



Pressure transmitter

Huba Control

Relative and absolute pressure transmitter Type 528



The compact type 528 pressure transmitter is based upon the well proven ceramic technology developed by Huba Control over 20 years ago.

These transmitters are suitable for applications across a broad spectrum of industries.

Pressure range
-1 ... 0 – 60 bar

- + Compact, rugged construction
- + Negligible temperature influence on accuracy
- + Large selection of connections available
- + Saving time by quick cable mounting by the customer with swift connector

Technical overview

Pressure range

| | |
|----------|-------------------|
| Relative | -1 ... 0 – 60 bar |
| Absolute | 0 ... 1 – 16 bar |

Operating conditions

| | | |
|---------------------------------------|-----------------|--|
| Medium | | Liquids and gases |
| Temperature | Medium | FPM -15 ... +125 °C (6) -15 ... +120 °C |
| | | EPDM -40 ... +125 °C (6) -30 ... +120 °C |
| | | NBR -20 ... +100 °C |
| | Ambient | MVQ -40 ... +125 °C (6) -30 ... +120 °C |
| | | FPM -40 ... +125 °C (6) -30 ... +120 °C |
| | | -30 ... +85 °C (6) -25 ... +85 °C |
| Storage | -50 ... +100 °C | |
| Tolerable overload / Rupture pressure | ≤ 4 bar | 3.0 x fs |
| | > 4 bar | 2.5 x fs |

Materials

| | | |
|----------------------------------|------------------------------------|--|
| Cover | Stainless steel 1.4404 / AISI 316L | |
| Plug accommodation | Polyarylamide 50% GF UL 94 V-0 | |
| Materials in contact with medium | Pressure connection | Stainless steel 1.4404 / AISI 316L |
| | | PVDF |
| | Sensor | Ceramic Al ₂ O ₃ (96%) |
| | Sealing material | FPM, EPDM, NBR, MVQ |

Electrical overview

| | Output | Power supply | Load | Current consumption |
|------------------------------|--|------------------------------|--|---------------------|
| 2 wire | 4 ... 20 mA | 7 ... 33 VDC | < $\frac{\text{supply voltage} - 2V}{0.02 A}$ [Ohm] | < 23 mA |
| | 4 ... 20 mA | 10 ... 30 VDC | < $\frac{\text{supply voltage} - 10V}{0.02 A}$ [Ohm] | < 23 mA |
| | 0 ... 5 V | 7 ... 33 VDC | >10 kOhm / < 100 nF | < 7 mA |
| 3 wire | 1 ... 6 V | 8 ... 33 VDC | >10 kOhm / < 100 nF | < 7 mA |
| | 0 ... 10 V | 12 ... 33 VDC | >10 kOhm / < 100 nF | < 7 mA |
| | 0 ... 10 V | 12 ... 33 VDC / 24 VAC ± 15% | >10 kOhm / < 100 nF | < 7 mA |
| | ration. 10 ... 90% | 5 VDC ± 10% | >10 kOhm / < 100 nF | < 7 mA |
| | ration. 10 ... 90% | 5 VDC ± 10% | >10 kOhm / < 100 nF | < 7 mA |
| | | | | < 7 mA |
| Polarity reversal protection | Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage. | | | |
| Insulation voltage | | | | 500 VDC |

Dynamic response

| | |
|---------------|-------------------|
| Response time | < 2 ms, 1 ms typ. |
| Load cycle | < 100 Hz |

Electrical connection

| | Protection standard | Protection class |
|---|---------------------|------------------|
| Swift connector with or without cable 1.5 / 2.0 / 3.0 / 5.0 m (PVC spec.) | IP 67 | III |
| Connector DIN EN 175301-803-A or C (industrial standard 9.4 mm) | IP 65 | III |
| Metri Pack 150 P2S Series | IP 67 | III |
| Connector M12x1 | IP 67 | III |
| Braids | IP 65 | III |
| Connector RAST 2.5 (3 wire, only) | IP 00 | III |

Pressure connection

| | | |
|----------------|---------------------|---|
| Inside thread | 7/16 - 20 UNF | |
| | 1/2 - 14 NPT | |
| | G 1/4 | with O-Ring seal FPM (-30 ... +135 °C) |
| Outside thread | 7/16 - 20 UNF | sealing cone 45° |
| | 1/4 - 18 NPT | |
| | 7/16 - 20 UNF | sealed at back SAE 4 with O-Ring seal FPM (-20 ... +135 °C) |
| | G 1/4, G 1/2, G 3/8 | sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM (-30 ... +135 °C) |
| | G 1/4, G 1/2 | sealed at back and manometer (combi) with Profile seal ring in FPM (-30 ... +135 °C) |
| | R 1/4 | EN 10226 |
| | 1/8 - 27 NPT | |
| | G 1/8 | sealed at front or sealed at back and manometer (combi) with Profile seal ring in FPM (-30 ... +135 °C) |
| | M10x1 | sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM (-30 ... +135 °C) |
| | M20x1.5 | sealed at front and manometer (combi) |
| G 1/4, G 1/2 | sealed at front | |

Installation arrangement

| | |
|--------------|---|
| Unrestricted | Recommendation: Pressure connection facing downwards |
|--------------|---|

Tests / Admissions

| | |
|---------------------------------|---|
| Electromagnetic compatibility | CE conformity acc. EN 61326-2-3 |
| Enhanced EMC protection | EN 50121-3-2 |
| Shock acc. IEC 68-2-27 | 100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x) |
| Constant shock acc. IEC 68-2-29 | 40 g for 6 ms, 1000x all 3 directions |
| Vibration acc. IEC 68-2-6 | 20 g, 15 ... 2000 Hz, 15 ... 25 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load |
| UL | ANSI/UL 61010-1 acc. E325110 |
| Drinking water approval | NSF/ANSI 61/372 acc. MH60087 |
| EAC | |

Protection against explosion (Ex)

| | ration. 10 ... 90% | 4 ... 20 mA |
|---|---------------------------------------|---------------------------------------|
| Intrinsic safety «i» | Ex II 1/2 G Ex ia IIC T4 Ga/Gb | Ex II 1/2 G Ex ia IIC T4 Ga/Gb |
| EC type examination certificate | Ex II 1/2 D Ex ia III C T125°C Da/Db | Ex II 1/2 D Ex ia III C T125°C Da/Db |
| Connection to certified intrinsically safe resistive circuits with maximum values | SEV 15 ATEX 0173 | SEV 10 ATEX 0145 |
| Effective internal inductance and capacitance for versions with plugs complying with EN 175301-803-A or M12x1 | Ui ≤ 15 VDC; Ii ≤ 200 mA; Pi ≤ 750 mW | Ui ≤ 30 VDC; Ii ≤ 100 mA; Pi ≤ 750 mW |
| IECEX | Li = 0 nH; Ci ≤ 150 nF | Li = 0 nH; Ci = 0 nF |
| | | SEV 16.0007 |

Weight

~ 90 g

Packaging (Please state on order)

| | |
|--|------------------------|
| Single packaging in cardboard | accessories integrated |
| Multiple packaging in cardboard (25 pcs) | |

Accuracy

| Parameter | Unit | |
|---|---------------|--------|
| Characteristic line ¹⁾ | % fs | ± 0.3 |
| Resolution | % fs | 0.1 |
| Thermal characteristic ²⁾ | max. % fs/10K | ± 0.2 |
| Long term stability acc. IEC EN 60770-1 | max. % fs | ± 0.25 |

Test conditions: 25 °C, 45% RH, power supply 24 VDC

| Order code selection in bar | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|--|---|------|---|---|-----|-----|-----|---|-----|-------|----|----|
| | | | 528. | X | X | X | X | X | X | X | X | X | X |
| Pressure range (relative) ³⁾ | -1 ... 0 bar | | 9 | 0 | 1 | | | | | | | | |
| | 0 ... 1 bar | | 9 | 1 | 1 | | | | | | | | |
| | 0 ... 1.6 bar | | 9 | 1 | 2 | | | | | | | | |
| | 0 ... 2.5 bar | | 9 | 1 | 4 | | 0,4 | | | | | | |
| | 0 ... 4 bar | | 9 | 1 | 5 | | 0,4 | | | | | | |
| | 0 ... 6 bar | | 9 | 1 | 7 | | 0,4 | | | | | | |
| | 0 ... 10 bar | | 9 | 3 | 0 | | 0,4 | | | | | | |
| | 0 ... 16 bar | | 9 | 3 | 1 | | 0,4 | | | | | | |
| | 0 ... 25 bar | | 9 | 3 | 2 | | 0,4 | | | | | 1 | |
| | 0 ... 40 bar | | 9 | 3 | 3 | | 0,4 | | | | | 1 | |
| 0 ... 60 bar | | 9 | 4 | 0 | | 0,4 | | | | | 1 | | |
| Pressure range (absolute) ³⁾ | 0 ... 1 bar | | 8 | 1 | 1 | | | | | | | | |
| | 0 ... 1.6 bar | | 8 | 1 | 2 | | | | | | | | |
| | 0 ... 2.5 bar | | 8 | 1 | 4 | | | | | | | | |
| | 0 ... 4 bar | | 8 | 1 | 5 | | | | | | | | |
| | 0 ... 6 bar | | 8 | 1 | 7 | | | | | | | | |
| | 0 ... 10 bar | | 8 | 3 | 0 | | | | | | | | |
| 0 ... 16 bar | | 8 | 3 | 1 | | | | | | | | | |
| Sealing material | FPM | Fluoro elastomer (Ⓢ -15 ... +120 °C) | | | | | 0 | | | | | | |
| | EPDM | Ethylene propylene (Ⓢ -30 ... +120 °C) | | | | | 1 | | | | | | |
| | NBR | Butadiene Acrylonitrile | | | | | 2 | | | | | | |
| | MVQ | Silicone polymer (Ⓢ -30 ... +120 °C) | | | | | 3 | | | | | | |
| | FPM | Fluoro elastomer (Ⓢ -30 ... +120 °C) | | | | | 5 | | | | | | |
| Application | standard | | | | | | 0 | | | | | | |
| | for oxygen applications | | | | | | 0 | 1 | | | 1 | 1 | |
| | with drinking water approval NSF 61 | | | | | | 0 | 4 | | | 1 | 1 | |
| Output / power supply | 0 ... 5 V | 7 ... 33 VDC | | | | | | | 1 | | | | |
| | 1 ... 6 V | 8 ... 33 VDC | | | | | | | 6 | | | | |
| | 0 ... 10 V | 12 ... 33 VDC | | | | | | | | 2 | | | |
| | | 12 ... 33 VDC Enhanced EMC protection | | | | | | | | C | 1,2,3 | | |
| | | 12 ... 33 VDC / 24 VAC ±15% (not possible with M12x1, metri Pack, RAST, braids) | | | | | | | | 8 | | | |
| | ratiom. 10 ... 90% | 5VDC ±10% | | | | | | | | 7 | | | |
| | | 5VDC ±10% Ex protection | | | | | 0,4 | | | 9 | 1,3 | | 1 |
| | 4 ... 20 mA | 7 ... 33 VDC | | | | | | | | 3 | | | |
| | | 7 ... 33 VDC Enhanced EMC protection (not possible with Braids) | | | | | | | | A | | | |
| | | 10 ... 30 VDC Ex protection | | | | | 0,4 | | | 4 | 1,3 | | 1 |
| Electrical connection | Connector ⁴⁾ | DIN EN 175301-803-A | | | | | | | | 1 | | | |
| | | DIN EN 175301-803-C (industrial standard 9.4 mm) | | | | | | | | 2 | | | |
| | | M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3 | | | | | | | | 3 | | | |
| | | M12x1 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4 | | | | | | | | M | | | |
| | | M12x1 2w: IN=1 / OUT=2 3w: IN=1 / OUT=2 / GND=3 | | | | | | | | P | | | |
| | | RAST 2.5 | | | | | 0,4 | | 7 | 4 | | | |
| | Braids | Metri Pack 150 P2S Series | | | | | 0,4 | | | 5 | | | |
| | | 80 ±10 mm | | | | | | | | 6 | | | |
| | | 290 ±10 mm | | | | | | | | 7 | | | |
| | Swift connector | 480 ±10 mm | | | | | | | | 8 | | | |
| | | 730 ±10 mm | | | | | | | | 9 | | | |
| | | without cable | | | | | | | | 0 | | | |
| | | with cable 1.5 m | | | | | | | | L | | | |
| | | with cable 2.0 m | | | | | | | | N | | | |
| | | with cable 3.0 m | | | | | | | | Q | | | |
| Pressure connection ³⁾ | Inside thread | with cable 5.0 m | | | | | | | R | | | | |
| | | 1/16"-20 UNF sealing cone | | | | | | | | | K | 1 | |
| | | 1/2"-14 NPT | | | | | | | | | D | 1 | |
| | Outside thread | G 1/4 with O-Ring seal FPM | | | | | | | | | 1 | 1 | |
| | | 1/16"-20 UNF sealing cone | | | | | | | | | 2 | 1 | |
| | | 1/4"-18 NPT | | | | | | | | | 3 | 1 | |
| | | G 1/4 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | | | | | 4 | 1 | |
| | | G 1/4 sealed at back and manometer with profile seal ring in FPM | | | | | | | | | 5 | 1 | |
| | | R 1/4 acc. to EN 10226 | | | | | | | | | 7 | 1 | |
| | | G 1/2 sealed at back and manometer with profile seal ring in FPM | | | | | | 0,1 | | | 8 | 1 | |
| | | 1/16"-20 UNF sealed at back SAE 4 with O-Ring seal FPM | | | | | | 0,1 | | | G | 1 | |
| | | 1/8"-27 NPT | | | | | | | | | A | 1 | |
| | | G 1/8 sealed at front | | | | | | | | | M | 1 | |
| | | G 1/8 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM | | | | | | 0,1 | | | H | 1 | |
| | | G 1/4 sealed at front | | | | | | | | | J | | |
| | | G 1/2 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | | 0,1 | | | C | 1 | |
| | | M10x1 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | | 0,1 | | | F | 1 | |
| | | M20x1.5 sealed at front and manometer (combi) | | | | | | | | | E | 1 | |
| G 1/2 sealed at front | | | | | | | | | 9 | | | | |
| Pressure orifice | without | | | | | | | | | | 1 | | |
| | with | | | | | | | | | | 2 | | |
| Material | Stainless steel 1.4404 / AISI 316L | | | | | | | | | | | 1 | |
| pressure connection | PVDF outside thread ⁵⁾ | sealed at front G 1/4, G 1/2 | | | | | | | | J,9 | 1 | 2 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... + 3bar/OUT0...5V) | | | | | | | | | | | | |
| | | | | | | | | | | | | | W |

¹⁾ typ. ; max. 0.5% fs (incl. zero point, full scale, linearity, hysteresis and repeatability) ²⁾ -15 ... 85 °C ³⁾ Other pressure ranges or pressure connections on request
⁴⁾ Delivery without female connector ⁵⁾ Medium temperature -15 ... +85 °C

| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
|--|--|---|------|---|---|-----|-----|---|---|-------|-----|----|----|---|
| Order code selection in psi | | | 528. | X | X | X | X | X | X | X | X | X | X | |
| Pressure range (relative) ¹⁾ | -30 ... 0" hg | | 9 | B | 0 | | | | | | | | | |
| | 0 ... 15 psi | | 9 | B | 1 | | | | | | | | | |
| | 0 ... 20 psi | | 9 | B | 2 | | | | | | | | | |
| | 0 ... 30 psi | | 9 | B | 4 | | 0,4 | | | | | | | |
| | 0 ... 60 psi | | 9 | B | 5 | | 0,4 | | | | | | | |
| | 0 ... 100 psi | | 9 | B | 7 | | 0,4 | | | | | | | |
| | 0 ... 150 psi | | 9 | C | 0 | | 0,4 | | | | | | | |
| | 0 ... 200 psi | | 9 | C | 1 | | 0,4 | | | | | | | |
| | 0 ... 300 psi | | 9 | C | 2 | | 0,4 | | | | | | 1 | |
| | 0 ... 500 psi | | 9 | C | 3 | | 0,4 | | | | | | 1 | |
| 0 ... 750 psi | | 9 | D | 0 | | 0,4 | | | | | | 1 | | |
| Pressure range (absolute) ¹⁾ | 0 ... 15 psi | | 8 | B | 1 | | | | | | | | | |
| | 0 ... 20 psi | | 8 | B | 2 | | | | | | | | | |
| | 0 ... 30 psi | | 8 | B | 4 | | | | | | | | | |
| | 0 ... 60 psi | | 8 | B | 5 | | | | | | | | | |
| | 0 ... 100 psi | | 8 | B | 7 | | | | | | | | | |
| | 0 ... 150 psi | | 8 | C | 0 | | | | | | | | | |
| | 0 ... 200 psi | | 8 | C | 1 | | | | | | | | | |
| Sealing material | FPM | Fluoro elastomer | | | | | 0 | | | | | | | |
| | EPDM | Ethylene propylene | | | | | 1 | | | | | | | |
| | NBR | Butadiene Acrylonitrile | | | | | 2 | | | | | | | |
| | MVQ | Silicone polymer | | | | | 3 | | | | | | | |
| | FPM | Fluoro elastomer | | | | | 5 | | | | | | | |
| Application | standard | | | | | | 0 | | | | | | | |
| | for oxygen applications | | | | | | 0 | 1 | | | | 1 | 1 | |
| | with drinking water approval NSF 61 | | | | | | 0 | 4 | | | | 1 | 1 | |
| Output / power supply | 0 ... 5 V | 7 ... 33 VDC | | | | | | | 1 | | | | | |
| | 1 ... 6 V | 8 ... 33 VDC | | | | | | | 6 | | | | | |
| | | 12 ... 33 VDC | | | | | | | 2 | | | | | |
| | 0 ... 10 V | 12 ... 33 VDC Enhanced EMC protection | | | | | | | C | 1,2,3 | | | | |
| | | 12 ... 33 VDC / 24 VAC ±15% (not possible with M12x1, metri Pack, RAST, braids) | | | | | | | 8 | | | | | |
| | ration. 10 ... 90% | 5VDC ±10% | | | | | | | 7 | | | | | |
| | | 5VDC ±10% Ex protection | | | | | 0,4 | | 9 | 1,3 | | | 1 | |
| | | 7 ... 33 VDC | | | | | | | 3 | | | | | |
| | 4 ... 20 mA | 7 ... 33 VDC Enhanced EMC protection (not possible with Braids) | | | | | | | A | | | | | |
| | | 10 ... 30 VDC Ex protection | | | | | 0,4 | | 4 | 1,3 | | | 1 | |
| Electrical connection | Connector ²⁾ | DIN EN 175301-803-A | | | | | | | | | | | 1 | |
| | | DIN EN 175301-803-C (industrial standard 9.4 mm) | | | | | | | | | | | 2 | |
| | | M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3 | | | | | | | | | | | | 3 |
| | | M12x1 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4 | | | | | | | | | | | | M |
| | | M12x1 2w: IN=1 / OUT=2 3w: IN=1 / OUT=2 / GND=3 | | | | | | | | | | | | P |
| | | RAST 2.5 | | | | | 0,4 | | 7 | | | | | 4 |
| | | Metri Pack 150 P2S Series | | | | | 0,4 | | | | | | | 5 |
| | Braids | 80 ±10 mm | | | | | | | | | | | | 6 |
| | | 290 ±10 mm | | | | | | | | | | | | 7 |
| | | 480 ±10 mm | | | | | | | | | | | | 8 |
| | | 730 ±10 mm | | | | | | | | | | | | 9 |
| | | | | | | | | | | | | | | 0 |
| | Swift connector | without cable | | | | | | | | | | | | L |
| | | with cable 1.5 m | | | | | | | | | | | | N |
| | | with cable 2.0 m | | | | | | | | | | | | Q |
| | | with cable 3.0 m | | | | | | | | | | | | R |
| | | with cable 5.0 m | | | | | | | | | | | | |
| Pressure connection ³⁾ | Inside thread | 7/16"-20 UNF sealing cone | | | | | | | | | | | K | |
| | | 1/2"-14 NPT | | | | | | | | | | | D | |
| | | G 1/4 with O-Ring seal FPM | | | | | | | | | | | 1 | |
| | Outside thread | 7/16"-20 UNF sealing cone | | | | | | | | | | | | 2 |
| | | 1/4"-18 NPT | | | | | | | | | | | | 3 |
| | | G 1/4 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | | | | | | | | 4 |
| | | G 1/4 sealed at back and manometer with profile seal ring in FPM | | | | | | | | | | | | 5 |
| | | R 1/4 acc. to EN 10226 | | | | | | | | | | | | 7 |
| | | G 1/2 sealed at back and manometer with profile seal ring in FPM | | | | | 0,1 | | | | | | | 8 |
| | | 7/16"-20 UNF sealed at back SAE 4 with O-Ring seal FPM | | | | | 0,1 | | | | | | | G |
| | | 1/8"-27 NPT | | | | | | | | | | | | A |
| | | G 1/8 sealed at front | | | | | | | | | | | | M |
| | | G 1/8 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM | | | | | 0,1 | | | | | | | H |
| | | G 1/4 sealed at front | | | | | | | | | | | | J |
| | | G 1/2 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | 0,1 | | | | | | | C |
| | | M10x1 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | 0,1 | | | | | | | F |
| | | M20x1.5 sealed at front and manometer (combi) | | | | | | | | | | | | E |
| G 1/2 sealed at front | | | | | | | | | | | | 9 | | |
| Pressure orifice | without | | | | | | | | | | | | 1 | |
| | with | | | | | | | | | | | | 2 | |
| Material pressure connection | Stainless steel 1.4404 / AISI 316L | | | | | | | | | | | | | |
| | PVDF outside thread ³⁾ | sealed at front G 1/4, G 1/2 | | | | | | | | | J,9 | 1 | 2 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... +16psi/OUT0...5V) | | | | | | | | | | | | W | |

¹⁾ Other pressure ranges or pressure connections on request

²⁾ Delivery without female connector

³⁾ Medium temperature -15 ... +85 °C

| Order code selection in MPa | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
|--|--|---|------|---|-----|-----|-----|---|---|-------|-----|----|----|---|
| | | | 528. | X | X | X | X | X | X | X | X | X | X | |
| Pressure range (relative) ¹⁾ | -0.1 ... 0 MPa | | 9 | G | 0 | | | | | | | | | |
| | 0 ... 0.1 MPa | | 9 | G | 1 | | | | | | | | | |
| | 0 ... 0.16 MPa | | 9 | G | 2 | | | | | | | | | |
| | 0 ... 0.25 MPa | | 9 | G | 4 | | 0,4 | | | | | | | |
| | 0 ... 0.4 MPa | | 9 | G | 5 | | 0,4 | | | | | | | |
| | 0 ... 0.6 MPa | | 9 | G | 7 | | 0,4 | | | | | | | |
| | 0 ... 1 MPa | | 9 | H | 0 | | 0,4 | | | | | | | |
| | 0 ... 1.6 MPa | | 9 | H | 1 | | 0,4 | | | | | | | |
| | 0 ... 2.5 MPa | | 9 | H | 2 | | 0,4 | | | | | | 1 | |
| | 0 ... 4 MPa | | 9 | H | 3 | | 0,4 | | | | | | 1 | |
| 0 ... 6 MPa | | 9 | K | 0 | | 0,4 | | | | | | 1 | | |
| Pressure range (absolute) ¹⁾ | 0 ... 0.1 MPa | | 8 | G | 1 | | | | | | | | | |
| | 0 ... 0.16 MPa | | 8 | G | 2 | | | | | | | | | |
| | 0 ... 0.25 MPa | | 8 | G | 4 | | | | | | | | | |
| | 0 ... 0.4 MPa | | 8 | G | 5 | | | | | | | | | |
| | 0 ... 0.6 MPa | | 8 | G | 7 | | | | | | | | | |
| | 0 ... 1 MPa | | 8 | H | 0 | | | | | | | | | |
| 0 ... 1.6 MPa | | 8 | H | 1 | | | | | | | | | | |
| Sealing material | FPM | Fluoro elastomer | | | | | 0 | | | | | | | |
| | EPDM | Ethylene propylene | | | | | 1 | | | | | | | |
| | NBR | Butadiene Acrylonitrile | | | | | 2 | | | | | | | |
| | MVQ | Silicone polymer | | | | | 3 | | | | | | | |
| | FPM | Fluoro elastomer | | | | | 5 | | | | | | | |
| Application | standard | | | | | | 0 | | | | | | | |
| | for oxygen applications | | | | | | 0 | 1 | | | | 1 | 1 | |
| | with drinking water approval NSF 61 | | | | | | 0 | 4 | | | | 1 | 1 | |
| Output / power supply | 0 ... 5 V | 7 ... 33 VDC | | | | | | | 1 | | | | | |
| | 1 ... 6 V | 8 ... 33 VDC | | | | | | | 6 | | | | | |
| | | 12 ... 33 VDC | | | | | | | 2 | | | | | |
| | 0 ... 10 V | 12 ... 33 VDC Enhanced EMC protection | | | | | | | C | 1,2,3 | | | | |
| | | 12 ... 33 VDC / 24 VAC ±15% (not possible with M12x1, metri Pack, RAST, braids) | | | | | | | 8 | | | | | |
| | ration. 10 ... 90% | 5VDC ±10% | | | | | | | 7 | | | | | |
| | | 5VDC ±10% Ex protection | | | | | 0,4 | | 9 | 1,3 | | | 1 | |
| | | 7 ... 33 VDC | | | | | | | 3 | | | | | |
| | 4 ... 20 mA | 7 ... 33 VDC Enhanced EMC protection (not possible with Braids) | | | | | | | A | | | | | |
| | | 10 ... 30 VDC Ex protection | | | | | 0,4 | | 4 | 1,3 | | | 1 | |
| Electrical connection | Connector ²⁾ | DIN EN 175301-803-A | | | | | | | | | | | 1 | |
| | | DIN EN 175301-803-C (industrial standard 9.4 mm) | | | | | | | | | | | 2 | |
| | | M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3 | | | | | | | | | | | | 3 |
| | | M12x1 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4 | | | | | | | | | | | | M |
| | | M12x1 2w: IN=1 / OUT=2 3w: IN=1 / OUT=2 / GND=3 | | | | | | | | | | | | P |
| | | RAST 2.5 | | | | | 0,4 | | 7 | | | | | 4 |
| | | Metri Pack 150 P2S Series | | | | | 0,4 | | | | | | | 5 |
| | Braids | 80 ±10 mm | | | | | | | | | | | | 6 |
| | | 290 ±10 mm | | | | | | | | | | | | 7 |
| | | 480 ±10 mm | | | | | | | | | | | | 8 |
| | | 730 ±10 mm | | | | | | | | | | | | 9 |
| | | | | | | | | | | | | | | 0 |
| | Swift connector | without cable | | | | | | | | | | | | L |
| | | with cable 1.5 m | | | | | | | | | | | | N |
| | | with cable 2.0 m | | | | | | | | | | | | Q |
| with cable 3.0 m | | | | | | | | | | | | | R | |
| with cable 5.0 m | | | | | | | | | | | | | | |
| Pressure connection ³⁾ | Inside thread | 7/16"-20 UNF sealing cone | | | | | | | | | | | K | |
| | | 1/2"-14 NPT | | | | | | | | | | | D | |
| | | G 1/4 with O-Ring seal FPM | | | | | | | | | | | 1 | |
| | Outside thread | 7/16"-20 UNF sealing cone | | | | | | | | | | | | 2 |
| | | 1/4"-18 NPT | | | | | | | | | | | | 3 |
| | | G 1/4 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | | | | | | | | 4 |
| | | G 1/4 sealed at back and manometer with profile seal ring in FPM | | | | | | | | | | | | 5 |
| | | R 1/4 acc. to EN 10226 | | | | | | | | | | | | 7 |
| | | G 1/2 sealed at back and manometer with profile seal ring in FPM | | | | | 0,1 | | | | | | | 8 |
| | | 7/16"-20 UNF sealed at back SAE 4 with O-Ring seal FPM | | | | | 0,1 | | | | | | | G |
| | | 1/8"-27 NPT | | | | | | | | | | | | A |
| | | G 1/8 sealed at front | | | | | | | | | | | | M |
| | | G 1/8 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM | | | | | 0,1 | | | | | | | H |
| | | G 1/4 sealed at front | | | | | | | | | | | | J |
| | | G 1/2 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | 0,1 | | | | | | | C |
| M10x1 sealed at back DIN EN ISO 1179-2 with profile seal ring in FPM | | | | | 0,1 | | | | | | | F | | |
| M20x1.5 sealed at front and manometer (combi) | | | | | | | | | | | | E | | |
| G 1/2 sealed at front | | | | | | | | | | | | 9 | | |
| Pressure orifice | without | | | | | | | | | | | | 1 | |
| | with | | | | | | | | | | | | 2 | |
| Material pressure connection | Stainless steel 1.4404 / AISI 316L | | | | | | | | | | | | 1 | |
| | PVDF outside thread ³⁾ | sealed at front G 1/4, G 1/2 | | | | | | | | | J,9 | 1 | 2 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... + 0.3MPa/OUT0...5V) | | | | | | | | | | | | W | |

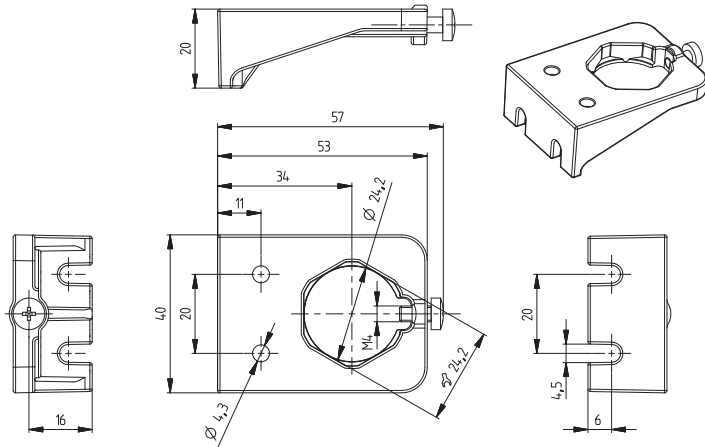
¹⁾ Other pressure ranges or pressure connections on request

²⁾ Delivery without female connector

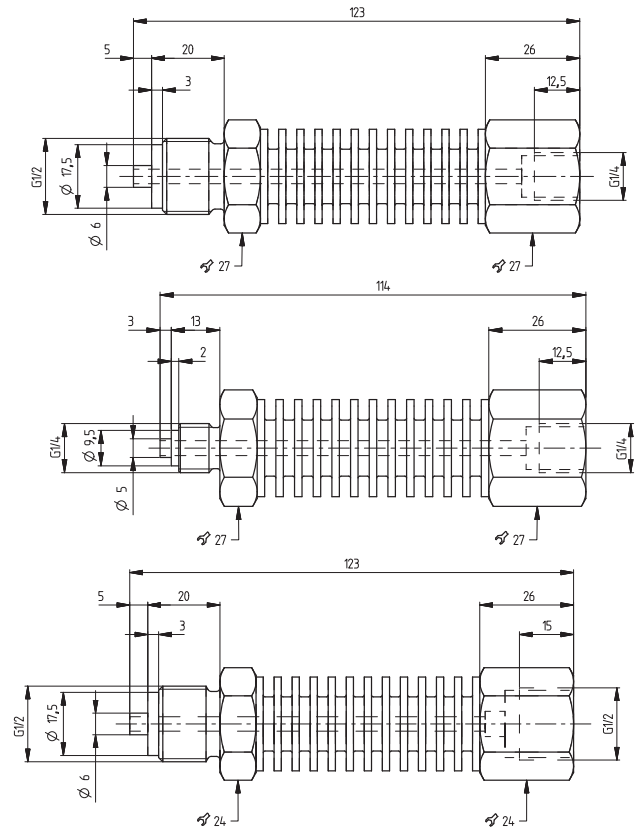
³⁾ Medium temperature -15 ... +85 °C

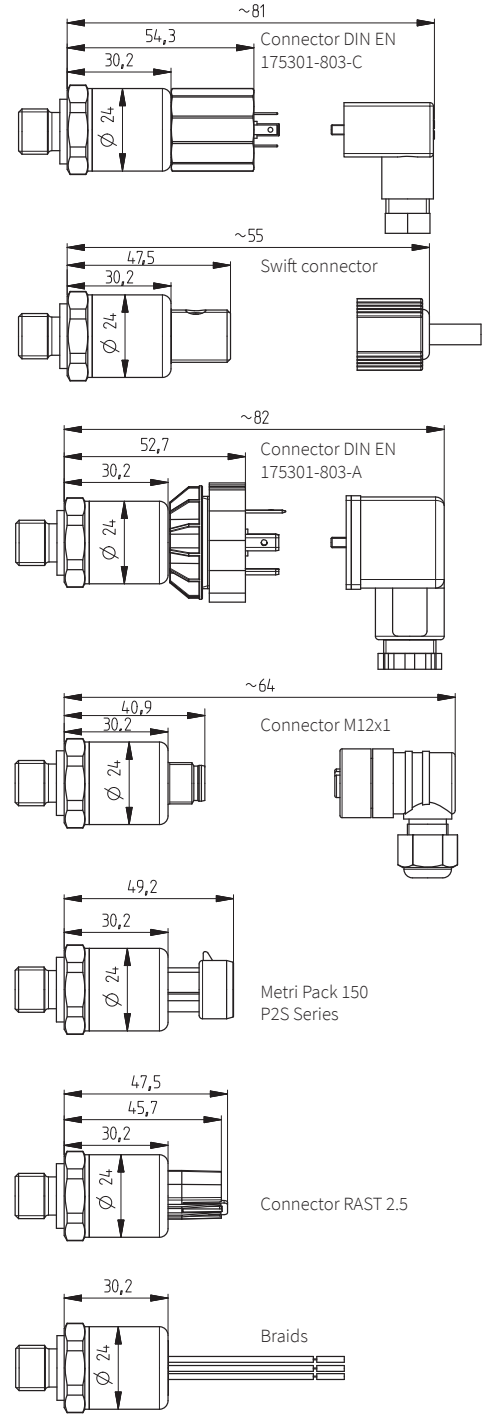
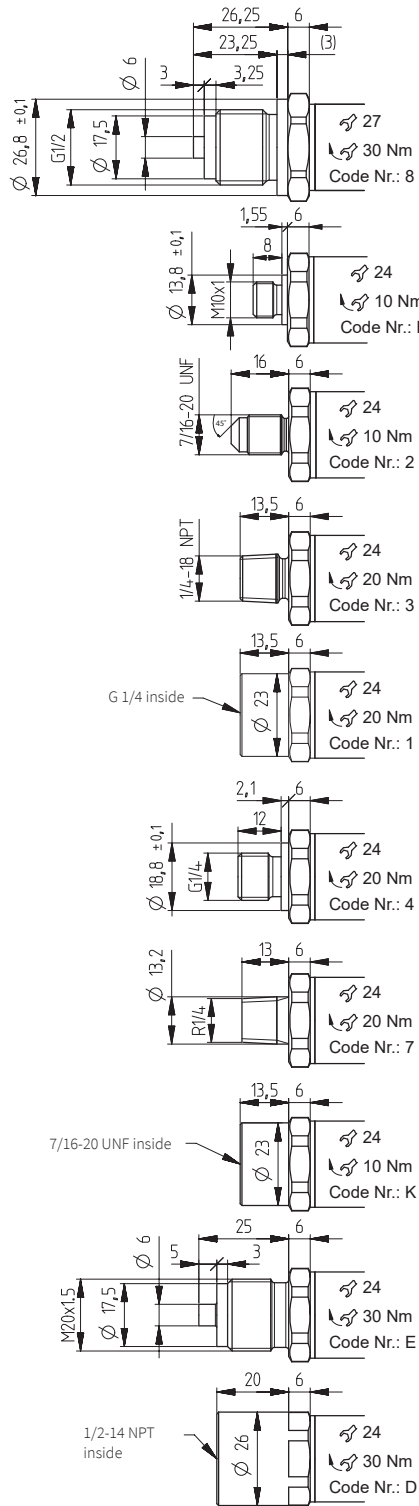
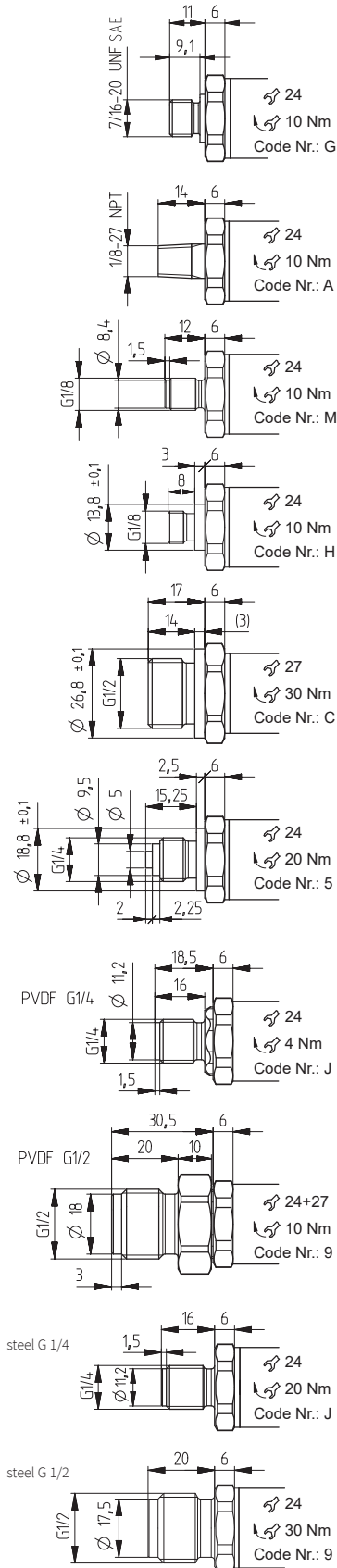
| | |
|---|--------|
| Swift connector | 117312 |
| Female connector DIN EN 175301-803-A with seal | 103510 |
| Female connector DIN EN 175301-803-C with seal | 104244 |
| Corner-wire box for connector M12x1 | 106975 |
| Corner-wire box for connector M12x1 with cable 2.0 m | 114604 |
| Straight-wire box for connector M12x1 | 114570 |
| Straight-wire box for connector M12x1 with cable 2.0 m | 114605 |
| Mounting bracket with screw | 118716 |
| Heat sink with outside thread G 1/2 sealed at front - inside thread G 1/2 | 105631 |
| Heat sink with outside thread G 1/2 sealed at front - inside thread G 1/4 | 105073 |
| Heat sink with outside thread G 1/4 sealed at front - inside thread G 1/4 | 105074 |
| Calibration certificate | 104551 |

Mounting bracket with screw



Heat sink

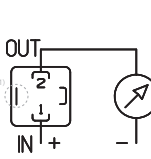




Electrical connections

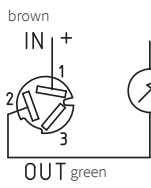
2 wire

Connector DIN
EN 175301-803-A or C



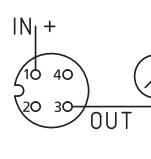
1 (IN) 2 (OUT)

Swift connector



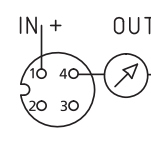
1 (IN) 2 (OUT)

Connector M12x1



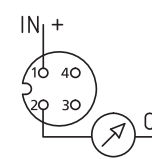
1 (IN) 3 (OUT)

Connector M12x1



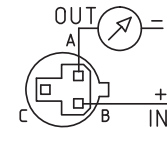
1 (IN) 4 (OUT)

Connector M12x1



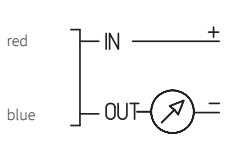
1 (IN) 2 (OUT)

Metri Pack 150 P2S Series



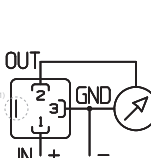
B (IN) A (OUT)

Braids



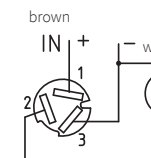
3 wire

Connector DIN
EN 175301-803-A or C



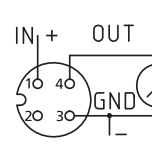
1 (IN) 2 (OUT) 3 (GND)

Swift connector



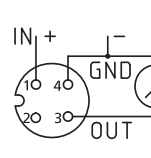
1 (IN) 2 (OUT) 3 (GND)

Connector M12x1



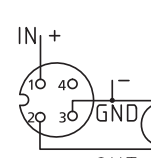
1 (IN) 4 (OUT) 3 (GND)

Connector M12x1



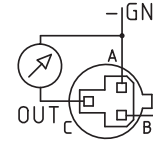
1 (IN) 3 (OUT) 4 (GND)

Connector M12x1



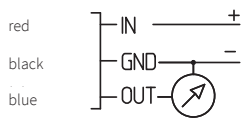
1 (IN) 2 (OUT) 3 (GND)

Metri Pack 150 P2S Series

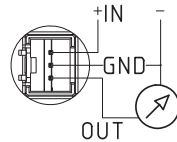


B (IN) C (OUT) A (GND)

Braids

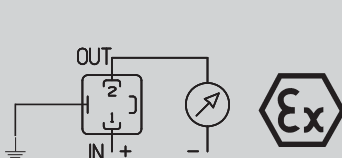


Connector RAST 2.5



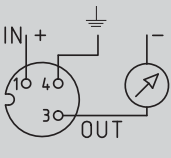
Device design with explosion protection: 4 ... 20 mA
The grounding connection is conductively connected to the transmitter housing.

Connector DIN
EN 175301-803-A



1 (IN) 2 (OUT) ↓

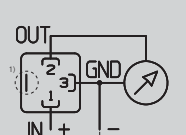
Connector M12x1



1 (IN) 3 (OUT) 4 (↓)

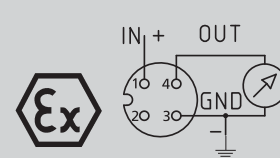
Device design with explosion protection: ratiom. 10 ... 90%
The electronic GND is connected with a 1MΩ resistor to the transmitter housing.

Connector DIN
EN 175301-803-A



1 (IN) 2 (OUT) 3 (GND)

Connector M12x1



1 (IN) 3 (GND) 4 (OUT)

¹⁾ Not connected with transmitter housing

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