

PASSIVE PRESSURE TRANSMITTER TM AND TM/EX



II 1G EEx ia IIC T3...T6
II 1D T90°C IP 6X

Features

- Piezoresistive measuring element
- Gauge, absolute or sealed gauge
- All pressure ranges between 0...50 mbar and -1...1000 bar available
- Calibration available for all common pressure units
- High reliability
- Short delivery time
- Customized versions due to modular assembly
- Low current consumption due to the high input impedance
- Media temperature up to 150°C

Typical applications

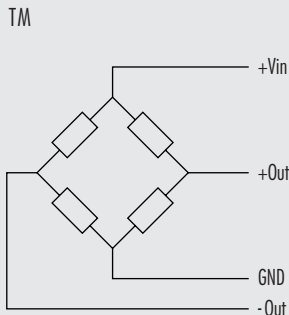
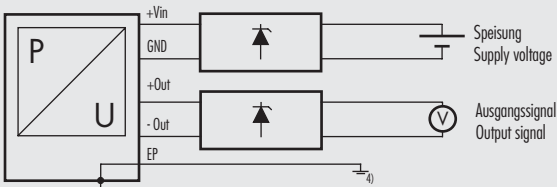
- Machine installations
- Industrial process control
- Environmental monitoring
- Food industry
- Mobile hydraulics
- Test and calibration systems
- Explosive areas

Specifications

Pressure range	[bar]	... 0.5	> 0.5 ... 2	> 2 ... 25	> 25 ... 600	> 600 ... 1000
Overpressure		3 bar	3 x FS (min. 3 bar)	3 x FS	3 x FS (max. 850 bar, optional up to 1500 bar)	1500 bar
Burst pressure	[bar]	≥ 200	≥ 200	≥ 200	≥ 850 (optional up to 1500 bar)	≥ 1500
Accuracy¹⁾	[± % FS]	≤ 0.5	≤ 0.5 (optional up to 0.25)	≤ 0.5 (optional up to 0.25)	≤ 0.5 (optional up to 0.25)	≤ 1 (optional bis 0.5)
Thermal shift	[± % FS/°C]					
Zero	0...70°C	≤ 0.06 ²⁾	≤ 0.03	≤ 0.015	≤ 0.015	≤ 0.015
	-25...85°C	≤ 0.08 ³⁾	≤ 0.04	≤ 0.02	≤ 0.02	≤ 0.02
Span	0...70°C	≤ 0.015	≤ 0.015	≤ 0.015	≤ 0.015	≤ 0.015
	-25...85°C	≤ 0.02	≤ 0.02	≤ 0.02	≤ 0.02	≤ 0.02
Response time		≤ 1 ms/10...90% FS				
Long term signal (1 year)-(typ./max)		≤ 0.5% FS/< 4 mbar	≤ 0.2% FS/< 4 mbar	≤ 0.1% FS/< 0.2% FS	≤ 0.1% FS/< 0.2% FS	≤ 0.1% FS/< 0.2% FS

Electrical data

Pressure range	[bar]	up to 0.25	> 0.25 ... 0.6	> 0.6 ... 1	> 1 ... 2.5	> 2.5
Full scale signal typ. (10V DC voltage supply)	[mV]	15	25	35	50	100

Connection	
Electrical connection	TM
	
	TM/Ex
	
Input impedance	> 10 kOhm
Bridge resistance	3 kOhm, typ.
Max. voltage supply	15 V DC

Ex-Approval	
Type of protection	II 1G EEx ia IIC T3...T6 (SEE Certificate SEV 04 ATEX 0149) II 1D T90°C IP 6X
Max. values for supply / output circuit	20V / 300 mA / 1.2 W (Zener barrier) ⁴⁾
Temperature class	T6 T4 T3
Ambient temperature Ta	[°C] -25...55 -25...85 -25...85
Process temperature	[°C] -25...55 -25...100 -25...150
Whitout any information about temperature class the transmitter will be delivered for T4.	

Materials	
Process connection, diaphragm, housing	Stainless steel 1.4435 (316L) (other materials on request)
Seals (standard)	Viton (other materials see ordering information)

¹⁾ Zero based non-conformity according to DIN 16086, including hysteresis and repeatability

²⁾ 50 - 99 mbar: ≤ 0.12

³⁾ 50 - 99 mbar: ≤ 0.16

⁴⁾ The metal housing of the pressure transmitter must be connected to the potential equalisation system of the installation.

⁵⁾ Please ask for available full scale output signals

⁶⁾ Zener barrier not included



Ordering information

		2X	X	. XXXX	. XX99	. XX	. XXX
Type	TM/Ex	20					
	TM	21					
Pressure type	Gauge	1					
	Absolute	2					
	Sealed gauge	3					
Pressure range	All pressure ranges between 0...50 mbar and -1...1000 bar available			XX			
Pressure connection	G 1/4 female (Fig. 1)				00		
	G 1/4 M (Fig. 2)				11		
	G 1/4 M, Manometer DIN 16288 (Fig. 3)				12		
	G 1/2 M (Fig. 4)				13		
	G 1/2 M, frontal diaphragm (Fig. 5)				14		
	G 1/2 M, flush diaphragm (Fig. 6)				15		
	G 1/2 M, Manometer DIN 16288 (Fig. 7)				16		
	1/2 NPT M (Fig. 8)				19		
	1/4 NPT M (Fig. 9)				10		
Other process connection available					XX		
Electrical connection	Connector DIN 43650 (screw on ¹⁾ ^{3) 6)} (Fig. 10)	IP 65			01		
	Connector Binder 723, 5-pin ³⁾ (Fig. 11)	IP 67			03		
	Connector Binder 723, 5-polig (screw on ¹⁾) ³⁾ (Fig. 12)	IP 67			43		
	Connector MIL C26482, (10-6) ³⁾ (Fig. 13)	IP 40			06		
	PE cable ^{4) 5) 6)} (Fig. 14)	IP 67			13		
	PIR cable ⁴⁾ (Fig. 14)	IP 67			15 ⁶⁾ / 17 ⁷⁾		
	Teflon cable ⁴⁾ (Fig. 14)	IP 67			21 ⁶⁾ / 22 ⁷⁾		
Other electrical connection available					XX		
Output signal	0 bis mV (specified by the customer)					99	
Accuracy	≤ ± 0.5 % FS					0	
	≤ ± 0.25 % FS (on request)					1	
Temperature class (TM/Ex)	T6 (Ta: -25...55 °C comp.)					0	
	T4 (Ta: -25...85 °C comp.)					1	
	T3 (Ta: -25...85 °C comp., max. medium temperature 150 °C)					2	
Temperature range (TM)	Compensated 0...70°C (0... 80°C)					0	
	Compensated 25...100°C (medium temperature -25...150°C)					7	
	Compensated -25...85°C (medium temperature -25...100°C)					1	
	Compensated -25...85°C (medium temperature -25...150°C)					5	
Options	Throttle ²⁾						A
	Packed in gel:	gauge transmitters					C
		absolute and sealed gauge transmitters					D
	Spec. oil filling in TD:	for food applications					G
		Halocarbon (for oxygen applications)					H
		AS100 (for media temp. -55...150°C suitable)					J
		PAO4 (free of silicon)					Q
	Seals:	Viton (standard)					U
		EPDM					S
		Kalrez					T
Version titanium						K	

¹⁾ Zero offset and span adjustable

²⁾ Available only with pressure connection fig. 2, 4, 7, 8 or fig. 9

³⁾ Cable socket connector not included

⁴⁾ Please specify the medium and the required cable length

⁵⁾ with drinking water approval (KTW)

⁶⁾ only TM / ⁷⁾ only TM/Ex

Pressure connection

Dimensions

Electrical connection

Fig. 1

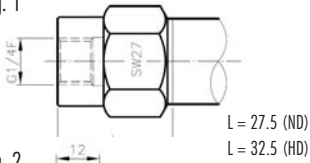


Fig. 2

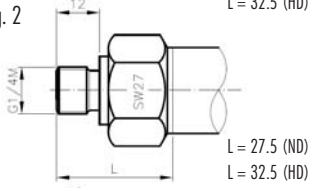


Fig. 3

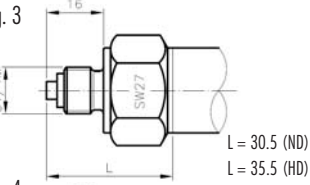


Fig. 4

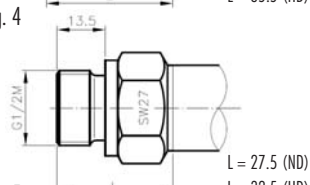


Fig. 5

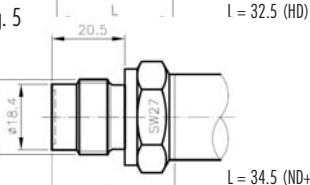


Fig. 6

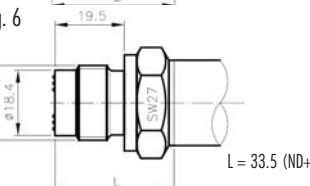


Fig. 7

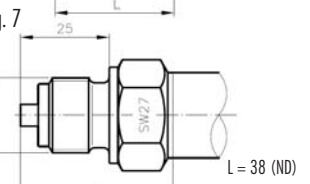


Fig. 8

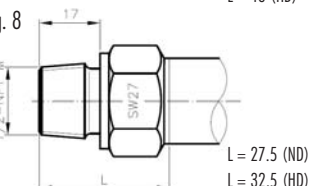
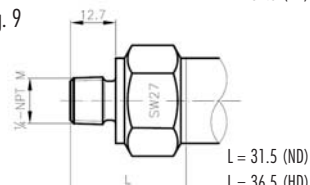
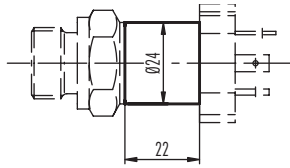


Fig. 9



Version for medium temperature up to 150°C



ND = Low pressure ≤ 30 bar
HD = High pressure > 30 bar

Fig. 10

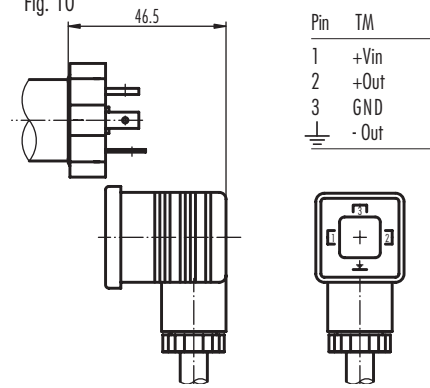


Fig. 11

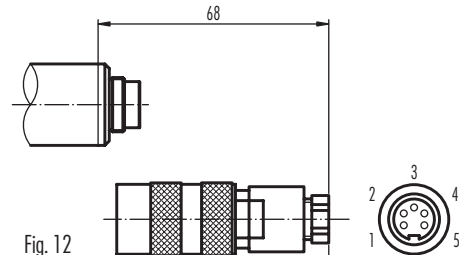


Fig. 12

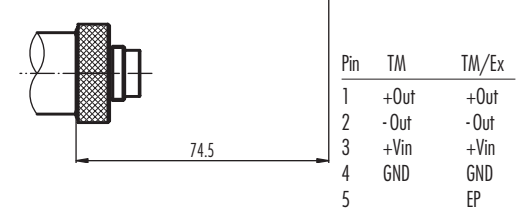


Fig. 13

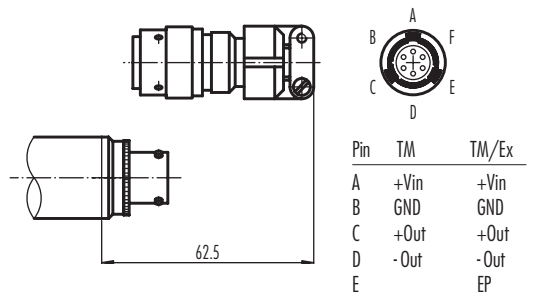
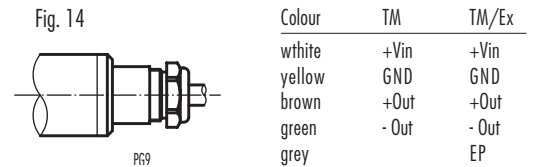


Fig. 14



Specifications may change without notice.

DED009B

Release 02/05

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