

PT16R-2003-I2-H1141

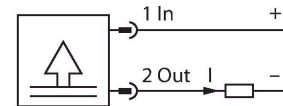
Pressure Transmitter – With Current Output (2-Wire)



Features

- Fully welded metal measuring cell
- Pressure range 0...16 bar rel.
- 7...33 VDC
- Analog output 4...20 mA
- Process connection 1/4"-18 NPT male thread
- Plug-in device, M12 × 1

Wiring diagram



Technical data

Type	PT16R-2003-I2-H1141
ID	100004099
Medium temperature	-40...+135 °C
Pressure type	Relative pressure
Pressure range	0...16 bar
	0...232.06 psi
	0...1.6 MPa
Admissible overpressure	≤ 48 bar
Burst pressure	≥ 96 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	± 0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage U_b	7...33 VDC
Current consumption	≤ 23 mA
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
Outputs	
Output 1	Analog output
Output function	Analog output current
Analog output	
Current output	4...20 mA
Load	≤ (supply voltage - 7)/20 kΩ
Resolution	<± 0.1 % FS

Functional principle

The pressure sensors in the PT...-2000 product series operate with a fully welded metal measuring cell in various pressure ranges of up to -1...1000 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

Accuracy LHR	±0.3 % FS (typical; max. ±0.5 % FS)
Mechanical data	
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0
Process connection	1/4" NPT-18 male thread
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Material pressure transducer	Stainless steel 1.4016 (AISI 430)
Wrench size pressure connection / coupling nut	24
Max. tightening torque of housing nut	20 Nm
Electrical connection	Connector, M12 × 1
Protection class	IP67
Environmental conditions	
Ambient temperature	-30...+85 °C
Storage temperature	-50...+100 °C
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
Vibration resistance	20 g, 15...2000 Hz, 15...25 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads
Tests/approvals	
UL registration number	E302799
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
Temperature behaviour	
MTTF	1189 years acc. to SN 29500 (Ed. 99) 40 °C
Technical data	
Type	PT16R-2003-I2-H1141
ID	100004099
Pressure type	Relative pressure
Pressure range	0...16 bar
	0...232.06 psi
	0...1.6 MPa
Admissible overpressure	≤ 48 bar

Technical data

Burst pressure	≥ 96 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage U_b	7...33 VDC
Current consumption	≤ 23 mA
Short-circuit/reverse polarity protection	yes / yes
Protection class	IP67
Insulation class	III
Insulation voltage	750 VDC
Outputs	
Output 1	Analog output
Output function	Analog output current
Analog output	
Current output	4...20 mA
Load	≤ (supply voltage -7)/20 kΩ
Resolution	<± 0.1 % FS
Accuracy LHR	±0.3 % FS (typical; max. ±0.5 % FS)
Temperature behaviour	
Medium temperature	-40...+135 °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)
Material pressure transducer	Stainless steel 1.4016 (AISI 430)
Process connection	1/4" NPT-18 male thread
Wrench size pressure connection / coupling nut	24
Electrical connection	Connector, M12 × 1

Technical data

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 1189 years acc. to SN 29500 (Ed. 99) 40 °C