

# PT100R-2004-U1-H1141/X

## Pressure Transmitter – With Voltage Output (3-Wire)



### Features

- Fully welded metal measuring cell
- Pressure range 0...100 bar rel.
- Pressure peak orifice
- 12...33 VDC
- Analog output 0...10 V
- Process connection G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring
- Connector device, M12 × 1

### Wiring diagram



### Technical data

|                                           |                                        |
|-------------------------------------------|----------------------------------------|
| Type                                      | PT100R-2004-U1-H1141/X                 |
| ID                                        | 6837672                                |
| Pressure type                             | Relative pressure                      |
| Pressure range                            | 0...100 bar                            |
|                                           | 0...1450.38 psi                        |
|                                           | 0...10 MPa                             |
| Admissible overpressure                   | ≤ 300 bar                              |
| Burst pressure                            | ≥ 600 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 $U_B$                   | 12...33 VDC                            |
| Current consumption                       | ≤ 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                           | Analog output voltage                  |
| <b>Analog output</b>                      |                                        |
| Voltage output                            | 0...10 V                               |
| Load                                      | ≤ 100 nF / > 10 kΩ                     |
| Resolution                                | < ± 0.1 % FS                           |
| Accuracy LHR                              | ± 0.3 % FS (typical; max. ± 0.5 % 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

|                                                 |                                                                                                                                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temperature behaviour</b>                    |                                                                                                                                     |
| Medium temperature                              | -40...+135 °C                                                                                                                       |
| Temperature coefficient                         | ± 0.2 % of full scale/10 K                                                                                                          |
| <b>Environmental 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 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                    |
| <b>Mechanical data</b>                          |                                                                                                                                     |
| 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 1.4435 (AISI 316L)                                                                                                  |
| Process connection                              | G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring                                       |
| 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>Tests/approvals</b>                          |                                                                                                                                     |
| Approvals                                       | cULus                                                                                                                               |
| UL registration number                          | E302799                                                                                                                             |
| MTTF                                            | 1238 years acc. to SN 29500 (Ed. 99) 40 °C                                                                                          |
| Included in delivery                            | FKM special profile seal (1x)                                                                                                       |

Accessories

| Dimension drawing | Type          | ID      |                                                                                                                         |
|-------------------|---------------|---------|-------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.4T-2/TXL | 6625503 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval |
|                   | WKC4.4T-2/TXL | 6625515 | Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval   |
|                   | WKC4.4T-2/TEL | 6625025 | Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval   |
|                   | RKC4.4T-2/TEL | 6625013 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval |