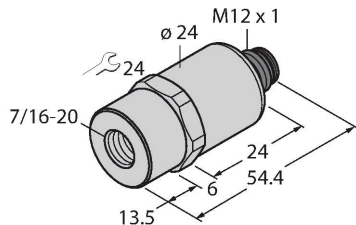


# PT40R-1018-U6-H1143

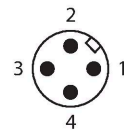
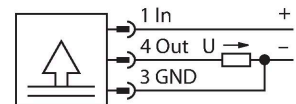
## Pressure Transmitter – Ratiometric Output (3-Wire)



### Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range 0...40 bar rel.
- 5 VDC  $\pm$  10 %
- Ratiometric output 10...90 %
- Process connection 7/16"-20 UNF female thread
- Plug-in device, M12  $\times$  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                                      | PT40R-1018-U6-H1143                           |
| ID                                        | 100018474                                     |
| Pressure type                             | Relative pressure                             |
| Pressure range                            | 0...40 bar                                    |
|                                           | 0...580.15 psi                                |
|                                           | 0...4 MPa                                     |
| Admissible overpressure                   | $\leq$ 120 bar                                |
| Burst pressure                            | $\geq$ 120 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 $U_B$                   | 4.5...5.5 VDC                                 |
| Current consumption                       | $\leq$ 7 mA                                   |
| Short-circuit/reverse polarity protection | yes / yes                                     |
| Protection class                          | IP67                                          |
| Insulation class                          | III                                           |
| Insulation voltage                        | 750 VDC                                       |
| <b>Outputs</b>                            |                                               |
| Output 1                                  | Analog output                                 |
| Output function                           | ratiom. 10...90%                              |
| <b>Analog output</b>                      |                                               |
| Voltage output                            | 0.5...4.5 V                                   |
| Load                                      | $\leq$ 100 nF / $>$ 10 k $\Omega$             |
| Resolution                                | < $\pm$ 0.1 % FS                              |
| Accuracy LHR                              | $\pm$ 0.3 % FS (typical; max. $\pm$ 0.5 % FS) |

## Technical data

|                                                |                                                                                                                                     |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Temperature behaviour                          |                                                                                                                                     |
| Medium temperature                             | -40...+125 °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                   | Ceramic Al <sub>2</sub> O <sub>3</sub>                                                                                              |
| Sealing material                               | FPM spez.                                                                                                                           |
| Process connection                             | 7/16"-20 UNF female 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                                |                                                                                                                                     |
| Approvals                                      | cULus                                                                                                                               |
| UL registration number                         | E302799                                                                                                                             |
| MTTF                                           | 1564 years acc. to SN 29500 (Ed. 99) 40 °C                                                                                          |