

## PRESSURE TRANSMITTER FOR LEVEL- AND TEMPERATURE MEASUREMENT ATM/N/T

**31**

### Features

- Compact and robust stainless steel assembly 1.4435 (316L) or titanium (optional)
- Piezoresistive measuring element
- Gauge or absolute
- Standard DIN pressure ranges from 0...100 mbar to 0...25 bar
- Calibration available for all common pressure units mH<sub>2</sub>O, mWG, mWC etc.
- Complies with the EMC directive EN 61000
- Available with PE, PUR or Teflon cable, also connectable
- Reverse polarity and short circuit protected
- Temperature measurement with Pt100 element, possible from -25...85°C

### Typical applications

- Depth and level measurement in
- Wells
  - Bore holes
  - Waste water
  - Reservoirs
  - Lakes, rivers
  - Sewage treatment plant

## Specifications

Pressure range	[bar]	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 25
<b>Overpressure</b>		3 bar	3 x FS (min. 3 bar)	3 x FS
<b>Burst pressure</b>	[bar]	> 200	> 200	> 200
<b>Accuracy<sup>1)</sup></b>	[± % FS]	≤ 0.5 (optional ≤ 0.25)	≤ 0.5 (optional ≤ 0.25, ≤ 0.1)	≤ 0.5 (optional ≤ 0.25, ≤ 0.1)
<b>Thermal shift</b>	[± % FS/°C]			
Zero	0...70°C	0.06	0.03	0.015
	-25...85°C	0.08	0.04	0.02
Span	0...70°C	0.015	0.015	0.015
	-25...85°C	0.02	0.02	0.02
<b>Long term stability</b> (1 year) - (typ./max.)		0.5% FS/< 4 mbar	0.2% FS/< 4 mbar	0.1% FS/< 0.2% FS

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

### Measuring range temperature sensor

<b>Temperature measuring range</b>	-25...85°C		
<b>Min. temperature difference</b>	30°K		
<b>Accuracy</b>	(0...70°C) (-25...85°C)	typ. ±0.5°C/max. ±1.0°C typ. ±1.0°C/max. ±1.5°C	
<b>Output signal</b>	<b>4 ... 20 mA</b>	<b>0 ... 20 mA</b>	<b>0 ... 5V / 0 ... 10 V</b>
<b>Type</b>	Current transmitter	Current transmitter	Voltage transmitter
<b>Supply voltage (U<sub>b</sub>)</b>	15...30 VDC	15...30 VDC	15...30 VDC
Supply voltage influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
<b>Circuit diagram</b>			
<b>Load resistance</b>	(U <sub>b</sub> - 5V) / 0.02A	(U <sub>b</sub> - 5V) / 0.02A	R <sub>L</sub> > 10kOhm
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	Generic emission standard		
EN 55022	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		



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

## Ordering Information

		31	X	.XXXX	.XXXX	.XX	.XXX	
<b>Type</b>	ATM/N/T	31						
<b>Pressure type</b>	Gauge	1						
	Absolute	2						
<b>Pressure range<sup>6)</sup></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				
Special calibration			99					
<b>Version</b>	Closed version (Fig. 1)			55				
	Open version (Fig. 2)			56				
	G 1/4 M (Fig. 3)			11				
	G 1/2 M (Fig. 3)			13				
	Customized version <sup>3)</sup>			99				
<b>Electrical connection</b>	Connectable version <sup>4)</sup> (Fig. 4)	IP68		07				
	PE cable <sup>1) 2) 5)</sup>	IP68		13				
	PUR cable <sup>1) 2)</sup>	IP68		15				
	Teflon cable <sup>1)</sup>	IP68		21				
<b>Output signal</b>	0... 5 V DC					46		
	0...10 V DC					47		
	0...20 mA					00		
	4...20 mA					05		
	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) <sup>2)</sup>						0	
	Compensated -25...85°C (medium temperature -25...85°C) <sup>2)</sup>						1	
	Special temperature range						9	
<b>Options</b>	Version titanium						K	
	Ballast weight						B	
	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>1)</sup> Please specify the required cable length and medium

<sup>2)</sup> For medium temperature > 50°C a teflon cable must be used

<sup>3)</sup> Other versions or process connections on request

<sup>4)</sup> Connector with required cable has to be ordered separately (KART100)

<sup>5)</sup> Suitable for drinking water (food approved)

<sup>6)</sup> mH2O, mWG, mWC etc. available

## Dimensions

Fig. 1: Closed version

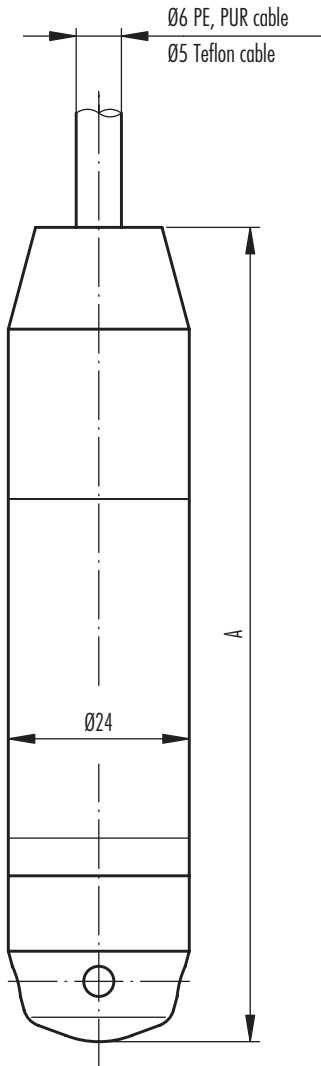


Fig. 2: Open version

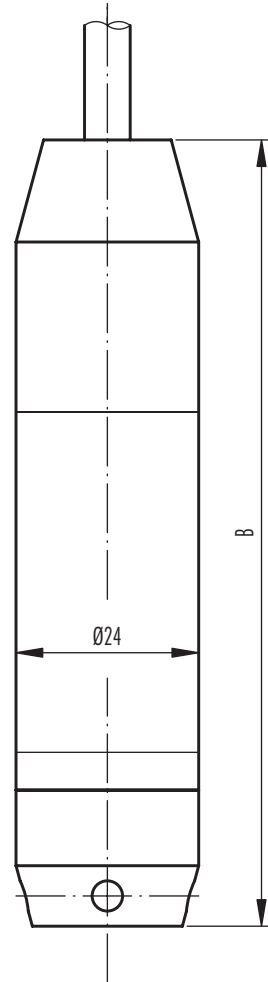


Fig. 3: with process connection

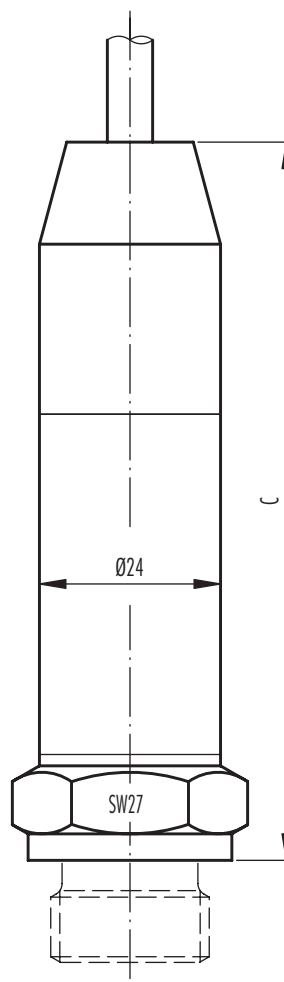
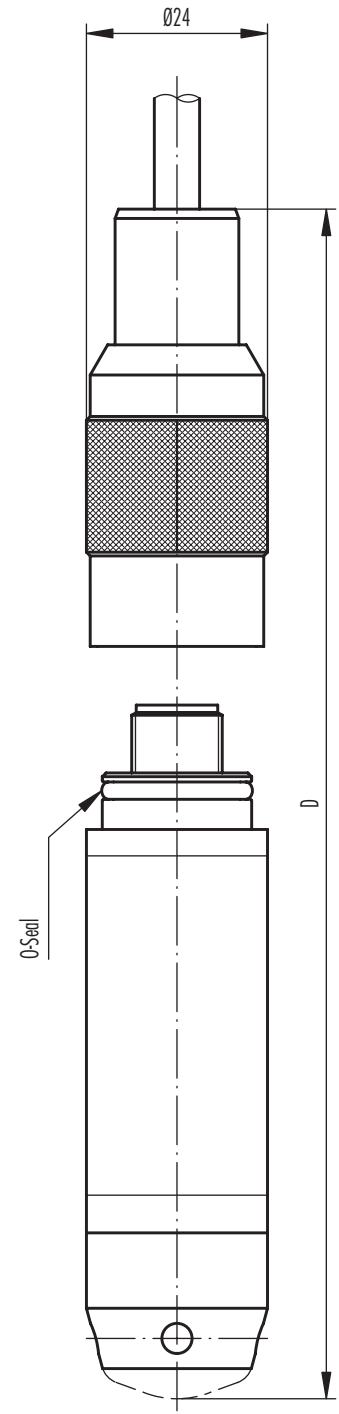


Fig. 4: Electrical connection, connectable



Standard

	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	137	133	on request*	on request*	approx. 180
with ballast weight	224	220	on request*	on request*	approx. 440

\*C: Depending on process connection

\*D: Depending on process connection or version

Colour	4-wires
white	+Vin
yellow	GND
brown	Pout
green	Tout

Specifications may change without notice.

DED006A

Release 02/2003

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