

PT500R-2021-U6-H1143

Pressure Transmitter – Ratiometric Output (3-Wire)



Features

- Fully welded metal measuring cell
- Pressure range 0...500 bar rel.
- 5 VDC $\pm$ 10 %
- Ratiometric output 10...90 %
- Process connection 9/16"-18 UNF (SAE) male thread
- Plug-in device, M12 $\times$ 1

Wiring diagram



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

Type	PT500R-2021-U6-H1143
ID	100000855
Pressure range	
Pressure type	Relative pressure
Pressure range	0...500 bar
	0...7251.89 psi
	0...50 MPa
Admissible overpressure	$\leq$ 1500 bar
Burst pressure	$\geq$ 2500 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage	4.5...5.5 VDC
Current consumption	$\leq$ 7 mA
Short-circuit/reverse polarity protection	yes / yes
Protection type and class	IP67 / III
Insulation voltage	750 VDC
Outputs	
Output 1	Analog output
Output function	ratiom. 10...90%
Analog output	
Voltage output	0.5...4.5 V
Load	$\leq$ 100 nF/ $>$ 10 k Ω
Resolution	< $\pm$ 0.1 % FS
Accuracy LHR	$\pm$ 0.3 % FS (typical; max. $\pm$ 0.5 % FS)

Technical data

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)
Pressure transducer material	Stainless steel 1.4435 (AISI 316L)
Process connection	9/16"-18 UNF male thread
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	
MTTF	1564 years acc. to SN 29500 (Ed. 99) 40 °C
Included in delivery	FKM O-ring special (1 pc)