

LOW PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The very compact NSL low pressure transmitter is the only pressure transmitter in the market with thin-film-on-steel-membrane and pressure ranges down to 0 ... 200 mbar. This combination allows also for low pressure ranges accurate measurements with excellent longterm stability. Through the extraordinary high burst pressures up to 125 times nominal pressure the NSL is the first choice for critical applications.



Applications

- Shipbuilding
- Engine manufacturing
- Machine tools
- Process technology
- Water treatment
- Test benches



Features

- Smallest design
- Relative or absolute pressure measurement
- 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.	0.15 ... 0.8 % FS typ.
Measuring range	0 ... 0.2 to 0 ... 2.5 bar 0 ... 3 to 0 ... 30 psi	Media temperature	-40°C ... +125°C
Output signal	4 ... 20 mA, 0 ... 5 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.	Approval / conformity	DNV-GL

12/2023

Data sheet H72302r

Subject to change

Ordering information/type code

							8257 . 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 ... 0.2 ²⁾	1.2	25	68	0 ... 3 ³⁾	18	350	F8					
	0 ... 0.4	1.2	25	69	0 ... 5 ³⁾	18	350	F9					
	0 ... 0.6	1.5	25	70	0 ... 10 ³⁾	25	350	G0					
	0 ... 1.0	2.0	25	71	0 ... 15 ³⁾	30	350	G1					
	0 ... 1.6	3.5	80	73	0 ... 25 ³⁾	50	1200	G3					
	0 ... 2.5	5.0	80	75	0 ... 30 ³⁾	70	1200	G5					
Sensor	Relative pressure, accuracy: 0.3 % ⁷⁾								23				
	Absolute pressure, accuracy: 0.3 %								43				
	Relative pressure, accuracy: 0.15 % ⁴⁾								21				
	Absolute pressure, accuracy: 0.15 % ⁴⁾								41				
Pressure connection	G1/4" male (Seal)								17				
	1/4" NPT male								30				
	1/4" NPT female ⁶⁾								13				
	9/16"-18UNF male, SAE6 (J1926), seal: accessory 61 ^{2) 6)}								61				
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 ³⁾								02				
Output signal	Signal output	Load resistance	I (supply)		U (supply)								
	4 ... 20 mA	(U _{supply} -9 V) / 20 mA	≤ 10 mA		24 (9 ... 32) VDC			19					
	0 ... 5 VDC ⁵⁾	≥ 2.0 kΩ	≤ 10 mA		24 (9 ... 32) VDC			14					
	0 ... 10 VDC ⁵⁾	≥ 5.0 kΩ	≤ 10 mA		24 (15 ... 32) VDC			17					
	0.5 ... 4.5 VDC ratiometric ⁵⁾	≥ 2.0 kΩ	≤ 10 mA		5 (4.5 ... 5.5) VDC			23					
Accessories	Female electrical plug M12x1, 5-pole, for electrical connections 32 and 35								33				
	Female electrical plug industrial standard								34				
	Pressure peak damping element ø 1.0 mm								40				
	Pressure peak damping element ø 0.3 mm								43				
	Pressure peak damping element ø 0.5 mm								45				
	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, 17, 23 and male electrical connector MIL-C 26482)								F3				

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

²⁾ Only for relative pressure

³⁾ No ship approval DNV-GL

⁴⁾ Only for pressure ranges from 0.6 bar / 10 psi

⁵⁾ No ship approval

⁶⁾ Upon request

⁷⁾ Please use the successor product NAH 8254 for accuracy 0.3% and NAE 8256 for shipbuilding applications



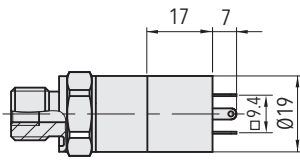
Identical construction with higher pressure ranges: Data sheet No. H72250, H72300

Specifications		
Electrical data	Output / supply voltage	4...20 mA: 24 (9...32) VDC 0...5 VDC: 24 (9...32) VDC 0...10 VDC: 24 (15...32) VDC 0.5...4.5 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	25 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)	1.4542 (AISI630)
	Housing	1.4301 (AISI304)
	Sealing	FKM 70 Sh
	Male electrical connector	See ordering information
	Weight	~ 50 g
	Mounting torque	25 Nm (see "Accuracy")

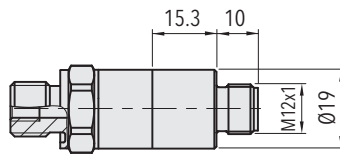
¹⁾ See electrical connection

Accuracy		Sensor 23/43 (0.3%)					Sensor 21/41 (0.15%)	
Pressure measuring range	[bar]	0 ... 0.2	0 ... 0.4	0 ... 0.6	0 ... 1.0	0 ... 1.6	0...0.6	0...1.6
	[psi]	0 ... 3	0 ... 5	0 ... 10	0 ... 15	0 ... 25 0 ... 30	0...1.0 0...15	0...2.5 0...30
NLH @ +25°C (+77°F) (BSL)	[% FS typ.]	0.2	0.2	0.2	0.2	0.2	0.1	0.1
TEB @ -25 ... +85°C (-13 ... +185°F)	[% FS typ.]	2	1.5	1	1	1	0.5	0.5
Accuracy @ +25°C (+77°F)	[% FS typ.]	0.8	0.5	0.3	0.3	0.3	0.15	0.15
Long term stability 1 year @ +25°C (+77°F)	[% FS typ.]	0.3	0.15	0.1	0.1	0.1	0.1	0.1
TC zero point and span	[% FS/K typ.]	0.02	0.015	0.01	0.01	0.01	0.002	0.002
Mounting dependency with 180° rotation (Vibration and shock: multiply this value with number of g)	[% FS typ.]	0.25	0.13	0.09	0.05	< 0.05	0.05	< 0.05
Error mounting torque @ 25 Nm	[% FS typ.]	0.25	0.13	0.09	0.05	0.05	0.05	0.05

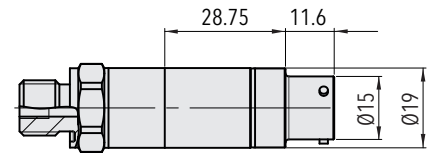
Dimensions



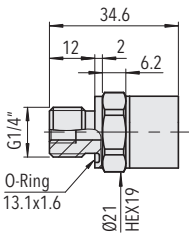
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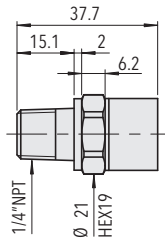
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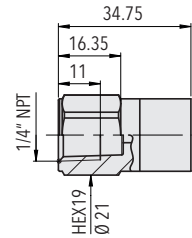
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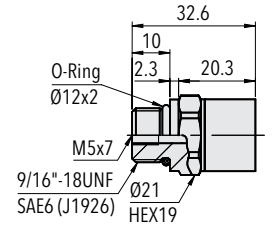
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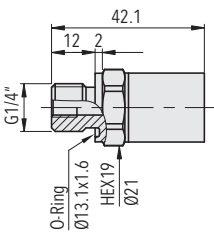
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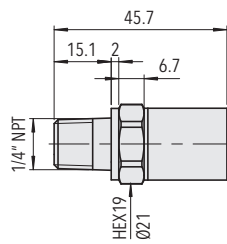
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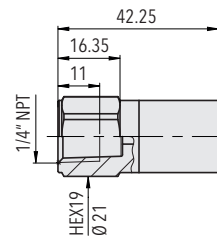
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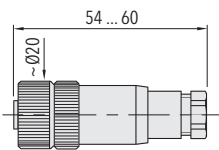
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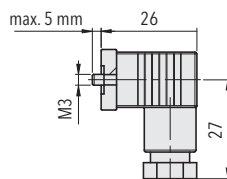
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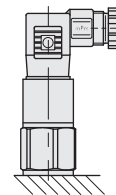
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8257.XX.XXXX.XX.XX.33

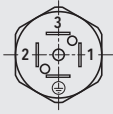
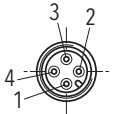
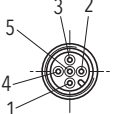

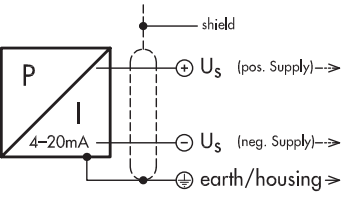
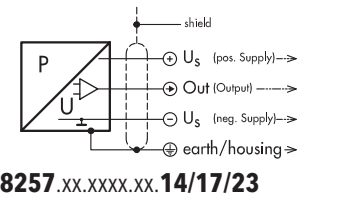


8257.XX.XXXX.XX.XX.34



Recommended mounting position
(Mounting dependency with 180° rotation see 'Accuracy')

Electrical connection

		Protection / electrical connection			
		IP65*)	IP67*)		IP67*) (**)
		Industrial standard EN175301-803A 01 	4-pole 32 	5-pole 35 	MIL-C 26482 02 
Output signal	 8257.XX.XXXX.XX.19	2	1	4	
	 8257.XX.XXXX.XX.14/17/23	1 2 3 4	1 2 3 4	2 4 3 5	A B C/D E

*) Provided female electrical plug is mounted according to instructions

**) Ventilation via male electric plug/cable end

Additional information

Documents

Data sheet	www.trafag.com/H72302
Instructions	www.trafag.com/H73250
Flyer	www.trafag.com/H70671