

EX SUBMERSIBLE PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The new EX Submersible Pressure Transmitter EXL is based on the ECL submersible pressure transmitter with Trafag's own thick-film-on-ceramic sensor technology. The intrinsic safety design is certified for applications in Ex-Zones 0, 1, 2 (gas) and mining.



Applications

- Ex Zone 0, 1, 2 / Gas
- Ex Underground Mining



Features

- II 1G Ex ia IIC T4/T6 Ga
- I M1 Ex ia I Ma
- Good media compatibility
- Cable PUR/PE or FEP
- EMC protection, IEC 61000

01/2020

Data sheet H723300

Technical Data

Measuring principle	Thick-film-on-ceramic	Accuracy @ 25°C typ.	± 0.3 % FS typ. ± 0.5 % FS typ.
Measuring range	0 ... 0.2 to 0 ... 10 bar	Media temperature	T4: -20°C ... +70°C T6: -20°C ... +65°C
Output signal	4 ... 20 mA	Ambient temperature	T4: -20°C ... +70°C T6: -20°C ... +65°C
NLH @ 25°C (BSL) typ.	± 0.2 % FS typ. ± 0.3 % FS typ.	Approval / conformity	Ex ATEX/IECEx, EN 60079-0/ EN 60079-11/EN 60079-26/ EN 50303

Subject to change

Ordering information/type code

					8432 . XX	XX	XX	XX	XX	XX
Measuring range ¹⁾	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]							
	0 ... 0.2	1.2	2	68						
	0 ... 0.4	1.2	2	69						
	0 ... 0.6	2	3	70						
	0 ... 1.0	3.2	4.8	71						
	0 ... 1.6	3.2	4.8	73						
	0 ... 2.5	5	7.5	75						
	0 ... 4	8	12	76						
	0 ... 6	12	15	77						
	0 ... 10	20	25	78						
Sensor	Relative pressure > 400 mbar, Accuracy: 0.3%				23					
	Relative pressure ≤ 400 mbar, Accuracy: 0.5%				26					
Pressure connection	Type 1, female, M 10x1, 1.4404/1.4435					46				
	Type 2, male, M 22x1, 1.4404/1.4435					48				
Electrical connection	Cable with shield: PUR ø 6 mm, 5x0.22mm ^{2 2)}						22			
	Cable with shield: FEP ø 6 mm, 5x0.22mm ^{2 2)}						32			
	Cable with shield: PE ø 6 mm, 6x0.22mm ^{2 2)}						42			
Output signal	Signal output	Load resistance	I (supply)	U (supply)						
	4 ... 20 mA	(U _{supply} -10 V) / 20 mA		10 ... 30 VDC				19		
Accessories	Seal FKM								61	
	Seal EPDM								63	
	Zener barrier 28V/93mA; R ≈ 300Ω: Ordering no ZEN28VDC									

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

²⁾ Please specify cable length when ordering (cable lengths > 50 m up to 120 m upon request)

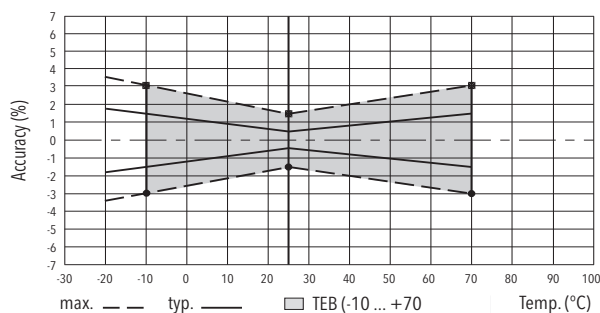
Specifications

Electrical Data	Output / supply voltage	4 ... 20 mA; 24 (10 ... 30) VDC
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
	Power-on delay time	max. 1.5 s
Environmental conditions	Media temperature	T4: -20°C ... +70°C T6: -20°C ... +65°C
	Ambient temperature	T4: -20°C ... +70°C T6: -20°C ... +65°C
	Protection	IP68 (25 bar; 250m)
	Vibration	10 g (50...2000 Hz)
	Shock	50 g / 3 ms
EMC Protection	Emission	IEC 61000-6-4
	Immunity	IEC 61000-6-2
Mechanical Data	Sensor (wetted parts)	Ceramic, Al ₂ O ₃ (96 %)
	Pressure connection (wetted parts)	1.4404/1.4435 (AISI316L)
	Housing	1.4404/1.4435 (AISI316L)
	Sealing	FKM 70 Sh
	Weight	~ 200 g

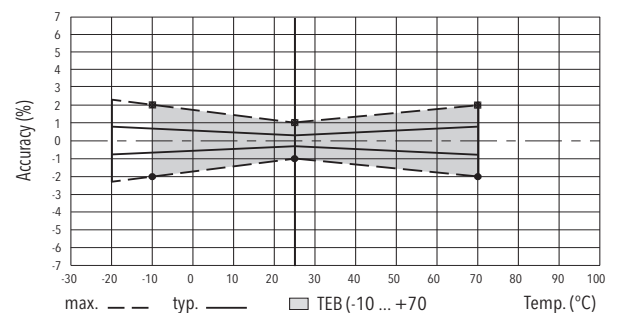
Accuracy

		Measuring accuracy 0.3 % Ordering No. 23	Measuring accuracy 0.5 % Ordering No. 26
TEB @ -10 ... +70°C	[% FS typ.]	± 0.75	± 1.5
Accuracy @ +25°C	[% FS typ.]	± 0.3	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.3
TC zero point and span	[% FS/K typ.]	± 0.02	± 0.02
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.2

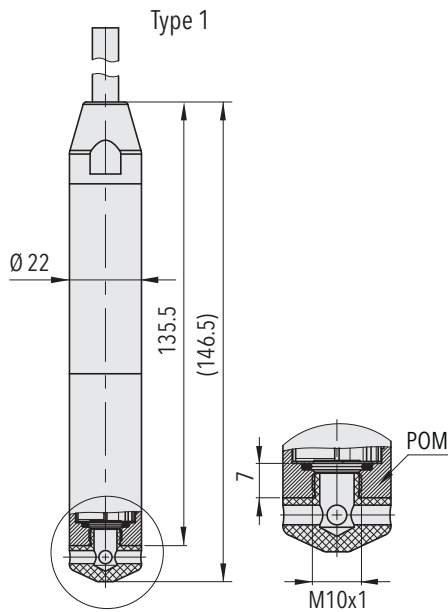
Measuring accuracy 0.5%



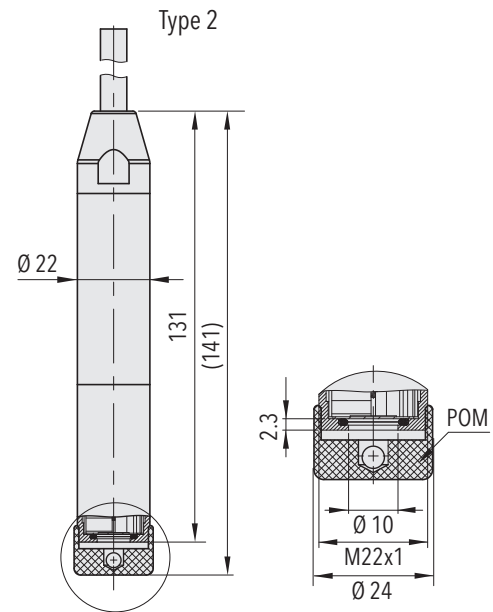
Measuring accuracy 0.3%



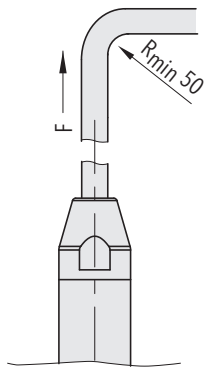
Dimensions



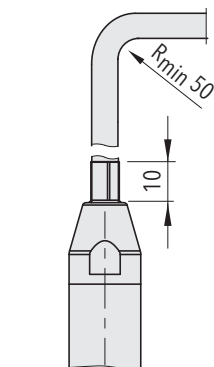
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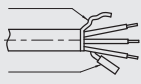
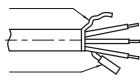
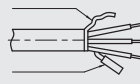
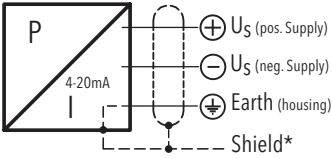


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8432.XX.XXXX.32/42.XX.XX

Electrical connection

Protection / electrical connection			
Output signal	IP68 (25 bar; 250m)	IP68 (25 bar; 250m)	IP68 (25 bar; 250m)
	Cable PUR Ø 6 mm (5x0.22mm ²) 22	Cable FEP Ø 6 mm (5x0.22mm ²) 32	Cable PE Ø 6 mm (6x0.22mm ²) 42
	Shield 	Shield 	Shield 
	Venting	Venting	Venting
 8432.XX.XXXX.XX.19	white brown yellow (green = not connected) (red = not connected)	white brown yellow (green = not connected) (red = not connected)	white brown yellow (green = not connected) (pink = not connected) (grey = not connected)
Temperature range	-20 ... +70°C	-20 ... +70°C	-20 ... +70°C

Any manipulation on the ventilation tube will result in warranty loss

***) For all cable versions

Ex-Barrier

Ex-Zone	No Ex-Zone
Pressure-Transmitter (4-20mA) Ex ia IIC T4 $U_i \leq 30V$ $I_i < 100mA$ $P_i < 1W$ $L_i = 0mH$ $C_i \leq 23nF$	Ex Barrier (Example: Z728) (Ex ia) IIC $U_o = 28V$ $I_o = 93mA$ $P_o = 0.65W$ Max. Parameters $L_o ; L_c / R_c ; C_o$ Manufacturer $L_o = 3.05mH$ $L_c / R_c = 56$ $C_o = 83nF$
Connection (Cable) $(4...20mA)$ $C_{Cable} \leq 60nF$ $L_{Cable} \leq 0.5mH$	

Additional information

Documents

Data sheet	www.trafag.com/H72330
Instructions	www.trafag.com/H73329
Flyer	www.trafag.com/H70658

Additional specifications

Electrical Data	Internal capacity (Ci)	≤ 23nF
	Internal inductance (Li)	< 10μH
	Resistance of insulation	> 10 MΩ, 500 VDC
	Dielectric strength	500 VAC, 50 Hz
	Current limiting output signal	ca. 24 mA (Overload)
Environmental conditions	Storage temperature	-20°C ... +70°C

Accuracy

		Measuring accuracy 0.3 % Ordering No. 23	Measuring accuracy 0.5 % Ordering No. 26
TEB @ -10 ... +70°C	[% FS max.]	± 2.0	± 3.0
Accuracy @ +25°C	[% FS max.]	± 1.0	± 1.5
NLH @ +25°C (BSL)	[% FS max.]	± 0.3	± 0.5
NLH @ +25°C (BSL through 0)	[% FS typ.]	± 0.2	± 0.3
NLH @ +25°C (BSL through 0)	[% FS max.]	± 0.3	± 0.5
Repeatability	[% FS typ.]	± 0.05	± 0.05
TC zero point and span	[% FS/K max.]	± 0.05	± 0.05
Long term stability 1000h @ 85°C	[% FS typ.]	± 0.3	± 0.3
	[% FS max.]	± 0.6	± 0.6
Temperature hysteresis	[% FS typ.]	± 0.3	± 0.5
	[% FS max.]	± 1.0	± 1.5
Deviation of zero signal and final value @ 25°C	[% FS typ.]	± 0.2	± 0.3
	[% FS max.]	± 0.5	± 1.0
Position sensitivity	[% FS max.]	< 0.05	< 0.05

Modifications

[illegible]