

## PRESSURE TRANSMITTER ATM



23

### Features

- Compact and robust stainless steel assembly 1.4435 (316L)
- Piezoresistive measuring element
- Gauge, absolute or sealed gauge
- Standard DIN pressure ranges from 0...100 mbar to 0...1000 bar
- Calibration available for all common pressure units
- Complies with the EMC directive EN 61000
- Reverse polarity and short circuit protected
- Media temperature up to 150°C (option)
- Surge (lightning) protection according to EN 61000-4-5 (option)

### Typical applications

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

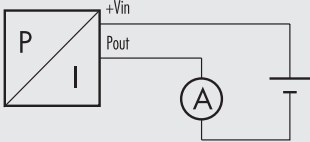
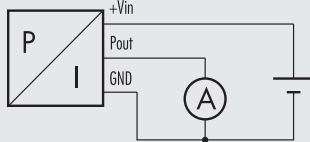
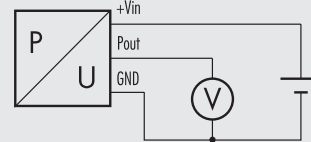
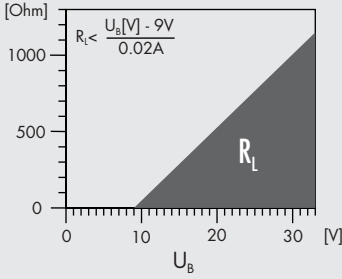
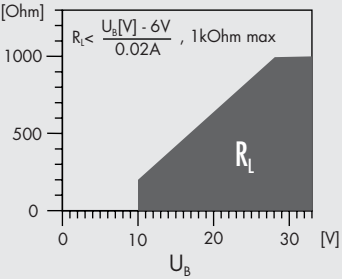
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## Specifications

Pressure range	[bar]	0.1 ... 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 1500 bar)	1500 bar
Burst pressure	[bar]	> 200	> 200	> 200	> 850 (optional 1500 bar)	> 1500
Accuracy <sup>1)</sup>	[± % FS]	≤ 0.5 (optional ≤ 0.25)	≤ 0.5 (optional ≤ 0.25, ≤ 0.1)	≤ 0.5 (optional ≤ 0.25, ≤ 0.1)	≤ 0.5 (optional ≤ 0.25, ≤ 0.1)	≤ 1 (optional ≤ 0.5, ≤ 0.25)
Thermal shift	[± % FS/°C]					
Zero	0...70°C	0.06	0.03	0.015	0.015	0.015
	-25...85°C	0.08	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 stability (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

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

Output signal	4 ... 20 mA	0 ... 20 mA	0 ... 5 V / 0 ... 10 V
Type	Two wire current transmitter	Three wire current transmitter	Three wire voltage transmitter
Supply voltage	9...33 V DC	9...33 V DC	15...30 V DC
Supply voltage influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
Circuit diagram			
Load resistance			$R_L > 10k\Omega$
Load resistance influence	< 0.1% FS	< 0.1% FS	< 0.1% FS

## Materials

**Process connection, diaphragm, housing** Stainless steel 1.4435 (316L) other materials (e.g. titanium) on request  
**Seals** (standard) Viton (other materials see ordering information)

## Electromagnetic compatibility

Standard	Level	Typical interferences	
<b>Emission:</b>			
EN 61000-6-3 EN 55022	Generic emission standard Emission, class B		
<b>Immunity:</b>			
EN 61000-6-2	Generic immunity		
EN 61000-4-2	Electrostatic discharge	4kV contact, 8kV air	
EN 61000-4-3	Radiated electro-magnetic field	10V/m, 80-1000 MHz, 80% AM 1kHz	Cellular phones, radio sets
EN 61000-4-3	Radiated electro-magnetic field (GSM)	10V/m, 950 MHz, 200Hz on/off	Digital portable phones
EN 61000-4-4	Fast transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Conducted radio-frequency	10V, 0.15-80 MHz, 80% AM 1kHz	Cellular phones, radio sets
EN 61000-4-5	Surge	10 kA (8/20 ms) <sup>2)</sup>	Lightning strikes

<sup>2)</sup> Only with optional surge (lightning) protection



The pressure transmitter ATM fulfils the emission and immunity requirements described in the EMC directive EN 61000.

## Ordering Information

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<b>Type</b>	ATM	23					
<b>Pressure type</b>	Gauge	1					
	Absolute	2					
	Sealed gauge	3					
<b>Pressure range</b>	0...100 mbar		00				
	0...160 mbar		01				
	0...250 mbar		02				
	0...400 mbar		03				
	0...600 mbar		04				
	0...1.0 bar		05				
	0...1.6 bar		06				
	0...2.5 bar		07				
	0...4.0 bar		08				
	0...6.0 bar		09				
	0...10 bar		10				
	0...16 bar		11				
	0...25 bar		12				
	0...40 bar		3	13			
	0...60 bar		3	14			
	0...100 bar		3	15			
	0...160 bar		3	16			
	0...250 bar		3	17			
	0...400 bar		3	18			
	0...600 bar		3	19			
0...1000 bar		3	20				
Special calibration			99				
<b>Process connection</b>	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			
	1/4 NPT M			10			
	1/2 NPT M (Fig. 8)			19			
	Special process connection			99			
<b>Electrical connection</b>	Connector DIN 43650 (screwed on <sup>3)</sup> ) <sup>5)</sup> (Fig. 10)	IP 65			01		
	Connector Binder 723, 5-pin <sup>5)</sup> (Fig. 11)	IP 67			03		
	Connector Binder 723, 5-pin (screwed on <sup>3)</sup> ) <sup>5)</sup> (Fig. 12)	IP 67			43		
	Connector MIL C26482, (10-6) <sup>5)</sup> (Fig. 13)	IP 40			06		
	PE cable <sup>6) 7) 8)</sup> (Fig. 14)	IP 67			13		
	PUR cable <sup>6) 7)</sup> (Fig. 14)	IP 67			15		
	Teflon cable <sup>6)</sup> (Fig. 14)	IP 67			21		
Special electrical connection				99			
<b>Output signal</b>	0... 5 V DC				46		
	0... 10 V DC				47		
	0...20 mA				00		
	4...20 mA				05		
	4...20 mA surge (lightning) protection				08		
	0... 10 V DC surge (lightning) protection				49		
	Special output signal				99		
<b>Accuracy</b>	≤ ± 0.5 % FS					0	
	≤ ± 0.25 % FS					1	
	≤ ± 0.1 % FS (on request)					2	
<b>Temperature range</b>	Compensated 0...70°C (medium temperature 0... 80°C)					0	
	Compensated -25...85°C (medium temperature -25...100°C) <sup>7)</sup>					1	
	Compensated -25...85°C (medium temperature -25...150°C) <sup>7)</sup>					2	
	Special temperature range					9	
<b>Options</b>	Throttle <sup>4)</sup>						A
	Electronics packed in gel: Gauge pressure						C
	Absolute and sealed gauge pressure						D
	Special oil filling in the TD: ASEOL Food						G
	Halocarbon						H
	Seals: Viton (Standard)						U
	EPDM						S
	Kalrez						T
Special options						Z	

<sup>3)</sup> Zero offset and span adjustable

<sup>4)</sup> Available only with fig. 2, fig. 4 or fig. 7

<sup>5)</sup> Cable socket connector not included

<sup>6)</sup> Please specify the required cable length

<sup>7)</sup> For medium temperature > 50°C a teflon cable must be used

<sup>8)</sup> Suitable for drinking water (food approved)

## Pressure Connection

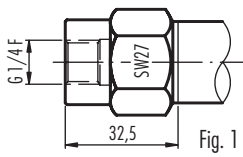


Fig. 1

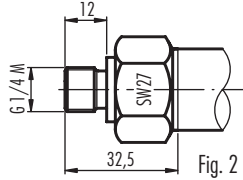


Fig. 2

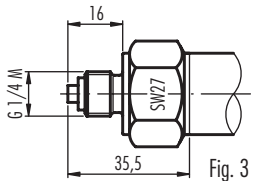


Fig. 3

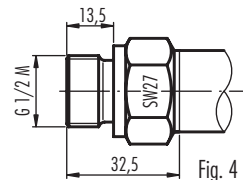


Fig. 4

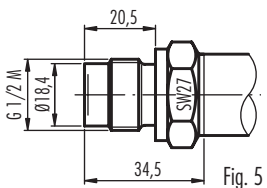


Fig. 5

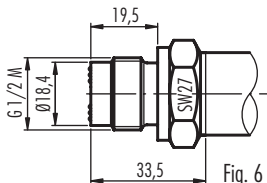


Fig. 6

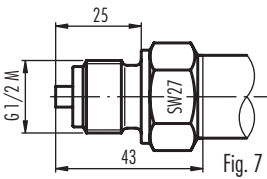


Fig. 7

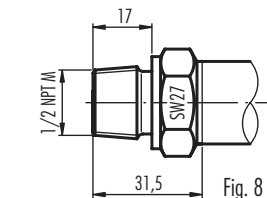
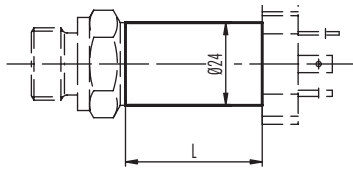


Fig. 8

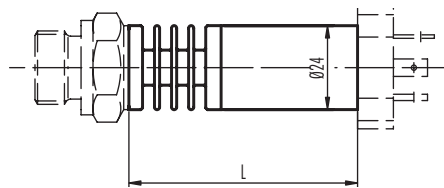
## Dimensions

Version for medium temperature up to 100°C



L = 40 mm for connector DIN 43650 (Fig. 10)  
L = 45 mm for all other versions  
L = 94 mm for version with surge (lightning) protection

Version for medium temperature up to 150°C



L = 67 mm for connector DIN 43650 (Fig. 10)  
L = 72 mm for all other versions  
L = 121 mm for version with surge (lightning) protection

## Electrical Connection

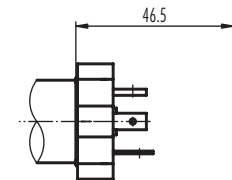


Fig. 10

Pin	2-Wire	3-Wire
1	+Vin	+Vin
2	Pout	Pout
3		GND

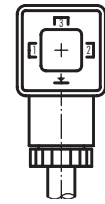


Fig. 11

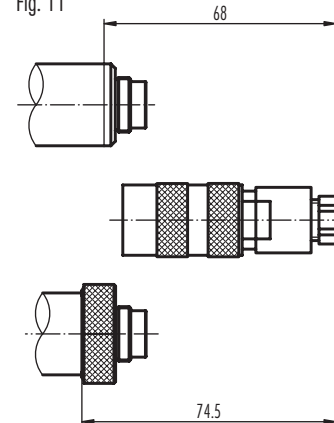
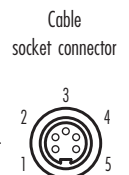


Fig. 12



Pin	2-Wire	3-Wire
1	Pout	Pout
3	+Vin	+Vin
4		GND

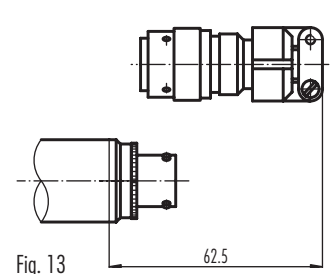
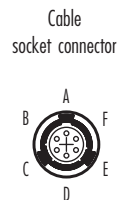


Fig. 13



Pin	2-Wire	3-Wire
A	+Vin	+Vin
B		GND
C	Pout	Pout

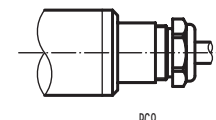


Fig. 14

Colour	2-Wire	3-Wire
white	+Vin	+Vin
yellow	Pout	GND
brown		Pout

Specifications may change without notice.

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