

PT1R-1004-U1-H1143/X

Pressure Transmitter – With Voltage Output (3-Wire)



Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range 0...1 bar rel.
- Pressure tip orifice
- 12...33 VDC
- Analog output 0...10 V
- Process connection G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring
- Connector device, M12 × 1

Wiring diagram



Functional principle

The pressure sensors in the PT...-1000 product series operate with a ceramic measuring cell in various pressure ranges of up to -1...60 bar in 2-, 3- or even 4-wire technology. Depending on the sensor variant, the processed signal is available as an analog output signal (4...20 mA, 0...10 V, 0...5 V, 1...6 V, ratiometric) or as a digital IO-Link process parameter. The IO-Link sensor variants also have two independently configurable switching outputs. In addition to the standard variants, there are special sensors for uses such as ATEX areas or for oxygen applications. A wide range of process connections and electrical connections offer a high degree of flexibility in a wide range of applications.

Technical data

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|---|--|
| Type | PT1R-1004-U1-H1143/X |
| ID | 6836682 |
| Pressure range | |
| Pressure type | Relative pressure |
| Pressure range | 0...1 bar |
| | 0...14.5 psi |
| | 0...0.1 MPa |
| Admissible overpressure | ≤ 3 bar |
| Burst pressure | ≥ 3 bar |
| Response time | < 2 ms, typ. 1 ms |
| Long-term stability | 0.25 % FS, according to IEC EN 60770-1 |
| Power supply | |
| Operating voltage | 12...33 VDC |
| Current consumption | ≤ 7 mA |
| Short-circuit/reverse polarity protection | yes / yes |
| Protection type and class | IP67 / III |
| Insulation voltage | 750 VDC |
| Outputs | |
| Output 1 | Analog output |
| Output function | Analog output voltage |
| Analog output | |
| Voltage output | 0...10 V |
| Load | ≤ 100 nF / >10 kΩ |
| Resolution | <± 0.1 % FS |
| Accuracy LHR | ±0.3 % FS (typical; max. ±0.5 % FS) |

Technical data

| | |
|---|---|
| Temperature behaviour | |
| Medium temperature | -40...+125 °C |
| Temperature coefficient | ± 0.2 % of full scale/10 K |
| Environmental conditions | |
| Ambient temperature | -30...+85 °C |
| Storage temperature | -50...+100 °C |
| Vibration resistance | 20 g, 15...2000 Hz, 15...25 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6 |
| Shock resistance | 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27 |
| Mechanical data | |
| Housing material | Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0 |
| Pressure connection material | Stainless steel 1.4404 (AISI 316L) |
| Pressure transducer material | Ceramic Al ₂ O ₃ |
| Sealing material | FPM spez. |
| Process connection | G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring |
| Wrench size pressure connection / coupling nut | 24 |
| Electrical connection | Connector, M12 × 1 |
| Max. tightening torque of housing nut | 20 Nm |
| Reference conditions acc. to IEC 61298-1 | |
| Temperature | 15...+25 °C |
| Atmospheric pressure | 860...1060 hPa abs. |
| Humidity | 45...75 % rel. |
| Auxiliary power | 24 VDC |
| Tests/approvals | |
| Approvals | cULus |
| UL registration number | E302799 |
| MTTF | 1238 years acc. to SN 29500 (Ed. 99) 40 °C |
| Included in delivery | Profile seal FKM special (1 pc) |