

PTI Series

2-WIRE PRESSURE TRANSMITTERS

PRODUCT DATA AND MOUNTING INSTRUCTIONS



GENERAL

The PTI 2-Wire Pressure Transmitters with voltage signal are suitable for measuring the relative pressures in liquid and gaseous media. The parameter "pressure" is converted into an analog voltage signal. Typical areas of application include:

- Compressors
- Refrigeration and HVAC/R
- Variable-frequency drives

FEATURES

- **Compact, rugged design**
- **Accurate relative pressure measurement over a wide temperature range**
- **Rated IP65**
- **Rapid response time**
- **2-wire technology**

TECHNICAL DATA

Connection

Pressure connection G1/2" as per EN 837-1
Elect. connection Plug connector as per DIN 175301, Form A, wire cross-section max. 1.5 mm²

Sensor

(Reference conditions: As per DIN 16086 + DIN IEC 770/5.3)

Medium temperature -30 ... +125 °C
Operating temperature -20 ... +125 °C
Storage temperature -40 ... +125 °C
Zero-point deviation ≤ 0.3% of FFS
Thermal hysteresis ≤ ±0.8% of FFS
Char. curve deviation ≤ ±0.5% of FFS
Hysteresis ≤ ±0.2% of FFS
Reproduceability ≤ 0.1% of FFS
Response time < 3 ms
Long-term stability < 1% of measurement range / year

Effect of ambient temperature in compensated range of -20 °C ... +85 °C

Zero ≤ 0.02% / K (typically),
≤ 0.04% / K max.
Measuring range ≤ 0.02% / K (typically),
≤ 0.04% / K max.

Output

Output signal 4...20 mA,
load ≤ (U_B - 10 V) / 0.02 A
Effect of burden < 0.5% max.
Voltage supply 10...30 VDC
Current consumption max. 25 mA
Effect of voltage supply < 0.02% / V

Materials

In contact with medium Stainless steel 1.4305; sensor: Al₂O₃ (96%); seal: FKM (Viton)

Housing Stainless steel 1.4305

Miscellaneous

EMC According to EN 61326
Protection rating IP65 as per EN 60529 with plug connector as per DIN 175301, Form A
Mechanical shock Max. 100 g / 1 ms (as per DIN IEC 68-2-27)
Mechanical vibrations Max. 20 g at 15...2000 Hz (as per DIN IEC 68-2-6)
Mounting orientation As desired
Weight 100 g
Incl. in delivery Pressure sensor, incl. plug connector and these instructions in individual packaging
China RoHS Conformity See accompanying leaflet



Fig. 1. Manufacturer's plate (example)

Table 1. Measurement range, overload limits, etc.

Model	Measurement range (bar)	Overload limit (bar)	Bursting pressure (bar)
PTI4	0...4	12	20
PTI6	0...6	18	30
PTI10	0...10	30	50
PTI16	0...16	48	80
PTI25	0...25	75	125
PTI40	0...40	120	200

SAFETY REMARKS



Danger. Minor or moderately severe injuries.

The PTI pressure transmitter is used for measuring relative (gauge) pressure in liquids and gases. Improper application of the device can be dangerous. The device is to be used only by authorized and professionally qualified personnel who follow these instructions and the relevant technical standards and statutory regulations (depending upon the given application) for installing, connecting, and operating the device. This device does not meet the requirements for a "Component with safety functions" as per the Pressure Directive 2014/68/EU.

The sample medium must **not** be allowed to freeze in the pressure transmitter!

Functional earth (F.E.): The pressure transmitter must be earthed via the process connection. Otherwise: See section "Electrically Non-Conductive Process Connection."

DIMENSIONS

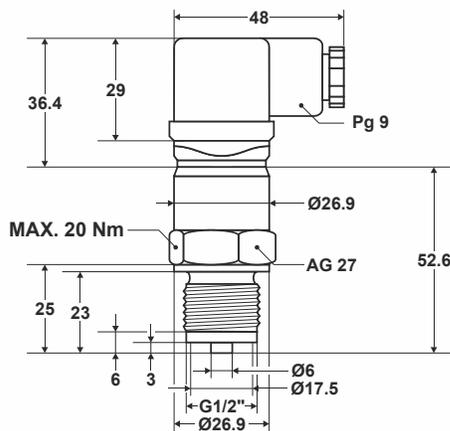


Fig. 2. Dimensions (mm)

ELECTRICAL CONNECTION

Table 2. Electrical connection

Connection		plug connector as per DIN 175301, Form A
Voltage supply 10...30 VDC		1 + 2 -
Output 4...20 mA, 2-wire		1 + 2 -
F.E.		4

Electrically Non-Conductive Process Connection

If the process connection is not electrically conductive and is thus unsuitable for the required functional earth, the functional earth can instead be effected via the plug connector (see Fig. 3). In this case, however, the device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regards to "Limited-energy circuits."

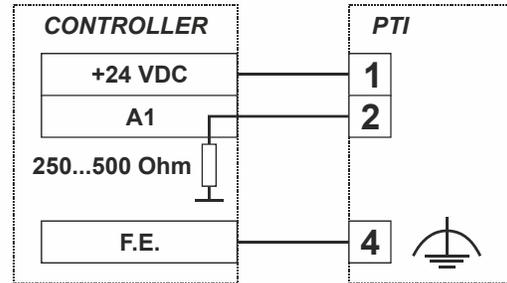


Fig. 3. Typical circuit

CONNECTION OF PLUG CONNECTOR

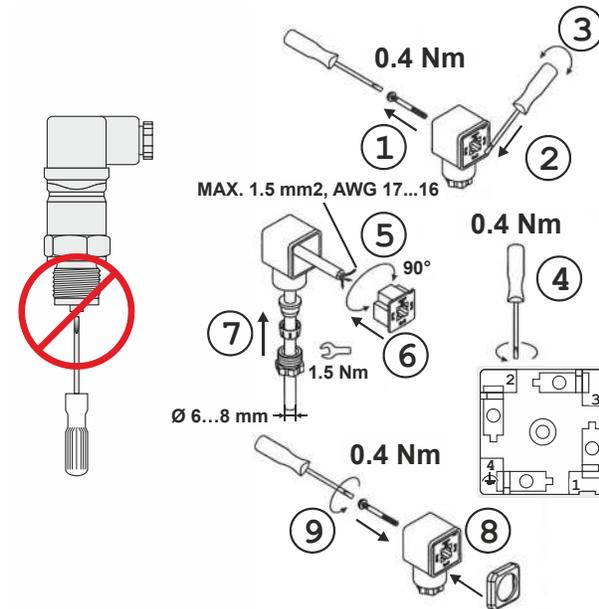


Fig. 4. Connection of plug connector

NOTE: To ensure protection rating IP65, the plug connector must be completely mounted – with the gaskets included in the delivery (8) – and a cable of appropriate diameter must be used.



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