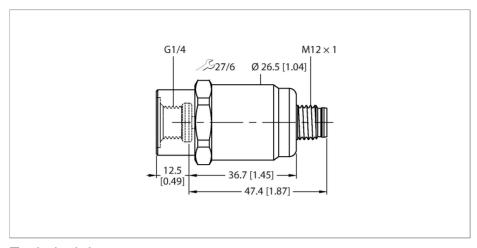


# PT1R-1001-U1-H1141 Pressure Transmitter – With Voltage Output (3-Wire)



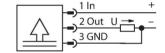
#### Technical data

Туре	PT1R-1001-U1-H1141
ID no.	6836685
Medium temperature	-40+125 °C
Pressure range	
Relative pressure bar	01 bar rel.
	014.5 psi
	00.1 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	1233 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	010 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 0...1 bar rel.
- ■12...33 VDC
- ■Analog output 0...10 V
- Process connection G1/4" female thread
- Plug-in 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" female thread
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Pressure transducer material	Ceramics Al <sub>2</sub> O <sub>3</sub>
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	FKM O-ring special (1 pc)
Technical data	
Туре	PT1R-1001-U1-H1141
ID no.	6836685
Pressure range	
Relative pressure bar	01 bar rel.
	014.5 psi
	00.1 MPa
Admissible overpressure	≤ 3 bar
Burst pressure	≥ 3 bar
Response time	< 2 ms, typ. 1 ms



# Technical data

Power supply       Operating voltage       1233 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       010 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       Analog output         Ambient temperature       -30+85 °C         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 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)         Pressure connect	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         Output 1       Analog output         Output function       Analog output voltage         Analog output       010 V         Load       ≤ 100 nF/>10 kΩ         Resolution       <± 0.1 % FS	Power supply	
Short-circuit/reverse polarity protection   yes / yes	Operating voltage	1233 VDC
Protection type and class       IP67 / III         Insulation voltage       750 VDC         Outputs       750 VDC         Output 1       Analog output         Output function       Analog output voltage         Analog output       010 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 010 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 H₂-15 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 Al₂O₃  Sealing material FPM spez.  Process connection G 1/4" female 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       010 V         Load       ≤ 100 nF/>10 kΩ         Resolution       <± 0.1 % FS	Protection type and class	IP67 / III
Output 1       Analog output         Output function       Analog output voltage         Analog output       010 V         Load       ≤ 100 nF/>10 kΩ         Resolution       <± 0.1 % FS	Insulation voltage	750 VDC
Output function       Analog output         Analog output       010 V         Load $\leq 100  \text{nF/>>}10  \text{k}\Omega$ Resolution $< \pm 0.1  \%  \text{FS}$ Accuracy LHR $\pm 0.3  \%  \text{FS BSL}$ Temperature behaviour       Medium temperature         Medium temperature $-40+125  ^{\circ}\text{C}$ Temperature coefficient $\pm 0.2  \%  \text{of full scale/10 K}$ Ambient conditions       Ambient temperature         Storage temperature $-30+85  ^{\circ}\text{C}$ Storage temperature $-50+100  ^{\circ}\text{C}$ Vibration resistance $20  g.  152000  \text{Hz}.  1525  \text{Hz}$ with amplitude $+/-15  \text{mm}.  1  \text{octave/minute all}$ 3 directions, 50 continuous loads, acc. to IEC 68-2-6         Shock resistance $100  g.  11  \text{ms}.  \text{half sinusoidal curve}$ all 6 directions, free fall from 1 m onto concrete (6x), acc. to IEC 68-2-27         Housing       Housing material         Housing material       Stainless-steel/Plastic, 1.4404 (AISI 316L)         Pressure connection material       Stainless steel 1.4404 (AISI 316L)         Pressure transducer material       Ceramics $Al_2O_3$ Sealing material       FPM spez.         Process connection       G 1/4" female thread         Wrench size pressure connection / coupling nut       <	Outputs	
Analog output       010 V         Load       ≤ 100 nF/>10 kΩ         Resolution       <± 0.1 % FS	Output 1	Analog output
Voltage output       010 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 <pre></pre>	Voltage output	010 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 <sub>2</sub> O <sub>3</sub> Sealing material FPM spez.  Process connection G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material       FPM spez.         Process connection       G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material FPM spez.  Process connection G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material FPM spez.  Process connection G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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	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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material  FPM spez.  Process connection  G 1/4" female 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 <sub>2</sub> O <sub>3</sub> Sealing material FPM spez.  Process connection G 1/4" female 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" female thread  Wrench size pressure connection / coupling nut  Electrical connection  Connector, M12 × 1	Housing material	
Sealing material FPM spez.  Process connection G 1/4" female 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" female thread  Wrench size pressure connection / coupling nut  Electrical connection Connector, M12 × 1	Pressure transducer material	Ceramics Al <sub>2</sub> O <sub>3</sub>
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" female 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	FKM O-ring special (1 pc)