

PT160R-2003-IOL-H1141/X

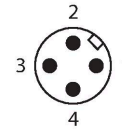
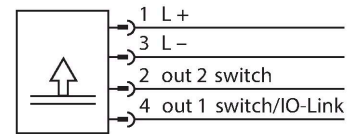
Pressure Transmitter – IO-Link with Two Switching Outputs



Features

- Fully welded metal measuring cell
- Pressure range 0...160 bar rel.
- Pressure peak orifice
- 11...33 VDC
- NO/NC contact, 2× PNP/NPN outputs, IO-Link
- Process connection 1/4"-18 NPT male thread
- Plug-in device, M12 × 1

Wiring diagram



Technical data

Type	PT160R-2003-IOL-H1141/X
ID no.	100022261
Medium temperature	-40...+135 °C
Pressure range	
Relative pressure bar	0...160 bar rel.
	0...2320.6 psi
	0...16 MPa
Admissible overpressure	≤ 480 bar
Burst pressure	≥ 960 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	± 0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage	11...33 VDC
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
Output 1	Switching output or IO-Link mode
Output 2	switching output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Switching frequency	≤ 100 Hz
Switching cycles	≥ 100 mil.
Resolution	<± 0.1 % FS

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

Accuracy LHR	± 0.3 % FS BSL
IO-Link	
IO-Link specification	V 1.1
Transmission physics	corresponds to 3-wire physics (PHY2)
Frame type	2.2
Transmission rate	COM 2/38.4 kbps
Programming	FDT/DTM
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyacrylamide 50 % GF UL 94 V-0
Process connection	1/4" NPT-18 male thread
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Pressure transducer material	Stainless steel 1.4435 (AISI 316L)
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, 15...2000 Hz, 15...25 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	860...1060 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC
Temperature behaviour	
MTTF	1200 years acc. to SN 29500 (Ed. 99) 40 °C
Technical data	
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Pressure range	
Relative pressure bar	0...160 bar rel.

Technical data

	0...2320.6 psi
	0...16 MPa
Admissible overpressure	≤ 480 bar
Burst pressure	≥ 960 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage	11...33 VDC
Short-circuit/reverse polarity protection	yes / yes
Protection type and class	IP67 / III
Insulation voltage	750 VDC
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	switching output
Switching output	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Switching current	≤ 100 mA
Switching frequency	≤ 100 Hz
Switching cycles	≥ 100 mil.
Switch point SP1	Factory setting: 25 % of measuring range end value
Release point rP1	Factory setting: 23 % of measuring range end value
Switching point SP2	Factory setting: 75 % of measuring range end value
Release point rP2	Factory setting: 73 % of measuring range end value
Resolution	<± 0.1 % FS
Accuracy LHR	± 0.3 % FS BSL
IO-Link	
IO-Link specification	V 1.1
Programming	FDT/DTM
Transmission physics	corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2/38.4 kbps
Frame type	2.2
Temperature behaviour	
Medium temperature	-40...+135 °C
Temperature coefficient	± 0.2 % of full scale/10 K

Technical data

Ambient 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 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)
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Process connection	1/4" NPT-18 male thread
Wrench size pressure connection / coupling nut	24
Electrical connection	Connector, M12 × 1
Max. tightening torque of housing nut	20 Nm
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Auxiliary power	24 VDC
Approvals	UL
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