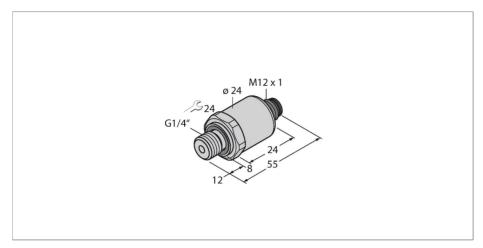


PT1V-1004-U3-H1143 Pressure Transmitter – With Voltage Output (3-Wire)



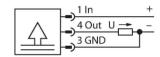
Technical data

Туре	PT1V-1004-U3-H1143
ID no.	100001794
Medium temperature	-40+125 °C
Pressure range	
Relative pressure bar	-11 bar rel.
	-14.514.5 psi
	-0.10.1 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	733 VDC
Current consumption	≤7 mA
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
Output 1	Analog output
Output function	Analog output voltage
Analog output	
Voltage output	05 V
Load	≤ 100 nF/>10 kΩ
Resolution	<± 0.1 % FS
Accuracy LHR	± 0.3 % FS BSL

Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range -1...1 bar rel.
- ■7...33 VDC
- ■Analog output 0...5 V
- Process connection G1/4" male thread (DIN 3852-E)
- 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

Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0
Process connection	G 1/4" male thread
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Pressure transducer material	Ceramics 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
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, 152000 Hz, 1525 Hz with amplitude +/- 15 mm, 1 octave/minute all 3 directions, 50 continuous loads
Approvals	UL
Reference conditions acc. to IEC 61298-1	
Temperature	15+25 °C
Atmospheric pressure	8601060 hPa abs.
Humidity	4575 % 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	
Туре	PT1V-1004-U3-H1143
ID no.	100001794
Pressure range	
Relative pressure bar	-11 bar rel.
	-14.514.5 psi
	-0.10.1 MPa
Admissible overpressure	≤ 3 bar
Burst pressure	≥ 3 bar
Response time	< 2 ms, typ. 1 ms



Technical data

Power supply Operating voltage 733 VDC Current consumption ≤ 7 mA Short-circuit/reverse polarity protection yes / yes Protection type and class IP67 / III Insulation voltage 750 VDC Outputs Output Output 1 Analog output voltage Analog output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS Accuracy LHR ± 0.3 % FS BSL Temperature behaviour Medium temperature Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K 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 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 Housing Stainless-steel/Plastic, 1.4404 (AISI 316L) polyacytamide 50 % GF UL 94 V-0 Pressure connection material Stainless-steel/Plastic, 1.4404 (AISI 316L) Pressure transducer material Ceramics Al,O, <th>Long-term stability</th> <th>0.25 % FS, according to IEC EN 60770-1</th>	Long-term stability	0.25 % FS, according to IEC EN 60770-1
Current consumption ≤ 7 mA Short-circuit/reverse polarity protection yes / yes Protection type and class IP67 / III Insulation voltage 750 VDC Outputs Output Output function Analog output voltage Analog output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Power supply	
Short-circuit/reverse polarity protection Protection type and class IP67 / III Insulation voltage T50 VDC Outputs Output 1 Output function Analog output voltage Analog output Voltage output Voltage output Load \$\leq 100 \text{ nfc} \rangle \text{ fc}\$ Resolution Accuracy LHR \$\leq 0.3 \text{ fc}\$ Shock resistance Toke resistance 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 Housing Housing material Stainless steel 1.4404 (AISI 316L) Pressure connection Wirench size pressure connection / coupling nut Electrical connection Connector, M12 × 1 Electrical connection Four Process connection Analog output Output Solve \$\leq 10.5 \text{ V} \$\leq 05 \text{ V} \$\leq 0* \text{ FS} \$\leq 0* \text	Operating voltage	733 VDC
Protection type and class IP67 / III Insulation voltage 750 VDC Outputs 750 VDC Output function Analog output voltage Analog output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Current consumption	≤ 7 mA
Insulation voltage 750 VDC Outputs Output 1 Analog output Output function Analog output voltage Analog output Voltage output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS Accuracy LHR ± 0.3 % FS BSL Temperature behaviour Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Ambient conditions Ambient temperature -50+85 °C Storage temperature -50+100 °C Vibration resistance 20 g, 15200 Hz, 1525 Hz with amplitude /- 15 mm, 1 octave/minute 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al₂O₂ Sealing material FPM spez. Process connection G 1/4* male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Short-circuit/reverse polarity protection	yes / yes
Outputs Analog output Output function Analog output voltage Analog output 05 V Load \$ 100 nF/>10 kΩ Resolution \$± 0.1 % FS Accuracy LHR \$± 0.3 % FS BSL Temperature behaviour Medium temperature Medium temperature -40+125 °C Temperature coefficient \$± 0.2 % of full scale/10 K Ambient conditions Ambient temperature 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 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 Housing Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Connector, M12 × 1	Protection type and class	IP67 / III
Output 1 Analog output Output function Analog output voltage Analog output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Insulation voltage	750 VDC
Output function Analog output Voltage output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Outputs	
Analog output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Output 1	Analog output
Voltage output 05 V Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Output function	Analog output voltage
Load ≤ 100 nF/>10 kΩ Resolution <± 0.1 % FS	Analog output	
Resolution <=± 0.1 % FS Accuracy LHR ± 0.3 % FS BSL Temperature behaviour Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Ambient 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 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Voltage output	05 V
Accuracy LHR ± 0.3 % FS BSL Temperature behaviour Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Ambient 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 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Load	≤ 100 nF/>10 kΩ
Temperature behaviour Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Ambient 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 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Resolution	<± 0.1 % FS
Medium temperature -40+125 °C Temperature coefficient ± 0.2 % of full scale/10 K Ambient conditions -30+85 °C Storage temperature -50+100 °C Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude +/- 15 mm, 1 octave/minute 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 Housing Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Connector, M12 × 1	Accuracy LHR	± 0.3 % FS BSL
Temperature coefficient ± 0.2 % of full scale/10 K Ambient 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 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Temperature behaviour	
Ambient 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 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Medium temperature	-40+125 °C
Ambient temperature Storage temperature -50+85 °C Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude +/- 15 mm, 1 octave/minute 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Temperature coefficient	± 0.2 % of full scale/10 K
Storage temperature -50+100 °C Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude +/- 15 mm, 1 octave/minute 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Ambient conditions	
Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude +/- 15 mm, 1 octave/minute 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Ambient temperature	-30+85 °C
amplitude +/- 15 mm, 1 octave/minute 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 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Storage temperature	-50+100 °C
all 6 directions, free fall from 1 m onto concrete (6x), acc. to IEC 68-2-27 Housing Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Vibration resistance	amplitude +/- 15 mm, 1 octave/minute all 3 directions, 50 continuous loads, acc. to
Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Shock resistance	all 6 directions, free fall from 1 m onto
316L)/polyacrylamide 50 % GF UL 94 V-0 Pressure connection material Stainless steel 1.4404 (AISI 316L) Pressure transducer material Ceramics Al ₂ O ₃ Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Housing	
Pressure transducer material Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Housing material	
Sealing material FPM spez. Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Process connection G 1/4" male thread Wrench size pressure connection / coupling nut Electrical connection Connector, M12 × 1	Pressure transducer material	Ceramics Al ₂ O ₃
Wrench size pressure connection / 24 coupling nut Electrical connection Connector, M12 × 1	Sealing material	FPM spez.
coupling nut Electrical connection Connector, M12 × 1	Process connection	G 1/4" male thread
		24
Max. tightening torque of housing nut 20 Nm	Electrical connection	Connector, M12 × 1
	Max. tightening torque of housing nut	20 Nm



Technical data

Reference conditions acc. to IEC 61298-1	
Temperature	15+25 °C
Atmospheric pressure	8601060 hPa abs.
Humidity	4575 % rel.
Auxiliary power	24 VDC
Approvals	UL
MTTF	1238 years acc. to SN 29500 (Ed. 99) 40 °C
Included in delivery	Profile seal FKM special (1 pc)