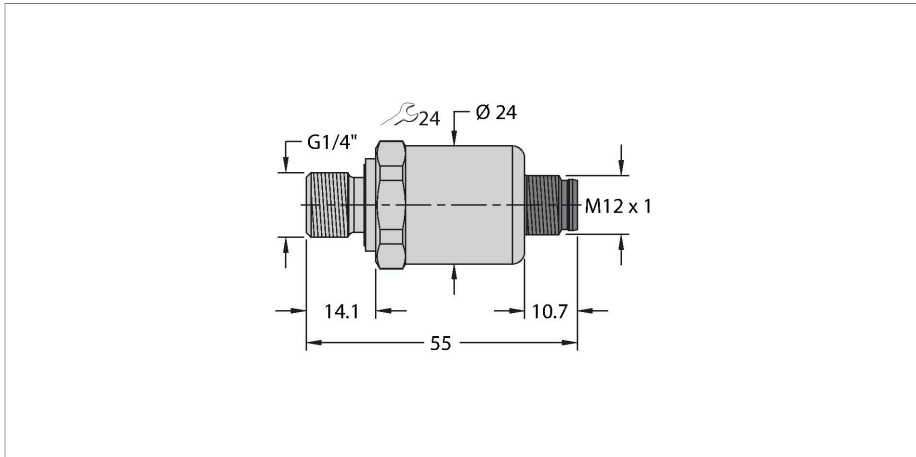


PT10A-1004-U1-H1143/X

Pressure Sensor – With Voltage Output (3-Wire)



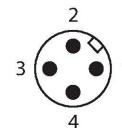
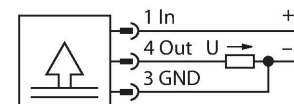
Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range 0...10 bar abs.
- 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

Technical data

Type	PT10A-1004-U1-H1143/X
ID	6839503
Medium temperature	-40...+125 °C
Pressure type	Absolute pressure
Pressure range	0...10 bar
	0...145.04 psi
	0...1 MPa
Admissible overpressure	≤ 30 bar
Burst pressure	≥ 30 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	12...33 VDC
Current consumption	≤ 7 mA
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
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

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.

Technical data

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.

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	G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Material pressure transducer	Ceramic Al ₂ O ₃
Sealing material	FPM spez.
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	1238 years acc. to SN 29500 (Ed. 99) 40 °C
Included in delivery	Profile seal FKM special (1 pc)
Technical data	
Type	PT10A-1004-U1-H1143/X
ID	6839503
Pressure type	Absolute pressure
Pressure range	0...10 bar

Technical data

	0...145.04 psi
	0...1 MPa
Admissible overpressure	≤ 30 bar
Burst pressure	≥ 30 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	12...33 VDC
Current consumption	≤ 7 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 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)
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)
Material pressure transducer	Ceramic Al ₂ O ₃
Sealing material	FPM spez.

Technical data

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)