

Pressure transmitters

ATM.1ST



Version: 28.06.2012

Technical Specifications

Pressure measuring range (bar)

	0.1 ... 0.5, (1)	> 0.5 ... 2	> 2 ... 100
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 850 bar
Accuracy, (4), (\pm % FS)	≤ 0.10	$\leq 0.10 / \leq 0.05, (7)$	$\leq 0.10 / \leq 0.05, (7)$
Total Error, (5), (\pm % FS)			
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.)	$\leq 1.5 / 1.7$	$\leq 0.5 / 0.8$	$\leq 0.5 / 0.8$
Response time, (typ.)	< 1ms / 10...90% FS	< 1ms / 10...90% FS	< 1ms / 10...90% FS
Long term stability, (8)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

	> 100 ... 600, (2), (3)	> 600 ... 1000
Overpressure	3 x FS ($\leq 850 / \leq 1500$ bar)	1500 bar
Burst pressure	> 850 / ≤ 1500 bar	> 1500 bar
Accuracy, (4), (\pm % FS)	≤ 0.10	≤ 0.25
Total Error, (5), (\pm % FS)		
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.
Response time, (typ.)	< 1ms / 10...90% FS	< 1ms / 10...90% FS
Long term stability, (8)	< 0.1% FS / < 0.2% FS	< 0.1% FS / < 0.2% FS

(1) 50 mbar on request

(2) Titanium available ≤ 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

Operating temperature	-40...125 °C
Process temperatur	-40...150 °C
Storage temperatur	-40...125 °C

Electrical specifications

	4 ... 20 mA	0 ... 5 V / 0 ... 10 V
Power supply	9...33 V DC	12...30 V DC
Supply influence	< 0.05% FS	< 0.05% FS
Current consumption		3 mA
Circuit diagram		
Load resistance		$R_L > 10k\Omega$
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 dB μ V/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
---	Surge, (1)	Line-Line: 2 kV/2 Ω Line-Earth: 5 kV/12 Ω	Lightning
EN 61000-4-6	Conducted RF	10 V (0.15...80 MHz, 3 s)	Frequency converters

(1) Only with surge (lightning) protection

Physical specifications

Materials	
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, FEP, PE

(1) Hastelloy (C-276) on request

Accessories

Overview

10.00.0091	Accessories overview

Additional documents

Operating and safety instructions

	Article number
10.88.0092	DMM029

Ordering information

		X. XXXX.	XXXX.	XX.	XXX
Type	ATM.1ST				
Pressure type	Gauge	1			
	Absolute (vacuum)	2			
	Sealed gauge	3			
Pressure measuring range	Any pressure measuring ranges between 0...100 mbar and 0...1000 bar available, (1), (2), (3)	XX			
Process connection	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			
Electrical connection	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		
	FEP cable, (high temperature), black, IP 67, (5), (13)		11		
	FEP cable, IP 67, (Fig. 12), (5)		21		
	PVC cable, blue, IP 67 (Fig. 12), (5), (11)		14		
	Customized connection available		XX		
Output signal	4...20 mA		05		
	0... 5 V DC		46		
	0...10 V DC		47		
Accuracy	$\leq \pm 0.25$ % FS			1	
	$\leq \pm 0.1$ % FS (≤ 600 bar)			2	
	$\leq \pm 0.05$ % FS (≥ 500 mbar... ≤ 100 bar), (8)			6	
Temperature range	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)			7	
Option 1	Throttle, (9)				A
	Special oil filling: ASEOL Food (for food applications)				G
	Special oil filling: Halocarbon (for oxygen applications), (10), (12)				H

Pressure connection elastomerfree					N
Pressure connection welded					V
Option 2					
Electronics packed in gel: Gauge pressure					C
Electronics packed in gel: Absolute pressure					D
Option 3					
Active compensated					E
Version titanium					K
Seals: Viton (standard)					U
Seals: EPDM					S
Seals: Kalrez					T
Seals: NBR					H
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 FEP cable must be used, with connector

(8) Active compensated, with connector

(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)

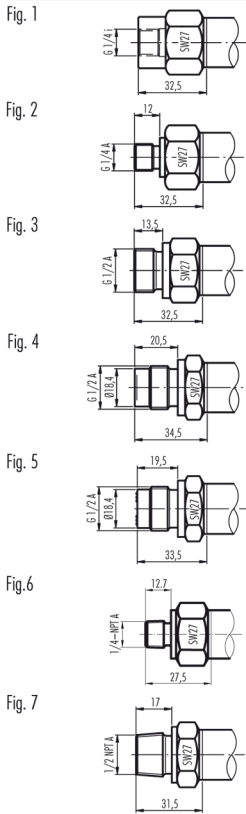
(11) ACS Certification

(12) min. Medium temperature -25 °C

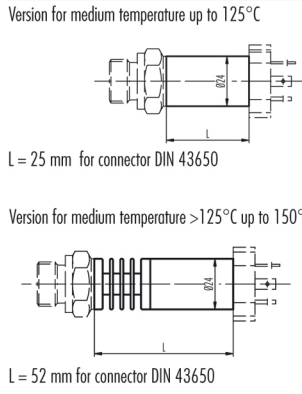
(13) max. 130°C @ 10 mH₂O, max. 110°C @ 50 mH₂O

Technical drawings

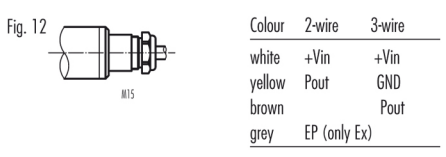
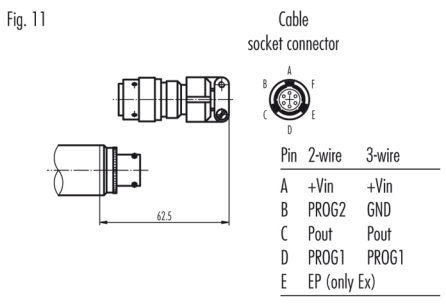
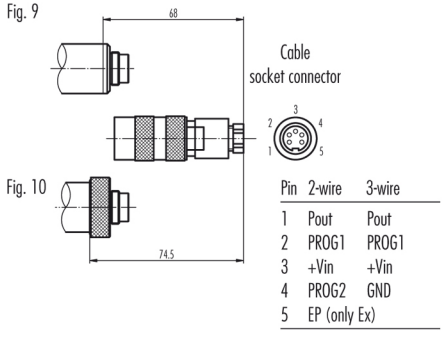
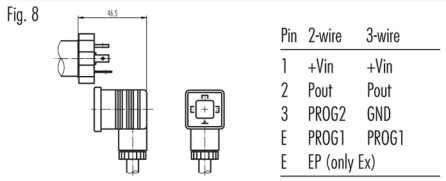
Pressure connections



Dimensions



Electrical Connections



Specifications may change without notice.

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