

Pressure transmitters

# ATM.1ST

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# Technical Specifications

## Pressure measuring range (bar)

	0.1 ... 0.5, (1)	> 0.5 ... 2	> 2 ... 100
<b>Overpressure</b>	3 bar	3 x FS ( $\geq 3$ bar)	3 x FS
<b>Burst pressure</b>	> 200 bar	> 200 bar	> 850 bar
<b>Accuracy, (4), (<math>\pm</math> % FS)</b>	$\leq 0.25 / \leq 0.1$	$\leq 0.25 / \leq 0.1 / \leq 0.05$	$\leq 0.25 / \leq 0.1 / \leq 0.05$
<b>Total Error, (5), (<math>\pm</math> % FS)</b>			
0...70 °C, (6), (typ. / max.)	$\leq 0.8 / 1.0$	$\leq 0.3 / 0.5$	$\leq 0.3 / 0.5$
-25...100 °C, (6), (typ. / max.)	$\leq 1.3 / 1.5$	$\leq 0.75 / 1.0$	$\leq 0.75 / 1.0$
0...70 °C, (7), (typ. / max.)	$\leq 0.5 / 0.7$	$\leq 0.2 / 0.4$	$\leq 0.2 / 0.4$
-40...125 °C, (7), (typ. / max.)	$\leq 1.5 / 1.7$	$\leq 0.5 / 0.8$	$\leq 0.5 / 0.8$
<b>Response time, (typ.)</b>	< 1ms / 10...90% FS	< 1ms / 10...90% FS	< 1ms / 10...90% FS
<b>Long term stability, (8)</b>	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

	> 100 ... 600, (2), (3)	> 600 ... 1000
<b>Overpressure</b>	3 x FS ( $\leq 850 / \leq 1500$ bar)	1500 bar
<b>Burst pressure</b>	> 850 / $\leq 1500$ bar	> 1500 bar
<b>Accuracy, (4), (<math>\pm</math> % FS)</b>	$\leq 0.25 / \leq 0.1$	$\leq 0.25$
<b>Total Error, (5), (<math>\pm</math> % FS)</b>		
0...70 °C, (6), (typ. / max.)	$\leq 0.3 / 0.5$	$\leq 0.3 / 0.5$
-25...100 °C, (6), (typ. / max.)	$\leq 0.75 / 1.0$	$\leq 0.75 / 1.0$
0...70 °C, (7), (typ. / max.)	n.a.	n.a.
-40...125 °C, (7), (typ. / max.)	n.a.	n.a.
<b>Response time, (typ.)</b>	< 1ms / 10...90% FS	< 1ms / 10...90% FS
<b>Long term stability, (8)</b>	< 0.1% FS / < 0.2% FS	< 0.1% FS / < 0.2% FS

(1) 50 mbar on request

(2) Titanium available  $\leq 400$  bar (burst pressure > 550 bar)

(3) Overpressure and burst pressure 1500 bar (stainless steel) optional

(4) Zero based accuracy according to DIN16086, incl. hysteresis and repeatability at ambient temperature

(5) Total error including accuracy and temperature influences at maximum signal span (16 mA / 10 V DC)

(6) For current and voltage output signals

(7) Active compensated, only for current output signals

(8) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

## Temperature range

<b>Operating temperature</b>	-40...125 °C
<b>Process temperatur</b>	-40...150 °C
<b>Storage temperatur</b>	-40...125 °C

## Electrical specifications

	4 ... 20 mA	0 ... 5 V / 0 ... 10 V
<b>Power supply</b>	9...33 V DC	12...30 V DC
Supply influence	< 0.05% FS	< 0.05% FS
<b>Current consumption</b>		3 mA
<b>Circuit diagram</b>		
<b>Load resistance</b>		$R_L > 10k\Omega$
Load influence	< 0.05% FS	< 0.05% FS

## Qualifications

	Description	Level	Typical interferences
EN 60068-2-6	Vibration	10g (4...2000 Hz / ± 10 mmp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
EN 55022	Emission, class B	< 30 dBµV/m (0.03...1 GHz)	
EN 61000-4-2	Electrostatic discharge	8 kV contact 15 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08...2.7 GHz, 3s)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	4 kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/42 Ω Line-Earth: 1 kV/42 Ω	Lightning
EN 61000-4-6	Conducted RF	10 V (0.15...80 MHz, 3 s)	Frequency converters

## Physical specifications

<b>Materials</b>	
Transducer	Stainless steel (316L / 1.4435), titanium (Gr. 2), (1)
Housing	Stainless steel (316L / 1.4404), titanium (Gr. 2)
Seals	Viton (standard), EPDM, Kalrez
Cable	PUR, PTFE, PE

(1) Hastelloy (C-276) on request

## Accessories

### Overview

<b>10.00.0091</b>	Accessories overview
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## Additional documents

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### Operating and safety instructions

	Article number
10.88.0092	DMM029

## Ordering information

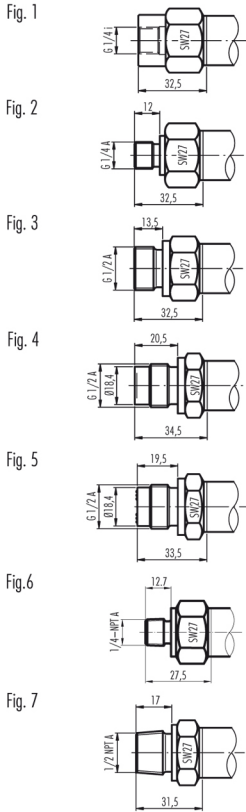
		X. XXXX.	XXXX.	XX.	XXX
<b>Type</b>					
	ATM.1ST				
<b>Pressure type</b>					
	Gauge	1			
	Absolute (vacuum)	2			
	Sealed gauge	3			
<b>Pressure measuring range</b>					
	Any pressure measuring ranges between 0...100 mbar and 0...1000 bar available, (1), (2), (3)	XX			
<b>Process connection</b>					
	G 1/4 F, (Fig. 1)	00			
	G 1/4 M, (Fig. 2)	11			
	G 1/2 M, (Fig. 3)	13			
	G 1/2 M, frontal diaphragm, (Fig. 4)	14			
	G 1/2 M, flush diaphragm, (Fig. 5)	15			
	1/4 NPT M, (Fig. 6)	10			
	1/2 NPT M, (Fig. 7)	19			
	Customized connection available	XX			
<b>Electrical connection</b>					
	DIN 43650, demountable, IP 65, (Fig. 8), (4)		01		
	Binder 723, 5-pin, IP 67, (Fig. 9), (4)		03		
	Binder 723, 5-pin, demountable, IP 67, (Fig. 10), (4)		43		
	MIL C26482, 10-6, IP 40, (Fig. 11), (4)		06		
	PE cable, IP 67, (Fig. 12), (5), (6)		13		
	PUR cable, IP 67, (Fig. 12), (5), (7)		15		
	PTFE cable, IP 67, (Fig. 12), (5)		21		
	Customized connection available		XX		
<b>Output signal</b>					
	4...20 mA		05		
	0... 5 V DC		46		
	0...10 V DC		47		
<b>Accuracy</b>					
	≤ ± 0.25 % FS			1	
	≤ ± 0.1 % FS (≤ 600 bar)			2	
	≤ ± 0.05 % FS (≥ 500 mbar...≤ 100 bar), (8)			6	
<b>Temperature range</b>					
	0...70 °C compensated (allowed process temperature: -40...125 °C)			0	
	-25...100 °C compensated (allowed process temperature: -40...125 °C)			1	
	-25...100 °C compensated (allowed process temperature: -40...150 °C)			2	
	-40...100 °C compensated (allowed process temperature: -40...125 °C)			3	
	-40...125 °C compensated (allowed process temperature: -40...125 °C), (8)			6	
<b>Option 1</b>					
	Throttle, (9)				A
	Special oil filling: ASEOL Food (for food applications)				G
	Special oil filling: Halocarbon (for oxygen applications), (10)				H
<b>Option 2</b>					
	Electronics packed in gel: Gauge pressure				C

Electronics packed in gel: Absolute pressure					D
<b>Option 3</b>					
Active compensated					E
Version titanium					K
Seals: Viton (standard)					U
Seals: EPDM					S
Seals: Kalrez					T
Aging					Z

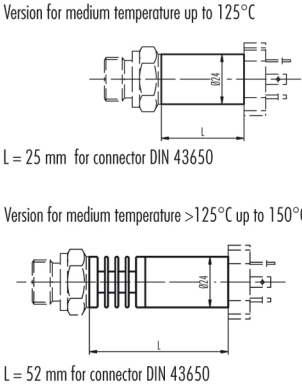
- (1) 50 mbar on request
- (2) Titanium available  $\leq$  400 bar (burst pressure > 550 bar)
- (3) mbar, PSI, kPa etc. available
- (4) Cable socket connector not included
- (5) Please specify the required cable length and medium
- (6) Suitable for drinking water (food approved)
- (7) For operating temperature > 50°C, PE or PTFE cable must be used
- (8) Active compensated
- (9) Only with pressure connection Fig. 2, Fig. 3, Fig. 6 and Fig. 7
- (10) Maximum pressure measuring range  $\leq$  270 bar (burst pressure > 400 bar)

# Technical drawings

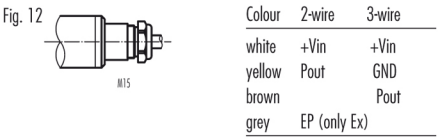
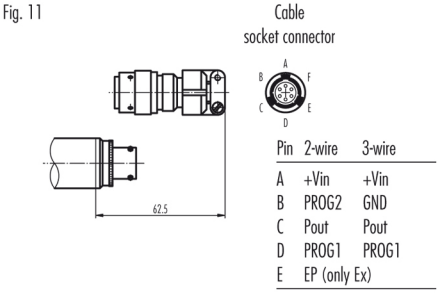
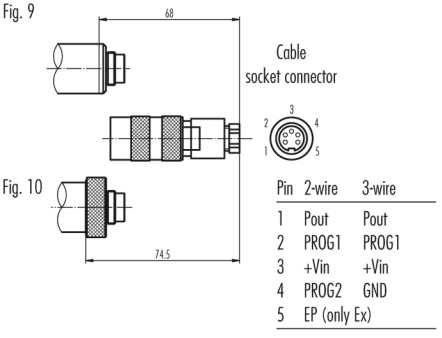
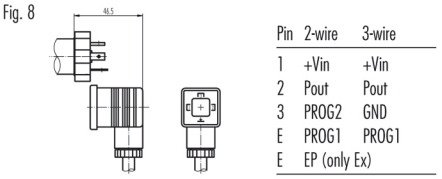
## Pressure connections



## Dimensions



## Electrical Connections



Specifications may change without notice.

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