect pumps from dry running.
- Suitable for neutral and aggressive liquids if the wetted parts of the sensor are resistant against the medium in accordance with the ASV-resistance chart.
- Not suitable for flow media that attack the Nano coating (glass).

Function
- The sensor unit consists of a Micro-Electro-Mechanical System (MEMS), a combination of mechanical elements, sensors and an electronic circuit on a chip.
- The process pressure is determined via the piezoresistive silicon chip. This system is additionally equipped with a temperature sensor. The values are converted in the connection head (CH).
- The output values can be indicated by LCD or transmitted via the respective outputs.
- 2 current outputs (one each for pressure and temperature) or 4 programmable relay outputs (for pressure and temperature) are provided.

Version
- PTM Standard as compact one-piece version.
- PTM Flex, from the sensor housing separated connection head, connected with 2.5 m probe cable.
- relay version: [Relay]
- 4-wire current version [4 Curent]

Output Signal
- relay version:
  · 4 relays, NO, 8 A/ 230 VAC
  · switching function NC/ NO programmable
- 4-wire current version :
  · 0/4 ... 20 mA
  · output can be calibrated/adjusted

Operation
- relay version
  · by the display and control module (Display)
- 4-wire current version
  · through the integrated potentiometer
  · optional by the display and control module (Display)

Connection Head
- housing: PP, fiberglass-reinforced
- housing cover: PP, fiberglass-reinforced
- housing seal: NBR

Sensor
- sensor: nano coating CrTa
- sensor housing: PVDF or PP
- sensor seals: FPM or EPDM
- probe cable: FEP, 2,5m

Process Connection
- socket ends for fusion welding (PVDF or PP) d32

Measuring Value
- pressure and temperature

Measuring Range
- pressure: 0 - 10 bar
  · resolution: 5 mbar
- temperature: 0 - 100 °C
  · resolution: 0,5 °C

Power Supply
- 18 ... 30 VDC

Connection Cable
- cable outer diameter of 7...13 mm
- nominal cross-section 1.5 mm²

Type Of Protection
- IP 65

Process Temperature
- 0 ... +70°C

Ambient Temperature
- -20 ... +70°C

Process Pressure
- see pressure/temperature diagram

Ambient Pressure
- 0,8 ... 1,1 bar

Relative Humidity
- 20 ... 85%

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Mounting Position
- vertical or horizontal

Accessories
- Display and control module
  language: DE, EN, FR, ES, IT: Ident-No.: 140561
  language:DE, EN, RUS: Ident-No.: 142314

Display And Control Module (Display)
- housing: ABS
- housing cover: PA, transparent
- display: illuminated LC-Display
- operating: via 4 function keys
- front film: polyester
- the display is necessary for setting the relay version
- parameter settings can be saved and copied onto other sensors
- after setting the unit the display can be removed from the sensor housing

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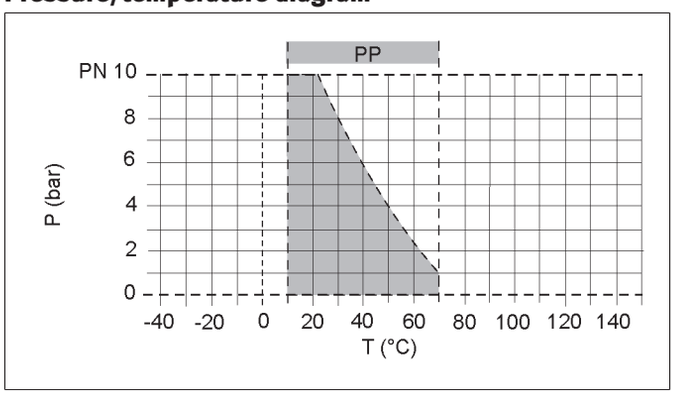
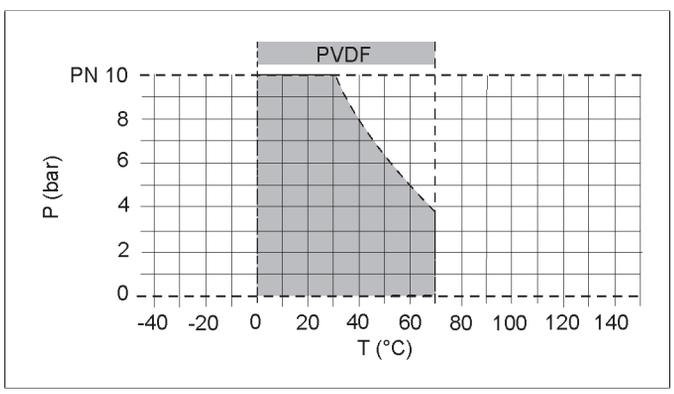
Level measurement, Pressure- and temperature sensor PTM

Pressure/temperature diagram





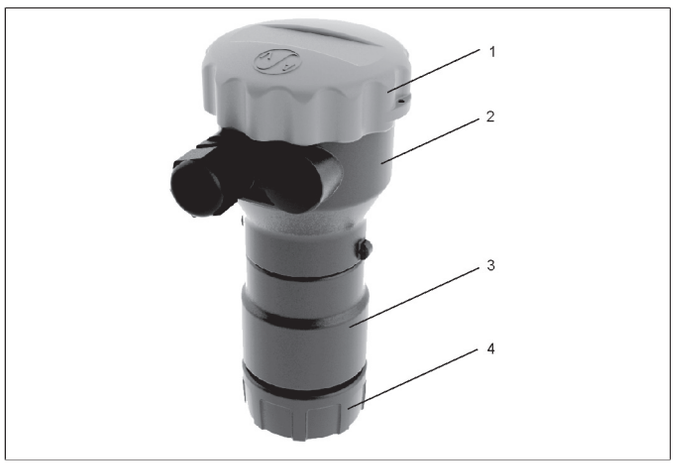
P = operating pressure
T = temperature

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant.
For other media please refer to the ASV resistance guide.
The durability of wear parts depends on the operating conditions of the application.
For temperatures below 0°C (PP < +10°C) please specify the precise operating conditions of the application.
The rated pressure depends on the valve size and material. For the corresponding rated pressure value of the valve, please refer to the »Order table«.

Display and control module

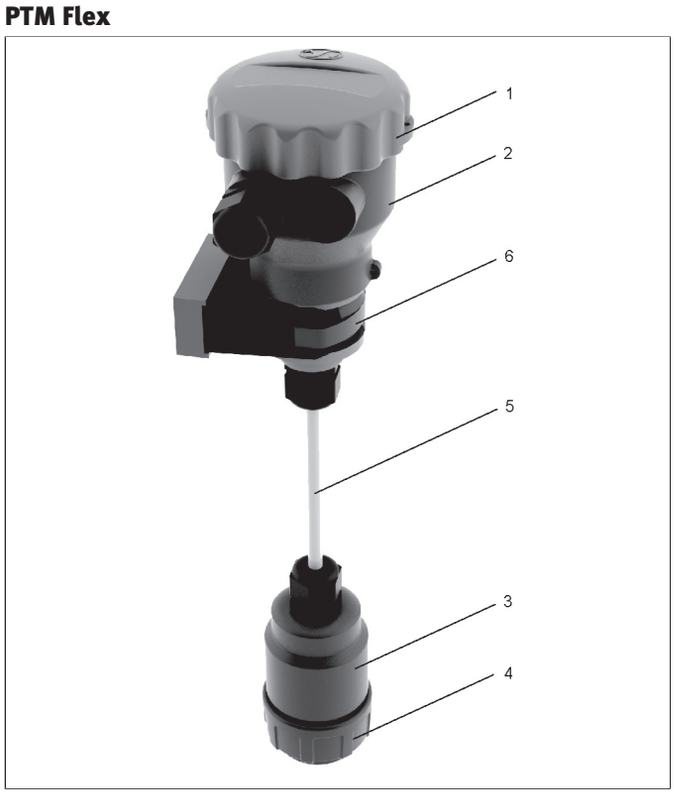
the display is necessary for setting the relay version

PTM Standard



1 = connection housing cover
2 = connection housing
3 = probe housing
4 = process connection

PTM Flex



1 = connection head cap
2 = connection head
3 = sensor housing
4 = process connection
5 = probe cable
6 = mounting kit

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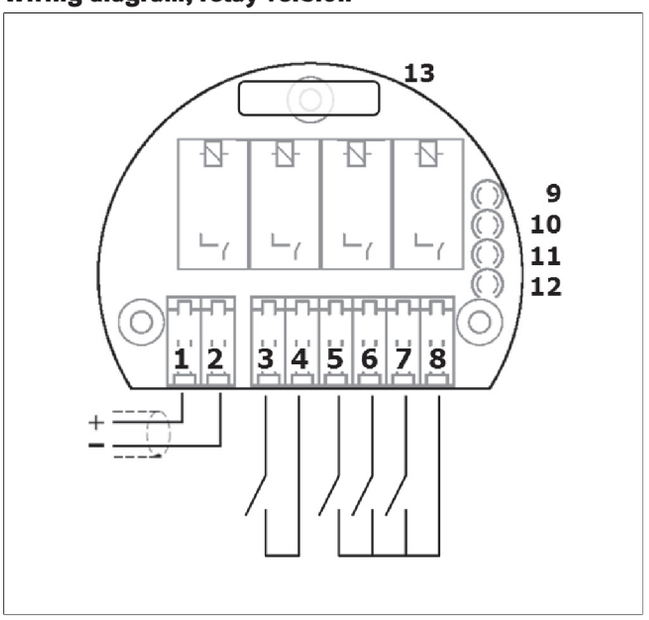
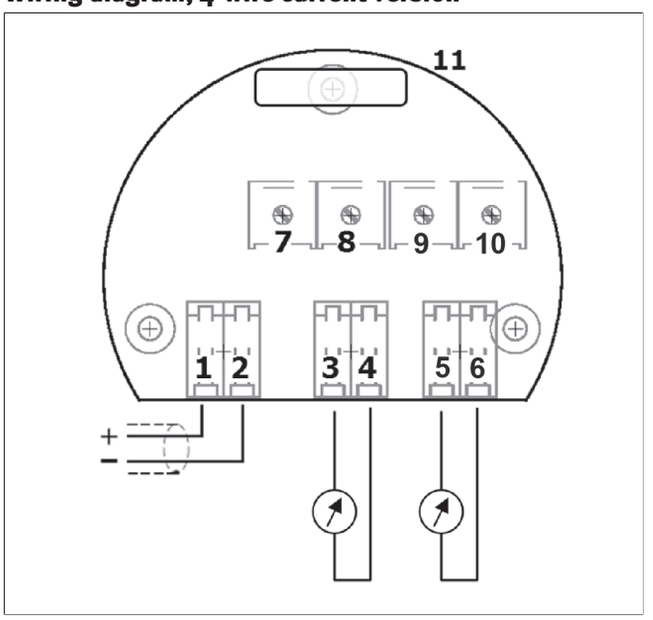
Level measurement, Pressure- and temperature sensor PTM

Wiring diagram, relay version



1 = Voltage supply (+)
2 = Voltage supply (-)
3 = Relay 1 (NO)
4 = Relay 1 (COM)
5 = Relay 2 (NO)
6 = Relay 3 (NO)
7 = Relay 4 (NO)
8 = Relay 2-4 (COM)
9 = LED relay 1
10 = LED relay 2
11 = LED relay 3
12 = LED relay 4
13 = Display and control modul plug connector

Wiring diagram, 4-wire current version



1 = voltage supply (+)
2 = voltage supply (-)
3 = current output (+) pressure
4 = current output (-) pressure
5 = current output (+) temperature
6 = current output (-) temperature
7 = potentiometer for minimum pressure balance
8 = potentiometer for maximum pressure balance
9 = potentiometer for minimum temperatur balance
10 = potentiometer for maximum temperatur balance
11 = Display and control module plug connector

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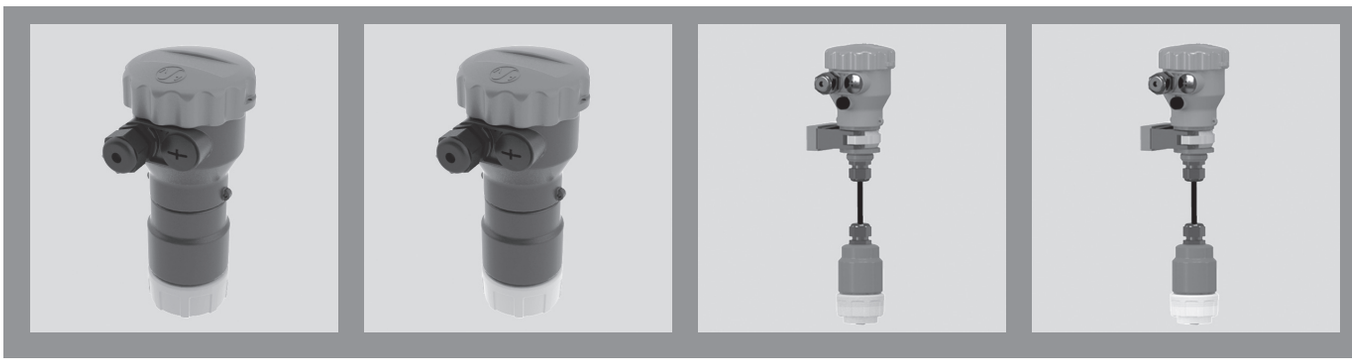

body PP

size	pressure range(bar)		0-10	0-10
pressure range	d(mm)		32	32
	DN(mm)		25	25
	version		4 Current	Relay
Connection	*sealing*	*ident No.*		
PTM Flex, PP socket end DIN ISO	EPDM		141930	141928
	FPM		141934	141933
PTM Standard, PP socket end DIN ISO	EPDM		140557	140559

body PVDF

size	pressure range(bar)		0-10	0-10
pressure range	d(mm)		32	32
	DN(mm)		25	25
	version		4 Current	Relay
Connection	*sealing*	*ident No.*		
PTM Flex, PVDF socket end DIN ISO	FPM		141929	141922
PTM Standard, PVDF socket end DIN ISO	FPM		140554	140555

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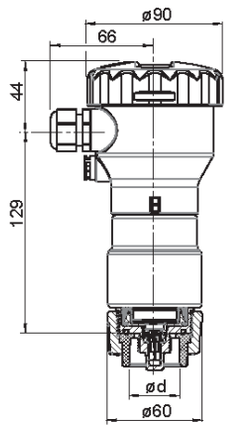
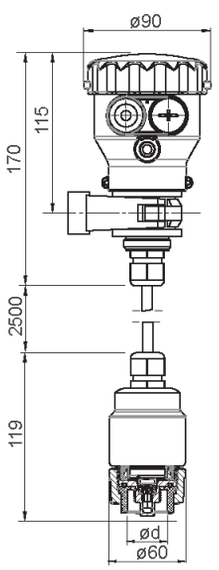


dimensions

d(mm)	32	32
DN(mm)	25	25
version	4 Current	Relay
dimensions(mm)		
d	32	32



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