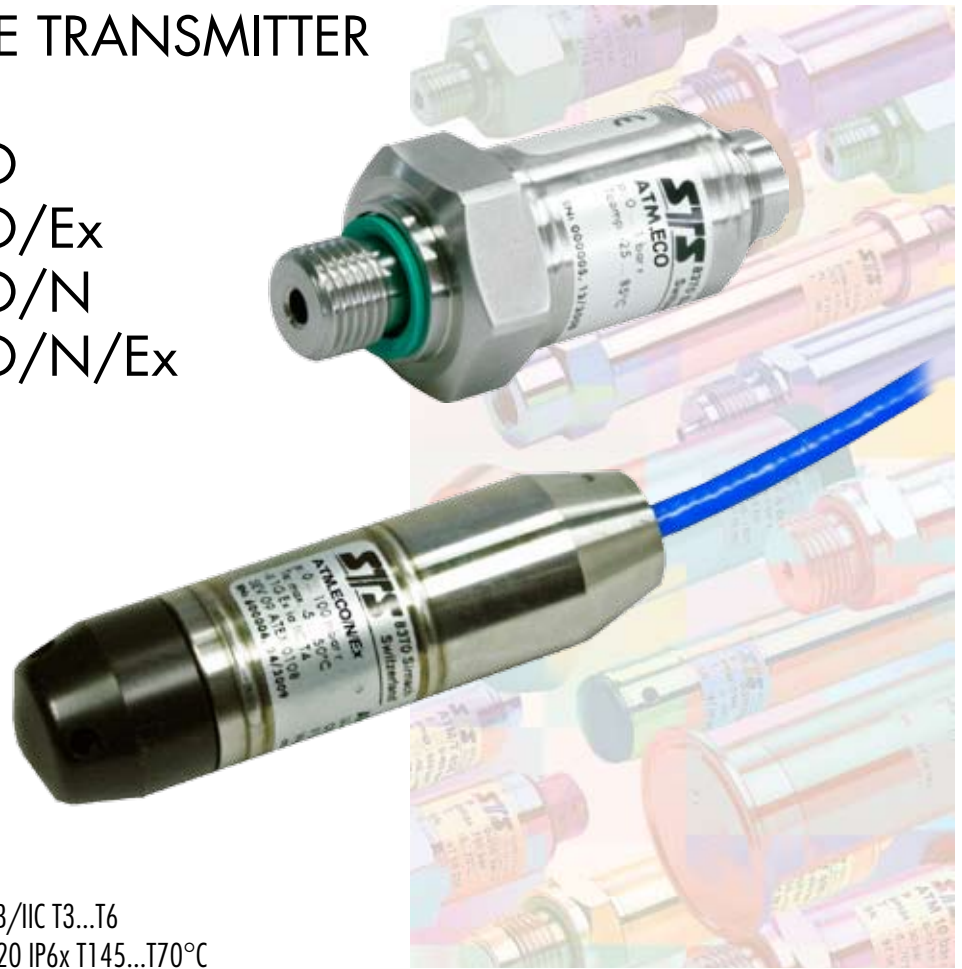



PRESSURE TRANSMITTER

ATM.ECO
ATM.ECO/Ex
ATM.ECO/N
ATM.ECO/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...50mbar to 0...100bar
- Calibration available for all common pressure units
- Reverse polarity and short circuit protected
- High EMV stability
- Customized versions due to modular assembly

Typical applications

- Process engineering
- Environmental monitoring
- Machine installations and plant construction
- Test and calibration systems
- Depth and level measurement

Specifications ATM.ECO and ATM.ECO/Ex

Pressure range	[bar]	0.05 ... 0.5	> 0.5 ... 2	> 2 ... 25	> 25 ... 100
Overpressure		3 bar	3 x FS (min. 3 bar)	3 x FS	3 x FS
Burst pressure	[bar]	≥ 200	≥ 200	≥ 200	≥ 850
Total Error Band (TEB) ¹⁾	[± % FS]				
ATM.ECO	(typ./max.) 0...70°C (typ./max.) -25...100°C	1.0/1.5 2.0/2.5	0.7/1.0 1.0/1.5	0.7/1.0 1.0/1.5	0.7/1.0 1.0/1.5
Accuracy ²⁾	[± % FS]	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)	≤ 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.)		< 0.5 %FS / < 4 mbar	< 0.2 %FS / < 4 mbar	< 0.1 %FS / < 0.2 %FS	< 0.1 %FS / < 0.2 %FS

Electrical output

Type	4...20mA (two wire current loop)	Type	4...20mA (two wire current loop)	Load resistance
Supply voltage	9...33 VDC	Supply voltage	9...30 VDC	
Supply voltage influence	typ. < 0.05 %FS	Supply voltage influence	typ. < 0.05 %FS	
Circuit diagram (example)		Circuit diagram (example)		Load resistance influence < 0.05 %FS

Ex-Approval gas / dust

Approval	SEV 09 ATEX 0108	II 1G Ex ia IIB/IIC T3...T6		
Standards		II 1D Ex iaD 20 IP6x T145...T70°C		
		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 dBμV/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 DIN16086, including hysteresis and repeatability by ambient temperature



Spezifikationen ATM.ECO/N und ATM.ECO/N/Ex

Pressure range [bar]	0.05 ... 0.5	> 0.5 ... 2	> 2 ... 25
Overpressure	3bar	3 x FS (min. 3 bar)	3 x FS
Burst pressure [bar]	> 200	> 200	> 200
Total Error Band (TEB)¹⁾ [± % FS]			
ATM.ECO/N (typ./max.) -5...50°C	1.0/1.5	0.7/1.0	0.7/1.0
(typ./max.) -5...80°C	2.0/2.5	1.0/1.5	1.0/1.5
Accuracy²⁾ [± % FS]	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)
Medium temperature	-5...80°C		
Storage temperature	-10...80°C		
Response time	< 1ms / 10...90 %FS		
Long term stability (typ./max.)	< 0.5 %FS / < 4 mbar	< 0.2 %FS / < 4 mbar	< 0.1 %FS / < 0.2 %FS

Electrical output

Type	4...20mA (two wire current loop)	Type	4...20mA (two wire current loop)	Load resistance
Supply voltage	9...33 VDC	Supply voltage	9...30 VDC	
Supply voltage influence	typ. < 0.05 %FS	Supply voltage influence	typ. < 0.05 %FS	
Circuit diagram (example)		Circuit diagram (example)		Load resistance influence < 0.05 %FS

Ex-Approval gas / dust

Approval	SEV 09 ATEX 0108	II 1G Ex ia IIB/IIC T3...T6		
Standards		II 1D Ex iaD 20 IP6x T145...T70°C		
		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 DIN16086, including hysteresis and repeatability by ambient temperature



Ordering information

		ATM.ECO	X	XXXX	XXXX	XX	XXX
		ATM.ECO/Ex					
Type	ATM.ECO						
	ATM.ECO/Ex						
Pressure type	Gauge		1				
	Absolute (vacuum)		2				
	Sealed gauge		3				
Pressure range	Any pressure ranges between 0...50mbar and 100bar available			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) ¹⁾ (Fig. 8)	IP 65				01	
	Connector Binder 723, 5-pin ¹⁾ (Fig. 9)	IP 67				03	
	Connector Binder 723, 5-pin (screwed on) ¹⁾ (Fig. 10)	IP 67				43	
	Connector MIL C26482, (10-6) ¹⁾ (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	
Accuracy	≤ ± 0.25% FS						1
	≤ ± 0.1% FS						2
Temperature range⁶⁾	0...70°C compensated (allowed medium temperature -40...125°C)						0
	-25...100°C compensated (allowed medium temperature -40...125°C)						1
	-40...100°C compensated (allowed medium temperature -40...125°C)						3
Temperature class⁷⁾	T6 (Ta: -40...50°C) 0...70°C compensated (allowed medium temperature -40...50°C)						0
	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
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

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.ECO/Ex

⁶⁾ Temperature range for ATM.ECO

⁷⁾ Temperature class for ATM.ECO/Ex

⁸⁾ Only with pressure connection Fig. 2 and Fig. 3

⁹⁾ Max. pressure range ... 120 bar (burst pressure > 175 bar)

Ordering information

		ATM.ECO/N	X	XXXX	XXXX	XX	XXX
		ATM.ECO/N/Ex					
Type	ATM.ECO/N						
	ATM.ECO/N/Ex						
Pressure type	Gauge		1				
	Absolute (vacuum)		2				
Pressure range ⁴⁾	Any pressure ranges between 0...0.5mH2O and 0...250mH2O available			XX			
Version	Closed	(Fig. 13)				55	
	Open	(Fig. 14)				56	
	G 1/4 M	(Fig. 2/15)				11	
	G 1/2 M	(Fig. 3/15)				13	
	Special versions available					XX	
Electrical connection	Connectable version ¹⁾	(Fig. 16)	IP 68			07	
	PE cable ^{2) 4)}		IP 68			13	
	PUR cable ^{2) 3)}		IP 68			15	
	Teflon cable ²⁾		IP 68			21	
	PUR cable, blue ^{2) 3) 5)}		IP 68			17	
	Teflon cable, blue ^{2) 5)}		IP 68			22	
Output signal	4...20mA					05	
Accuracy	≤ ± 0.25 % FS						1
	≤ ± 0.1 % FS						2
Temperature range ⁶⁾	-5...50°C compensated (allowed medium temperature -5...50°C)						4
	-5...80°C compensated (allowed medium temperature -5...80°C)						5
Temperature class ⁷⁾	T6 (Ta: -5...50°C) -5...50°C compensated (allowed medium temperature -5...50°C)						3
	T4 (Ta: -5...80°C) -5...80°C compensated (allowed medium temperature -5...80°C)						5
Options	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	

¹⁾ Connector with required cable has to be ordered separately (KART100)

²⁾ Please specify the required cable length

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

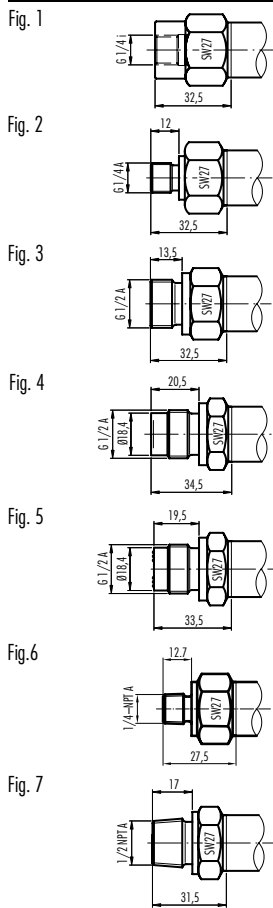
⁴⁾ Food approved

⁵⁾ Cable types ATM.ECO/N/Ex

⁶⁾ Temperature range for ATM.ECO/N

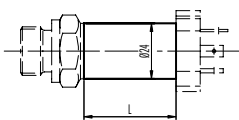
⁷⁾ Temperature class for ATM.ECO/N/Ex

Pressure connections



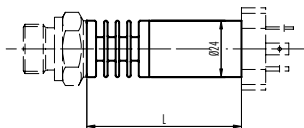
Dimensions

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

Fig. 13 Closed version

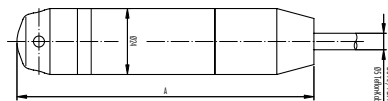
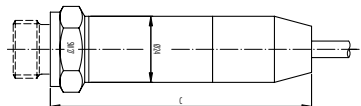


Fig. 14 Open version

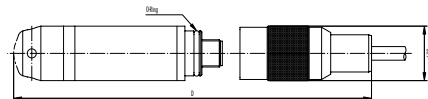


Fig. 15 With process connection



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

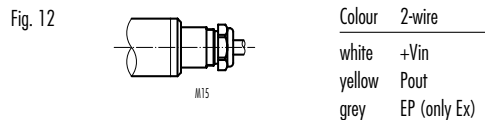
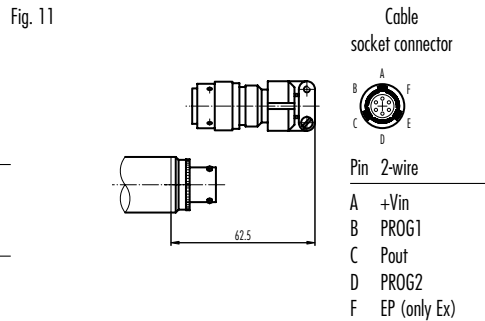
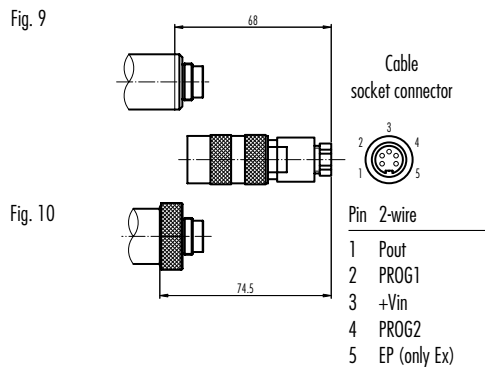
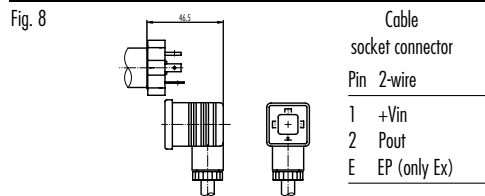
Fig. 16 Electrical connection, connectable



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

*C: Depending on process connection

Electrical Connections



Specifications may change without notice.

Switzerland	Germany	Italy	France	Great Britain
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