

PX5

UNIVERSAL PRESSURE TRANSMITTER



Description

PX5 a general-purpose industrial pressure transmitter, offers accurate pressure measurement from -1 to 1000 bar. Available in both Absolute and Gauge pressure ranges, it is based on reliable piezoresistive sensor technology with excellent stability, combined with a dedicated electronic circuit, making it a versatile yet cost-effective transmitter in an integrated structure. A variety of standard output signals, as well as mechanical and electrical connections, make the **PX5** suitable for a wide range of applications. In addition to threaded connections, different flush versions are available, particularly suitable for pasty, viscous, and polluted media. An optional ATEX-approved version of this product is available for explosion protection for flammable gasses (Zone 0).

Application

- Hydraulics and pneumatics
- Food and beverage manufacturing
- Energy management systems
- Petroleum and petrochemical industry
- Hydrology and water resources
- Pressure monitoring in the hazardous areas
- Engine manufacturing
- Petrol/gasoline pressure measurement



Main Feature

| | |
|---|---|
| <ul style="list-style-type: none"> ■ Piezoresistive Sensing Element | <ul style="list-style-type: none"> ■ Pressure Type: Absolute, Gauge, Sealed Gauge |
| <ul style="list-style-type: none"> ■ Measuring Range: -1 ... 0 bar to 0 ... 1000 bar | <ul style="list-style-type: none"> ■ Structure: Membrane Inside, Flush Membrane |
| <ul style="list-style-type: none"> ■ Output Signal: 4 ... 20 mA, 0 ... 10 VDC, 0 ... 5 VDC 1 ... 5 VDC, 0.5 ... 2.5 VDC 0.5 ... 4.5 VDC, 0.5 ... 4.5 VDC Ratiometric | <ul style="list-style-type: none"> ■ Process Connection: M20 x 1.5, Male, std. EN 837 G 1/4" A, Male, std. ISO 1179-2 G 1/2" A, Male, std. ISO 1179-2 M20 x 1.5, Male, std. ISO 9974-2 1/4" NPT, Male, std. ANSI/ASME B1.20.1 Clamp DN25 Clamp DN25 with Heat Sink |
| <ul style="list-style-type: none"> ■ Excellent Stability | |
| <ul style="list-style-type: none"> ■ Intrinsically Safe Type, Ex ia IIC T6 Ga | |
| <ul style="list-style-type: none"> ■ Explosion-proof Type, Ex d IIC T6 Gb | |
| <ul style="list-style-type: none"> ■ ATEX Type, II 1 G Ex ia IIC T4 Ga | <ul style="list-style-type: none"> ■ Electrical Connection: DIN EN 175301-803, Form A M12x1, 4-pin, Mat. Steel Cable Outlet Cable Outlet with Conduit Connection |
| <ul style="list-style-type: none"> ■ CE, RoHS | |

Technical Specifications

| | |
|------------------------------|---|
| Pressure Type | Absolute, Gauge, Sealed Gauge |
| Pressure Range | -1 ... 0 bar ~ 100 mbar ... 1000 bar |
| Overpressure | 2 x FS or 1100 bar (minimum value is valid) |
| Accuracy | See Accuracy on page 2 |
| Long-term Stability | ±0.3 %FS/year |
| Operation Temperature | -30 ... +80 °C (D1, M2) -20 ... +70 °C (C0, C1) -20 ... +80 °C (C2) -30 ... +60 °C (Intrinsically safe type, D1) -20 ... +60 °C (Intrinsically safe type, C types) -20 ... +60 °C (Exd type) |
| Storage Temperature | -40 ... +120 °C -20 ... +85 °C (C types) |
| Vibration | 10 g (55 ... 2000 Hz) |
| Shock | 100 g / 11 ms |
| Protection Rating | IP65 |
| Weight | ≤ 270 g |

Accuracy

| Pressure Type | Range | Accuracy |
|---------------------------|---|-----------|
| Gauge (G) | 0 bar ... 100 mbar < X < 200 mbar | ±1 %FS |
| | 200 mbar ≤ X ≤ 1 bar | ±0.5 %FS |
| | 1 bar ≤ X ≤ 35 bar | ±0.25 %FS |
| | | ±0.5 %FS |
| | -1 bar ... -350 mbar < X ≤ 2 bar | ±1 %FS |
| | -1 bar ... -350 mbar < X < 2 bar ... 35 bar | ±0.5 %FS |
| Absolute (A) | 0 bar ... 700 mbar < X ≤ 1 bar | ±1 %FS |
| | 1 bar < X < 10 bar | ±0.5 %FS |
| | 10 bar < X < 1000 bar | ±0.25 %FS |
| | | ±0.5 %FS |
| Sealed Gauge (S) | 35 bar < X < 1000 bar | ±0.25 %FS |
| | | ±0.5 %FS |

Note:

In flush structure products, For pressure range < 250 mbar the accuracy can only be 1 %FS.

Test standard: GB/T 17614.1-2015/IEC60770-1:2010

Environment temperature: 20°C ± 5°C

Relative humidity: 45% ... 75%

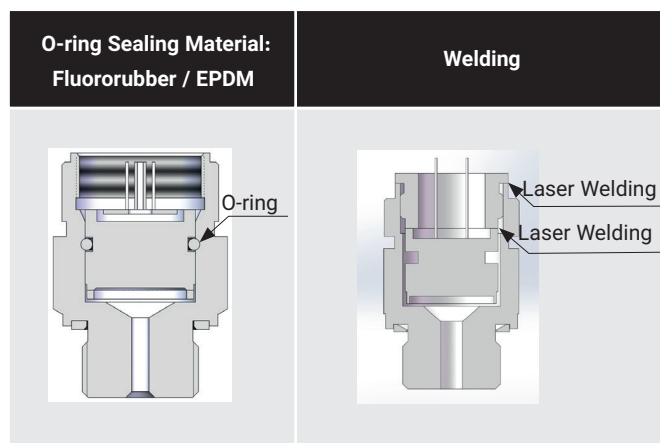
Thermal Drift

| | |
|--------------------|----------------------|
| Zero Thermal Drift | ±0.05 %FS/°C (≤1bar) |
| | ±0.03 %FS/°C (>1bar) |
| Span Thermal Drift | ±0.05 %FS/°C (≤1bar) |
| | ±0.03 %FS/°C (>1bar) |

Output Signal

| Output Signal | Power Supply | Output Format | Load Resistance |
|-----------------|---------------|---------------|-------------------------|
| 4 ... 20 mA | 11 ... 28 VDC | 2-wire | ≤(Supply - 11)/0.02 (Ω) |
| 1 ... 5 VDC | | | |
| 0 ... 5 VDC | | | |
| 0.5 ... 4.5 VDC | | | |
| 0 ... 10 VDC | 15 ... 28 VDC | 3-wire | ≥10kΩ |
| 0.5 ... 4.5 VDC | 5 ± 0.1 VDC | | |
| 0.5 ... 2.5 VDC | | | |
| 0.5 ... 2.5 VDC | | | |

Sensor Sealing



Structure Material

Wetted Parts

Isolated Diaphragm: Stainless Steel 316L / Tantalum

Pressure Port: Stainless Steel 304
Stainless Steel 316L
Hastelloy C

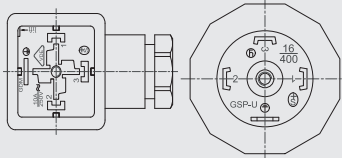


Sealing Ring: FKM / NBR

Non-wetted Parts


Housing: Stainless Steel 304 / Stainless Steel 316L

Cable Wire: PE / PUR / PVC

Electrical Connection

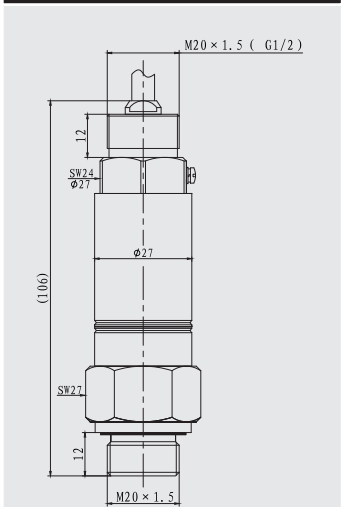
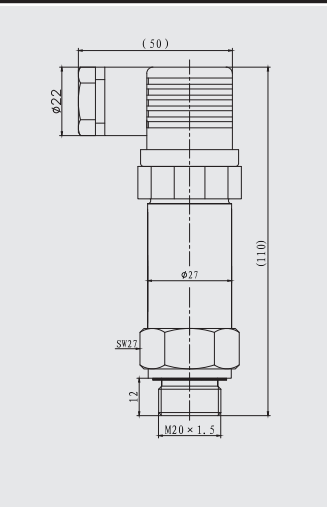
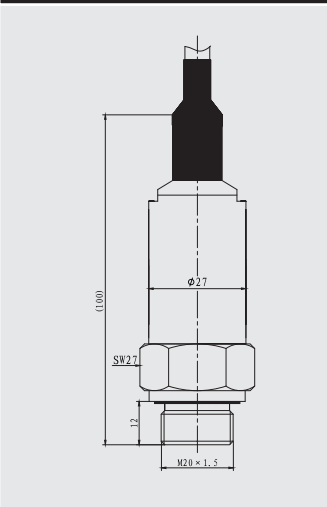
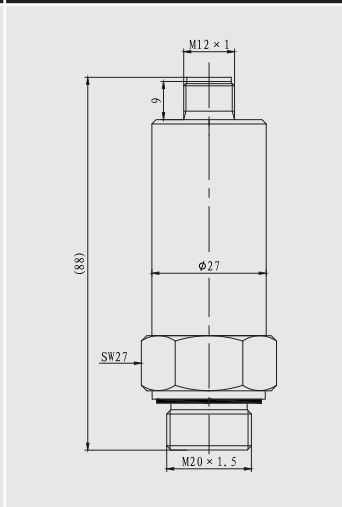
| Definition | D1 DIN EN 175301-803, Form A | | C Types Cable Wire, Mat. PE / PUR / PVC | | M2 M12x1, 4-pin, Mat. Steel | | |
|-----------------|---|--|---|-------------------|--------------------------------|-------------------|--|
| |  |  |  | | | | |
| | Current 2-wire | Voltage 3-wire | Current 2-wire | Voltage 3-wire | Current 2-wire | Voltage 3-wire | |
| +V | 1 | 1 | Red | Red | 1 | 1 | |
| I Out +V Out | 2 | 3 | Black | White | 3 | 3 | |
| GND | N.C | 2 | N.C | Black | N.C | 2 | |

Electrical Definition

| Code | Definition |
|---|------------------|
| +V | Supply Voltage + |
| GND | Supply Voltage - |
| I Out | Current Output |
| +V Out | Voltage Output |
| N.C | No Connection |
|  | Grounding |

Dimension

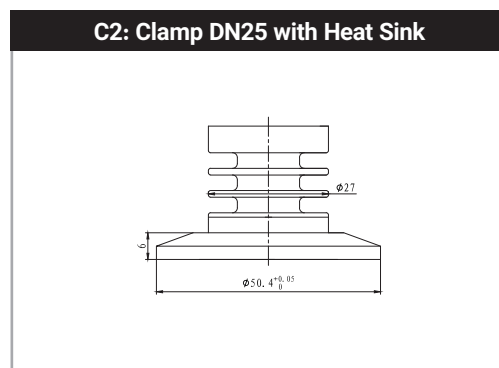
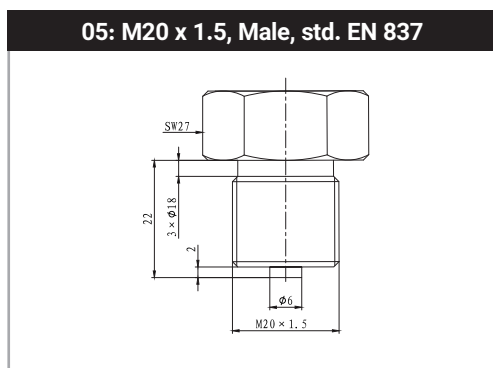
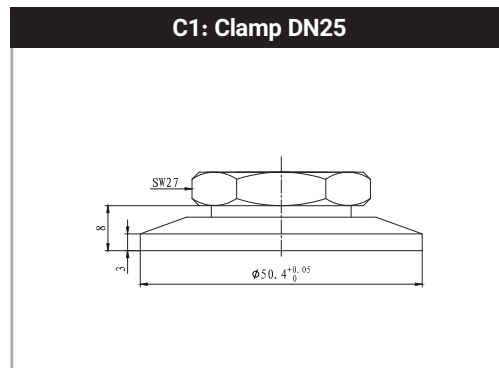
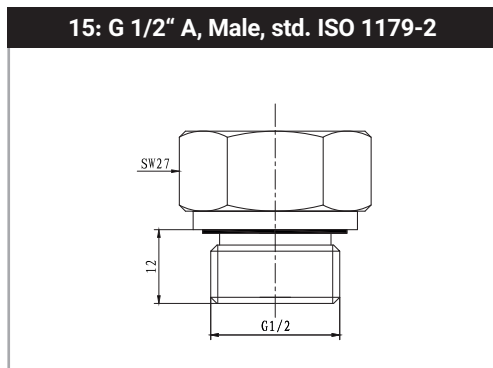
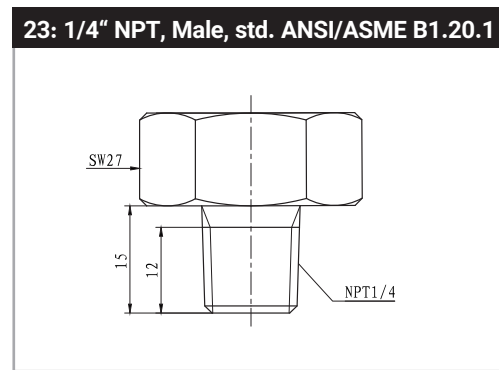
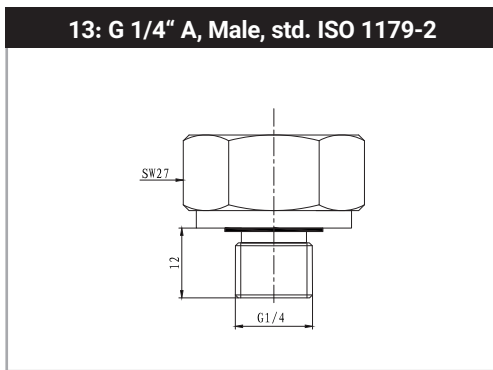
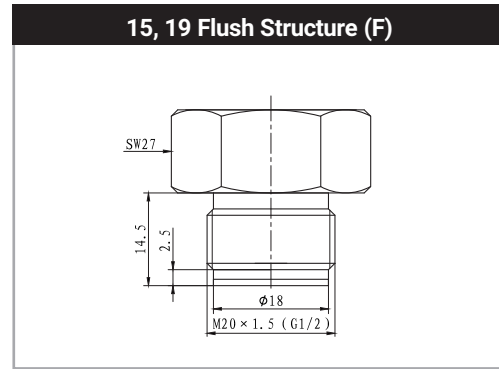
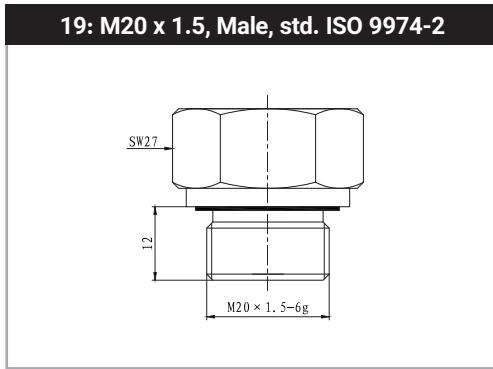
unit: mm

| Exd Type (XD) | D1 Types | C Types | M2 Types |
|---|---|--|---|
|  |  |  |  |

Process Connection

Process Connection Dimensions

unit: mm



How to Order

PX5 - X - (X...X) X - XXX - XXX - XX - X - XX - X - XX-XX - XX - X - X - X

| Pressure Type | |
|---------------|---|
| Absolute | A |
| Gauge | G |
| Sealed Gauge | S |

| Pressure Range |
|------------------|
| e.g. (0 ... 250) |

| Unit | |
|---------------------|------|
| kPa | mbar |
| MPa | bar |
| kgf/cm ² | psi |

| Power Supply | |
|---------------|-----|
| 3.3 ± 0.1 VDC | S01 |
| 5 ± 0.1 VDC | S04 |
| 11 ... 28 VDC | S13 |
| 15 ... 28 VDC | S18 |
| Customized | XX |

| Output Signal | |
|--------------------------|-----|
| 4 ... 20 mA / 2-wire | C01 |
| 0 ... 10 VDC / 3-wire | V01 |
| 0 ... 5 VDC / 3-wire | V03 |
| 1 ... 5 VDC / 3-wire | V04 |
| 0.5 ... 2.5 VDC / 3-wire | V06 |
| 0.5 ... 4.5 VDC / 3-wire | V07 |
| Customized | XX |

| Accuracy | |
|-------------|----|
| ≤ ±0.25 %FS | B2 |
| ≤ ±0.5 %FS | A5 |
| ≤ ±1 %FS | A6 |
| Customized | XX |

| Structure | |
|-----------------|------|
| Membrane Inside | null |
| Flush Membrane | F |

| ① Process Connection | |
|--|----|
| M20 x 1.5, Male, std. EN 837 | 05 |
| G 1/4" A, Male, std. ISO 1179-2 | 13 |
| G 1/2" A, Male, std. ISO 1179-2 | 15 |
| M20 x 1.5, Male, std. ISO 9974-2 | 19 |
| 1/4" NPT, Male, std. ANSI/ASME B1.20.1 | 23 |
| Clamp DN25 | C1 |
| Clamp DN25 with Heat Sink | C2 |
| Customized | XX |

| Certification Requirement | |
|---------------------------|---|
| null | No Certification Requirement |
| AT | ATEX |
| XI | Intrinsically safe type, Ex ia IIC T6 Ga ² |
| XD | Explosion-proof type, Ex d IIC T6 Ga |
| MA | Marine Approval |

| Display Indicator ³ | |
|--------------------------------|--------------------------------|
| null | Without Display Indicator |
| Z4 | 4 digits LED Digital Indicator |
| Z5 | 4 digits LCD Digital Indicator |

| Sealing Material ⁴ | |
|-------------------------------|--------------|
| W | Without Seal |
| F | FKM |
| E | EPDM |
| X | Customized |

| | Material | | |
|----|------------|---------------|---------|
| | Diaphragm | Pressure Port | Housing |
| 42 | SS 316L | SS 304 | SS 304 |
| 43 | SS 316L | SS 316L | SS 304 |
| 44 | SS 316L | SS 316L | SS 316L |
| T2 | Tantalum | SS 304 | SS 304 |
| TH | Tantalum | Hastelloy C | SS 304 |
| XX | Customized | | |

| Electrical Connection | |
|-----------------------|--------------------------------------|
| D1 | DIN EN 175301-803, Form A |
| M2 | M12x1, 4-pin, Mat. Steel |
| C0 | Cable Outlet, Mat. PE |
| C1 | Cable Outlet, Mat. PVC |
| C2 | Cable Outlet, Mat. PUR |
| C6 | Cable Outlet with Conduit Connection |
| XX | Customized |

| Extension Cable | |
|-----------------|---|
| null | Without Assorted Connector |
| B1 | With Assorted Connector |
| B2 | Female Straight Connector M12x1, 4-pin Integrated with 2m Cable |
| B3 | Female Right Angle Connector M12x1, 4-pin Integrated with 2m Cable |
| Ln | n means cable length when electrical connection is C type (exc. L0 = 0.5 m) |
| XX | Customized |

| Snubber | |
|---------|-----------------------------|
| null | Without Snubber |
| S | With Snubber |
| C | Customized Pressure Channel |

Example

PX5-G-(0 ... 4)bar-S13-C01-A5-F-15-D1-B1-43-F

Gauge Pressure Transmitter, Range: 0 ... 4 bar

Supply: 11 ... 28 VDC, Output: 4 ... 20 mA, Accuracy: $\leq \pm 0.5$ %FS

Process Connection: G 1/2" A Male, Flush Structure

Electrical Connection: DIN EN 175301-803 Form A With Assorted Connector

Wetted Parts Material: Stainless Steel 316L + FKM Sealing

■ Notes:

1. **1** For flush structure process connection F-15 and F-19, Pressure range: 0 ... 200 mbar to 0 ... 350 bar.
For flush structure Process connection F-C1 and F-C2, Pressure range: 0 ... 350 mbar to 0 ... 350 bar.
2. **2** The intrinsically safe type is only available for current output products.
The product can be intrinsically safe and suitable for marine applications simultaneously, or it can be both intrinsically safe and explosion-proof.
3. **3** It is only available for 4 ... 20 mA output, non-explosion proof, and non-ship-use products with D1 electrical connection.
The power supply must be ≥ 16 VDC.
Ambient temperature should be -20 ... 70 °C for products with Z4 display indicator.
Ambient temperature for products with Z5 display indicator should be -10 ... 60 °C.
Z4/Z5 Datasheets can be found on our website www.hogller.com.
4. **4** FKM Sealing is suitable for medium temperatures between -20 ... 250 °C.
For medium temperatures < -20 °C, EPDM sealing is needed.
5. For products which are powered by S01 or S04 and feature cable connections, the cable length must be less than 10m.
6. If you require a calibration certificate for the ordered product or have any other special requirements, please reach out to our company for assistance.