

Pressure Transmitter for Absolute and Relative Pressure Measurement, Type PAX9



| | |
|--|---|
| Supply voltage | 8 ... 30 VDC @ output signal 4 ... 20 mA; 14 ... 30 VDC @ output signal 0 ... 10 VDC |
| Output signal and maximum permissible load | 4 ... 20 mA, 2-wire, RA ≤ (UB - 8 V) / 0.02 A; 0 ... 10 VDC, 3-wire, RA > 10 kΩ; |
| Electrical connection | Angular connector Form A EN175301-803, circular connector Euro M12 x 1, cable outlet 2 m length |
| Pressure connection | G¼ B, ¼ - 18 NPT, M14 x 1.5 |
| Reverse voltage protection | UB against 0 V |
| Short-circuit protection | S+ against 0 V (only U1 version) |
| Protection class | IP 65: Elbow connector Form A EN 175301-803; IP 67: Circular connector Euro M 12 x 1, cable outlet 2 m length |
| Vibration resistance | IEC 60068-2-6: 10 g (resonance) |
| Shock resistance | IEC 60068-2-27: 500 g (mechanical) |



Pressure Transducer PAX9

Scope of application

Type PAX9 pressure transmitter are mainly used in: Shipbuilding industry, transport technology, machinery and equipment. They acquire the pressure of diesel engines, pumps, filters, compressors, hydraulic and pneumatic control systems.

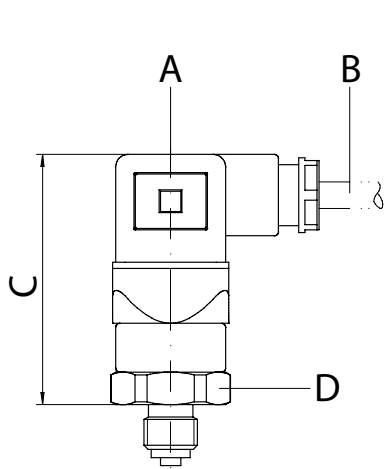
Outstanding EMC properties

The EMC properties guarantee reliable signal acquisition even under harsh ambient conditions. All parts that come in contact with the measured medium are made of CrNi steel and fully welded. There are no internal sealing elements that involve restriction in the selection of the measured medium.

Special features

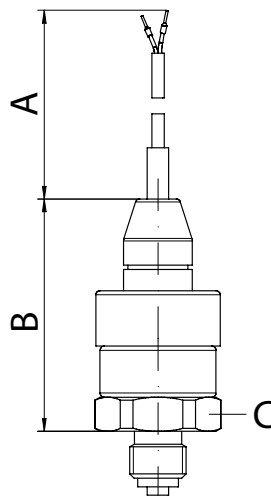
- Suitable for absolute and relative pressure measurement
- Vacuum-proof
- Various types of connection: Plug connections/cable outlet
- Various process connections
- Certified for shipbuilding industry and offshore by DNV-GL

Dimensions, connections and drawings



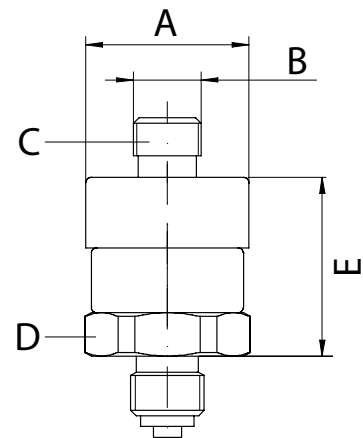
Angular connector form A

- A) Angular connector as per DIN 175301-803
- B) $\varnothing 6 \dots 8$ mm
- C) Length 61.5 mm
- D) WAF 27 mm



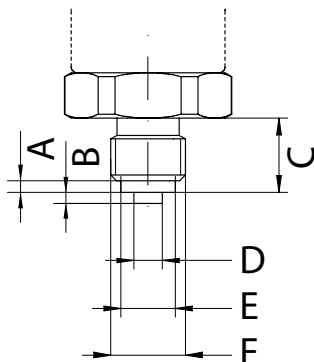
Cable terminal

- A) Length 2 m
- B) Length 54.5 mm
- C) WAF 27 mm



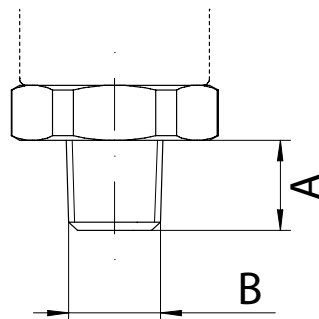
Circular connector M12 x 1

- A) $\varnothing 29$ mm
- B) M12x1
- C) 4-pin circular connector
- D) WAF 27 mm
- E) Length 33 mm



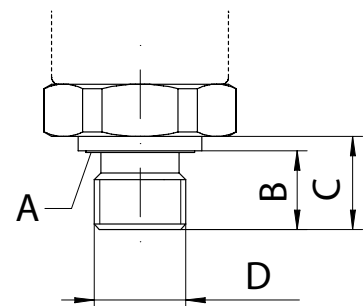
Process connection G1/4B

- A) Length 2 mm
- B) Length 2 mm
- C) Length 13 mm
- D) $\varnothing 5$ mm
- E) $\varnothing 9.5$ mm
- F) G 1/4 B



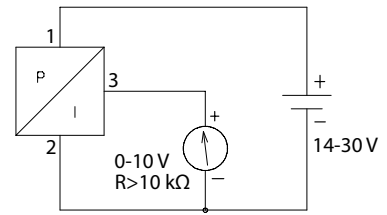
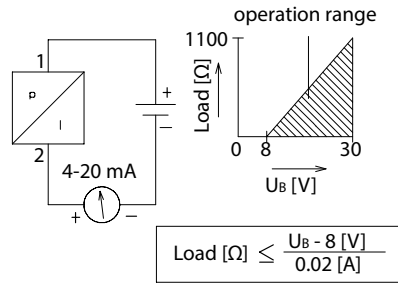
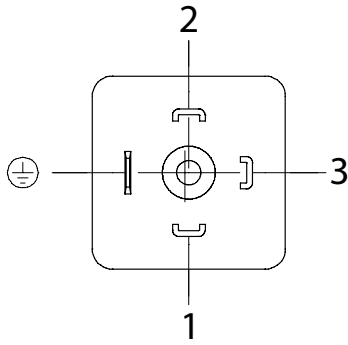
Process connection 1/4-18 NPT

- A) Length 13 mm
- B) 1/4 - 18 NPT



Process connection M14x1.5

- A) Nitrile rubber seal
- B) Length 12 mm
- C) Length 14 mm
- D) M14x1.5

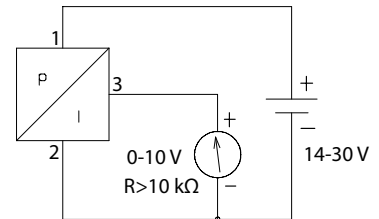
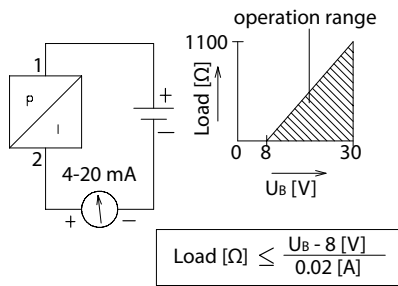
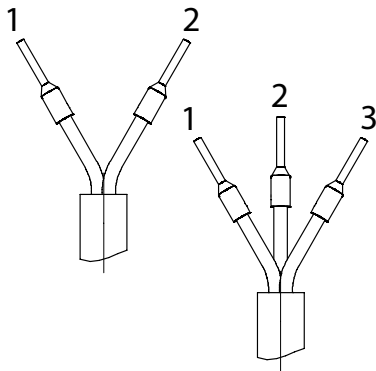


Electrical connection, angular connector form A

- 1) +U_B
- 2) -U_B (0V)
- 3) S+ (only U1 version)

Wiring diagram, angular connector form A, 2-wire technology

Wiring diagram, angular connector form A, 3-wire technology

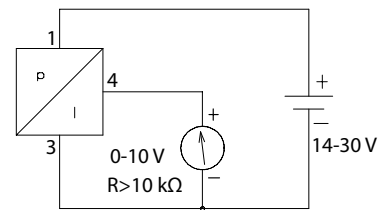
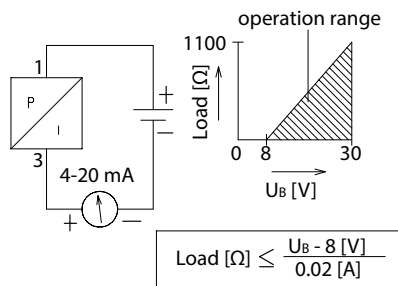
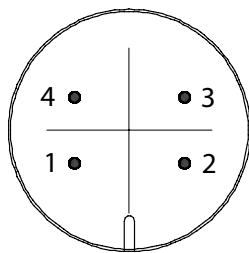


Electrical connection, cable outlet

- 1) Brown = +U_B
- 2) Blue = -U_B (0V)
- 3) Black = S+

Wiring diagram, cable outlet, 2-wire technology

Wiring diagram, cable outlet, 3-wire technology



Electrical connection, circular connector M12x1

- 1) +U_B
- 2) Not connected
- 3) -U_B (0V)
- 4) S+ (U1-Version)

Wiring diagram, circular connector M12x1, 2-wire technology

Wiring diagram, circular connector M12x1, 3-wire technology

Technical data

| Electrical connection | |
|----------------------------|---|
| Supply voltage | 8 ... 30 VDC @ output signal 4 ... 20 mA; 14 ... 30 VDC @ output signal 0 ... 10 VDC |
| Current limitation | Power supply by energy-limited electrical circuit in accordance with 9.3 of UL/EN/IEC 61010-1 or LPS in accordance with UL/EN/IEC 60950-1 or Class 2 in accordance with UL1310/UL1585 (NEC or CEC) (the power supply must also be suitable for operation at an altitude above 2000 m, if used in these heights) |
| Reverse voltage protection | UB against 0 V |
| Short-circuit protection | S+ against 0 V (only U1 version) |
| Electrical connection | Angular connector Form A EN175301-803, circular connector Euro M12 x 1, cable outlet 2 m length |
| Pressure connection | G $\frac{1}{4}$ B, $\frac{1}{4}$ - 18 NPT, M14 x 1.5 |

| Signal acquisition | |
|--------------------------|---------------------------|
| Standard measuring range | See measuring range table |
| Special measuring range | See measuring range table |

| Electrical output | |
|--|--|
| Output signal and maximum permissible load | 4 ... 20 mA, 2-wire, RA \leq (UB - 8 V) / 0.02 A; 0 ... 10 VDC, 3-wire, RA > 10 k Ω ; |
| Accuracy | $\leq \pm 1$ % of the range (including non-linearity, hysteresis, zero point and final value deviation (IEC 6198-2)); calibrated in vertical mounting position with process connection facing downward |
| Non-linearity | $\leq \pm 0.5$ % of range |
| Non-repeatability | ≤ 0.1 % of range |
| Long-term drift | $\leq \pm 0.1$ % of range (under reference conditions) |
| Transient response | Transient recovery time < 4 ms; turn on-time < 15 ms |

| Environmental influences | |
|--------------------------|--|
| Operating temperature | Permissible measured medium temperature: -30 ... +100 °C Permissible ambient temperature: -30 ... +100 °C (for type -X cable outlet 0 ... +80 °C) |
| Storage temperature | -30 ... +100 °C (for type -X cable outlet -20 ... +80 °C) |
| Vibration resistance | IEC 60068-2-6: 10 g (resonance) |
| Shock resistance | IEC 60068-2-27: 500 g (mechanical) |
| Protection class | IP 65: Elbow connector Form A EN 175301-803; IP 67: Circular connector Euro M 12 x 1, cable outlet 2 m length |

| Mechanical quantities | |
|-----------------------|--|
| Material | Parts in contact with measured medium: < 10 bar CrNi steel 316L; > 10 bar CrNi steel 316L and 13-8 PH, housing CrNi steel 316L |
| Weight | Approx. 80 g |

| Other | |
|---------------|--|
| Approvals | DNV-GL |
| CE Conformity | Pressure Equipment Directive 97/23/EC; EMC Directive 2004/108/EC EN 61326 Emission (Group 1, Class B) and interference immunity (industrial environment) |

| Measuring range PAX9 | | | | | |
|----------------------|----------------------|------|-----------------------|----------------|---|
| | | Code | Measuring range [bar] | Overload [bar] | |
| Standard | Absolute or relative | 01 | 1 bar | 2 bar | |
| | | 02 | 1.6 bar | 3.2 bar | |
| | | 03 | 2.5 bar | 5 bar | * |
| | | 04 | 4 bar | 8 bar | * |
| | | 05 | 6 bar | 12 bar | * |
| | | 06 | 10 bar | 20 bar | * |
| | | 07 | 16 bar | 32 bar | |
| | Relative | 08 | 25 bar | 50 bar | |
| | | 09 | 40 bar | 80 bar | * |
| | | 10 | 60 bar | 120 bar | |
| | | 11 | 100 bar | 200 bar | |
| | | 12 | 160 bar | 320 bar | |
| | | 13 | 250 bar | 500 bar | |
| | | 14 | 400 bar | 800 bar | |
| | | 15 | 600 bar | 1200 bar | |
| Special | Relative | 20 | 2 bar | 4 bar | |
| | | 21 | 3 bar | 6 bar | |
| | | 22 | -1...4 bar | 10 bar | |
| | | 23 | 5 bar | 10 bar | |
| | | 24 | 7 bar | 14 bar | |
| | | 25 | 8 bar | 16 bar | |
| | | 26 | 15 bar | 30 bar | |
| | | 27 | 20 bar | 40 bar | |
| | | 28 | 30 bar | 60 bar | |
| | | 29 | 50 bar | 100 bar | |
| | | 30 | 150 bar | 300 bar | |
| | | 31 | 180 bar | 360 bar | |
| | | 32 | 300 bar | 600 bar | |

Preferred types

Features marked with a * symbol at the end of the line are preferred features. If you select a preferred feature for each placeholder, the device is specified as preferred type. Preferred types are available quickly from stock. Other types will be delivered according to scheduled appointments.

Type code PAX9

| Type code structure | | | | | | | |
|-----------------------|---|---|-----|-----|----|---|------------------------|
| PA | G | 9 | -81 | -11 | I2 | A | Example: PAG9-81-11I2A |
| Reference | | | | | | | |
| Construction type 9 | | | | | | | |
| Connection thread | | | | | | | |
| Measuring range | | | | | | | |
| Signal output | | | | | | | |
| Electrical connection | | | | | | | |

| Type code PAX9-... (standard and preferred types) | | | | | | | |
|---|----|--|---|---|---|------------------------|---|
| Reference | A | Absolute pressure | | | | | |
| | G | Relative pressure | | | | | * |
| Construction type | 9 | | | | | | |
| Connection thread | 81 | G 1/4 B | | | | * | |
| | 90 | 1/4 - 18 NPT | | | | | |
| | 21 | M14x1.5 | | | | | |
| Measuring range | | See measuring range table | | | | | |
| Signal output | I2 | 4 – 20 mA | | | | * | |
| | U1 | 0 – 10 V | | | | | |
| Electrical connection | A | Elbow connector as per DIN 175301-803 Form A | | | | * | |
| | E | Circular connector M12x1 | | | | | |
| | X | Cable outlet, length 2 m | | | | | |
| PA | 9 | - | - | - | - | Example: PAG9-81-11I2A | |

Preferred types

Features marked with a * symbol at the end of the line are preferred features. If you select a preferred feature for each placeholder, the device is specified as preferred type. Preferred types are available quickly from stock. Other types will be delivered according to scheduled appointments.

Special types

If our standard types do not correspond with your expectation, we are pleased to develop a special solution together with you.