

PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature.



Applications

- Test benches
- Railways
- Machine tools
- Hydraulics
- Process technology

Features

- Smallest design
- Accuracy classes 0.1 %, 0.15 %, 0.3 %
- Excellent temperature resistance
- Relative and absolute pressure measurement
- Optional: Dielectrical strength 500 VAC, meets EN 50155 (Railways)

| Technical Data | | | |
|-----------------------|---|----------------------|--|
| Measuring principle | Thin-film-on-steel | Accuracy @ 25°C typ. | ± 0.3 % FS typ. ± 0.15 % FS typ. ± 0.1 % FS typ. |
| Measuring range | 0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi | Media temperature | -40°C ... +125°C |
| Output signal | 4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric | Ambient temperature | -40°C ... +125°C |
| NLH @ 25°C (BSL) typ. | ± 0.2 % FS typ. ± 0.1 % FS typ. | | |

01/2021

Data sheet H72300w

Subject to change

Ordering information/type code

| | | | | 8253 . 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 ²⁾ | 5 | 50 | 0 ... 30 | 60 | 700 | G5 | | | | | |
| | 0 ... 4 | 8 | 60 | 0 ... 50 | 100 | 850 | G6 | | | | | |
| | 0 ... 6 | 12 | 100 | 0 ... 100 | 200 | 1450 | G7 | | | | | |
| | 0 ... 10 | 20 | 200 | 0 ... 150 | 300 | 2500 | G8 | | | | | |
| | 0 ... 16 | 32 | 200 | 0 ... 200 | 400 | 2500 | GA | | | | | |
| | 0 ... 25 | 50 | 300 | 0 ... 250 | 500 | 2500 | G9 | | | | | |
| | 0 ... 40 | 80 | 300 | 0 ... 300 | 600 | 4000 | HA | | | | | |
| | 0 ... 60 | 120 | 400 | 0 ... 400 | 800 | 4000 | H0 | | | | | |
| | 0 ... 100 | 200 | 500 | 0 ... 500 | 1000 | 4000 | H1 | | | | | |
| | 0 ... 160 | 320 | 750 | 0 ... 1000 | 2000 | 5000 | H2 | | | | | |
| | 0 ... 250 | 500 | 1000 | 0 ... 1500 | 3000 | 7000 | H3 | | | | | |
| | 0 ... 400 | 800 | 1500 | 0 ... 2000 | 4000 | 10000 | H5 | | | | | |
| | 0 ... 600 | 1000 | 2000 | 0 ... 3000 | 6000 | 14500 | G4 | | | | | |
| | | | | 0 ... 5000 | 10000 | 21750 | H4 | | | | | |
| | | | | 0 ... 7500 | 15000 | 29000 | H6 | | | | | |
| Sensor | Relative pressure, accuracy: 0.3 % | | | | | | 23 | | | | | |
| | Relative pressure, accuracy: 0.15 % | | | | | | 21 | | | | | |
| | Relative pressure, accuracy: 0.1 % | | | | | | 24 | | | | | |
| | Absolute pressure, accuracy: 0.3 % ⁴⁾ | | | | | | 43 | | | | | |
| | Absolute pressure, accuracy: 0.15 % ⁴⁾ | | | | | | 41 | | | | | |
| | Absolute pressure, accuracy: 0.1 % ⁴⁾ | | | | | | 44 | | | | | |
| Pressure connection | G1/4" male (Seal) | | | | | | | 17 | | | | |
| | 1/4" NPT male | | | | | | | 30 | | | | |
| | 1/4" NPT female ⁷⁾ | | | | | | | 13 | | | | |
| | 7/16"-20UNF male ^{3) 4)} | | | | | | | 18 | | | | |
| | 7/16"-20UNF female, DIN3866 (valve opener) ^{3) 4)} | | | | | | | 24 | | | | |
| | 7/16"-20UNF male, SAE4 (J1926) | | | | | | | 42 | | | | |
| | 9/16"-18UNF male, SAE6 (J1926), seal: accessory 61 ^{3) 7)} | | | | | | | 61 | | | | |
| | 3/8"-24UNF SAE3 male (J514) ^{3) 7)} | | | | | | | 66 | | | | |
| | R1/4" male, DIN2999 ^{3) 7)} | | | | | | | 20 | | | | |
| | M14x1.5 male DIN EN ISO 6149-2 ^{3) 7)} | | | | | | | 31 | | | | |
| Electrical connection | Male electrical connector, industrial standard (contact distance 9.4 mm), Mat. PBT | | | | | | | 01 | | | | |
| | Male electrical connector M12x1, 4-pole, Mat. PBT | | | | | | | 32 | | | | |
| | Male electrical connector M12x1, 5-pole, Mat. PBT | | | | | | | 35 | | | | |
| | Male electrical connector MIL-C 26482, 6-pole, metal | | | | | | | 02 | | | | |
| | Cable Mat. EPD Raychem FDR25, IP67, 4 x 0.2 mm ² ⁷⁾ | | | | | | | 08 | | | | |
| Output signal | Signal output | Load resistance | I (supply) | U (supply) | | | | | | | | |
| | 4 ... 20 mA | (U _{supply} -9 V) / 20 mA | | 24 (9 ... 32) VDC | | 19 | | | | | | |
| | 0 ... 5 VDC | ≥ 2.0 kΩ | ≤ 10 mA | 24 (9 ... 32) VDC | | 14 | | | | | | |
| | 1 ... 6 VDC | ≥ 2.0 kΩ | ≤ 10 mA | 24 (9 ... 32) VDC | | 16 | | | | | | |
| | 0 ... 10 VDC | ≥ 5.0 kΩ | ≤ 10 mA | 24 (15 ... 32) VDC | | 17 | | | | | | |
| | 0.5 ... 4.5 VDC | ≥ 2.0 kΩ | ≤ 10 mA | 5 (4.5 ... 5.5) VDC ratiom. | | 23 | | | | | | |

| Accessories | | |
|--|--|----|
| Female electrical plug M12x1, 5-pole, for electrical connections 32 and 35 | | 33 |
| Female electrical plug industrial standard | | 34 |
| Meets EN 50155 (railways) dielectrical strength: 500 VAC, 50 Hz ⁵⁾ | | 11 |
| Pressure peak damping element ø 1.0 mm ⁶⁾ | | 40 |
| Pressure peak damping element ø 0.3 mm ⁶⁾ | | 43 |
| Pressure peak damping element ø 0.5 mm ⁶⁾ | | 45 |
| Special electrical connection: Pin 1 +, Pin 2 Ground, Pin 3 -, Pin 4 Out (only for output signals 14, 16, 17, 23 and male electrical connector 32, M12x1, 4-pole) | | 96 |
| Special electrical connection: Pin A +, Pin C Out, Pin B/D -, Pin E Ground (Pin B and D are connected) (only for output signals 14, 16, 17, 23 and male electrical connector MIL-C 26482) | | F3 |
| Cable length 0.5 m | | EM |
| Cable length 1.0 m | | 1M |
| Cable length 2.0 m | | 2M |

¹⁾ Extended overpressure as well as customized pressure ranges upon request

²⁾ Measuring accuracy 0.3 %

³⁾ Only for relative pressure

⁴⁾ Max. allowable pressure range 40 bar

⁵⁾ Only with output 19

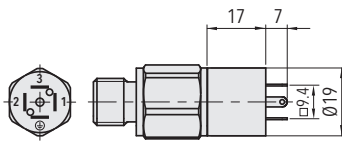
⁶⁾ Only for pressure connections 17, 20, 30, 31, 42 and 61

⁷⁾ Upon request

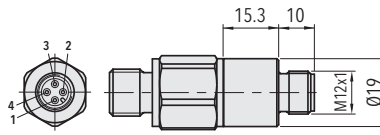


Identical construction with higher/lower specifications: Data sheet No. H72250, H72301

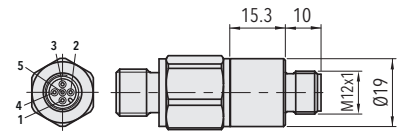
Dimensions



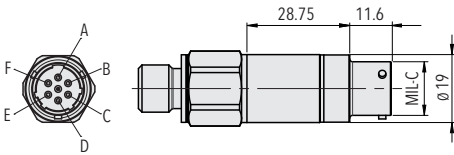
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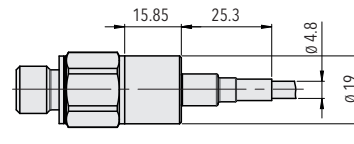
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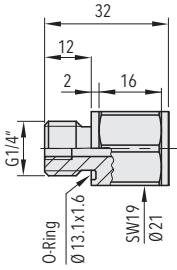
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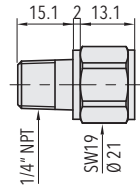


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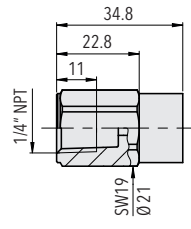
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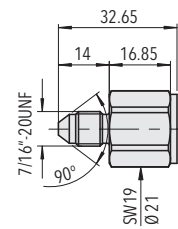
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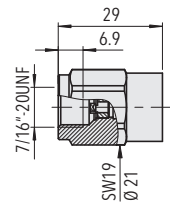
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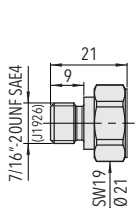
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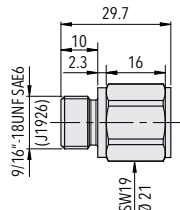


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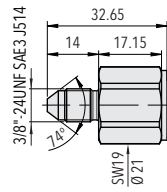


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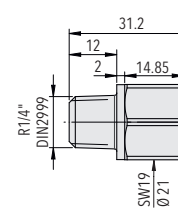
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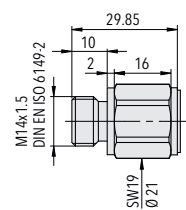
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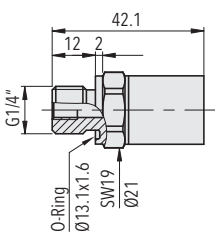
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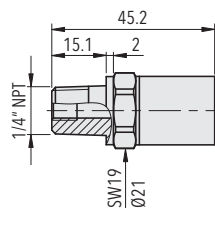
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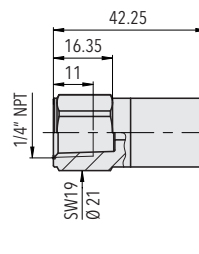
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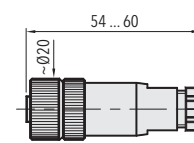
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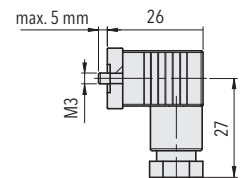


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8253.XX.4113.XX.XX.XX



8253.XX.XXXX.XX.XX.33



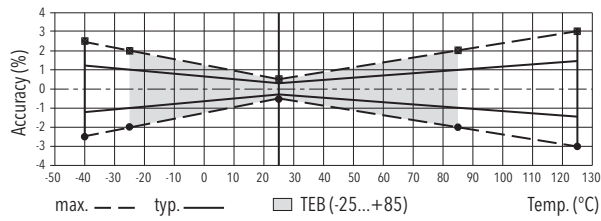
8253.XX.XXXX.XX.XX.34

| Specifications | | |
|---------------------------------|------------------------------------|--|
| Electrical Data | Output / supply voltage | 4 ... 20 mA: 24 (9 ... 32) VDC 0 ... 5 VDC: 24 (9 ... 32) VDC 1 ... 6 VDC: 24 (9 ... 32) VDC 0 ... 10 VDC: 24 (15 ... 32) VDC 0.5 ... 4.5 VDC: 5 VDC ratiom. |
| | Rise time | Typ. 1 ms / 10 ... 90 % nominal pressure |
| | Power-on delay time | 1 s |
| Environmental conditions | Media temperature | -40°C ... +125°C |
| | Ambient temperature | -40°C ... +125°C |
| | Protection ¹⁾ | Min. IP65 |
| | Humidity | Max. 95 % relative |
| | Vibration | 40 g (20...2000 Hz) |
| | Shock | 100 g / 11 ms |
| 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) | Pressure ranges ≤ 250 bar: 1.4542 (AISI630) Pressure ranges > 250 bar: 1.4301 (AISI304) |
| | Housing | 1.4301 (AISI304) |
| | Sealing | FKM 70 Sh |
| | Male electrical connector | See ordering information |
| | Weight | ~ 50 g |
| | Mounting torque | 25 Nm |

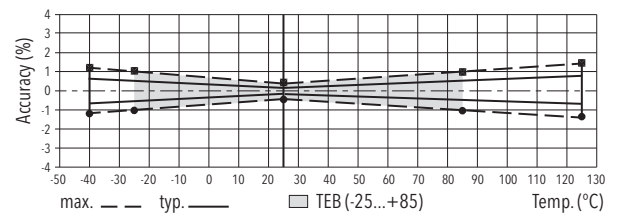
¹⁾ See electrical connection

| Accuracy | | | | |
|--|---------------|---|--|---|
| | | Measuring accuracy 0.3 % Ordering No. 23/43 | Measuring accuracy 0.15 % Ordering No. 21/41 | Measuring accuracy 0.1 % Ordering No. 24/44 |
| TEB @ -25...+85°C | [% FS typ.] | ± 1.0 | ± 0.5 | ± 0.4 (0 ... 65°C) |
| TEB @ -25...+85°C; 0...4 to 0...100 bar | [% FS typ.] | - | - | ± 0.4 |
| TEB @ 0...+65°C; 0...4 to 0...100 bar | [% FS typ.] | - | - | ± 0.25 |
| Accuracy @ +25°C | [% FS typ.] | ± 0.3 | ± 0.15 | ± 0.1 |
| NLH @ +25°C (BSL) | [% FS typ.] | ± 0.2 | ± 0.1 | ± 0.1 |
| TC zero point and span | [% FS/K typ.] | ± 0.01 | ± 0.002 | ± 0.002 |
| Long term stability 1 year @ +25°C | [% FS typ.] | < ± 0.1 | < ± 0.1 | < ± 0.1 |

Measuring accuracy 0.3 %



Measuring accuracy 0.15 %



Electrical connection

| | | Protection / electrical connection | | | | |
|---------------|---|--------------------------------------|---------------------|---------------------|----------------|-----------|
| | | IP65 *) | IP67 *) | | IP67 *) **) | IP67 **) |
| | | Industrial standard EN175301-803A | M12x1 | | MIL-C 26482 | Cable |
| | | 01 | 4-pole 32 | 5-pole 35 | 02 | 08 |
| | | | | | | |
| Output signal | <p>8253.XX.XXXX.XX.19</p> | 2 | 1 | 4 | | red |
| | <p>8253.XX.XXXX.XX.14/16/17/23</p> | 1 | 3 | 1 | | black |
| | | ⊕ | 4 | 5 | | - |
| | | | | 96 | | F3 |
| | | 1 | 1 | 1 | A | A |
| | | 2 | 2 | 4 | B | C |
| | | 3 | 3 | 3 | C/D | B/D |
| | | ⊕ | 4 | 2 | E | E |
| | | | | | | red |
| | | | | | | green |
| | | | | | | black |
| | | | | | | - |

*) Provided female electric plug is mounted according to instructions

**) Ventilation via male electric plug/cable end

Additional information

Documents

| | |
|--------------|--|
| Data sheet | www.trafag.com/H72300 |
| Instructions | www.trafag.com/H73250 |
| Flyer | www.trafag.com/H70670 |