

# PTU Series

## 3-WIRE PRESSURE TRANSMITTERS

### PRODUCT DATA AND MOUNTING INSTRUCTIONS



### GENERAL

The PTU 3-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

### FEATURES

- **Compact, rugged design**
- **Accurate relative pressure measurement over a wide temperature range**
- **Rated IP65**
- **Input reverse voltage protection prevents miswiring**
- **Rapid response time**

### 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 mm<sup>2</sup>

#### 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 0...10 V, load ≥ 10 kOhm (+1 mA)  
Effect of burden < 0.5% max.  
Voltage supply 24 VAC/DC ± 10%  
Current consumption max. 25 mA  
Effect of voltage supply < 0.02% / V

#### Materials

In contact with medium Stainless steel 1.4305; sensor: Al<sub>2</sub>O<sub>3</sub> (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)
PTU4	0...4	12	20
PTU6	0...6	18	30
PTU10	0...10	30	50
PTU16	0...16	48	80

## SAFETY REMARKS



### Danger. Minor or moderately severe injuries.

The PTU 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

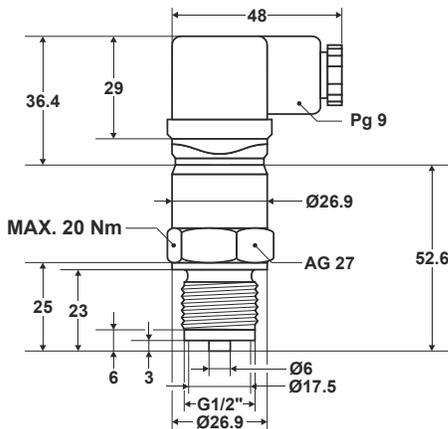


Fig. 2. Dimensions (mm)

## ELECTRICAL CONNECTION

Table 2. Electrical connection

Connection		plug connector as per DIN 175301, Form A
Voltage supply 24 VAC/DC		1 + 2 -
Output 0...10 V		2 - 3 +
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."

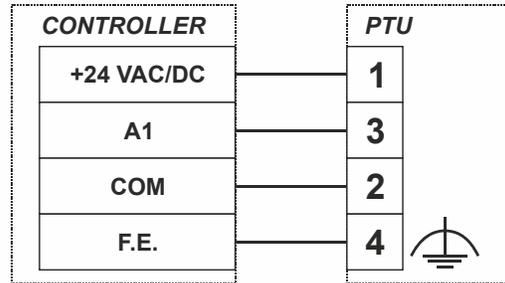


Fig. 3. Typical circuit

## CONNECTION OF PLUG CONNECTOR

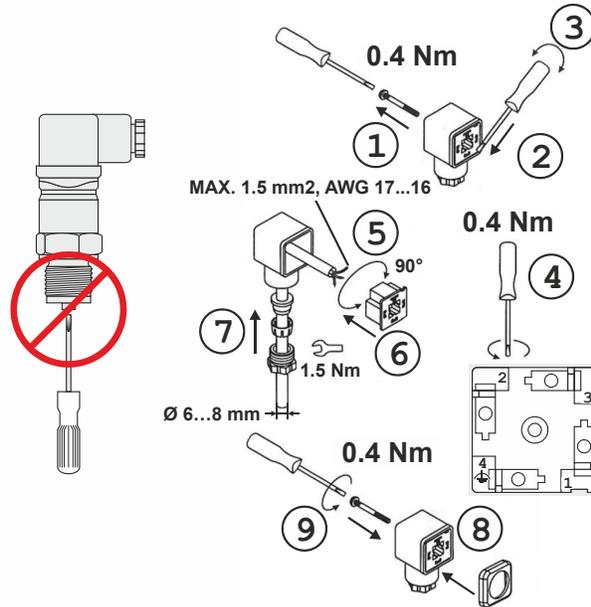


Fig. 4. Connection of plug connector

**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.



Manufactured for and on behalf of the Environmental & Energy Solutions Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

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