

# PT6R-1004-IX-H1143

## Pressure Transmitter – With Current Output (2-Wire)



### Technical data

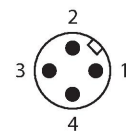
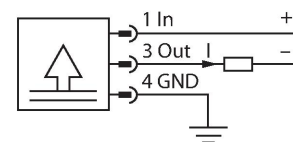
|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| Type                                      | PT6R-1004-IX-H1143                        |
| ID                                        | 100018206                                 |
| Pressure type                             | Relative pressure                         |
| Pressure range                            | 0...6 bar<br>0...87.02 psi<br>0...0.6 MPa |
| Admissible overpressure                   | ≤ 18 bar                                  |
| Burst pressure                            | ≥ 18 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 $U_B$                   | 10...30 VDC                               |
| Current consumption                       | ≤ 23 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 current                     |
| <b>Analog output</b>                      |                                           |
| Current output                            | 4...20 mA                                 |
| Load                                      | ≤ (supply voltage - 10)/20 kΩ             |
| Resolution                                | < ± 0.1 % FS                              |
| Accuracy LHR                              | ± 0.3 % FS (typical; max. ± 0.5 % FS)     |



### Features

- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Pressure range 0...6 bar rel.
- 10...30 VDC
- Analog output 4...20 mA
- Process connection G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring
- Connector device, M12 × 1
- ATEX, IECEx
- Category II 1/2 GD, Ex zone 0

### 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

|                                                 |                                                                                                                                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temperature behaviour</b>                    |                                                                                                                                     |
| Medium temperature                              | -30...+120 °C                                                                                                                       |
| Temperature coefficient                         | ± 0.2 % of full scale/10 K                                                                                                          |
| <b>Environmental conditions</b>                 |                                                                                                                                     |
| Ambient temperature                             | -25...+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                    | Ceramic Al <sub>2</sub> O <sub>3</sub>                                                                                              |
| Sealing material                                | FPM spez.                                                                                                                           |
| 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                                                                                                                             |
| Important note                                  | For intrinsically safe applications, the values specified in the corresponding Ex certificates (ATEX, IECEx, UL etc.) apply.        |
| Ex approval acc. to conformity certificate      | SEV 16 ATEX 0145                                                                                                                    |
| Application area                                | II 1/2 GD                                                                                                                           |
| Ignition protection category                    | Gas Ex ia IIC; dust Ex ia IIIC                                                                                                      |
| MTTF                                            | 1189 years acc. to SN 29500 (Ed. 99) 40 °C                                                                                          |
| Included in delivery                            | Profile seal FKM special (1 pc)                                                                                                     |

Accessories

| Dimension drawing                                                                   | Type            | ID      |                                                                                                                        |
|-------------------------------------------------------------------------------------|-----------------|---------|------------------------------------------------------------------------------------------------------------------------|
|    | RKC4.441T-2/TEB | 6628444 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, blue; cULus approval |
|    | RKC4.441T-2/TXB | 6631010 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, blue; cULus approval |
|   | WKC4.441T-2/TEB | 6628451 | Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PVC, blue; cULus approval   |
|  | WKC4.441T-2/TXB | 6629180 | Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PUR, blue; cULus approval   |

## Instructions for use

### Intended use

This device fulfills Directive 2014/34/EU and is suited for use in areas exposed to explosion hazards according to EN 60079-0:2012 + A11:2013, EN 60079-11:2012 and EN 60079-26:2015. In order to ensure correct operation according to the intended purpose, the national regulations and directives must be observed.

### For use in explosion hazardous areas conform to classification

The sensors may be used only in dust or gas areas

### Marking (see device or technical data sheet)

II 1/2 GD Ex ia IIC T4 Ga/Gb and EX ia IIIC T125 °C Da/Db acc. to EN60079-0:12+A11:2013

### Installation/Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas. Please verify that the classification and the marking on the device comply with the actual application conditions.

This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).

### Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device. If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields. The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet. In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

### Special conditions for safe operation

The device must be protected against any kind of mechanical damage.

### Service/Maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.