

Submersible level transmitters

ATM.1ST/N



Version: 27.06.2012

Technical Specifications

Pressure measuring range (mH2O)

	1 ... 5, (1)	> 5 ... 20	> 20 ... 250
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 200 bar
Accuracy, (2), ($\pm$ % FS)	≤ 0.1	≤ 0.1	≤ 0.1
Total Error, (3), ($\pm$ % FS)			
-5...50 °C, (typ. / max.)	$\leq 0.8 / 1.0$	$\leq 0.3 / 0.5$	$\leq 0.3 / 0.5$
-5...80 °C, (typ. / max.)	$\leq 1.3 / 1.5$	$\leq 0.75 / 1.0$	$\leq 0.75 / 1.0$
Response time, (typ.)	< 1ms / 10...90% FS	< 1ms / 10...90% FS	< 1ms / 10...90% FS
Long term stability, (4)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) 0.5 mH2O on request

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

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

(4) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

Temperature range

Operating temperature	-5...80 °C
Process temperature	-5...80 °C
Storage temperature	-10...80 °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 mmpp)	
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
EN 61000-4-6	Conducted RF	10 V (0.15...80 MHz, 3 s)	Frequency converters

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

Equipment

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/N				
Pressure type					
	Gauge	1			
	Absolute (vacuum)	2			
Pressure measuring range					
	Any pressure measuring ranges between 0...1 mH ₂ O and 0...250 mH ₂ O available, (1), (2)	XX			
Process connection					
	Closed, (1.4435), (Fig. 1)	55			
	Closed, (Fig. 1)	59			
	Open, (Fig. 2)	56			
	G 1/4 M, (Fig. 3)	11			
	G 1/2 M, (Fig. 3)	13			
	Customized connections available	XX			
Electrical connection					
	Connectable version, IP 68, (Fig. 4), (3)		07		
	PE cable, IP 68, (4), (5)		13		
	PUR cable, IP 68, (4), (6)		15		
	FEP cable, (high temperature), black, IP 68, (9)		12		
	FEP cable, IP 68, (4)		21		
	PVC cable, blue, IP 68, (4), (7)		14		
	Customized connection available		XX		
Output signal					
	4...20 mA		05		
	0...5 V DC		46		
	0...10 V DC		47		
Accuracy					
	≤ ± 0.25 % FS			1	
	≤ ± 0.1 % FS			2	
Temperature range					
	-5...50 °C compensated (allowed process temperature: -5...50 °C)			4	
	-5...80 °C compensated (allowed process temperature: -5...80 °C)			5	
Option 1					
	Special oil filling: ASEOL Food (for food applications)				G
	Special oil filling: Halocarbon (for oxygen applications) (8)				H
Option 2					
	Electronics packed in gel: Gauge pressure				C
	Electronics packed in gel: Absolute pressure				D
Option 3					
	Ballast weight				B
	Version titanium				K
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez				T
	Seals: NBR				H
	Aging				Z

(1) 0.5 mH₂O on request

- (2) mH₂O, mWS, mWC etc. available
- (3) Connector with required cable has to be ordered separately (KART100)
- (4) Please specify the required cable length and medium
- (5) Suitable for drinking water (food approved)
- (6) For operating temperature > 50°C, PE or FEP cable must be used
- (7) ACS Certification
- (8) min. Medium temperature -25 ° C
- (9) max. 130°C @ 10 mH₂O, max. 110°C @ 50 mH₂O

Technical drawings

Dimensions

Fig. 1 Closed version

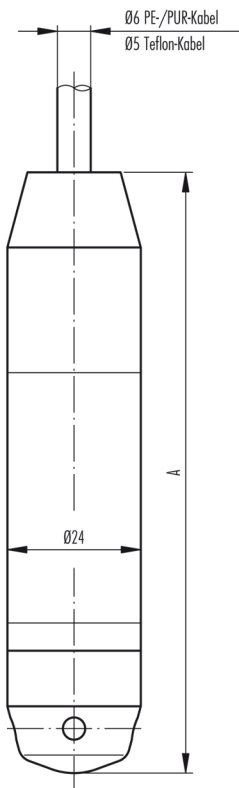


Fig. 2 Open version

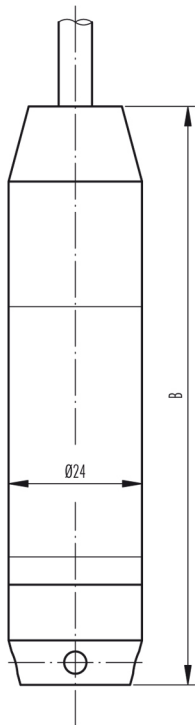


Fig. 3 With process connection

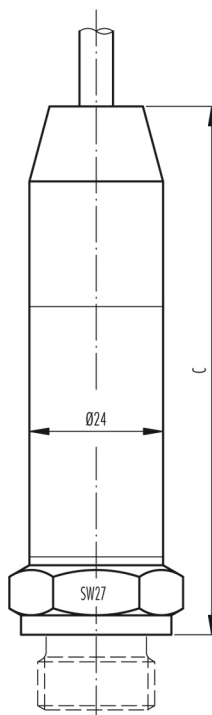
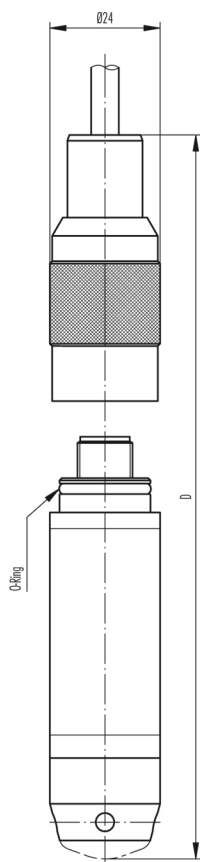


Fig. 4 Electrical connection, connectable



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

*C: Depending on process connection

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

Specifications may change without notice.

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