

HYDRAULIC PRESSURE TRANSMITTER

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



Applications

- Machine tools
- Hydraulics
- Process technology
- Water treatment
- Test benches

Features

- Smallest design
- Different accuracy classes
- Excellent temperature resistance
- Improved vibration resistance
- Completely welded steel sensor system without additional seals

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	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 ratiom.		

05/2014

Data sheet H72300k

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	Relative pressure, accuracy: 0.3%				23					
	Relative pressure, accuracy: 0.15%				21					
	Relative pressure, accuracy: 0.1%				24					
	Absolute pressure, accuracy: 0.3%				43					
	Absolute pressure, accuracy: 0.15%				41					
	Absolute pressure, accuracy: 0.1%				44					
Pressure connection	G1/4" male (O-Ring)				17					
	1/4"NPT male				30					
	7/16"-20UNF male ^{3) 4)}				18					
	7/16"-20UNF female (Valve opener) ^{3) 4)}				24					
Electrical connection	Male electrical plug , Industrial standard (contact distance 9.4mm), Mat. PBT				01					
	Male electrical plug M12x1, 4-pol., Mat. PBT				32					
	Male electrical plug M12x1, 5-pol., Mat. PBT				35					
Output	Output	Load resistance	I (supply)	U (supply)						
	4 ... 20mA	(U _{supply} -9V) / 20mA		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 execution 32 and 35				33					
	Female electrical plug industrial standard				34					
	Meets EN50155 (railways) dielectrical strength: 500 VAC, 50Hz 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 -, Pin 3 GR (Only for output 4...20mA and male electrical plug M12x1, 5-pol.)				96					

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

²⁾ Measuring accuracy 0.3%

³⁾ Relative pressure only

⁴⁾ Max. allowable pressure range 40 bar

⁵⁾ Only with output 19

⁶⁾ Only for pressure connections 17 and 30

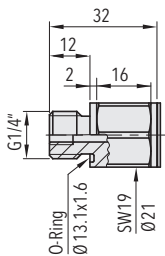


Identical construction with higher/lower specifications: Data sheet No. H72250, H72301

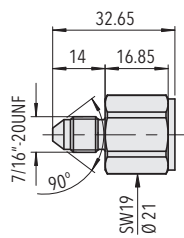
Standard products (extra short lead time)

Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
NAH2.5A	8253 75 2317 32 0000 0000 19 33 43	0...2.5	5	9...32	± 0.3
NAH4.0A	8253 76 2317 32 0000 0000 19 33 43	0...4.0	8	9...32	± 0.3
NAH6.0A	8253 77 2317 32 0000 0000 19 33 43	0...6.0	12	9...32	± 0.3
NAH10.0A	8253 78 2317 32 0000 0000 19 33 43	0...10	20	9...32	± 0.3
NAH16.0A	8253 79 2317 32 0000 0000 19 33 43	0...16	32	9...32	± 0.3
NAH25.0A	8253 80 2317 32 0000 0000 19 33 43	0...25	50	9...32	± 0.3
NAH40.0A	8253 81 2317 32 0000 0000 19 33 43	0...40	80	9...32	± 0.3
NAH100.0A	8253 83 2317 32 0000 0000 19 33 43	0...100	200	9...32	± 0.3
NAH250.0A	8253 74 2317 32 0000 0000 19 33 43	0...250	500	9...32	± 0.3
NAH400.0A	8253 84 2317 32 0000 0000 19 33 43	0...400	800	9...32	± 0.3
NAH600.0A	8253 86 2317 32 0000 0000 19 33 43	0...600	1000	9...32	± 0.3

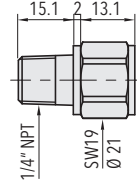
Dimensions



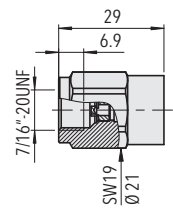
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8253.XX.2117.XX.XX.XX



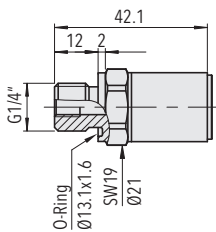
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8253.XX.2118.XX.XX.XX



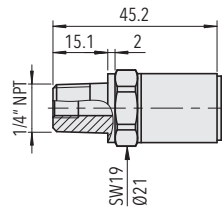
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8253.XX.2130.XX.XX.XX



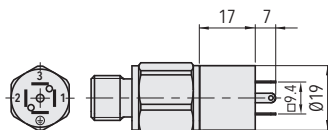
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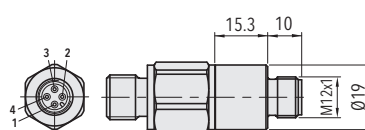
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8253.XX.4117.XX.XX.XX



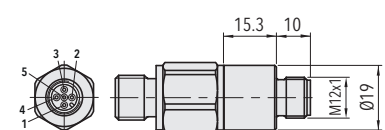
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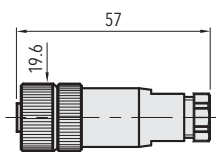
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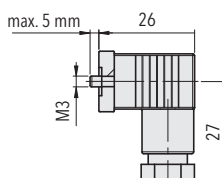
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8253.XX.XXXX.35.XX.XX



8253.XX.XXXX.XX.XX.33



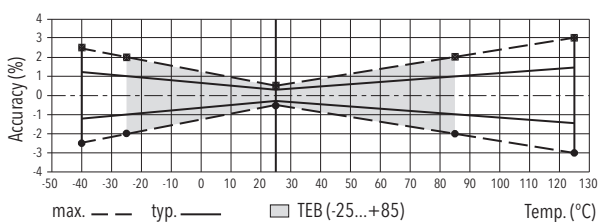
8253.XX.XXXX.XX.XX.34

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
	Switch-on-delay	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	40g (20...2000 Hz)
	Shock	100g/11 ms
EMC Protection	Emission	EN/IEC 61000-6-4
	Immunity	EN/IEC 61000-6-2
Mechanical Data	Sensor	1.4542 (AISI630)
	Housing / Pressure connection	1.4301 (AISI304)
	Sealing	FKM 70 Sh
	Male electrical plug	See ordering information
	Weight	~ 50 g
	Mounting torque	25 Nm

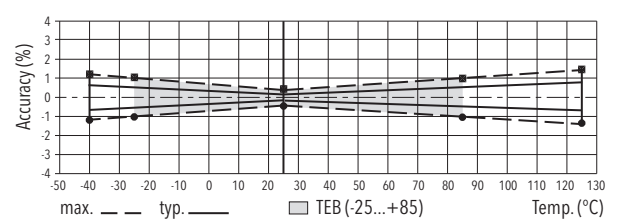
¹⁾ Provided female connector is mounted according to instructions

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 ... 60°C)
Accuracy @ +25°C	[% FS typ.]	± 0.3	± 0.15	± 0.1
NLH @ +25°C (BSL through 0)	[% 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*)		
		Industrial standard EN175301-803A	M12x1		
		01	4-pole		5-pole
Output signal	<p>shield</p> <p>U_S (pos. Supply) →</p> <p>U_S (neg. Supply) →</p> <p>earth/housing →</p> <p>8253.XX.XXXX.XX.19</p>	2	1	-	4
	<p>shield</p> <p>U_S (pos. Supply) →</p> <p>Out (Output) →</p> <p>U_S (neg. Supply) →</p> <p>earth/housing →</p> <p>8253.XX.XXXX.XX.14/16/17/23</p>	1	1	1	2
		1	3	-	1
		⊕	4	-	5
			4	-	5

*) Provided female connector is mounted according to instructions

Additional information		
Documents	Data sheet	www.trafag.com/H72300
	Instructions	www.trafag.com/H73250
	Flyer	www.trafag.com/H70670

Additional specifications		
Electrical Data	Resistance of insulation	>10 MΩ, 250 VDC
	Dielectric strength	250 VAC, 50 Hz
	Output signal	4 ... 20 mA: 24 mA (Overload)
Environmental Conditions	Storage temperature	-25°C ... 85°C
EMC Protection	ESD	EN/IEC 61000-4-2, Level 3
	RFI	EN/IEC 61000-4-3, Level 3
	Burst	EN/IEC 61000-4-4, Level 3
	Conducted Immunity	EN/IEC 61000-4-6, Level 3

Accuracy				
		Measuring accuracy 0.3%	Measuring accuracy 0.15%	Measuring accuracy 0.1%
		Ordering No. 23/43	Ordering No. 21/41	Ordering No. 24/44
TEB @ -25...+85°C	[% FS max.]	± 2.0	± 1.0	± 1.0 (0 ... 60°C)
Accuracy @ +25°C	[% FS max.]	± 0.5	± 0.25	± 0.25
NLH @ +25°C (BSL)	[% FS max.]	± 0.3	± 0.2	± 0.2
NLH @ +25°C (BSL through 0)	[% FS typ.]	± 0.2	± 0.1	± 0.1
NLH @ +25°C (BSL through 0)	[% FS max.]	± 0.3	± 0.2	± 0.2
Repeatability	[% FS typ.]	± 0.05	± 0.05	± 0.05
TC zero point and span	[% FS/K max.]	±0.02	±0.005	±0.005
Long term stability 1000h @ 85°C	[% FS typ.]	± 0.1	± 0.1	± 0.1
Temperature hysteresis	[% FS typ.]	± 0.2	± 0.1	± 0.1
	[% FS max.]	± 0.4	± 0.2	± 0.2
Deviation of zero signal and final value @ 25°C	[% FS typ.]	± 0.1	± 0.05	± 0.05
	[% FS max.]	± 0.2	± 0.1	± 0.1

