




## PRESSURE TRANSMITTER

ATM.ECO  
ATM.ECO/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...100mbar 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.ECO and ATM.ECO/Ex

Pressure range	[bar]	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 100	> 100 ... 600	> 600 ... 1000
<b>Overpressure</b>		3 bar	3 x FS (min. 3 bar)	3 x FS (max. 850 bar, optional 1500 bar)	3 x FS (max. 850 bar, optional 1500 bar)	1500 bar
<b>Burst pressure</b>	[bar]	≥ 200	≥ 200	≥ 850	≥ 850	≥ 1500
<b>Total Error Band <sup>1)</sup></b>	[± % 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
<b>Accuracy <sup>2)</sup></b>	[± %FS]		≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)	≤ 0.25 (optional ≤0.1)
<b>Medium temperature</b>		-40...150°C				
<b>Ambient temperature</b>		-40...125°C				
<b>Storage temperature</b>		-40...125°C				
<b>Response time</b>		< 1ms / 10...90 %FS				
<b>Long term stability (typ./max.)</b>		<0.5%FS/<4mbar	<0.2%FS/<4mbar	<0.1%FS/<0.2%FS	<0.1%FS/<0.2%FS	<0.1%FS/<0.2%FS

### Electrical output

Type ATM.ECO	4...20mA	Type ATM.ECO/Ex	4...20mA	Type ATM.ECO	0...5V/0...10V	Load resistance
<b>Supply voltage</b>	9...33 VDC	<b>Supply voltage</b>	9...30 VDC	<b>Supply voltage</b>	12...30 VDC	
Supply voltage influence	< 0.05 %FS	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>		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]	-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

<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 dB $\mu$ V/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 $\Omega$ , Line-Earth: 1 kV/42 $\Omega$	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 DIN 16086, including hysteresis and repeatability by ambient temperature

## Ordering information

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

<sup>1)</sup> Cable socket connector not included

<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 for ATM.ECO/Ex

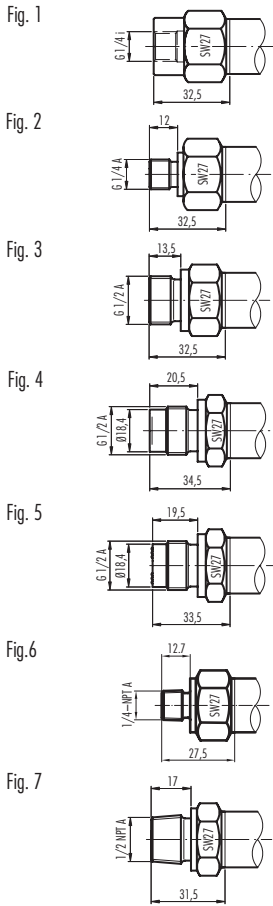
<sup>6)</sup> Temperature range for ATM.ECO

<sup>7)</sup> Temperature class for ATM.ECO/Ex

<sup>8)</sup> Only with pressure connection Fig. 2 and Fig. 3

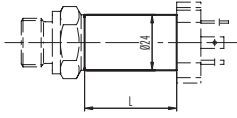
<sup>9)</sup> Max. pressure range ... 120 bar (burst pressure > 175 bar)

## Pressure connections



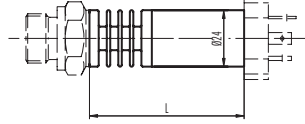
## Dimensions

Version for medium temperature up to 125°C



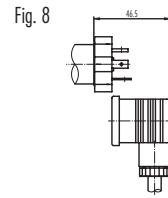
L = 25 mm for connector DIN 43650

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

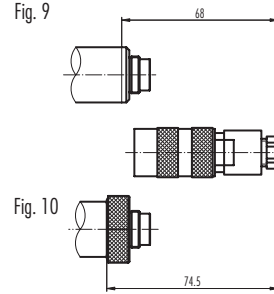


L = 52 mm for connector DIN 43650

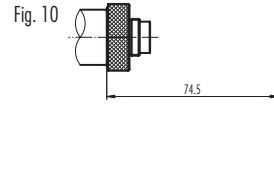
## Electrical Connections



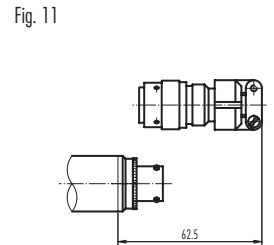
Pin	2-wire	3-wire
1	+Vin	+Vin
2	Pout	Pout
3	PROG2	GND
E	PROG1	PROG1
E	EP (only Ex)	



Cable socket connector



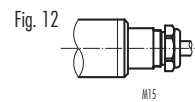
Pin	2-wire	3-wire
1	Pout	Pout
2	PROG1	PROG1
3	+Vin	+Vin
4	PROG2	GND
5	EP (only Ex)	



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)	

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**Agent**