Pressure sensor PT2

This sensor was developed for measuring pressure economically. Besides the usual sensor tasks, such as providing input for feedback loops and constant surveillance, this sensor can also replace pressure switches. Due to the high-quality materials, it is compatible with a large number of mediums. The sensor is temperature-compensated up to 80°C, increasing the accuracy of the measurements.
Certain options are available as special orders, for example output signals with lower voltage to be used with single-board computers, different electrical connections and other threads for medium connections.

Technical data:

Signal (Power supply)	Two-wire design:	4~20 mA (12~30 VDC)
	Three-wire design:	0~10 V (12~30 VDC/AC) on request: 0.5~4.5 V (5 VDC) 0/1~5 V (10~30 VDC/AC)
	Four-wire design:	on reguest: RS485 (24 VDC)
Measurement range	-1 to 1 bar -1 to 0 bar 0 to 1 bar 0 to 2 bar 0 to 4 bar 0 to 16 bar 0 to 40 bar 0 to 100 bar others on request	
Overload pressure	1,5x f.s.	
Burst pressure	3x f.s.	
Accuracy	0.5% or 1.0% f.s.	
Long term stability	Typical 0.5%, max. 1.0% f.s.	
Premissible temperatures	Operating temperature: -40°C to 100°C Compensated temperature range: -10°C to 80°C Storage temperature: -50°C to 125°C	
Premissible mediums	Mediums compatible with 1Cr18Ni9Ti stainless steel and ceramics	
Medium connections	Usually G ¼", others on request	
Electrical resistence	Two-wire: 0,02 Ω Three-wire: >100 kΩ	
Electrical connections	On stock (others on request): - Packard - M12 (4-pole) - DIN43650A	
Degree of protection	IP 67	
Size	67,5 mm(Height), 24mm wrench size (also largest diameter)	

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Electrical connections:

		
Packard	M12	DIN43650A

Article code:

PT2	-	X	X	X	-	X	X	(- X)

Model

Signal:
2 = 2-wire: 4~20 mA (12~30 VDC)
3 = 3-wire: 0~10 V (12~30 VDC/AC)
4 = 3-wire: 0.5~4.5 V (5 VDC)
5 = 3-wire: 0/1~5 V (10~30 VDC/AC)
6 = 4-wire: RS485 (24VDC)

Measurement range:
1 = -1 to 1 bar
2 = -1 to 0 bar
3 = 0 to x bar (last column)

Accuracy:
1 = 0,5%
2 = 1,0%

Medium connection:
1 = G ¼"
2 = M20 x 1,5

Electrical Connection:
1 = Packard
2 = M12
3 = DIN43650A
4 = DIN43650C
5 = Cable

Maximum pressure in bar

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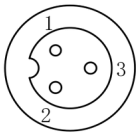
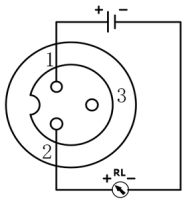
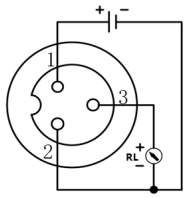
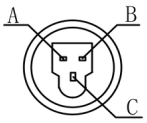
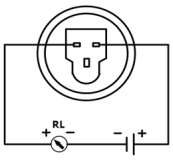
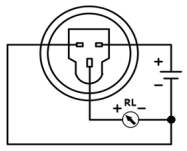
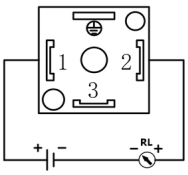
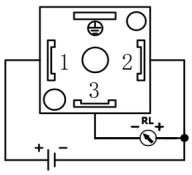
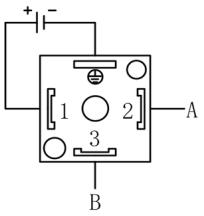
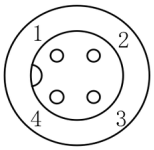
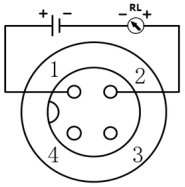
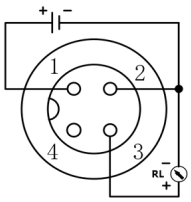
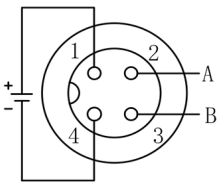
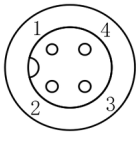
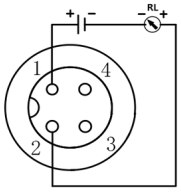
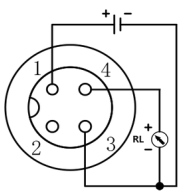
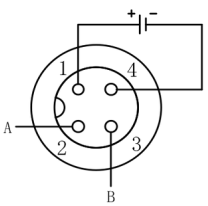
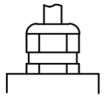
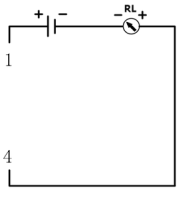
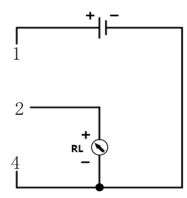
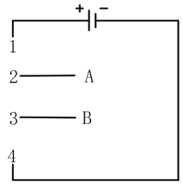
PT2X Series Pressure transmitter

User Guide

1. Electrical Connection

Eletrical Connection	Schematic Drawing	4~20mA	0.5~4.5V/0~5V 0~10V	RS485
GX12-3P		 1.Red 2.Black	 1.Red 2.Black 3.Green	
Packard		 A.Black B.Red	 A.Black B.Red C. Green	
Hirschmann		 1.Red 2.Black	 1.Red 2.Green 3.Black	 1.Red 2.Green 3.White 4.Black
GX12-4P		 1.Red 2.Black	 1.Red 2.Black 3.Green	 1.Red 2.Green 3.White 4.Black
M12-4P		 1.Brown 2.White	 1.Brown 3.Blue 4.Black	 1.Brown 2.White 3.Blue 4.Black
Direct lead		 1.Red 4.Black	 1.Red 2.Green 4.Black	 1.Red 2.Green 3.White 4.Black

2. **Supply Voltage**

Output	4~20mA	0.5~4.5V Proportional	0.5~4.5V Absolute	0~5V	0~10V	RS485
Voltage	10~36VDC	4.75~5.25VDC	4.75~5.25VDC	10~36VDC	12~36VDC	10~30VDC

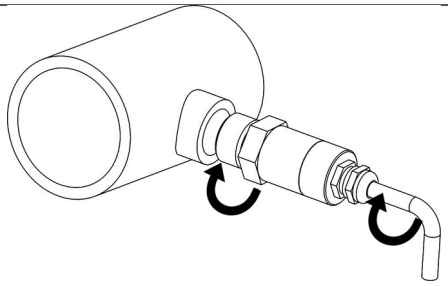
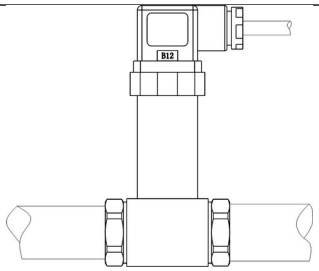
✳Addition:When PT21 output is 0~10V, the working voltage is 14~30V; when PT27 absolute output is 0.5-4.5V, the working voltage is 5-15V

3. Working Temperature

Working Temperature	Model
-20~85℃	PT2,PT21,PT23,PT28,PT25
-40~120℃	PT27,PT26

✳Addition:The PT23 can be used to measure high temperature media: 5 heat sink for 180℃; 10 heat sink for 260℃

4. Installation

	
The wire and sensor rotate at the same time to prevent the wire from being twisted off	PT25 differential pressure transmitter should be mounted horizontally.

5. **Medium**

medium	Model
Medium compatible with R12, R22, R134A, R404A, R407C, R410A, R502, R507	PT26
Gas or liquid compatible with 304 and 316L stainless steel, fluorine rubber ring or NBR	PT21,PT23,PT25 PT27, PT28
Gases or liquids compatible with 1Cr18Ni9Ti, 304 stainless steel, fluorine rubber ring or Nitrile rubber	PT2

Display NOM13

This display is intended as a fast and simple addition into existing measuring systems to show both the original signal and the calculated measurement value. Additionally this display can monitor two switching points and therefore replace two pressure switches. Switching points, type of switch, e.g. normally open or normally closed as well as the hysteresis are freely configurable. The display works with the usual power supply of the sensor, therefore no additional power source is necessary. The bright LED display can easily be read in dark surroundings. This display is all in all a simple way to expand the capabilities of a sensor.

Technical data

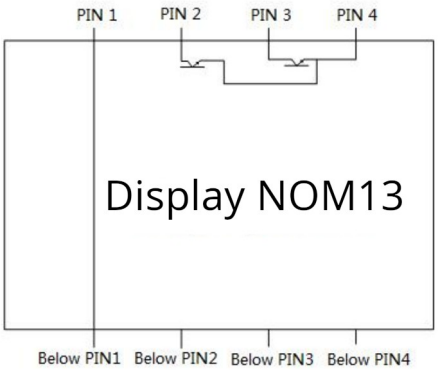
Signal	4 – 20 mA (Two-wire)
Display	-1999 – 9999 (4 digit LED)
Voltage drop	< 4 V DC
Switch transistors	2x npn
Permissable switching current	100 mA
Scope of delivery	Display, gasket
Electrical connection	2x DIN 43650A (male, female)
Dimensions	60 mm (Total height), 46x42mm

NOM13	**-**	**X**	**X**
Model			
Signal (2 = 4 – 20 mA)			
Electrical connection (1 = DIN 43650A)			

Manual

Pin layout power supply:

1 VCC(+)
2 Switching point 2
3 Switching point 1
4 Signal



Pin layout sensor connection:

1 VCC(+)
2 Signal
3 empty/NC
4 empty/NC

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Configuration manual:

Controls: △, ▽, △ + ▽ = press both buttons simultanously

Press △ + ▽ to enter the menu, navigate with △ or ▽ inside the menu

1. Display: **Set2** for setting the minimum value
Enter menu with △ + ▽, Set value for 4 mA with the arrow keys
Leave menu with △ + ▽

2. Display: **Set5** for setting the maximum value
Enter menu with △ + ▽, Set value for 20 mA with the arrow keys
Leave menu with △ + ▽

3. Display: **dot** decimal point
Enter menu with △ + ▽, △ moves the point to the right, ▽ to the left
Attention: Decimal point is the same for all menus / globally
Leave menu with △ + ▽

4. Display: **dAP**, dampening time
Enter menu with △ + ▽, set value with the arrow keys, 1 – 64 possible
Leave menu with △ + ▽

5. Display: **HILo**, main switch for the npn circuits (important!)
Enter menu with △ + ▽, oFF: npns are off, on = on
Leave menu with △ + ▽

6. Display: **StP1**, switching point 1
Enter menu with △ + ▽, then set with arrow keys
Leave menu with △ + ▽

7. Display: **StPH**, switching point 2
Enter menu with △ + ▽, then set with arrow keys
Leave menu with △ + ▽

8. Display **Ld1r**, switch type switching point 1
Enter menu with △ + ▽, **UP**: normally open, **dn**: normally closed
Leave menu with △ + ▽

9. Display **Hd1r**, switch type switching point 2
Enter menu with △ + ▽, **UP**: normally open, **dn**: normally closed
Leave menu with △ + ▽

10. Display **LHSt**, Hysteresis switching point 1
Enter menu with △ + ▽, then set with arrow keys
Leave menu with △ + ▽

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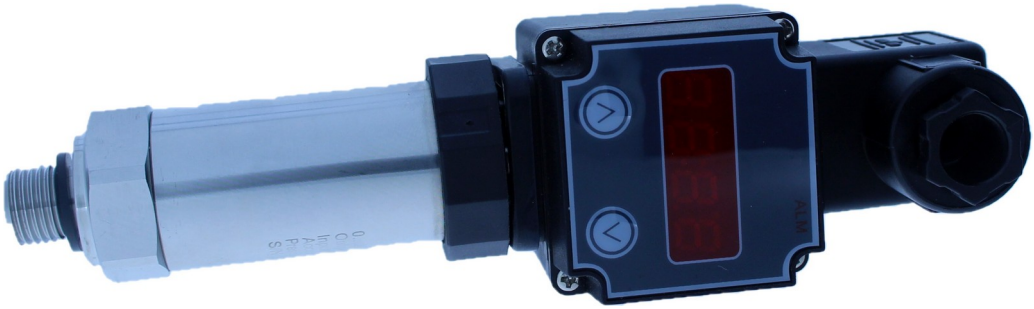
11. Display **HHSt**, Hysteresis switching point 2
Enter menu with Δ + ∇, then set with arrow keys
Leave menu with Δ + ∇







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