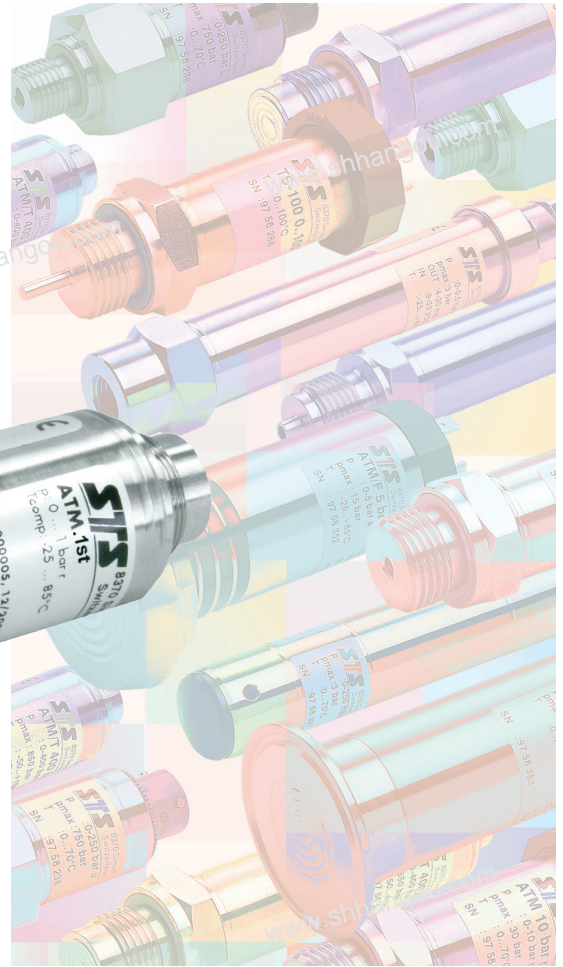
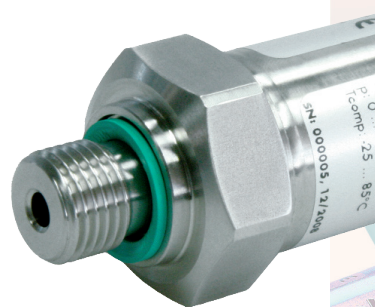



PRESSURE TRANSMITTER

ATM.1ST
ATM.1ST/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...50mbar to 0...1000bar
- Calibration available for all common pressure units
- Reverse polarity and short circuit protected
- High EMV stability
- Customized versions due to modular assembly

Typical applications

- Machine installations
- Environmental monitoring
- Food industry
- Mobile hydraulics
- Test and calibration systems

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

Pressure range	[bar] 0.1 ... 0.5 ⁴⁾	> 0.5 ... 2	> 2 ... 100	> 100... 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	≥ 850	≥ 850	≥ 1500
Total Error Band (TEB)¹⁾	[± % FS]				
ATM.1ST	(typ./max.) 0...70°C	0.8/1.0	0.3/0.5	0.3/0.5	0.3/0.5
	(typ./max.) -25...100°C	1.3/1.5	0.75/1.0	0.75/1.0	0.75/1.0
Active compensated	(typ./max.) 0...70°C	0.5/0.7	0.2/0.4	0.2/0.4	
	(typ./max.) -40...125°C	1.5/1.7	0.5/0.8	0.5/0.8	
Accuracy²⁾	[± % FS]	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1/ ≤0.05)	≤ 0.25 (optional ≤0.1/ ≤0.05)	≤ 0.25 (optional ≤0.1)
Medium temperature		-40...150°C			
Ambient temperature		-40...125°C			
Storage temperature		-40...125°C			
Response time		< 1ms / 10...90 %FS			
Long term stability (typ./max.)³⁾		<0.5%FS/<4mbar	<0.2%FS/<4mbar	<0.1%FS/<0.2%FS	<0.1%FS/<0.2%FS

Electrical output

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

Ex-Approval gas / dust

Approval	SEV 09 ATEX 0108	II 1G Ex ia IIB/IIC T3...T6 II 1D Ex iaD 20 IP6x T145...T70°C		
Standards		EN 60079-0 / EN 60079-11 (gas) EN 61241-0 / EN 61241-11 (dust)		
Temperature class		T6	T4	T3
Ambient temperature T _a	[°C]	-40...50	-40...85	-40...125
Process temperature	[°C]	-40...50	-40...110	-40...150

Without any information about temperature class the transmitter will be delivered for T4.
For detailed Ex-specifications see the assembly instruction manual.

Materials

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

Qualification

	Standard	Level	Typical interferences
Mechanical charges:			
EN 60068-2-6	Vibration	10g (4...2000 Hz, deflection ± 10 mmpp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
Emission:			
EN 55022	Emission, class B	< 30 dB μ V/m (0.03...1 GHz)	
Immunity:			
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

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

²⁾ Zero based non-conformity according to DIN 16086, including hysteresis and repeatability by ambient temperature

³⁾ The long term stability can be improved by aging (burn-in) of the sensor

⁴⁾ 0...50 mbar on request

Ordering information

		ATM.1ST	X	XXXX	XXXX	XX	XXX
		ATM.1ST/Ex					
Type	ATM.1ST						
	ATM.1ST/Ex						
Pressure type	Gauge		1				
	Absolute (vacuum)		2				
	Sealed gauge		3				
Pressure range	Any pressure ranges between 0...100mbar and 1000bar available ¹¹⁾			XX			
Pressure connection	G 1/4 I (Fig. 1)				00		
	G 1/4 A (Fig. 2)				11		
	G 1/2 A (Fig. 3)				13		
	G 1/2 A, frontal diaphragm (Fig. 4)				14		
	G 1/2 A, flush diaphragm (Fig. 5)				15		
	1/4 NPT A (Fig. 6)				10		
	1/2 NPT A (Fig. 7)				19		
	Special connections available				XX		
Electrical connection	Connector DIN 43650 (screwed on) ¹¹⁾ (Fig. 8)	IP 65				01	
	Connector Binder 723, 5-pin ¹¹⁾ (Fig. 9)	IP 67				03	
	Connector Binder 723, 5-pin (screwed on) ¹¹⁾ (Fig. 10)	IP 67				43	
	Connector MIL C26482, (10-6) ¹¹⁾ (Fig. 11)	IP 40				06	
	PE cable ^{2) 4)} (Fig. 12)	IP 67				13	
	PUR cable ^{2) 3)} (Fig. 12)	IP 67				15	
	Teflon cable ²⁾ (Fig. 12)	IP 67				21	
	PUR cable, blue ^{2) 3) 5)} (Fig. 12)	IP 67				17	
	Teflon cable, blue ^{2) 5)} (Fig. 12)	IP 67				22	
	Special connections available					XX	
Output signal	4...20 mA					05	
	0...5V (no Ex-version)					46	
	0...10V (no Ex-version)					47	
Accuracy	≤ ± 0.25% FS					1	
	≤ ± 0.1% FS (≤ 600 bar FS)					2	
	≤ ± 0.05% FS (≥ 500 mbar ... ≤ 100 bar FS)					6	
Temperature range ⁷⁾	0...70°C compensated (allowed medium temperature -40...125°C)					0	
	-25...100°C compensated (allowed medium temperature -40...125°C)					1	
	-25...100°C compensated (allowed medium temperature -40...150°C)					2	
	-40...100°C compensated (allowed medium temperature -40...125°C)					3	
	-40...125°C compensated (allowed medium temperature -40...125°C) ⁶⁾					4	
Temperature class ⁸⁾	T6 (Ta: -40...50°C) 0...70°C compensated (allowed medium temperature -40...50°C)					0	
(Ex version)	T4 (Ta: -40...85°C) -25...100°C compensated (allowed medium temperature -40...110°C)					1	
	T3 (Ta: -40...125°C) -25...100°C compensated (allowed medium temperature -40...150°C)					2	
	T3 (Ta: -40...125°C) -40...100°C compensated (allowed medium temperature -40...125°C)					6	
Options	Throttle ⁹⁾						A
	Special oil filling in the TD: ASEOL Food						G
	Halocarbon (for oxygen applications) ¹⁰⁾						H
	Seals: Viton (standard)						U
	EPDM						S
	Kalrez						T
	Version titanium						K
	Active compensated						E
	Aging (burn-in)						Z

¹⁾ Cable socket connector not included

²⁾ Please specify the required cable length

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

⁴⁾ Food approved

⁵⁾ Cable types for ATM.1ST/Ex

⁶⁾ With option E: Active compensated

⁷⁾ Temperature range for ATM.1ST

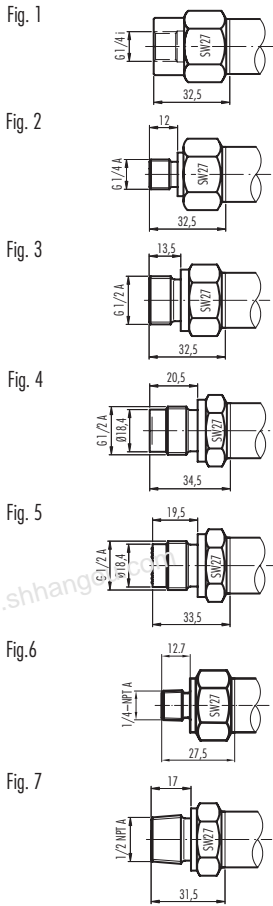
⁸⁾ Temperature class for ATM.1ST/Ex

⁹⁾ Only with pressure connection Fig. 2 and Fig. 3

¹⁰⁾ Max. pressure range ... 120 bar (burst pressure > 175 bar)

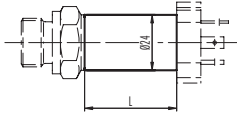
¹¹⁾ 0...50mbar on request

Pressure connections



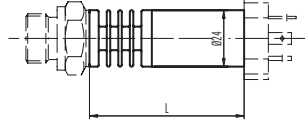
Dimensions

Version for medium temperature up to 125°C



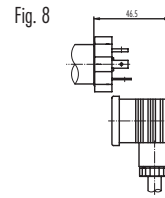
L = 25 mm for connector DIN 43650

Version for medium temperature >125°C up to 150°C

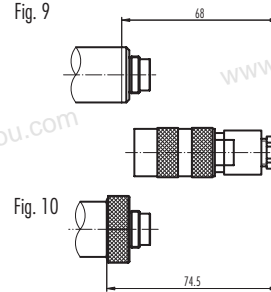


L = 52 mm for connector DIN 43650

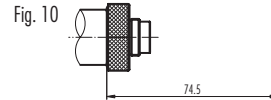
Electrical Connections



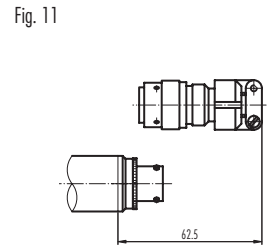
Pin	2-wire	3-wire
1	+Vin	+Vin
2	Pout	Pout
3	PROG2	GND
E	PROG1	PROG1
E	EP (only Ex)	



Cable socket connector



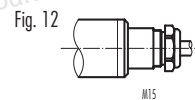
Pin	2-wire	3-wire
1	Pout	Pout
2	PROG1	PROG1
3	+Vin	+Vin
4	PROG2	GND
5	EP (only Ex)	



Cable socket connector



Pin	2-wire	3-wire
A	+Vin	+Vin
B	PROG2	GND
C	Pout	Pout
D	PROG1	PROG1
E	EP (only Ex)	



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

Specifications may change without notice.

10.00.0305.A

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