

PT1000/PT2000 – Types and Data

Pressure range				
Relative	-1...1000 bar			
Absolute	0...16 bar			
Permissible overload	PT1000: ≤ 4 bar 3.0 x FS PT2000: ≤ 6 bar 5 x FS; > 6 bar 3 x FS (max. 1500 bar)			
Burst pressure	PT1000: > 4 bar 2.5 x FS PT2000: < 6 bar 10 x FS; > 6 bar 6 x FS (max. 2500 bar)			
Temperature				
Medium	PT1000: -40...+125 °C ⊕ (-30...+120 °C)			
Environment	-30...+85 °C ⊕ (-25...+85 °C)			
Storage	-50...+100 °C			
Materials				
Housing	Stainless steel 1.4404/AISI 316L			
Connector	Polyacrylamide 50 % GF UL 94 V-0			
Media contact:	Sealing material FPM, EPDM, NBR, MVQ Measuring element ceramics Al2O3 (96 %) Pressure port stainless steel 1.4404/AISI 316L, Stainless steel 1.4404/AISI 316LDF			
Electrical specifications				
	Output	Supply	Load	Current consumption
2-wire	4...20 mA	7...33 VDC	< $\frac{\text{Supply voltage} - 7 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
	⊕ 4...20 mA	10...30 VDC	< $\frac{\text{Supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
3-wire	0...5 V	7...33 VDC	> 10 kOhm/< 100 nF	< 7 mA
	1...6 V	8...33 VDC	> 10 kOhm/< 100 nF	< 7 mA
	0...10 V	12...33 VDC	> 10 kOhm/< 100 nF	< 7 mA
	0...10 V	12...33 VDC/24 VAC ±15 %	> 10 kOhm/< 100 nF	< 7 mA
	ratiom. 10...90 %	5 VDC ± 10 %	> 10 kOhm/< 100 nF	< 7 mA
	⊕ ratiom. 10...90 %	5 VDC ± 10 %	> 10 kOhm/< 100 nF	< 7 mA
Reverse polarity protection	Short-circuit proof and reverse-polarity protection, with max. supply voltage.			
Dielectric strength	500 VDC			
Protection class	Protection class III			
Dynamic behavior				
Response time	< 2 ms, typ. 1 ms			
Load change	< 100 Hz			
Accuracy *				
Characteristic	+/- 0.3 [% FS]			
Resolution	+/- 0.1 [% FS]			
Temperature behaviour	max. +/- 0.2 [% FS/10K]			
Long-term stability acc. to IEC 60770-1	max. +/- 0.25 [% FS/10K]			
Tests/Approvals				
Electromagnetic compatibility	CE conform acc. to EN 61326-3-2			
Increased interference immunity	EN 50121-2-3			
Schock nach IEC 68-2-27	100 g, 11 ms, half sine curve, 6 directions, free fall from 1 m on concrete (6 x)			
Continuous shock IEC 68-2-29	40 g for 6 ms, 1000 x all 3 directions			
Vibration acc. to IEC 68-2-6	20 g, 15...2000 Hz, 15...25 Hz with amplitude ± 15 mm, 1 octave/minute all 3 directions, 50 continuous loads			
UL	ANSI/UL 61010-1 acc. to E325110			

Explosion protection	ratiom. 10...90 %	4...20 mA
Intrinsic safety [i]	Ex II 1/2 G Ex ia IIC T4 Ga/Gb Ex II 1/2 D Ex ia IIIC T125°C Da/Db	Ex II 1/2 G Ex ia IIC T4 Ga/Gb Ex II 1/2 D Ex ia IIIC T125°C Da/Db
EC type-examination certificate	SEV 15 ATEX 0173	SEV 10 ATEX 0145
Connection to certified intrinsically safe resistive circuits with peak values	Ui < 15 VDC; Ii < 200 mA; Pi < 750 mW	Ui < 30 VDC; Ii < 100 mA; Pi < 750 mW
Inductance and capacitance Versions with connector EN 175301-803-A or M12x1	Li = 0 nH; Ci < 150 nF	Li = 0 nH; Ci < 0 nF

Your Global Automation Partner

PT1000/PT2000 Pressure Transmitters



28 subsidiaries and over 60 representations worldwide!

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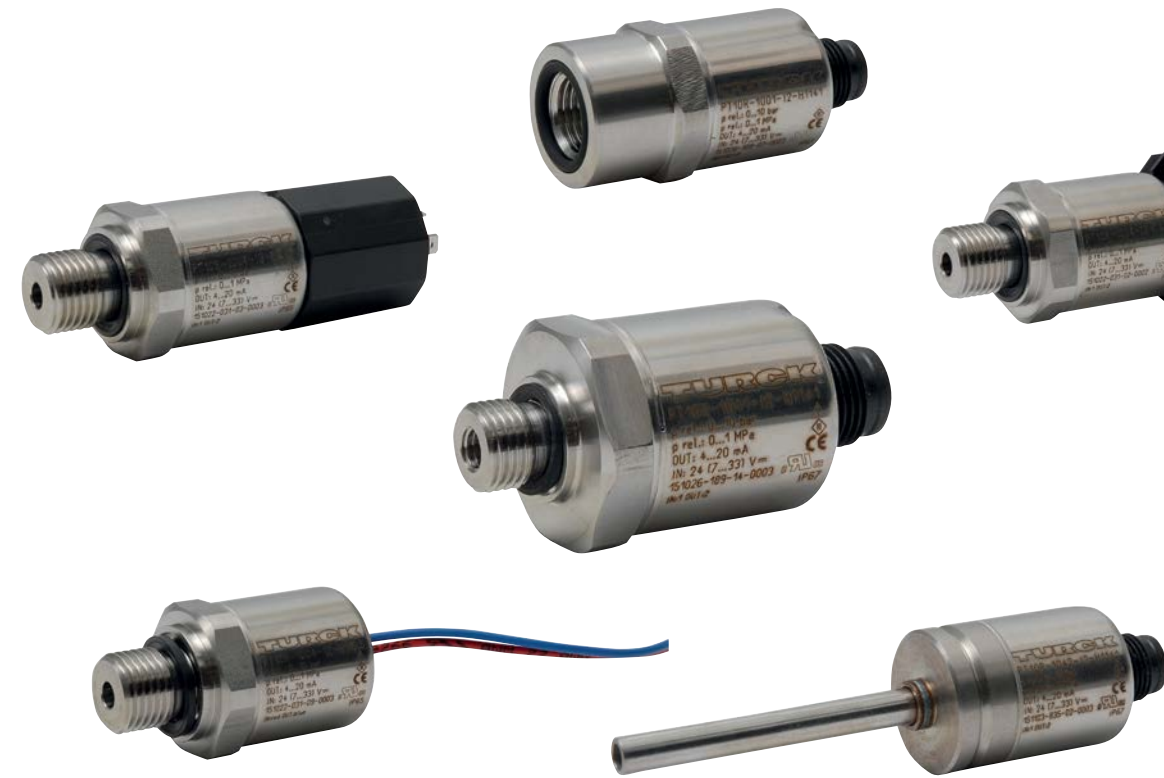
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PT1000/PT2000 Pressure Transmitters

System for demanding pressure measurements

Whether in mining, the marine industry, or for demanding pressure applications in machine building - extremely tough conditions are the order of the day in these environments. They are the ideal field of application for the Turck pressure transmitters.

Maximum resistance to vibration, continuous shocks, permanent pressure and temperature changes - even in aggressive media - make the pressure transmitters a reliable equipment for your plant safety and process control.



PT 10R - 10 03 - I2 - H1143 - D830

PT 10R	Pressure range	10 03	Mechanical version	I2	Output type	H1143	Electrical connections	D830	Special type																																																																		
	<p>Pressure range</p> <table border="1"> <tr> <th>bar relative</th> <th>psi relative</th> </tr> <tr> <td>1VR -1...0 bar⁽⁶⁾</td> <td>15PSIVG -15...0 psi⁽⁶⁾</td> </tr> <tr> <td>1V -1...1 bar</td> <td>15PSIV -15...15 psi</td> </tr> <tr> <td>1.5V -1...1.5 bar</td> <td>45PSIV -15...45 psi</td> </tr> <tr> <td>2.5V -1...2.5 bar</td> <td>85PSIV -15...85 psi</td> </tr> <tr> <td>5V -1...5 bar</td> <td>130PSIV -15...130 psi⁽⁶⁾</td> </tr> <tr> <td>9V -1...9 bar⁽⁶⁾</td> <td>185PSIV -15...185 psi</td> </tr> <tr> <td>15V -1...15 bar</td> <td>285PSIV -15...285 psi</td> </tr> <tr> <td>24V -1...24 bar</td> <td>485PSIV -15...485 psi</td> </tr> <tr> <td>1R 0...1 bar⁽⁶⁾</td> <td>15PSIG 0...15 psi⁽⁶⁾</td> </tr> <tr> <td>1.6R 0...1.6 bar⁽⁶⁾</td> <td>20PSIG 0...20 psi⁽⁶⁾</td> </tr> <tr> <td>2.5R 0...2.5 bar⁽⁶⁾</td> <td>30PSIG 0...30 psi⁽⁶⁾</td> </tr> <tr> <td>4R 0...4 bar</td> <td>60PSIG 0...60 psi</td> </tr> <tr> <td>6R 0...6 bar⁽⁶⁾</td> <td>100PSIG 0...100 psi⁽⁶⁾</td> </tr> <tr> <td>10R 0...10 bar⁽⁶⁾</td> <td>150PSIG 0...150 psi⁽⁶⁾</td> </tr> <tr> <td>16R 0...16 bar⁽⁶⁾</td> <td>200PSIG 0...200 psi⁽⁶⁾</td> </tr> <tr> <td>25R 0...25 bar⁽⁶⁾</td> <td>300PSIG 0...300 psi⁽⁶⁾</td> </tr> <tr> <td>40R 0...40 bar⁽⁶⁾</td> <td>500PSIG 0...500 psi⁽⁶⁾</td> </tr> <tr> <td>60R 0...60 bar⁽⁶⁾</td> <td>750PSIG 0...750 psi⁽⁶⁾</td> </tr> <tr> <td>100R 0...100 bar⁽⁶⁾</td> <td>1000PSIG 0...1000 psi</td> </tr> <tr> <td>160R 0...160 bar⁽⁶⁾</td> <td>2000PSIG 0...2000 psi⁽⁶⁾</td> </tr> <tr> <td>250R 0...250 bar⁽⁶⁾</td> <td>3000PSIG 0...3000 psi⁽⁶⁾</td> </tr> <tr> <td>400R 0...400 bar⁽⁶⁾</td> <td>5000PSIG 0...5000 psi⁽⁶⁾</td> </tr> <tr> <td>600R 0...600 bar⁽⁶⁾</td> <td>7500PSIG 0...7500 psi⁽⁶⁾</td> </tr> <tr> <td>1000R 0...1000 bar</td> <td>14500PSIG 0...14500 psi</td> </tr> <tr> <th>bar absolute</th> <th>psi absolute</th> </tr> <tr> <td>1A 0...1 bar a</td> <td>15PSIA 0...15 psi a</td> </tr> <tr> <td>1.6A 0...1.6 bar a</td> <td>20PSIA 0...20 psi a</td> </tr> <tr> <td>2.5A 0...2.5 bar a</td> <td>30PSIA 0...30 psi a</td> </tr> <tr> <td>4A 0...4 bar a</td> <td>60PSIA 0...60 psi a</td> </tr> <tr> <td>6A 0...6 bar a</td> <td>100PSIA 0...100 psi a</td> </tr> <tr> <td>10A 0...10 bar a</td> <td>150PSIA 0...150 psi a</td> </tr> <tr> <td>16A 0...16 bar a</td> <td>200PSIA 0...200 psi a</td> </tr> </table>	bar relative	psi relative	1VR -1...0 bar ⁽⁶⁾	15PSIVG -15...0 psi ⁽⁶⁾	1V -1...1 bar	15PSIV -15...15 psi	1.5V -1...1.5 bar	45PSIV -15...45 psi	2.5V -1...2.5 bar	85PSIV -15...85 psi	5V -1...5 bar	130PSIV -15...130 psi ⁽⁶⁾	9V -1...9 bar ⁽⁶⁾	185PSIV -15...185 psi	15V -1...15 bar	285PSIV -15...285 psi	24V -1...24 bar	485PSIV -15...485 psi	1R 0...1 bar ⁽⁶⁾	15PSIG 0...15 psi ⁽⁶⁾	1.6R 0...1.6 bar ⁽⁶⁾	20PSIG 0...20 psi ⁽⁶⁾	2.5R 0...2.5 bar ⁽⁶⁾	30PSIG 0...30 psi ⁽⁶⁾	4R 0...4 bar	60PSIG 0...60 psi	6R 0...6 bar ⁽⁶⁾	100PSIG 0...100 psi ⁽⁶⁾	10R 0...10 bar ⁽⁶⁾	150PSIG 0...150 psi ⁽⁶⁾	16R 0...16 bar ⁽⁶⁾	200PSIG 0...200 psi ⁽⁶⁾	25R 0...25 bar ⁽⁶⁾	300PSIG 0...300 psi ⁽⁶⁾	40R 0...40 bar ⁽⁶⁾	500PSIG 0...500 psi ⁽⁶⁾	60R 0...60 bar ⁽⁶⁾	750PSIG 0...750 psi ⁽⁶⁾	100R 0...100 bar ⁽⁶⁾	1000PSIG 0...1000 psi	160R 0...160 bar ⁽⁶⁾	2000PSIG 0...2000 psi ⁽⁶⁾	250R 0...250 bar ⁽⁶⁾	3000PSIG 0...3000 psi ⁽⁶⁾	400R 0...400 bar ⁽⁶⁾	5000PSIG 0...5000 psi ⁽⁶⁾	600R 0...600 bar ⁽⁶⁾	7500PSIG 0...7500 psi ⁽⁶⁾	1000R 0...1000 bar	14500PSIG 0...14500 psi	bar absolute	psi absolute	1A 0...1 bar a	15PSIA 0...15 psi a	1.6A 0...1.6 bar a	20PSIA 0...20 psi a	2.5A 0...2.5 bar a	30PSIA 0...30 psi a	4A 0...4 bar a	60PSIA 0...60 psi a	6A 0...6 bar a	100PSIA 0...100 psi a	10A 0...10 bar a	150PSIA 0...150 psi a	16A 0...16 bar a	200PSIA 0...200 psi a								
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	<p>Functional principle</p> <p>PT Pressure transmitter</p>		<p>Process connection</p> <p>Male thread</p> <p>13 G1/8", DIN 3852 Form E</p> <p>40 G1/4" manometer connection</p> <p>04 G1/4", DIN 3852 Form E⁽⁶⁾</p> <p>43 G1/2", front sealing</p> <p>08 G1/2", manometer connection⁽⁶⁾</p> <p>14 1/8"-27 NPT⁽⁶⁾</p> <p>03 1/4"-18 NPT⁽⁶⁾</p> <p>05 7/16"-20 UNF straight⁽⁶⁾</p> <p>41 M10 x 1, back sealing</p> <p>20 M20 x 1.5</p> <p>10 R1/4" acc. to EN 10226</p> <p>47 Male thread G1/4" PVDF thread front sealing (≤ 16 bar)</p> <p>48 Male thread G1/2" PVDF thread front sealing (≤ 16 bar)</p> <p>46 Male thread G 1/8" front sealing</p> <p>30 Male thread G 1/2", back sealing DIN 3852</p> <p>Female thread</p> <p>01 G1/4"⁽⁶⁾</p> <p>17 1/2"-14 NPT</p> <p>18 7/16"-20 UNF</p> <p>44 7/16"-20 UNF with Schrader nipple</p> <p>Tube connection</p> <p>42 Cutting tube- (Tube: Ø 6/4, Steel 1.4301/AISI 304)</p>		<p>Output type</p> <p>Current output</p> <p>I2 4...20 mA, 7.0...33.0 VDC, 2-wire⁽⁶⁾</p> <p>I4 4...20 mA, 7.0...33.0 VDC, 2-wire increased interference immunity</p> <p>IX 4...20 mA, 10.0...30.0 VDC, 2-wire ATEX</p> <p>Voltage output</p> <p>U1 0...10 V, 12...33 VDC, 3-wire⁽⁶⁾</p> <p>U2 1...6 V, 8.0...33.0 VDC, 3-wire</p> <p>U3 0...5 V, 7.0...33.0 VDC, 3-wire</p> <p>UA 0...10 V, 24 VAC ± 15 %/12...33 VDC⁽²⁾, 3-wire⁽³⁾</p> <p>U6 ratiometric (10...90 %, 4.5...5.5 VDC, 3-wire)</p> <p>UX ratiometric (10...90 %, 4.5...5.5 VDC, 3-wire)</p>		<p>Electrical connections</p> <p>H1143 M12 x 1 connector</p> <p>M12 x 1⁽⁶⁾</p> <p>2L IN=1 OUT=3</p> <p>3L IN=1 OUT=4 GND=3</p> <p>H1144 M12 x 1⁽⁶⁾</p> <p>2L IN=1 OUT=4,</p> <p>3L IN=1 OUT=3 GND=4</p> <p>H1141 M12 x 1⁽⁶⁾</p> <p>2L IN=1 OUT=2</p> <p>3L IN=1 OUT=2 GND=3</p> <p>DIN EN 175301-803 connector Design A⁽⁶⁾</p> <p>DA91 2L IN=1 OUT=2</p> <p>3L IN=1 OUT=2 GND=3</p> <p>DC91 Design C</p> <p>2L IN=1 OUT=2</p> <p>3L IN=1 OUT=2 GND=3</p> <p>DC92 Design C</p> <p>2L IN=3 OUT=1</p> <p>3L IN=3 OUT=2 GND=1</p> <p>DC95 Design C</p> <p>2L IN=1 OUT=2</p> <p>3L IN=1 OUT=3 GND=2</p> <p>CM2.0 Cable with quick connect 2.0 m⁽⁵⁾</p> <p>IN=brown OUT=green</p> <p>IN=brown OUT=green</p> <p>GND=white</p> <p>PG connection</p> <p>TC11 Cable gland quick connect, PG9⁽⁵⁾</p> <p>IN=1, OUT=2, GND=3</p> <p>MP1 Metri Pack 150</p> <p>2L IN=B, A=OUT,</p> <p>3L IN=B, OUT C, GND=A</p> <p>RA15 Rast connector 2,5</p> <p>IN=1, GND=2, OUT=3</p> <p>WM0,5 Connection</p> <p>2L IN=rot, OUT blue</p> <p>3L IN=rot, OUT blue, black GND</p>	<p>Standard</p> <p>O For oxygen applications</p> <p>D830 With EPDM seal</p> <p>W Drinking water approval</p> <p>X Pressure tip orifice</p>																																																																			
			<p>Design/Functional principle</p> <p>10 Cylindrical/Ceramic measuring cell⁽¹⁾</p> <p>20 Cylindrical/Metal measuring cell fully welded⁽²⁾</p>																																																																								

Notes

⁽¹⁾ Pressure range [-1...60 bar], [-30...750 psi]

⁽²⁾ Pressure range [-1...1000 bar], [-30...14500 psi]

⁽³⁾ 24 VAC variant not with M12 x 1, RAST, connector and wire connection

⁽⁴⁾ No ratiometric output, No AC supply

⁽⁵⁾ As an accessory with DT04-3P or 4P connector possible

⁽⁶⁾ Preferred types

Certified portfolio

With extensive pressure ranges from -1...1000 bar relative and 0...16 bar absolute and various certificates, the new Turck pressure transmitters are ideal for a variety of pressure sensing tasks.

Various connectors

A particularly wide range of connector types enables the cost-effective and easy plugging to various system connections.

Analog signal output

A wide range of standard analog signals facilitates and guarantees smooth integration into the various automation systems.

Accurate, robust maintenance-free

By using high-quality materials and state of the art processors, PT1000/2000 pressure transmitters combine highest accuracy with maximum load capability. This makes them robust and reliable resources for the detection of pressure.

Compact design

The design is reduced to a minimum and enables installation even in very narrow spaces. The compact devices are therefore ideally suited for pressure monitoring in machine and plant construction.

Multifunctional

The modular design of the pressure transmitters enables a tremendous breadth and depth of the product portfolio. For countless application requirements we offer the appropriate devices at an optimal price-performance ratio.