

INDUSTRIAL PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The industrial pressure transmitter NAT 8252 features an exceptionally long-term stable thin-film-on-steel sensor cell with triple (optionally 5-fold) overpressure safety. Optionally, the NAT 8252 is available as a pressure switch with 1 or 2 switching outputs. The robust design and the wide temperature range from -40°C to +125°C qualify the NAT 8252 as the ideal solution for a wide range of demanding applications.



Applications

- Machine tools
- Hydraulics
- HVAC
- Refrigeration
- Process technology
- Water treatment

Features

- Smallest design
- Completely welded steel sensor system without additional seals
- Excellent long-term stability
- Optional: 5-fold overpressure resistance
- Optional: Switching output 1 or 2 PNP transistors

09/2021

Data sheet H72303aa

Technical Data

| | | | |
|-----------------------|--|----------------------|---|
| Measuring principle | Thin-film-on-steel | Accuracy @ 25°C typ. | ± 0.5 % FS typ. |
| Measuring range | 0 ... 2.5 to 0 ... 700 bar 0 ... 30 to 0 ... 10000 psi | Media temperature | -40°C ... +125°C |
| Output signal | 4 ... 20 mA, 0 ... 5 VDC, 1 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC and more, 0.5 ... 4.5 VDC ratiometric, Switching output: 1 or 2 PNP transistors | Ambient temperature | -40°C ... +125°C (Cable PVC 22: -5°C ... +60°C) (Cable PUR 24: -40°C ... +70°C) (Cable Radox Tenuis 88: -40°C ... +100°C) |
| NLH @ 25°C (BSL) typ. | ± 0.2 % FS typ. | | |

Subject to change

Ordering information/type code

| | | | | 8252 . XX | | | | XX | XX | XX | XX | XX | |
|--------------------------------------|---|----------------------------|--|-----------|---|----------------------------|-----------------------------|-----------|-----------|----|----|----|--|
| Measuring range ¹⁾ | Pressure measurement range [bar] | Over pressure [bar] | Burst pressure [bar] | | Pressure measurement range [psi] | Over pressure [psi] | Burst pressure [psi] | | | | | | |
| | 0 ... 2.5 | 7.5 | 50 | 75 | 0 ... 30 | 90 | 700 | G5 | | | | | |
| | 0 ... 4 | 12 | 60 | 76 | 0 ... 50 | 150 | 850 | G6 | | | | | |
| | 0 ... 6 | 18 | 100 | 77 | 0 ... 100 | 300 | 1450 | G7 | | | | | |
| | 0 ... 10 | 30 | 200 | 78 | 0 ... 150 | 450 | 2500 | G8 | | | | | |
| | 0 ... 16 | 48 | 200 | 79 | 0 ... 200 | 600 | 2500 | GA | | | | | |
| | 0 ... 25 | 75 | 300 | 80 | 0 ... 250 | 750 | 2500 | G9 | | | | | |
| | 0 ... 40 | 120 | 300 | 81 | 0 ... 300 | 900 | 4000 | HA | | | | | |
| | 0 ... 60 | 180 | 400 | 82 | 0 ... 400 | 1200 | 4000 | HO | | | | | |
| | 0 ... 100 | 300 | 500 | 83 | 0 ... 500 | 1500 | 4000 | H1 | | | | | |
| | 0 ... 160 | 480 | 750 | 85 | 0 ... 1000 | 3000 | 5000 | H2 | | | | | |
| | 0 ... 250 | 750 | 1000 | 74 | 0 ... 1500 | 4500 | 7000 | H3 | | | | | |
| | 0 ... 400 | 1000 | 2000 | 84 | 0 ... 2000 | 6000 | 10000 | H5 | | | | | |
| | 0 ... 600 | 1500 | 2500 | 86 | 0 ... 3000 | 9000 | 14500 | G4 | | | | | |
| | 0 ... 700 | 1500 | 2500 | 87 | 0 ... 5000 | 12500 | 21750 | H4 | | | | | |
| | | | | | 0 ... 7500 | 18750 | 29000 | H6 | | | | | |
| | | | | | 0 ... 10000 | 18750 | 29000 | H7 | | | | | |
| | | | | | | | | | | | | | |
| | | Option 5P: | Fivefold overpressure | | | Option: | Maximum Overpressure | | | | | | |
| | | 0 ... 2.5 | 12.5 | 60 | 55 | 0 ... 30 | 150 | 1450 | E5 | | | | |
| | | 0 ... 4 | 20 | 100 | 56 | 0 ... 50 | 180 | 1450 | E6 | | | | |
| | | 0 ... 6 | 30 | 200 | 57 | 0 ... 100 | 450 | 3500 | E7 | | | | |
| | | 0 ... 10 | 50 | 200 | 58 | 0 ... 150 | 700 | 4250 | E8 | | | | |
| | | 0 ... 16 | 80 | 300 | 59 | 0 ... 200 | 700 | 4250 | EA | | | | |
| | | 0 ... 25 | 125 | 300 | 60 | 0 ... 250 | 1150 | 5750 | E9 | | | | |
| | | 0 ... 40 | 200 | 400 | 61 | 0 ... 300 | 1150 | 5750 | FA | | | | |
| | | 0 ... 60 | 300 | 500 | 62 | 0 ... 400 | 1800 | 8500 | FO | | | | |
| | | 0 ... 100 | 500 | 750 | 63 | 0 ... 500 | 1800 | 8500 | F1 | | | | |
| | | 0 ... 160 | 800 | 1000 | 65 | 0 ... 1000 | 4600 | 19000 | F2 | | | | |
| Sensor | Relative pressure | | | | | | | 25 | | | | | |
| Pressure connection | G1/4" male, seal: DIN 3869 (accessories 61/63/83) | 17 | 7/16"-20UNF SAE4 male (J1926), seal: accessory 61 | | | | 42 | | | | | | |
| | G1/4" male, with integrated damping Ø 0.5 mm, Seal: DIN 3869 (accessories 61/63/83) | 15 | 9/16"-18UNF male, SAE6 (J1926), seal: accessory 61 | | | | 61 | | | | | | |
| | G1/4" male (Manometer) EN 837 | 53 | R1/4" male, DIN3858 | | | | 19 | | | | | | |
| | G1/8" male DIN3852-E, seal: accessory 61 ⁵⁾ | 54 | R1/4" male, DIN2999 ⁹⁾ | | | | 20 | | | | | | |
| | 1/4" NPT male | 30 | R1/8" male, DIN3858 ⁵⁾ | | | | 16 | | | | | | |
| | 1/4" NPT female ⁵⁾ | 13 | M10x1 male, DIN EN ISO 6149-2, seal: accessory 61 | | | | 32 | | | | | | |
| | 1/8" NPT male ⁵⁾ | 43 | M12x1 male, seal: accessory 61 ¹¹⁾ | | | | 64 | | | | | | |
| | 7/16"-20UNF female, SAE J512 with valve opener ⁴⁾ | 24 | M12x1.25 male, seal: accessory 61 ¹¹⁾ | | | | 65 | | | | | | |
| | 7/16"-20UNF female, SAE J512 without valve opener ⁴⁾ | 44 | M12x1.5 male, DIN EN ISO 9974-2, seal: accessory 61 | | | | 49 | | | | | | |
| | 7/16"-20UNF male, DIN3866 ⁴⁾ | 18 | M14x1.5 male DIN EN ISO 6149-2, seal: accessory 61 ⁹⁾ | | | | 31 | | | | | | |

| | | | | | |
|------------------------------|---|------------------------|-------------------|-----------------------|----|
| Electrical connection | Male electrical connector, industrial standard, contact distance 9.4 mm, Mat. PA, EN 175301-803C | | | | 01 |
| | Male electrical connector M12x1, 4-pole, Mat. PA, IEC 61076-2-101 | | | | 32 |
| | Male electrical connector M12x1, 5-pole, Mat. PA, IEC 61076-2-101 | | | | 35 |
| | Male electrical connector MIL-C 26482, 6-pole, metal | | | | 02 |
| | Male electrical connector Deutsch DT04-3P, 3-pole | | | | D3 |
| | Male electrical connector Deutsch DT04-4P, 4-pole | | | | D4 |
| | Cable Mat. PVC, IP67/IP68, 2 x 2 x 0.14 mm ² , max. traction on cable: 2 N ⁷⁾ | | | | 22 |
| | Cable Mat. PUR, IP67/IP68, 4 x 0.25 mm ² , shielded ⁷⁾ | | | | 24 |
| | Cable Mat. EPD Raychem FDR25, IP67, 4 x 0.2 mm ² , shielded ⁷⁾ | | | | 08 |
| | Cable Mat. Radox Tenuis, IP67/IP68, 4 x 0.5 mm ² , shielded ⁷⁾ | | | | 88 |
| Output signal | Signal output | Load resistance | I (supply) | U (supply) | |
| | 4 ... 20 mA | See graphic | | 24 (9 ... 32) VDC | 19 |
| | 0.5 ... 4.5 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 20 |
| | 0 ... 5 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 14 |
| | 0.1 ... 4.1 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 28 |
| | 0.1 ... 5.1 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 29 |
| | 0.5 ... 5 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 22 |
| | 1 ... 5 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 25 |
| | 0.5 ... 5.5 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 24 |
| | 1 ... 6 VDC | ≥ 5.0 kΩ to Us- | ≤ 20 mA | 24 (9 ... 32) VDC | 16 |
| | 0 ... 10 VDC | ≥ 5.0 kΩ to Us- | ≤ 15 mA | 24 (15 ... 32) VDC | 17 |
| | 1 ... 10 VDC | ≥ 5.0 kΩ to Us- | ≤ 15 mA | 24 (15 ... 32) VDC | 26 |
| | 0.1 ... 10.1 VDC | ≥ 5.0 kΩ to Us- | ≤ 15 mA | 24 (15 ... 32) VDC | 13 |
| | 0.5 ... 4.5 VDC ratiometric | ≥ 5.0 kΩ to Us- | ≤ 10 mA | 5 (4.75 ... 5.25) VDC | 23 |
| | 2 PNP transistors ³⁾ | | ≤ 10 mA | 24 (9 ... 32) VDC | PS |
| | 1 PNP transistor ¹⁰⁾ | | ≤ 10 mA | 24 (9 ... 32) VDC | T1 |

| Accessories | | |
|--|--|----|
| Female electrical plug M12x1, 5-pole ²⁾ | | 33 |
| Female electrical plug industrial standard (for electrical connection 01), EN 175301-803C | | 34 |
| Pressure peak damping element ø 1.0 mm ⁶⁾ | | 40 |
| Pressure peak damping element ø 0.4 mm ⁶⁾ | | 44 |
| Seal FPM, -18°C ... +125°C | | 61 |
| Seal EPDM, -40°C ... +125°C | | 63 |
| Seal NBR, -25°C ... +100°C | | 83 |
| Special electrical connection: Pin 2 +, Pin 3 Ground, Pin 4 - (only for output signal 19 and male electrical connector 01, industrial standard) | | 90 |
| Special electrical connection: Pin 1 Out, Pin 2 +, Pin 3 Ground, Pin 4 - (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 01, industrial standard) | | 91 |
| Special electrical connection: Pin 1 +, Pin 2 Ground, Pin 3 Out, Pin 4 - (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | 95 |
| Special electrical connection: Pin 1 +, Pin 2 Ground, Pin 3 -, Pin 4 Out (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | 96 |
| Special electrical connection: Pin 1 +, Pin 3 -, Pin 4 Out (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | G1 |
| Special electrical connection: Pin 1 +, Pin 2 -, Pin 4 Ground (only for output signal 19 and male electrical connector 01, industrial standard) | | 92 |
| Special electrical connection: Pin 1 +, Pin 2 -, Pin 4 Ground (only for output signal 19 and male electrical connector 32, M12x1, 4-pole) | | E1 |
| Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out, Pin 4 Ground (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | E2 |
| Special electrical connection: Pin 1 Out, Pin 2 -, Pin 3 +, Pin 4 Ground (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 01, industrial standard) | | E3 |
| Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out, Pin 4 Ground (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 01, industrial standard) | | E9 |
| Special electrical connection: Pin 1 +, Pin 2 Ground, Pin 4 - (only for output signal 19 and male electrical connector 32, M12x1, 4-pole) | | E6 |
| Special electrical connection: Pin A +, Pin C - (only for output signal 19 and male electrical connector Deutsch DT04-3P, 3-pole) | | F0 |
| Special electrical connection: Pin A +, Pin B Out, Pin C - (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector Deutsch DT04-3P, 3-pole) | | F1 |
| Special electrical connection: Pin A +, Pin C Out, Pin B/D -, Pin E Ground (Pin B and D are connected) (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 02, MIL-C 26482) | | F3 |
| Special electrical connection: Pin 1 +, Pin 2 - (only for output signal 19 and male electrical connector 32, M12x1, 4-pole) | | F4 |
| Special electrical connection: Pin 1 +, Pin 3 - (only for output signal 19 and male electrical connector 32, M12x1, 4-pole) | | F5 |
| Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out, Pin 4 Ground (only for output signals 19 and male electrical connector 32, M12x1, 4-pole) | | G2 |
| Special electrical connection: Pin 1 +, Pin 2 Out, Pin 3 Ground, Pin 4 - (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | F6 |
| Special electrical connection: Pin 1 +, Pin 2 Out, Pin 3 - (only for output signals 13, 14, 16, 17, 20, 22, 23, 24, 25, 26, 28, 29 and male electrical connector 32, M12x1, 4-pole) | | F7 |
| Cable length 0.5 m | | EM |
| Cable length 1.0 m | | 1M |
| Cable length 2.0 m | | 2M |
| Parameterization according to customer specification for output signal PS, T1 (see table "Parameters") | | ZC |
| Parameterization standard for output signal PS, T1 (see table "Parameters") | | ZS |
| Multiple packaging ⁸⁾ | | VM |

¹⁾ Customized pressure ranges upon request

²⁾ For electrical connections 32 and 35

³⁾ Only with electrical connections 32, 22, 24, 08, 88

⁴⁾ Max. allowable pressure range 60 bar at 180 bar overpressure

⁵⁾ Max. allowable pressure range 160 bar at 480 bar overpressure

⁶⁾ Not for pressure connections 53, 24, 44, 18

⁷⁾ Cable length see accessories

⁸⁾ The order quantity must be a multiple of 50, only for electrical connections 01, 32, 35, 02, D3, D4, not for pressure connection 30 with electrical connections 02, D3, D4

⁹⁾ Upon request

¹⁰⁾ Only with electrical connections 32, 22, 24, 08, 88, D3

¹¹⁾ Without seal, use seal geometry according DIN EN ISO 6149-2

Standard products (extra short lead time)

| Product No. | Type Code | Pressure range [bar] | Over pressure max. [bar] | Supply [VDC] | Accuracy @ 25°C typ. [%] |
|-------------|---------------------------------------|----------------------|--------------------------|--------------|--------------------------|
| NAT2.5A | 8252 75 2517 01 0000 0000 19 34 44 61 | 0 ... 2.5 | 7.5 | 9 ... 32 | ±0.5 |
| NAT4.0A | 8252 76 2517 01 0000 0000 19 34 44 61 | 0 ... 4 | 12 | 9 ... 32 | ±0.5 |
| NAT6.0A | 8252 77 2517 01 0000 0000 19 34 44 61 | 0 ... 6 | 18 | 9...32 | ±0.5 |
| NAT10.0A | 8252 78 2517 01 0000 0000 19 34 44 61 | 0 ... 10 | 30 | 9...32 | ±0.5 |
| NAT16.0A | 8252 79 2517 01 0000 0000 19 34 44 61 | 0 ... 16 | 48 | 9 ... 32 | ±0.5 |
| NAT25.0A | 8252 80 2517 01 0000 0000 19 34 44 61 | 0 ... 25 | 75 | 9 ... 32 | ±0.5 |
| NAT40.0A | 8252 81 2517 01 0000 0000 19 34 44 61 | 0 ... 40 | 120 | 9 ... 32 | ±0.5 |
| NAT100.0A | 8252 83 2517 01 0000 0000 19 34 44 61 | 0 ... 100 | 300 | 9 ... 32 | ±0.5 |
| NAT250.0A | 8252 74 2517 01 0000 0000 19 34 44 61 | 0 ... 250 | 750 | 9 ... 32 | ±0.5 |
| NAT400.0A | 8252 84 2517 01 0000 0000 19 34 44 61 | 0 ... 400 | 1000 | 9 ... 32 | ±0.5 |
| NAT600.0A | 8252 86 2517 01 0000 0000 19 34 44 61 | 0 ... 600 | 1500 | 9 ... 32 | ±0.5 |
| NAT2.5V | 8252 75 2517 01 0000 0000 17 34 44 61 | 0 ... 2.5 | 7.5 | 15 ... 32 | ±0.5 |
| NAT4.0V | 8252 76 2517 01 0000 0000 17 34 44 61 | 0 ... 4 | 12 | 15 ... 32 | ±0.5 |
| NAT6.0V | 8252 77 2517 01 0000 0000 17 34 44 61 | 0 ... 6 | 18 | 15 ... 32 | ±0.5 |
| NAT10.0V | 8252 78 2517 01 0000 0000 17 34 44 61 | 0 ... 10 | 30 | 15 ... 32 | ±0.5 |
| NAT16.0V | 8252 79 2517 01 0000 0000 17 34 44 61 | 0 ... 16 | 48 | 15 ... 32 | ±0.5 |
| NAT25.0V | 8252 80 2517 01 0000 0000 17 34 44 61 | 0 ... 25 | 75 | 15 ... 32 | ±0.5 |
| NAT40.0V | 8252 81 2517 01 0000 0000 17 34 44 61 | 0 ... 40 | 120 | 15 ... 32 | ±0.5 |
| NAT100.0V | 8252 83 2517 01 0000 0000 17 34 44 61 | 0 ... 100 | 300 | 15 ... 32 | ±0.5 |
| NAT250.0V | 8252 74 2517 01 0000 0000 17 34 44 61 | 0 ... 250 | 750 | 15 ... 32 | ±0.5 |
| NAT400.0V | 8252 84 2517 01 0000 0000 17 34 44 61 | 0 ... 400 | 1000 | 15 ... 32 | ±0.5 |
| NAT600.0V | 8252 86 2517 01 0000 0000 17 34 44 61 | 0 ... 600 | 1500 | 15 ... 32 | ±0.5 |
| NAT2.5AM | 8252 75 2517 32 0000 0000 19 33 44 61 | 0 ... 2.5 | 7.5 | 9 ... 32 | ±0.5 |
| NAT4.0AM | 8252 76 2517 32 0000 0000 19 33 44 61 | 0 ... 4 | 12 | 9 ... 32 | ±0.5 |
| NAT6.0AM | 8252 77 2517 32 0000 0000 19 33 44 61 | 0 ... 6 | 18 | 9 ... 32 | ±0.5 |
| NAT10.0AM | 8252 78 2517 32 0000 0000 19 33 44 61 | 0 ... 10 | 30 | 9 ... 32 | ±0.5 |
| NAT16.0AM | 8252 79 2517 32 0000 0000 19 33 44 61 | 0 ... 16 | 48 | 9 ... 32 | ±0.5 |
| NAT25.0AM | 8252 80 2517 32 0000 0000 19 33 44 61 | 0 ... 25 | 75 | 9 ... 32 | ±0.5 |
| NAT40.0AM | 8252 81 2517 32 0000 0000 19 33 44 61 | 0 ... 40 | 120 | 9 ... 32 | ±0.5 |
| NAT60.0AM | 8252 82 2517 32 0000 0000 19 33 44 61 | 0 ... 60 | 180 | 9 ... 32 | ±0.5 |
| NAT100.0AM | 8252 83 2517 32 0000 0000 19 33 44 61 | 0 ... 100 | 300 | 9 ... 32 | ±0.5 |
| NAT160.0AM | 8252 85 2517 32 0000 0000 19 33 44 61 | 0 ... 160 | 480 | 9 ... 32 | ±0.5 |
| NAT250.0AM | 8252 74 2517 32 0000 0000 19 33 44 61 | 0 ... 250 | 750 | 9 ... 32 | ±0.5 |
| NAT400.0AM | 8252 84 2517 32 0000 0000 19 33 44 61 | 0 ... 400 | 1000 | 9 ... 32 | ±0.5 |
| NAT600.0AM | 8252 86 2517 32 0000 0000 19 33 44 61 | 0 ... 600 | 1500 | 9 ... 32 | ±0.5 |

Standard products (extra short lead time)

| Product No. | Type Code | Pressure range [bar] | Over pressure max. [bar] | Supply [VDC] | Accuracy @ 25°C typ. [%] |
|-------------|---------------------------------------|----------------------|--------------------------|--------------|--------------------------|
| NAT2.5PS | 8252 75 2517 32 0000 0000 PS 44 61 ZS | 0 ... 2.5 | 7.5 | 9 ... 32 | ±0.5 |
| NAT4.0PS | 8252 76 2517 32 0000 0000 PS 44 61 ZS | 0 ... 4 | 12 | 9 ... 32 | ±0.5 |
| NAT6.0PS | 8252 77 2517 32 0000 0000 PS 44 61 ZS | 0 ... 6 | 18 | 9 ... 32 | ±0.5 |
| NAT10.0PS | 8252 78 2517 32 0000 0000 PS 44 61 ZS | 0 ... 10 | 30 | 9 ... 32 | ±0.5 |
| NAT16.0PS | 8252 79 2517 32 0000 0000 PS 44 61 ZS | 0 ... 16 | 48 | 9 ... 32 | ±0.5 |
| NAT25.0PS | 8252 80 2517 32 0000 0000 PS 44 61 ZS | 0 ... 25 | 75 | 9 ... 32 | ±0.5 |
| NAT40.0PS | 8252 81 2517 32 0000 0000 PS 44 61 ZS | 0 ... 40 | 120 | 9 ... 32 | ±0.5 |
| NAT60.0PS | 8252 82 2517 32 0000 0000 PS 44 61 ZS | 0 ... 60 | 180 | 9 ... 32 | ±0.5 |
| NAT100.0PS | 8252 83 2517 32 0000 0000 PS 44 61 ZS | 0 ... 100 | 300 | 9 ... 32 | ±0.5 |
| NAT160.0PS | 8252 85 2517 32 0000 0000 PS 44 61 ZS | 0 ... 160 | 480 | 9 ... 32 | ±0.5 |
| NAT250.0PS | 8252 74 2517 32 0000 0000 PS 44 61 ZS | 0 ... 250 | 750 | 9 ... 32 | ±0.5 |
| NAT400.0PS | 8252 84 2517 32 0000 0000 PS 44 61 ZS | 0 ... 400 | 1000 | 9 ... 32 | ±0.5 |
| NAT600.0PS | 8252 86 2517 32 0000 0000 PS 44 61 ZS | 0 ... 600 | 1500 | 9 ... 32 | ±0.5 |

| Parameters | | | | |
|--|---------------------------------|--|------------|------------------------------------|
| Name | Standard setting (accessory ZS) | Value range | Short name | Customer adjustment (accessory ZC) |
| Switch point SP1 (hysteresis mode) Upper switch point FH1 (window mode) | 75 % Measuring range | > RP1, FL1 (2 ... 99 %) Hysteresis \geq 1 % FS | SP1 | |
| Reset point RP1 (hysteresis mode) Lower switch point FL1 (window mode) | 25 % Measuring range | < SP1, FH1 (1 ... 98 %) Hysteresis \geq 1 % FS | RP1 | |
| Switch point SP2 (hysteresis mode) Upper switch point FH2 (window mode) | 75 % Measuring range | > RP2, FL2 (2 ... 99 %) Hysteresis \geq 1 % FS | SP2 | |
| Reset point RP2 (hysteresis mode) Lower switch point FL2 (window mode) | 25 % Measuring range | < SP2, FH2 (1 ... 98 %) Hysteresis \geq 1 % FS | RP2 | |
| Switch point delay time SP1 / RP1 (hysteresis mode) Switch point delay time FH1 / FL1 (window mode) | 0 | 0; approx. 2 ^x [ms], x = 3, 4 ... 16 | dS1 | |
| Switch point delay time SP2 / RP2 (hysteresis mode) Switch point delay time FH2 / FL2 (window mode) | 0 | 0; approx. 2 ^x [ms], x = 3, 4 ... 16 | dS2 | |
| Functions switching output 1 | Hysteresis, closer (Hno) | Hysteresis NO (Hno), Hysteresis NC (Hnc) Window NO (Fno), Window NC (Fnc) | ou1 | |
| Functions switching output 2 | Hysteresis, closer (Hno) | Hysteresis NO (Hno), Hysteresis NC (Hnc) Window NO (Fno), Window NC (Fnc) Device ready | ou2 | |

i Parameterization of switching points

The switching points, delay times and output functions can be parameterized via Smartphone app (Android). The SMI Sensor Master Interface required for the parameterization as well as the Smartphone are not part of the delivery. The Android App is available for free in the Google Play Store.

- Ordering No. SMI Sensor Master Interface: F90170
- Data sheet SMI Sensor Master Interface: H72618



| Specifications | | |
|---------------------------------|--|---|
| Electrical Data | Output / supply voltage | 4 ... 20 mA: 24 (9...32) VDC 0 ... 6 VDC ranges: 24 (9...32) VDC 0 ... 10.1 VDC ranges: 24 (15...32) VDC 0.5 ... 4.5 VDC ratiom., 10 ... 90% U_{supply} : 5 ± 0.25 VDC 1 or 2 PNP transistors: 24 (9...32) VDC |
| | Rise time | Typ. 1 ms / 10 ... 90 % nominal pressure |
| | Power-on delay time pressure transmitters | 100 ms |
| | Power-on delay time pressure switches | 50 ms + switching delay time |
| | Inverse-polarity protection, short-circuit strength @ 25°C during 5 min. | 4...20 mA: to $U_s = 32$ VDC 0 ... 6 VDC ranges, 0 ... 10.1 VDC ranges: bis $U_s = 28$ VDC 0.5...4.5 VDC ratiometric: to $U_s = 14$ VDC 1 or 2 PNP transistors: to $U_s = 32$ VDC |
| Environmental conditions | Media temperature | -40°C ... +125°C |
| | Ambient temperature | -40°C ... +125°C (Cable PVC 22: -5°C ... +60°C) (Cable PUR 24: -40°C ... +70°C) (Cable Radox Tenuis 88: -40°C ... +100°C) |
| | Protection ¹⁾ | IP65, IP67, IP68 |
| | Humidity | Max. 95 % relative |
| | Vibration | 15 g RMS (20...2000 Hz) (EN60068-2-64) 25 g sin (80...2000 Hz), 1 oct./min, (1x @ 25°C) (EN60068-2-6) |
| | Shock | 50 g / 11 ms 100 g / 6 ms Male electrical plug M12x1 (EN60068-2-27) ²⁾ |
| EMC Protection | Emission | EN/IEC 61000-6-3 |
| | Immunity | EN/IEC 61000-6-2 |
| Mechanical Data | Sensor (wetted parts) | 1.4542 (AISI630) |
| | Pressure connection (wetted parts) | 1.4542 (AISI630) |
| | Housing | 1.4301 (AISI304) |
| | Sealing | FPM/EPDM/NBR |
| | Male electrical connector | See ordering information |
| | Weight | appr. 50 g |
| | Mounting torque | 25 Nm |

¹⁾ See electrical connection

²⁾ For electrical connections 32 and 35

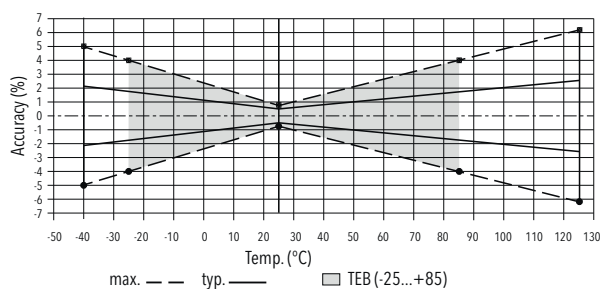
Analogue output

| | | | |
|-----------|--|---------------|--------|
| Accuracy | TEB @ -25 ... +85°C | [% FS typ.] | ± 1.75 |
| | Accuracy @ +25°C | [% FS typ.] | ± 0.5 |
| | NLH @ +25°C (BSL) | [% FS typ.] | ± 0.2 |
| | TC zero point and span | [% FS/K typ.] | ± 0.03 |
| | Long term stability 1 year | [% FS typ.] | ± 0.1 |
| Rise time | Typ. 1 ms / 10 ... 90 % nominal pressure | | |

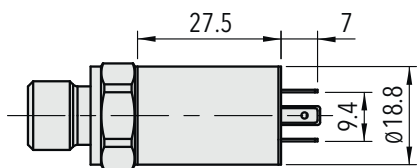
Switching output

| | | | |
|-------------------------------|--|---------------------------------|---|
| Accuracy | TEB @ -25 ... +85°C | [% FS typ.] | ± 1.75 |
| | Accuracy @ +25°C | [% FS typ.] | ± 0.5 |
| | Long term stability 1 year | [% FS typ.] | ± 0.1 |
| Setting range of switchpoints | 1 ... 99 % FS | | |
| Distance switch point | ≥ 1.0 % FS | | |
| Switch point > reset point | Switchpoint > reset point | | |
| Switching resistance | ≤ 3 Ω | | |
| Output function | Hysteresis, Window; normally closed (NO), normally open (NC) | | |
| Switching current | -40°C ... +85°C | (Ambient and media temperature) | ≤ 400 mA, total of both switching outputs |
| | +85°C ... +125°C | (Ambient and media temperature) | ≤ 200 mA, total of both switching outputs |
| Current limiting | integrated | | |
| Life time | > 100 x 10 ⁶ cycles | | |
| Delay time | 0; approx. 2 ^x [ms], x = 3, 4 ... 16 | | |
| Switching frequency | max. 60 Hz (at switching delay time = 0) | | |

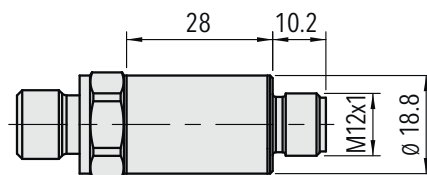
Measuring accuracy



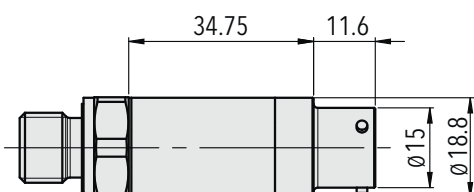
Dimensions



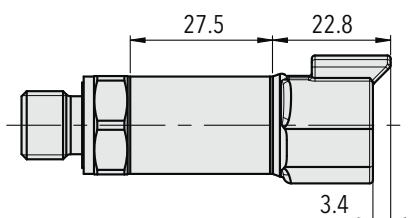
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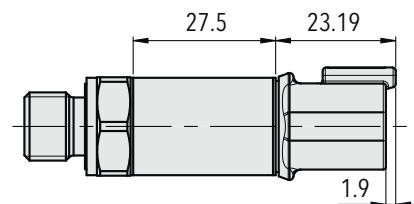
8252.XX.XXXX.32/35.XX.XX



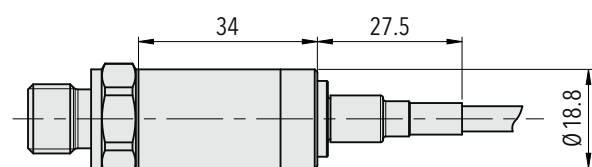
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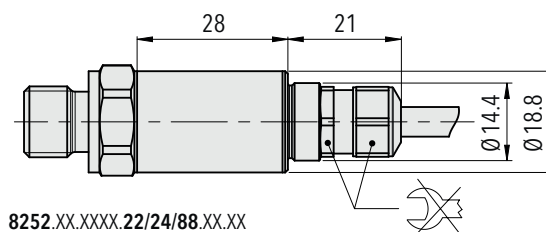
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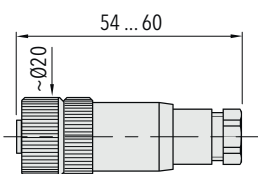
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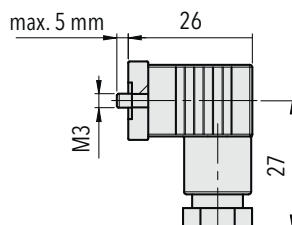
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8252.XX.XXXX.22/24/88.XX.XX

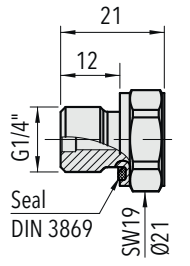


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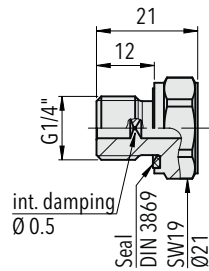


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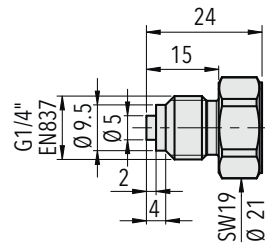
Dimensions



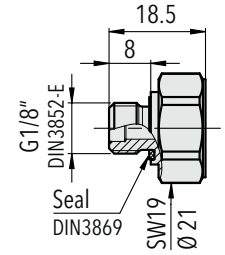
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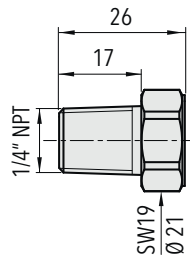
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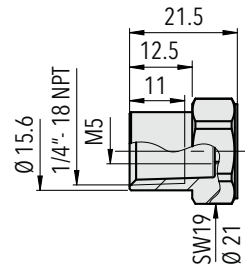
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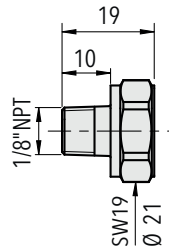
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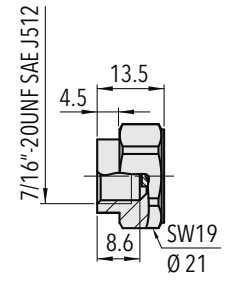
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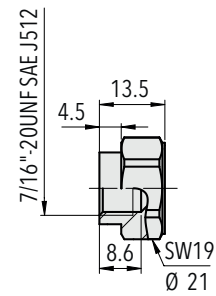
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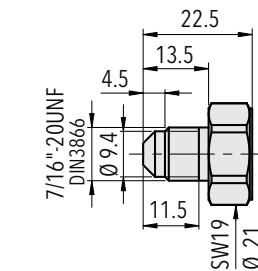
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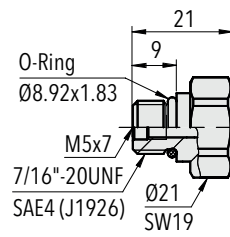
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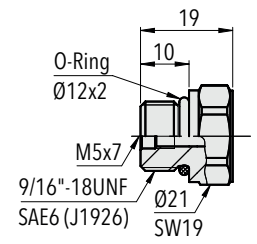
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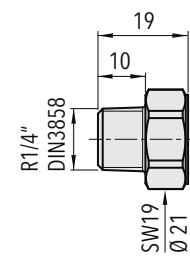
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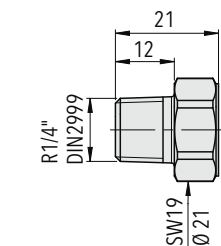
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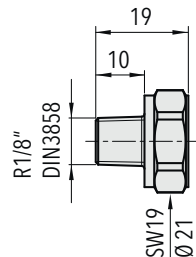
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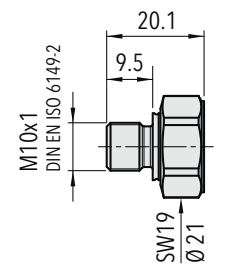
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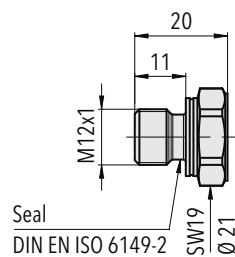
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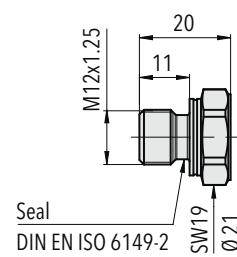
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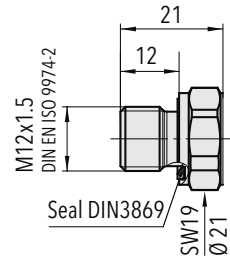
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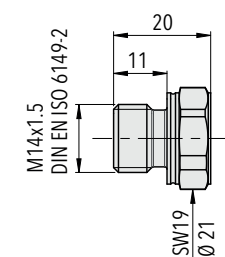
8252.XX.XX64.XX.XX.XX



8252.XX.XX65.XX.XX.XX



8252.XX.XX49.XX.XX.XX



8252.XX.XX31.XX.XX.XX

Electrical connection

| | | Protection / electrical connection | | | | | | | | | | | | | |
|---------------|---|--|-----------|-----------------------|-----------|-----------|-----------|-----------|-----------------------|-----------|-----------------------------|-----------|-----------------------------|-----------|---|
| | | IP65 ^{1) 2)} | | IP67 ^{1) 2)} | | | | | IP67 ^{1) 2)} | | IP67, IP68 ^{1) 4)} | | IP67, IP68 ^{1) 4)} | | |
| | | Industrial standard Contact distance 9.4 mm | | M12x1 | | | | | MIL-C 26482 | | DT04-3P 3-pole | | DT04-4P 4-pole | | |
| | | 01 | | 32 | | 35 | | | 02 | | D3 | | D4 | | |
| | | | | | | | | | | | | | | | |
| Output signal | <p>shield ⊕ U_s (pos. Supply) → ⊖ U_s (neg. Supply) → earth/housing → 8252.xx.XXXX.xx.19</p> | 90 | 92 | E1 | E6 | F4 | F5 | G2 | | | | F0 | | | |
| | | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2/3 | 4 | A | A | A | 2 | |
| | | 1 | 4 | 2 | 3 | 2 | 4 | 2 | 3 | 1 | B | B | C | 1 | |
| | | 4 | 3 | 4 | 4 | 4 | 2 | | 4 | 5 | E | | | 3 | |
| Output signal | <p>shield ⊕ U_s (pos. Supply) → ⊕ Out (Output) → ⊖ U_s (neg. Supply) → earth/housing → 8252.xx.XXXX.xx.13/14/16/17/20/22/ 23/24/25/26/28/29</p> | 91 | E3 | E9 | 95 | 96 | E2 | F6 | F7 | G1 | | F3 | | F1 | |
| | | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | A | A | 2 |
| | | 2 | 1 | 1 | 3 | 2 | 3 | 4 | 3 | 2 | 4 | B | C | C | 4 |
| | | 3 | 4 | 2 | 2 | 3 | 4 | 3 | 2 | 4 | 3 | C/D | B/D | B | 1 |
| | | 4 | 3 | 4 | 4 | 4 | 2 | 2 | 4 | 3 | 5 | E | E | C | 3 |

| | | Protection / electrical connection | | |
|---------------|---|------------------------------------|--------------------------------|--|
| | | IP67, IP68 ^{2) 3)} | IP67 ²⁾ | IP67, IP68 ^{2) 3)} |
| | | Cable | Cable | Cable |
| | | 22/24 | 08 | 88 |
| | | | | |
| Output signal | <p>shield ⊕ U_s (pos. Supply) → ⊖ U_s (neg. Supply) → earth/housing → 8252.xx.XXXX.xx.19</p> | white | red | brown |
| | | brown yellow | black green | black yellow / green |
| Output signal | <p>shield ⊕ U_s (pos. Supply) → ⊕ Out (Output) → ⊖ U_s (neg. Supply) → earth/housing → 8252.xx.XXXX.xx.13/14/16/17/20/22/ 23/24/25/26/28/29</p> | white green brown yellow | red white black green | brown blue black yellow / green |

¹⁾ Provided female connector is mounted according to instructions

²⁾ Ventilation via male electric plug/cable end

³⁾ IP68, 20 bar, 30 min.

⁴⁾ IP68, 100 mbar, 4h

Electrical connection

| | | Protection / electrical connection | | | | | | | | | |
|---------------|------------------------------|------------------------------------|------------------|-----------------------------------|------------------------------|--------------------------------|----------------------------|--|-----------------------------|-----------------------------|--|
| | | IP67 ^{1) 2)} | | IP67, IP68 ^{2) 3)} | | IP67 ²⁾ | | IP67, IP68 ^{2) 3)} | | IP67, IP68 ^{1) 4)} | |
| | | M12x1 4-pole | | Cable | | Cable | | Cable | | DT04-3P 3-pole | |
| | | 32 | | 22/24 | | 08 | | 88 | | D3 | |
| | | | | | | | | | | | |
| Output signal | | PS | T1 | PS | T1 | PS | T1 | PS | T1 | T1 | |
| | 8252.xx.xxxx.xx.PS/T1 | 1 4 2 3 | 1 4 - 3 | white green yellow brown | white green - brown | red white green black | red white - black | brown blue yellow / green black | brown blue - black | A C - B | |

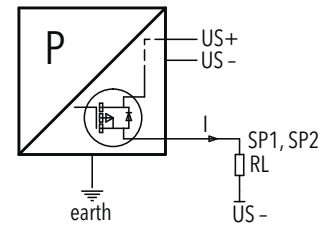
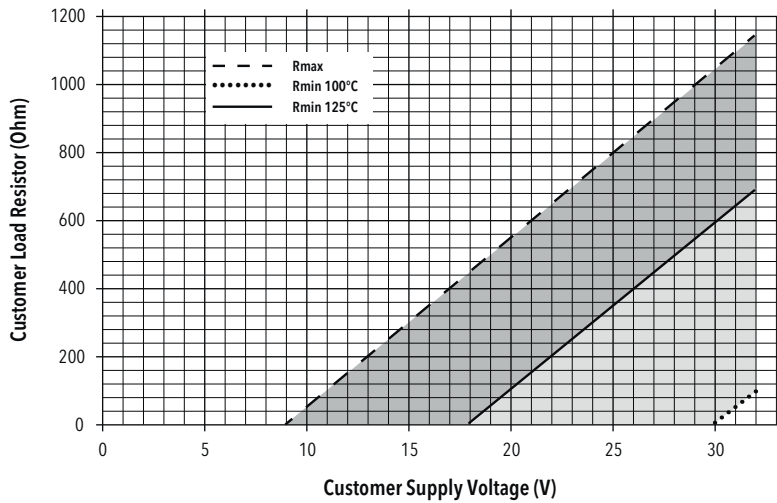
¹⁾ Provided female electrical plug is mounted according to instructions

²⁾ Ventilation via male electric plug/cable end

³⁾ IP68, 20 bar, 30 min.

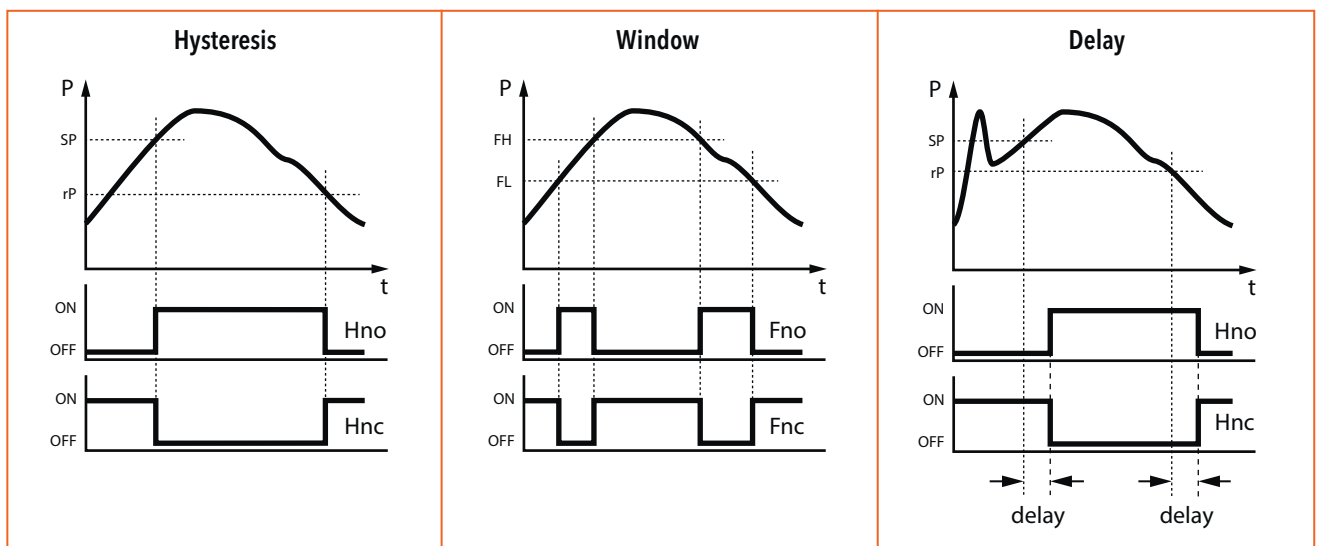
⁴⁾ IP68, 100 mbar, 4h

4...20mA: min./max resistor vs. supply voltage @ Pmax = 100%



Connection of loads to switch contacts

Functions switching output



Additional information

Documents

| | |
|--------------|--|
| Data sheet | www.trafag.com/H72303 |
| Instructions | www.trafag.com/H73303 |
| Flyer | www.trafag.com/H70666 |

Additional specifications

| | | |
|---------------------------------|--------------------------------|--|
| Electrical Data | Resistance of insulation | >10 MΩ, 50 VDC |
| | Dielectric strength | 50 VAC, 50 Hz |
| | Current limiting output signal | 4 ... 20 mA: 24 mA (Overload) |
| Environmental conditions | Storage temperature | -40°C ... +125°C (Cable PVC 22: -5°C ... +60°C) (Cable PUR 24: -40°C ... +70°C) (Cable Radox Tenuis 88: -40°C ... +100°C) |

Analogue output

| | | | |
|---|----------------------------------|---------------|--------|
| Accuracy | TEB @ -25 ... +85°C | [% FS max.] | ± 4.0 |
| | Accuracy @ +25°C | [% FS max.] | ± 0.75 |
| | NLH @ +25°C (BSL) | [% FS max.] | ± 0.35 |
| | NLH @ +25°C (BSL through 0) | [% FS typ.] | ± 0.3 |
| | NLH @ +25°C (BSL through 0) | [% FS max.] | ± 0.5 |
| | Repeatability | [% FS typ.] | ± 0.05 |
| | TC zero point and span | [% FS/K max.] | ± 0.05 |
| | Long term stability 1000h @ 85°C | [% FS typ.] | ± 0.1 |
| | Temperature hysteresis | [% FS typ.] | ± 0.2 |
| | | [% FS max.] | ± 0.35 |
| Deviation of zero signal and final value @ 25°C | [% FS typ.] | ± 0.5 | |
| | [% FS max.] | ± 0.75 | |

Switching output

| | | | |
|----------|----------------------------------|-------------|--------|
| Accuracy | TEB @ -25 ... +85°C | [% FS max.] | ± 4.0 |
| | Accuracy @ +25°C | [% FS max.] | ± 0.75 |
| | Repeatability | [% FS typ.] | ± 0.05 |
| | Long term stability 1000h @ 85°C | [% FS typ.] | ± 0.1 |