

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)

07/2023

Data sheet H72300aa

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.		

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]						
	0 ... 2.5 ²⁾	5	50	75					
	0 ... 4	8	60	76					
	0 ... 6	12	100	77					
	0 ... 10	20	200	78					
	0 ... 16	32	200	79					
	0 ... 25	50	300	80					
	0 ... 40	80	300	81					
	0 ... 60	120	400	82					
	0 ... 100	200	500	83					
	0 ... 160	320	750	85					
	0 ... 250	500	1000	74					
	0 ... 400	800	1500	84					
	0 ... 600	1000	2000	86					
Sensor	Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]						
	0 ... 30 ²⁾	60	700	G5					
	0 ... 50	100	850	G6					
	0 ... 100	200	1450	G7					
	0 ... 150	300	2500	G8					
	0 ... 200	400	2500	GA					
Pressure connection	0 ... 250	500	2500	G9					
	0 ... 300	600	4000	HA					
	0 ... 400	800	4000	H0					
	0 ... 500	1000	4000	H1					
	0 ... 1000	2000	5000	H2					
	0 ... 1500	3000	7000	H3					
	0 ... 2000	4000	10000	H5					
	0 ... 3000	6000	14500	G4					
	0 ... 5000	10000	21750	H4					
	0 ... 7500	15000	29000	H6					
Sensor	Relative pressure, accuracy: 0.3 % ⁸⁾				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-2A male, SAE J1926-3 (Light Duty) ⁹⁾				42				
	7/16"-20UNF-2A male, SAE J1926-2 (Heavy Duty) ¹⁰⁾				69				
	9/16"-18UNF-2A male, SAE J1926-2 (Heavy Duty) ¹⁰⁾				67				
	3/8"-24UNF SAE3 male (J514) ^{3) 7)}				66				
	R1/4" male, DIN2999 ^{3) 7)}				20				
Electrical connection	M14x1.5 male DIN EN ISO 6149-2 ^{3) 7)}				31				
	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				
Output signal	Cable Mat. EPD Raychem FDR25, IP67, 4 x 0.2 mm ² ⁷⁾				08				
	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	
Output signal	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) dielectric 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

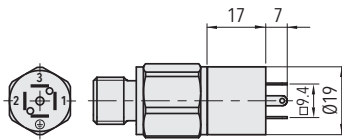
⁷⁾ Upon request

⁸⁾ Please use the successor product NAH 8254 for accuracy 0.3% and NAR 8258 for railway applications

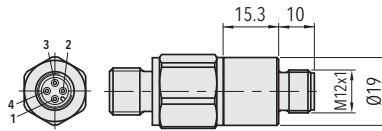
⁹⁾ Measuring range max. 350 bar according to SAE J1926-3 (Light Duty). Do not use for new designs, will be replaced by design according to SAE J1926-2 (Heavy Duty) in 2023

¹⁰⁾ Measuring range max. 630 bar according to SAE J1926-2 (Heavy Duty)

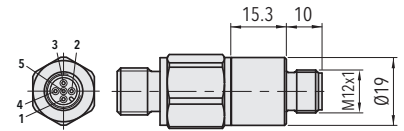
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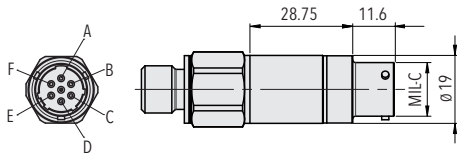
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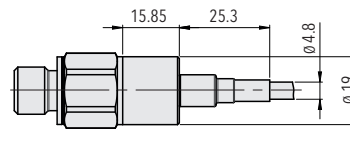
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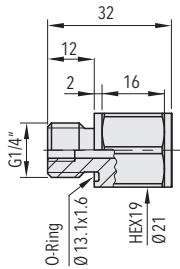
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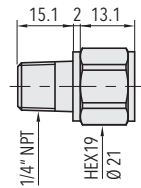
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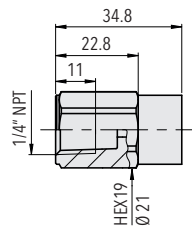
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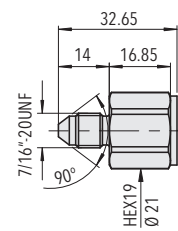
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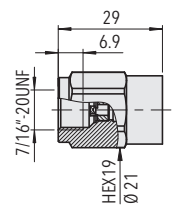
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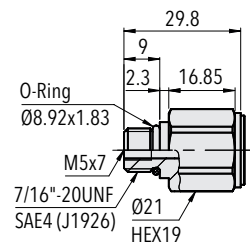
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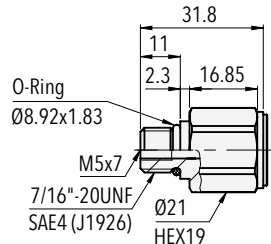
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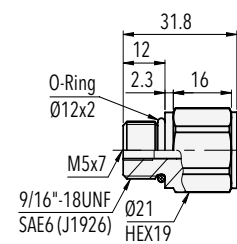
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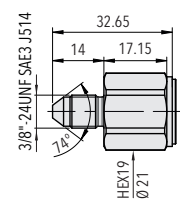
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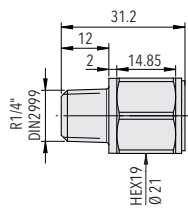
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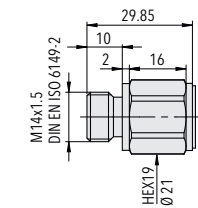
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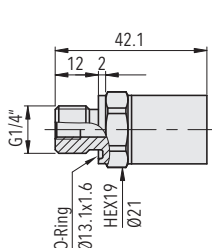
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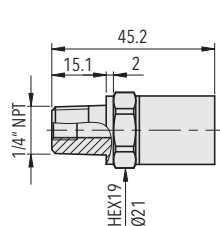
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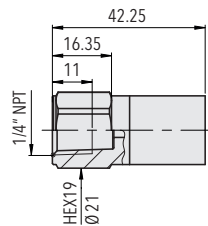
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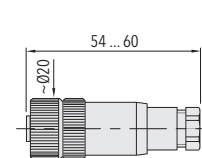
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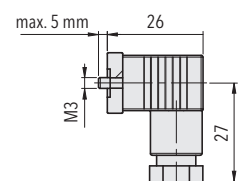
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8253.XX.4X13.XX.XX.XX



8253.XX.XXXX.XX.XX.33



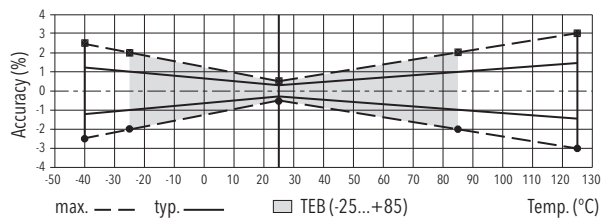
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Specifications		
Electrical Data	Output / supply voltage	4 ... 20 mA: 24 (9 ... 32) VDC 0 ... 5 VDC: 24 (9 ... 32) VDC 1 ... 6 VDC: 24 (9 ... 32) VDC 0 ... 10 VDC: 24 (15 ... 32) VDC 0.5 ... 4.5 VDC: 5 VDC ratiom.
	Rise time	Typ. 1 ms / 10 ... 90 % 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

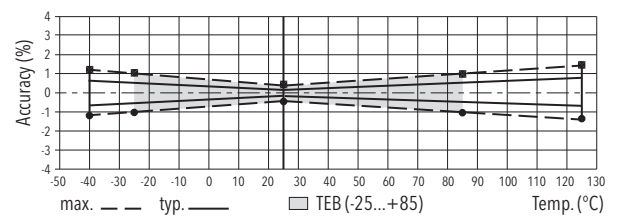
¹⁾ See electrical connection

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	5-pole	02		08	
Output signal 8253.XX.XXXX.XX.19	2	1	4			red	
	1	3	1			black	
	⊕	4	5			-	
 8253.XX.XXXX.XX.14/16/17/23	1	96	2			red	
	2		4	A		A	
	3	3	3	B		C	
	⊕	4	5	C/D		B/D	
				E		E	
						black	
						-	

*) Provided female connector 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