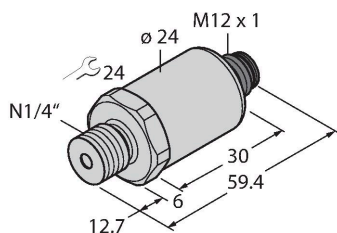


PT60R-2003-IOL-H1141

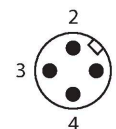
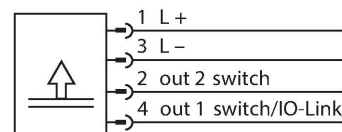
Pressure Transmitter – IO-Link with Two Switching Outputs



Features

- Fully welded metal measuring cell
- Pressure range 0...60 bar rel.
- 18...33 V DC
- 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...-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 | PT60R-2003-IOL-H1141 |
| ID | 100017822 |
| Medium temperature | -40...+135 °C |
| Pressure type | Relative pressure |
| Pressure range | 0...60 bar |
| | 0...870.23 psi |
| | 0...6 MPa |
| Admissible overpressure | ≤ 180 bar |
| Burst pressure | ≥ 360 bar |
| Response time | < 2 ms, typ. 1 ms |
| Long-term stability | ± 0.25 % FS, according to IEC EN 60770-1 |
| Power supply | |
| Operating voltage U_B | 18...33 VDC |
| Short-circuit/reverse polarity protection | yes / yes |
| Insulation class | III |
| 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 frequency | ≤ 100 Hz |
| Switching point distance | ≥ 0.5 % |

Technical data

| | |
|---|---|
| Switch point: | (Min. + 0.005 × range)...100 % of full scale |
| Release point(s) | Min. up to (SP - 0.005 × range) |
| Switching cycles | ≥ 100 mil. |
| Resolution | <± 0.1 % FS |
| Accuracy LHR | ±0.3 % FS (typical; max. ±0.5 % FS) |
| IO-Link | |
| IO-Link specification | V 1.1 |
| Transmission physics | corresponds to 3-wire physics (PHY2) |
| Transmission rate | COM 2/38.4 kbps |
| Frame type | 2.2 |
| Programming | FDT/DTM |
| Programming options | Offset; filter; switching points; hysteresis/ filter function, NC/NO; min./max. pressure values, pressure peak counter; operating hours counter |
| Mechanical data | |
| Housing material | Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0 |
| Process connection | 1/4" NPT-18 male thread |
| Pressure connection material | Stainless steel 1.4404 (AISI 316L) |
| Material pressure transducer | Stainless steel 1.4016 (AISI 430) |
| Wrench size pressure connection / coupling nut | 24 |
| Max. tightening torque of housing nut | 20 Nm |
| Electrical connection | Connector, M12 × 1 |
| Protection class | IP67 |
| Environmental conditions | |
| 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 in all 3 directions, 50 continuous loads |
| Tests/approvals | |
| UL registration number | E302799 |
| Reference conditions acc. to IEC 61298-1 | |
| Temperature | 15...+25 °C |
| Atmospheric pressure | 860...1060 hPa abs. |

Technical data

| | |
|------------------------------|--|
| Humidity | 45...75 % rel. |
| Auxiliary power | 24 VDC |
| Temperature behaviour | |
| MTTF | 1200 years acc. to SN 29500 (Ed. 99) 40 °C |

Technical data

| | |
|---|--|
| Type | PT60R-2003-IOL-H1141 |
| ID | 100017822 |
| Pressure type | Relative pressure |
| Pressure range | 0...60 bar |
| | 0...870.23 psi |
| | 0...6 MPa |
| Admissible overpressure | ≤ 180 bar |
| Burst pressure | ≥ 360 bar |
| Response time | < 2 ms, typ. 1 ms |
| Long-term stability | 0.25 % FS, according to IEC EN 60770-1 |
| Power supply | |
| Operating voltage U_b | 18...33 VDC |
| | In IO-Link mode |
| | 9...33 VDC |
| | In SIO mode |
| Short-circuit/reverse polarity protection | yes / yes |
| Protection class | IP67 |
| Insulation class | 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 point distance | ≥ 0.5 % |
| Switch point: | (Min. + 0.005 × range)...100 % of full scale |
| Release point(s) | Min. up to (SP - 0.005 × range) |
| Switching cycles | ≥ 100 mil. |

Technical data

| | |
|---|---|
| Switch point SP1 | Factory setting: 50 % of measuring range end value |
| Release point rP1 | Factory setting: 25 % of measuring range end value |
| Switching point SP2 | Factory setting: 60 % of measuring range end value |
| Release point rP2 | Factory setting: 30 % of measuring range end value |
| Resolution | <± 0.1 % FS |
| Accuracy LHR | ±0.3 % FS (typical; max. ±0.5 % FS) |
| 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 |
| 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) |
| Material pressure transducer | Stainless steel 1.4016 (AISI 430) |
| 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 |
| Reference conditions acc. to IEC 61298-1 | |
| Temperature | 15...+25 °C |

Technical data

| | |
|------------------------|--|
| Atmospheric pressure | 860...1060 hPa abs. |
| Humidity | 45...75 % rel. |
| Auxiliary power | 24 VDC |
| Programming options | Offset; filter; switching points; hysteresis/ filter function, NC/NO; min./max. pressure values, pressure peak counter; operating hours counter |
| Tests/approvals | |
| Approvals | cULus |
| UL registration number | E302799 |
| MTTF | 1200 years acc. to SN 29500 (Ed. 99) 40 °C |