

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	Media temperature	-40°C ... +125°C
Measuring range	0 ... 0.2 to 0 ... 2.5 bar 0 ... 3 to 0 ... 30 psi	Ambient temperature	-40°C ... +125°C
Output signal	4 ... 20 mA, 0 ... 5 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric	Approval	GL, DNV, RINA
Accuracy @ 25°C typ.	0.15 ... 0.8 % FS typ.		

10/2015

Data sheet H72302f

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
	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%							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 (O-Ring)							17
	1/4"NPT male							30
Electrical connection	Male electrical plug, Industrial standard (contact distance 9.4mm), Mat. PBT							01
	Male electrical plug M12x1, 4-pole, Mat. PBT							32
	Male electrical plug M12x1, 5-pole, 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 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 ⁵⁾	≥ 2.0 kΩ	≤ 10 mA	5 (4.5 ... 5.5)VDC ratiom.	23			
Accessories	Female electrical plug M12x1, 5-pole, for executions 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

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

²⁾ Relative pressure only

³⁾ No ship approval DNV

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

⁵⁾ No ship approval



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

Standard products (extra short lead time)

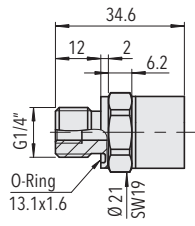
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
NSL0.2A	8257 68 2317 32 0000 0000 19 33 43	0 ... 0.2	1.2	9 ... 32	± 0.8
NSL0.4A	8257 69 2317 32 0000 0000 19 33 43	0 ... 0.4	1.2	9 ... 32	± 0.5
NSL0.6A	8257 70 2317 32 0000 0000 19 33 43	0 ... 0.6	1.5	9 ... 32	± 0.3
NSL1.0A	8257 71 2317 32 0000 0000 19 33 43	0 ... 1.0	2	9 ... 32	± 0.3
NSL1.6A	8257 73 2317 32 0000 0000 19 33 43	0 ... 1.6	3.5	9 ... 32	± 0.3
NSL2.5A	8257 75 2317 32 0000 0000 19 33 43	0 ... 2.5	5	9 ... 32	± 0.3

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: 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	25g (20...2000 Hz)
	Shock	100 g/11ms
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 (see "Accuracy")

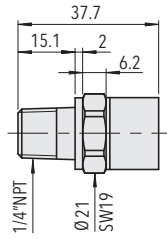
¹⁾ Provided female connector is mounted according to instructions

Accuracy									
		Sensor 23/43 (0.3%)					Sensor 21/41 (0.15%)		
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	0.2	0.2	
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 @ 25Nm	[% FS typ.]	0.25	0.13	0.09	0.05	0.05	0.05	0.05	

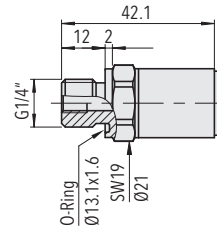
Dimensions



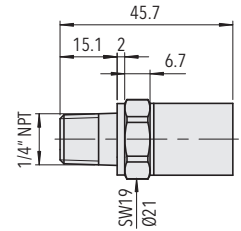
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8257.XX.2117.XX.XX.XX



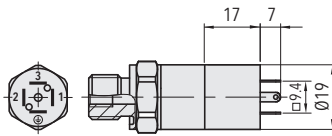
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8257.XX.2130.XX.XX.XX



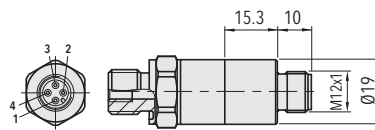
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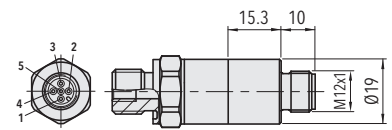
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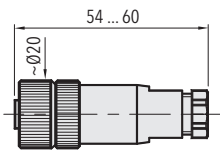
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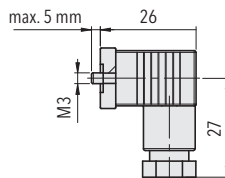
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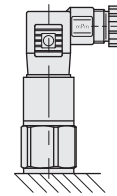
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8257.XX.XXXX.XX.XX.33

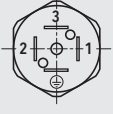
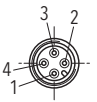
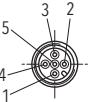
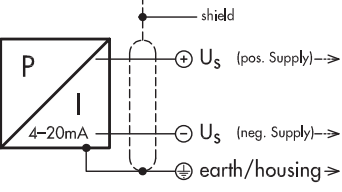
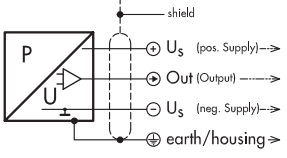


8257.XX.XXXX.XX.XX.34



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

Electrical Connection

		Protection / electrical connection		
		IP65*)	IP67*)	
		Industrial standard EN175301-803A	M12x1	
		01	4-pole 32	5-pole 35
				
Output signal	 <p>8257.XX.XXXX.XX.19</p>	2 1 ⊕	1 3 4	4 1 5
	 <p>8257.XX.XXXX.XX.14/17/23</p>	1 2 3 ⊕	1 2 3 4	2 4 3 5

*) Provided female connector is mounted according to instructions

Additional information

Documents

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