



Pressure transmitter

Huba Control

Relative and absolute pressure transmitter for mobile application Type 558



The pressure transmitter type 558 meets the highest requirements for the industry and vehicle manufacturing. This sensor is available with protection standard IP67 or IP69K.

The optional pressure orifice prevents damage due to pressure peaks.

The compact and rugged design meets the requirement of shock- and vibration stability according road vehicle standards ISO 16750. The pressure transmitter type 558 guarantees highest EMC stability according to various road vehicle regulations with test level up to 100V.

This sensor utilises a ceramic technology, developed by Huba Control and for the last 20 years, in millions of applications.

Pressure range
0 ... 6 – 60 bar

- + Compact and rugged construction for high operating reliability
- + Wide choice of connections available
- + Excellent EMC capacity
- + Negligible temperature influence on accuracy

Technical Overview

Pressure range

| | |
|----------|-------------------|
| Relative | 0 ... 16 – 60 bar |
| Absolute | 0 ... 6 bar |

Operating conditions

| | | | |
|---------------------------------------|---------|-------------------|-----------------|
| Medium | | Liquids and gases | |
| Temperature | Medium | FPM | -40 ... +125 °C |
| | | EPDM | -40 ... +125 °C |
| | Ambient | NBR | -20 ... +100 °C |
| | | | -40 ... +100 °C |
| Storage | | -50 ... +100 °C | |
| Tolerable overload / Rupture pressure | | 3 x FS | |

Materials

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

Electrical overview

| | Output | Power supply | Load | Current consumption |
|------------------------------|--|----------------|--|---------------------|
| 2 wire | 4 ... 20 mA | 7.5 ... 33 VDC | < $\frac{\text{supply voltage} - 7.5V}{0.025}$ [Ohm] | < 23 mA |
| 3 wire | 0 ... 5 V | 7 ... 33 VDC | >10 kOhm / < 100 nF | < 7 mA |
| | 0 ... 10 V | 12 ... 33 VDC | >10 kOhm / < 100 nF | < 7 mA |
| | ratiom. 10 ... 90% | 5 VDC ± 10% | >10 kOhm / < 100 nF | < 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 (10 ... 90%, typ. 1 ms) |
| Load cycle | < 100 Hz |

Electrical connection ¹⁾

| | Protection standard | Protection class |
|----------------------------|---------------------|------------------|
| Kostal SLK 2.8 Codierung A | IP 69K | III |
| AMP-JPT | IP 67 | III |
| AMP Superseal 1.5 | IP 67 | III |
| Deutsch DT04-3P | IP 69K | III |
| Deutsch DT04-4P | IP 69K | III |
| Metri Pack 150 P2S Series | IP 67 | III |
| M12x1 | IP 69K | III |

Pressure connection

| | | |
|-----------------|-------------------------|---|
| Outside thread | $\frac{7}{16}$ - 20 UNF | sealing cone 45° |
| | $\frac{7}{16}$ - 20 UNF | sealed at back (SAE J514, ISO 11926-3), SAE-4 ORB with O-ring FPM (-20 ... +135 °C) |
| | $\frac{9}{16}$ - 18 UNF | sealed at back (SAE J514, ISO 11926-3), SAE-6 ORB with O-ring FPM (-20 ... +135 °C) |
| | $\frac{1}{4}$ - 18 NPT | |
| | G $\frac{1}{4}$ | sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM (-30 ... +135 °C) |
| | G $\frac{1}{8}$ | sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM (-30 ... +135 °C) |
| | M14x1.5 | sealed at back ISO 9974-2 (DIN 3852-E) with profile seal FPM (-30 ... +135 °C) |
| R $\frac{1}{4}$ | acc. EN 10226 | |

Installation arrangement

Unrestricted

Tests / Admissions

| | Noise immunity / Noise emission | Noise immunity automotive guideline |
|-------------------------------|--|--|
| Electromagnetic compatibility | ISO 13766 - earth-moving equipment | ISO 11452-2, HF (Field), 100 V/m (200 ... 2000 MHz) |
| | DIN EN 13309 - construction equipment | ISO 11452-4, HF (BCI), 100 mA (20 ... 400 MHz) |
| | DIN ISO 14982 - agriculture and forestry | ISO 10605, ESD, ±15 kV contact, ±15 kV air |
| | Automotive guideline ECE R10 ²⁾ | ISO 7637-2 ³⁾ , puls 1, 2a, 2b, 3a, 3b (test level 4) |
| | Automotive guideline 2004/104/EG ²⁾ | ISO 16750-2, Load Dump, 155 V (1 Ω, 300 ms) |
| | EN 61326-2-3 - pressure transducer ⁴⁾ | |
| | EN 12895:2015 - industrial trucks | |
| Shock acc. ISO 16750-3 | CISPR11 | |
| Vibration acc. ISO 16750-3 | 50 g, 11 ms, half sine wave, 1000x / axis | |
| UL | Test VI (12 g, sinusoidal 18 g random vibration) | |
| | ANSI/UL 61010-1 acc. E325110 | |

Weight

~ 90 g

Packaging (Please state on order)

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

Accuracy

| Parameter | Unit | Test conditions: | 25 °C, 45% rF |
|--|---------------|------------------|---------------|
| Characteristic line acc. IEC 61298-2 ⁵⁾ | % fs | | ± 0.5 |
| Resolution | % fs | | 0.1 |
| Thermal characteristic ⁷⁾ | max. % fs/10K | | ± 0.2 |
| Long term stability acc. IEC 61298-2 | max. % fs | | ± 0.3 |

¹⁾ Warranty of IP protection only with suitable classified plug (consider manufacturers' instructions)

³⁾ Pressure sensor for 12 V and 24 V power system (0 ... 5 V, 0 ... 10 V and 4 ... 20 mA)

⁵⁾ incl. zero point, full scale, linearity, hysteresis and repeatability

²⁾ E1 approval for customer specific type on request

⁴⁾ types M12x1 only

⁶⁾ Considering EMC interference < ±1.5% fs

⁷⁾ -40 ... +100 °C

| Order code selection table in bar | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|---|------|---|---|---|---|---|---|-----|---|----|----|
| | | 558. | X | X | X | X | X | X | X | X | X | X |
| Pressure mode | Relative | 9 | | | | | | | | | | |
| | Absolute | 8 | | | | | | | | | | |
| Pressure range ¹⁾ | 0 ... 6 bar | 8 | 1 | 7 | | | | | | | | |
| | 0 ... 16 bar | 9 | 3 | 1 | | | | | | | | |
| | 0 ... 25 bar | 9 | 3 | 2 | | | | | | | | |
| | 0 ... 40 bar | 9 | 3 | 3 | | | | | | | | |
| | 0 ... 60 bar | 9 | 4 | 0 | | | | | | | | |
| Sealing material | EPDM Ethylene propylene | | | | 1 | 0 | | | | | | |
| | NBR Butadiene Acrylonitrile | | | | 2 | 0 | | | | | | |
| | FPM Fluoro elastomer | | | | 5 | 0 | | | | | | |
| Output / Power supply | 0 ... 5 V | | | | | | | 1 | | | | |
| | 0 ... 10 V | | | | | | | 2 | | | | |
| | 4 ... 20 mA | | | | | | | 3 | | | | |
| | ratiom. 10 ... 90% | | | | | | | 7 | | | | |
| Electrical connection ²⁾ | Kostal SLK 2.8 coding A | | | | | | | 7 | 1 | | | |
| | AMP-JPT | | | | | | | | 2 | | | |
| | AMP Superseal 1.5 | | | | | | | | 3 | | | |
| | Deutsch DT04-3P 2w: IN=A / OUT=B | | | | | | | | 4 | | | |
| | Deutsch DT04-3P 3w: IN=A / OUT=C / GND=B | | | | | | | | G | | | |
| | Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C | | | | | | | | Y | | | |
| | Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 | | | | | | | | 5 | | | |
| | 4w: IN=2 / OUT=4 / GND=1 / Case=3 | | | | | | | | 1,2 | J | | |
| | Metri Pack 150 P2S 2w: IN=B / OUT=A | | | | | | | | | S | | |
| | Metri Pack 150 P2S 3w: IN=B / OUT=C / GND=A | | | | | | | | | M | | |
| Pressure connection ¹⁾ | M12x1 2w: IN=1 / OUT=3 | | | | | | | | | P | | |
| | 2w: IN=1 / OUT=4 | | | | | | | | | | | |
| | 3w: IN=1 / OUT=3 / GND=4 | | | | | | | | | | | |
| | 2w: IN=1 / OUT=2 | | | | | | | | | | | |
| | 3w: IN=1 / OUT=2 / GND=3 | | | | | | | | | | | |
| | Outside thread | | | | | | | | | | 2 | |
| | 7/16-20 UNF | | | | | | | | | | G | |
| 7/16-20 UNF sealed at back, SAE-4 ORB with O-ring FPM | | | | | | | | | | V | | |
| 9/16-18 UNF sealed at back, SAE-6 ORB with O-ring FPM | | | | | | | | | | 3 | | |
| 1/4 -18 NPT | | | | | | | | | | 4 | | |
| G 1/4 sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | H | | |
| G 1/2 sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | 6 | | |
| M14x1.5 sealed at back ISO 9974-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | 7 | | |
| R 1/4 acc. EN 10226 | | | | | | | | | | | | |
| Pressure orifice | without | | | | | | | | | 0 | 1 | |
| | with | | | | | | | | | 2 | 1 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... + 50bar/Out1...8V) | | | | | | | | | | | W |

| Order code selection table in psi | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|--|------|---|---|---|---|---|---|-----|---|----|----|
| | | 558. | X | X | X | X | X | X | X | X | X | X |
| Pressure mode | Relative | 9 | | | | | | | | | | |
| | Absolute | 8 | | | | | | | | | | |
| Pressure range ¹⁾ | 0 ... 100 psi | 8 | B | 7 | | | | | | | | |
| | 0 ... 200 psi | 9 | C | 1 | | | | | | | | |
| | 0 ... 300 psi | 9 | C | 2 | | | | | | | | |
| | 0 ... 500 psi | 9 | C | 3 | | | | | | | | |
| | 0 ... 750 psi | 9 | D | 0 | | | | | | | | |
| Sealing material | EPDM Ethylene propylene | | | | 1 | 0 | | | | | | |
| | NBR Butadiene Acrylonitrile | | | | 2 | 0 | | | | | | |
| | FPM Fluoro elastomer | | | | 5 | 0 | | | | | | |
| Output / Power supply | 0 ... 5 V | | | | | | | 1 | | | | |
| | 0 ... 10 V | | | | | | | 2 | | | | |
| | 4 ... 20 mA | | | | | | | 3 | | | | |
| | ratiom. 10 ... 90% | | | | | | | 7 | | | | |
| Electrical connection ²⁾ | Kostal SLK 2.8 coding A | | | | | | | 7 | 1 | | | |
| | AMP-JPT | | | | | | | | 2 | | | |
| | AMP Superseal 1.5 | | | | | | | | 3 | | | |
| | Deutsch DT04-3P 2w: IN=A / OUT=B | | | | | | | | 4 | | | |
| | Deutsch DT04-3P 3w: IN=A / OUT=C / GND=B | | | | | | | | G | | | |
| | Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C | | | | | | | | Y | | | |
| | Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 | | | | | | | | 5 | | | |
| | 4w: IN=2 / OUT=4 / GND=1 / Case=3 | | | | | | | | 1,2 | J | | |
| | Metri Pack 150 P2S 2w: IN=B / OUT=A | | | | | | | | | S | | |
| | Metri Pack 150 P2S 3w: IN=B / OUT=C / GND=A | | | | | | | | | M | | |
| Pressure connection ¹⁾ | M12x1 2w: IN=1 / OUT=3 | | | | | | | | | P | | |
| | 2w: IN=1 / OUT=4 | | | | | | | | | | | |
| | 3w: IN=1 / OUT=3 / GND=4 | | | | | | | | | | | |
| | 2w: IN=1 / OUT=2 | | | | | | | | | | | |
| | 3w: IN=1 / OUT=2 / GND=3 | | | | | | | | | | | |
| | Outside thread | | | | | | | | | | 2 | |
| | 7/16-20 UNF | | | | | | | | | | G | |
| 7/16-20 UNF sealed at back, SAE-4 ORB with O-ring FPM | | | | | | | | | | V | | |
| 9/16-18 UNF sealed at back, SAE-6 ORB with O-ring FPM | | | | | | | | | | 3 | | |
| 1/4 -18 NPT | | | | | | | | | | 4 | | |
| G 1/4 sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | H | | |
| G 1/2 sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | 6 | | |
| M14x1.5 sealed at back ISO 9974-2 (DIN 3852-E) with profile seal FPM | | | | | | | | | | 7 | | |
| R 1/4 acc. EN 10226 | | | | | | | | | | | | |
| Pressure orifice | without | | | | | | | | | 0 | 1 | |
| | with | | | | | | | | | 2 | 1 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... + 650psi/Out1...8V) | | | | | | | | | | | W |

¹⁾ Other pressure ranges and pressure connections on request

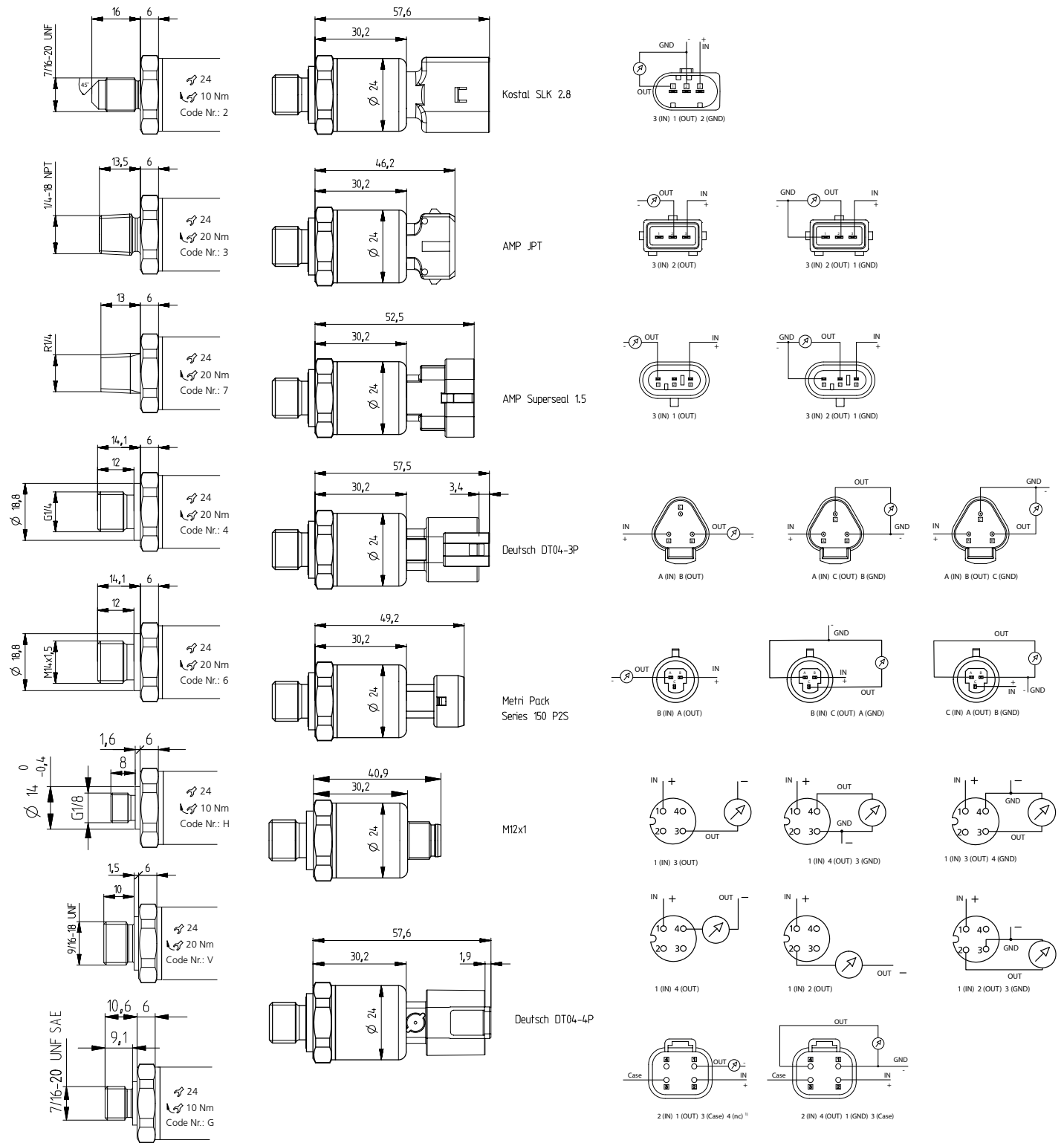
²⁾ Delivery without female connector

| Order code selection table in MPa | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|--|------|---|---|---|---|-----|---|---|---|----|----|
| | | 558. | X | X | X | X | X | X | X | X | X | X |
| Pressure mode | Relative | 9 | | | | | | | | | | |
| | Absolute | 8 | | | | | | | | | | |
| Pressure range ¹⁾ | 0 ... 0.6 MPa | 8 | G | 7 | | | | | | | | |
| | 0 ... 1.6 MPa | 9 | H | 1 | | | | | | | | |
| | 0 ... 2.5 MPa | 9 | H | 2 | | | | | | | | |
| | 0 ... 4 MPa | 9 | H | 3 | | | | | | | | |
| | 0 ... 6 MPa | 9 | K | 0 | | | | | | | | |
| Sealing material | EPDM Ethylene propylene | | | | 1 | 0 | | | | | | |
| | NBR Butadiene Acrylonitrile | | | | 2 | 0 | | | | | | |
| | FPM Fluoro elastomer | | | | 5 | 0 | | | | | | |
| Output / Power supply | 0 ... 5 V 7 ... 33 VDC | | | | | | 1 | | | | | |
| | 0 ... 10 V 12 ... 33 VDC | | | | | | 2 | | | | | |
| | 4 ... 20 mA 7.5 ... 33 VDC | | | | | | 3 | | | | | |
| | ration. 10 ... 90% 5 VDC ±10% | | | | | | 7 | | | | | |
| | Kostal SLK 2.8 coding A | | | | | | 7 | 1 | | | | |
| Electrical connection ²⁾ | AMP-JPT | | | | | | | 2 | | | | |
| | AMP Superseal 1.5 | | | | | | | 3 | | | | |
| | Deutsch DT04-3P 2w: IN=A / OUT=B 3w: IN=A / OUT=C / GND=B | | | | | | | 4 | | | | |
| | Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C | | | | | | | G | | | | |
| | Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 4w: IN=2 / OUT=4 / GND=1 / Case=3 | | | | | | | Y | | | | |
| | Metri Pack 150 P2S 2w: IN=B / OUT=A 3w: IN=B / OUT=C / GND=A | | | | | | | 5 | | | | |
| | Metri Pack 150 P2S 3w: IN=C / OUT=A / GND=B | | | | | | 1,2 | J | | | | |
| | M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3 | | | | | | | S | | | | |
| | 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 | | | | |
| Pressure connection ¹⁾ | Outside thread | | | | | | | | 2 | | | |
| | ⁷ / ₁₆ -20 UNF | | | | | | | | G | | | |
| | ⁷ / ₁₆ -20 UNF sealed at back, SAE-4 ORB with O-ring FPM | | | | | | | | V | | | |
| | ⁹ / ₁₆ -18 UNF sealed at back, SAE-6 ORB with O-ring FPM | | | | | | | | 3 | | | |
| | ¹ / ₄ -18 NPT | | | | | | | | 4 | | | |
| | G ¹ / ₄ sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | H | | | |
| | G ¹ / ₂ sealed at back ISO 1179-2 (DIN 3852-E) with profile seal FPM | | | | | | | | 6 | | | |
| M14x1.5 sealed at back ISO 9974-2 (DIN 3852-E) with profile seal FPM | | | | | | | | 7 | | | | |
| R ¹ / ₄ acc. EN 10226 | | | | | | | | | | | | |
| Pressure orifice | without | | | | | | | | | 0 | 1 | |
| | with | | | | | | | | | 2 | 1 | |
| Pressure range variation (optional) | Indicate W and state range on order (e.g.: W0... + 5MPa/Out1...8V) | | | | | | | | | | | W |

| Accessories (supplied loose) | | Order Number |
|---|---|--------------|
| Set - Female connector Kostal SLK 2.8 coding A | 2 wire (3 wire with 1 blanking plug) | 120369 |
| Set - Female connector Kostal SLK 2.8 coding A | 3 wire | 120368 |
| Set - Female connector AMP JPT | 2 wire (3 wire with 1 blanking plug) | 110442 |
| Set - Female connector AMP JPT | 3 wire | 108767 |
| Set - Female connector AMP Superseal 1.5 (0.5 - 1.0 mm ²) | 3 wire (Blanking Plug to enable 2 wire) | 120254 |
| Set - Female connector AMP Superseal 1.5 (1.0 - 1.5 mm ²) | 3 wire (Blanking Plug to enable 2 wire) | 120255 |
| Set - Female connector Metri Pack 150 P2S Series | 3 wire | 120345 |
| Calibration certificate | | 104551 |

¹⁾ Other pressure ranges and pressure connections on request

²⁾ Delivery without female connector



¹⁾ not connected

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