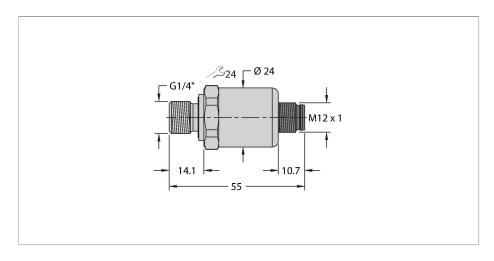


PT16A-1004-U1-H1143/X Pressure Sensor – With Voltage Output (3-Wire)



Technical data

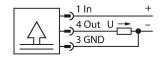
Туре	PT16A-1004-U1-H1143/X
ID	6839502
Pressure type	Absolute pressure
Pressure range	016 bar
- Tessure range	0232.06 psi
	01.6 MPa
Admissible everpressure	≤ 48 bar
Admissible overpressure	
Burst pressure	≥ 48 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage U _B	1233 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	010 V
Load	≤ 100 nF/> 10 kΩ
Resolution	<± 0.1 % FS
Accuracy LHR	±0.3 % FS (typical; max. ±0.5 % FS)



Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range 0...16 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

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

Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Environmental conditions Ambient temperature Ambient temperature -50+85 °C Storage temperature -50+100 °C Vibration resistance 20 g, 152000 Hz, 1525 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 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 Al₂O₃ 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 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. <	Temperature behaviour	
Environmental conditions Ambient temperature -30+85 °C Storage temperature -50+100 °C Vibration resistance 20 g, 152000 Hz, 1525 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. 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 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 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Medium temperature	-40+125 °C
Ambient temperature Storage temperature -30+85 °C Storage temperature -50+100 °C Vibration resistance 20 g, 152000 Hz, 1525 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 AlaO3 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Temperature coefficient	± 0.2 % of full scale/10 K
Storage temperature Vibration resistance Vibration resistance 20 g, 152000 Hz, 1525 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 Al₂O₃ 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Environmental conditions	
Vibration resistance 20 g, 152000 Hz, 1525 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 Al₂O₃ 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Ambient temperature	-30+85 °C
plitude ± 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 Al₂O₃ 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 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 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Storage temperature	-50+100 °C
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 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Vibration resistance	plitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to
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 Sealing material 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Shock resistance	6 directions, free fall from 1 m onto con-
Teressure connection material Pressure connection material Material pressure transducer Sealing material 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Mechanical data	
Material pressure transducer Sealing material 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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power Tests/approvals Approvals UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Housing material	
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 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 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Pressure connection material	Stainless steel 1.4404 (AISI 316L)
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 Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Material pressure transducer	Ceramic Al₂O₃
ing to DIN EN ISO 1179-2 with FPM profile sealing ring Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1 Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals UL registration number E302799 MTTF ing to DIN EN ISO 1179-2 with FPM profile sealing ring 24 Unit in the provide of housing ring 24 25 Connector, M12 × 1 20 Nm 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 VD Connector, M12 × 1 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 VD 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 20 Nm 20 Nm 20 Nm 21 Single sealing ring 24 20 Nm 2	Sealing material	FPM spez.
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 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Process connection	ing to DIN EN ISO 1179-2 with FPM pro-
Max. tightening torque of housing nut Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C		24
Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Electrical connection	Connector, M12 × 1
Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Max. tightening torque of housing nut	20 Nm
Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C		
Humidity 4575 % rel. Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Temperature	15+25 °C
Auxiliary power 24 VDC Tests/approvals Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Atmospheric pressure	8601060 hPa abs.
Tests/approvals Approvals CULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Humidity	4575 % rel.
Approvals cULus UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Auxiliary power	24 VDC
UL registration number E302799 MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Tests/approvals	
MTTF 1238 years acc. to SN 29500 (Ed. 99) 40 °C	Approvals	cULus
°C ,	UL registration number	E302799
Included in delivery Profile seal FKM special (1 pc)	MTTF	· · · · · · · · · · · · · · · · · · ·
	Included in delivery	Profile seal FKM special (1 pc)