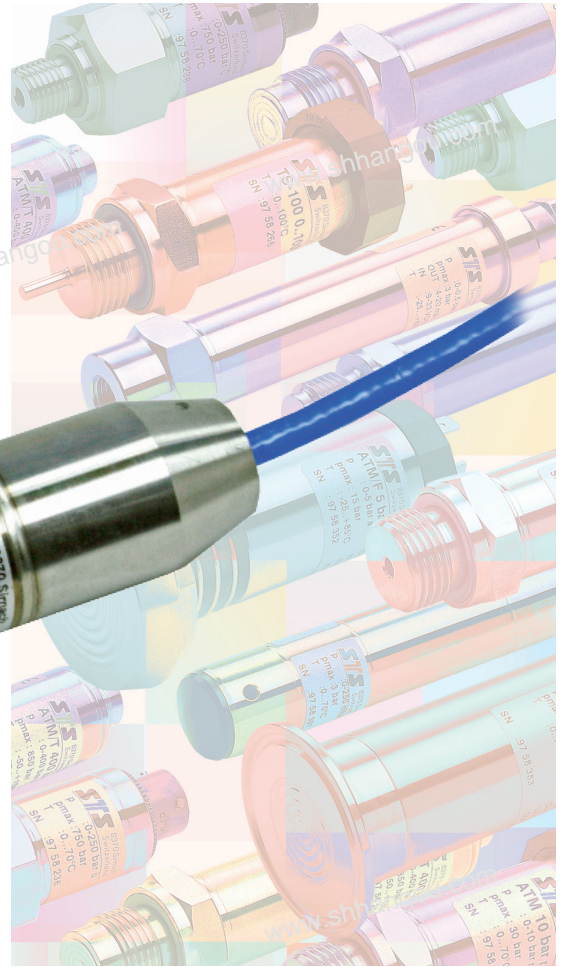


## PRESSURE TRANSMITTER FOR LEVEL

ATM. 1 ST/N  
ATM. 1 ST/N/Ex



II 1G Ex ia IIB/IIC T3...T6  
II 1D Ex iaD 20 IP6x T145...T70°C

### Features

- Compact and robust stainless steel assembly 1.4435 or titanium
- Piezoresistive measuring element
- Measuring ranges from 0...0.5mH<sub>2</sub>O to 0...250mH<sub>2</sub>O
- Calibration available for all common pressure units
- Reverse polarity and short circuit protected
- High EMV stability
- Customized versions due to modular assembly

### Typical applications

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

## Specifications ATM.1ST/N and ATM.1ST/N/Ex

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>Total Error Band (TEB) <sup>1)</sup></b> [± % FS]			
ATM.1ST/N (typ./max.)	-5...50°C	0.8/1.0	0.3/0.5
(typ./max.)	-5...80°C	1.3/1.5	0.75/1.0
<b>Accuracy <sup>2)</sup></b> [± % FS]	≤ 0.25 (optional ≤ 0.1)	≤ 0.25 (optional ≤ 0.1/0.05)	≤ 0.25 (optional ≤ 0.1/0.05)
<b>Medium temperature</b>	-5...80°C		
<b>Storage temperature</b>	-10...80°C		
<b>Response time</b>	< 1ms/10...90 %FS		
<b>Long term stability (typ./max.) <sup>3)</sup></b>	< 0.5 %FS / < 4 mbar	< 0.2 %FS / < 4 mbar	< 0.1 %FS / < 0.2 %FS

Electrical output			
<b>Type ATM.1ST/N</b>	4...20mA	<b>Type ATM.1ST/N/Ex</b>	4...20mA
<b>Type ATM.1ST/N</b>	0...5V/0...10V		
<b>Supply voltage</b>	9...33 VDC	<b>Supply voltage</b>	9...30 VDC
Supply voltage influence	< 0.05 %FS	Supply voltage influence	< 0.05 %FS
<b>Supply voltage</b>	12...30 VDC	<b>Supply voltage</b>	12...30 VDC
Supply voltage influence	< 0.05 %FS	Supply voltage influence	< 0.05 %FS
<b>Circuit diagram (example)</b>		<b>Circuit diagram (example)</b>	
<b>Circuit diagram (example)</b>		<b>Circuit diagram (example)</b>	
			<b>Load resistance</b>
			Load resistance influence < 0.05 %FS

Ex-Approval gas / dust				
<b>Approval</b>	SEV 09 ATEX 0108	II 1G Ex ia IIB/IIC T3...T6		
<b>Standards</b>		II 1D Ex iaD 20 IP6x T145...T70°C		
		EN 60079-0 / EN 60079-11 (gas)		
		EN 61241-0 / EN 61241-11 (dust)		
<b>Temperature class</b>		<b>T6</b>	<b>T4</b>	<b>T3</b>
Ambient temperature T <sub>a</sub>	[°C]	-5...50	-5...80	-5...80
Process temperature	[°C]	-5...50	-5...80	-5...80
Without any information about temperature class the transmitter will be delivered for T6. For detailed Ex-specifications see the assembly instruction manual.				

Materials	
<b>Process connection, diaphragm, housing</b>	Stainless steel 1.4435 or titanium (option)
<b>Seals</b>	Viton (other materials see ordering information)

## Qualification

Standard	Level	Typical interferences	
<b>Mechanical charges:</b>			
EN 60068-2-6	Vibration	10g (4...2000 Hz, deflection ± 10 mmpp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
<b>Emission:</b>			
EN 55022	Emission, class B	< 30 dBμV/m (0.03...1 GHz)	
<b>Immunity:</b>			
EN 61000-4-2	Generic immunity	8 kV contact, 15 kV air	
EN 61000-4-3	Electrostatic discharge	10 V/m, 0.08...2.7 GHz, 80% AM 1 kHz, 3 s	Cellular phones, radio sets
EN 61000-4-4	Fast transients (burst)	4kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/42 Ω, Line-Earth: 1 kV/42 Ω	Lightning strikes
EN 61000-4-6	Conducted radio-frequency	10 V, 0.15...80 MHz, 80% AM 1kHz, 3s	Cellular phones, radio sets

<sup>1)</sup> Total Error Band incl. accuracy, temperature influences, temperature error zero and span, hysteresis and repeatability by max. signal span (16mA)

<sup>2)</sup> Zero based non-conformity according to DIN16086, including hysteresis and repeatability by ambient temperature

<sup>3)</sup> The longterm stability can be improved by aging (burn-in) of the sensor

<sup>4)</sup> 0...0.5 mHz20 on request



## Ordering information

		ATM.1ST/N	X	XXXX	XXXX	XX	XXX
		ATM.1ST/N/Ex					
<b>Type</b>	ATM.1ST/N						
	ATM.1ST/N/Ex						
<b>Pressure type</b>	Gauge		1				
	Absolute (vacuum)		2				
<b>Pressure range</b>	Any pressure ranges between 0...1mH2O and 0...250mH2O available <sup>8)</sup>			XX			
<b>Version</b>	Closed (Fig. 1)				55		
	Open (Fig. 2)				56		
	G 1/4 M (Fig. 3)				11		
	G 1/2 M (Fig. 3)				13		
	Special versions available				XX		
<b>Electrical connection</b>	Connectable version <sup>1)</sup> (Fig. 4)	IP 68				07	
	PE cable <sup>2) 4)</sup>	IP 68				13	
	PUR cable <sup>2) 3)</sup>	IP 68				15	
	Teflon cable <sup>2)</sup>	IP 68				21	
	PUR cable, blue <sup>2) 3) 5)</sup>	IP 68				17	
	Teflon cable, blue <sup>2) 5)</sup>	IP 68				22	
<b>Output signal</b>	4...20mA					05	
	0...5V DC (no Ex version)					46	
	0...10V DC (no Ex version)					47	
<b>Accuracy</b>	≤ ± 0.25 % FS					1	
	≤ ± 0.1 % FS					2	
	≤ ± 0.05 % FS (> 5 mH2O...250 mH2O)					6	
<b>Temperature range<sup>6)</sup></b>	-5...50°C compensated (allowed medium temperature -5...50°C)					4	
	-5...80°C compensated (allowed medium temperature -5...80°C)					5	
<b>Temperature class<sup>7)</sup></b>	T6 (Ta: -5...50°C) -5...50°C compensated (allowed medium temperature -5...50°C)					3	
<b>(Ex version)</b>	T4 (Ta: -5...80°C) -5...80°C compensated (allowed medium temperature -5...80°C)					5	
<b>Options</b>	Version titanium						K
	Ballast weight						B
	Special oil filling in the TD:	ASEOL Food					G
		Halocarbon					H
	Seals:	Viton (standard)					U
		EPDM					S
		Kalrez					T

<sup>1)</sup> Connector with required cable has to be ordered separately (KART100)

<sup>2)</sup> Please specify the required cable length

<sup>3)</sup> For medium temperature > 50°C a PE or teflon cable must be used

<sup>4)</sup> Food approved

<sup>5)</sup> Cable types ATM.1ST/N/Ex

<sup>6)</sup> Temperature range for ATM.1ST/N

<sup>7)</sup> Temperature class for ATM.1ST/N/Ex

<sup>8)</sup> 0...0.5 mH2O on request

## Dimensions

Fig. 1 Closed version

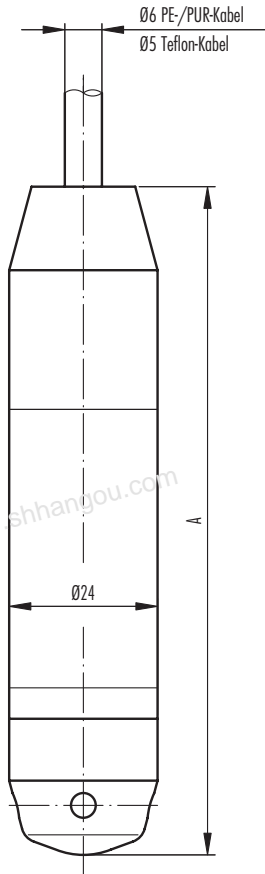


Fig. 2 Open version

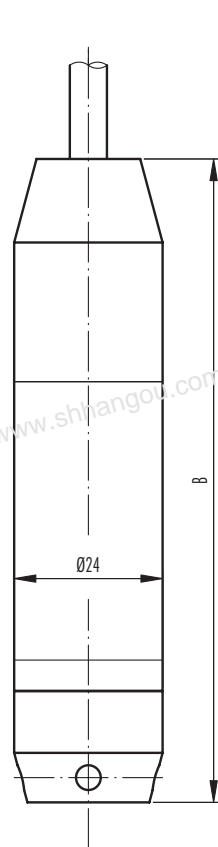


Fig. 3 With process connection

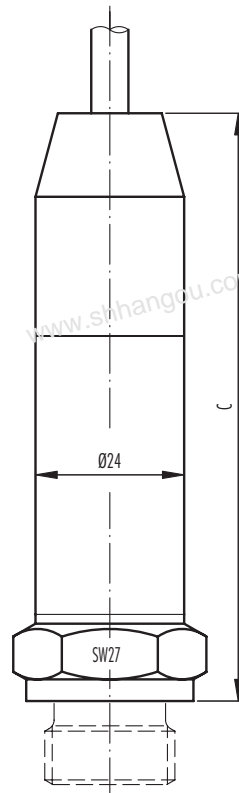
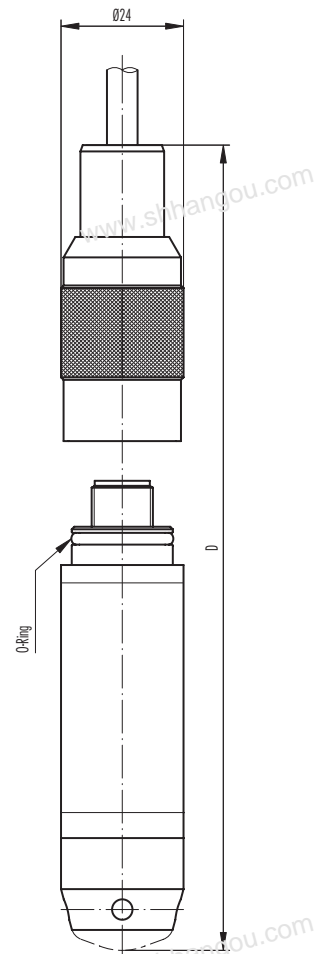


Fig. 4 Electrical connection, connectable



	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	88	84	on request*	119*	ca. 145
with ballast weight	175	171	on request*	201*	ca. 405

\*C: Depending on process connection

Colour	2-wire	3-wire
white	+Vin	+Vin
yellow	Pout	GND
brown		Pout
grey	EP (only Ex)	

Specifications may change without notice.

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