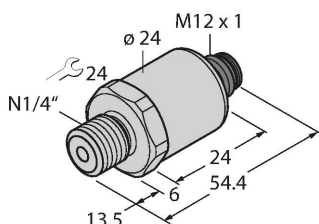


# PT9V-1003-IOL-H1141

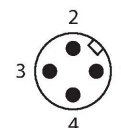
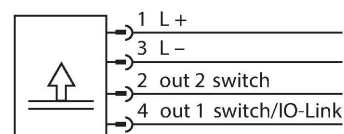
## Pressure Transmitter – With 2 Switching Outputs and IO-Link



### Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range -1...9 bar rel.
- 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



### 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

Type	PT9V-1003-IOL-H1141
ID no.	100023670
Medium temperature	-40...+125 °C
<b>Pressure range</b>	
Relative pressure bar	-1...9 bar rel.
	-14.5...130.53 psi
	-0.1...0.9 MPa
Admissible overpressure	≤ 30 bar
Burst pressure	≥ 30 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	± 0.25 % FS, according to IEC EN 60770-1
<b>Power supply</b>	
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
<b>Switching output</b>	
Communication protocol	IO-Link
Output function	NO/NC, PNP/NPN
Switching frequency	≤ 100 Hz
Switching cycles	≥ 100 mil.
Resolution	<± 0.1 % FS

## Technical data

Accuracy LHR	± 0.3 % FS BSL
<b>IO-Link</b>	
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
<b>Programming</b>	
Programming options	Offset; filter; switching points; hysteresis/ filter function, NC/NO; min./max. pressure values, pressure peak counter; operating hours counter
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	Ceramics Al <sub>2</sub> O <sub>3</sub>
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
<b>Reference conditions acc. to IEC 61298-1</b>	
Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC
<b>Temperature behaviour</b>	
MTTF	1200 years acc. to SN 29500 (Ed. 99) 40 °C

## Technical data

Type	PT9V-1003-IOL-H1141
ID no.	100023670
<b>Pressure range</b>	
Relative pressure bar	-1...9 bar rel.
	-14.5...130.53 psi
	-0.1...0.9 MPa
Admissible overpressure	≤ 30 bar
Burst pressure	≥ 30 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	0.25 % FS, according to IEC EN 60770-1
<b>Power supply</b>	
Operating voltage	11...33 VDC
Short-circuit/reverse polarity protection	yes / yes
Protection type and class	IP67 / III
Insulation voltage	500 VDC
<b>Outputs</b>	
Output 1	Switching output or IO-Link mode
Output 2	switching output
<b>Switching output</b>	
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
<b>IO-Link</b>	
IO-Link specification	V 1.1
Programming	FDT/DTM
Transmission physics	corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2/38.4 kbps

## Technical data

Frame type	2.2
<b>Temperature behaviour</b>	
Medium temperature	-40...+125 °C
Temperature coefficient	± 0.2 % of full scale/10 K
<b>Ambient conditions</b>	
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
<b>Housing</b>	
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>
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
<b>Reference conditions acc. to IEC 61298-1</b>	
Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.
Humidity	45...75 % rel.
Auxiliary power	24 VDC
<b>Programming</b>	
Programming options	Offset; filter; switching points; hysteresis/ filter function, NC/NO; min./max. pressure values, pressure peak counter; operating hours counter
Approvals	UL
MTTF	1200 years acc. to SN 29500 (Ed. 99) 40 °C