

Submersible level transmitters

ATM/N



Version: 12.01.2015

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)	$\leq 0.5 / \leq 0.25$	$\leq 0.5 / \leq 0.25 / \leq 0.1$	$\leq 0.5 / \leq 0.25 / \leq 0.1$
Thermal shift, ($\pm$ % FS/$^{\circ}$C)			
Zero point -5 ... 50 $^{\circ}$ C	≤ 0.06	≤ 0.03	≤ 0.015
Span -5 ... 50 $^{\circ}$ C	≤ 0.015	≤ 0.015	≤ 0.015
Response time, (typ.)	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
Long term stability, (3)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) 0.5 mH2O on request

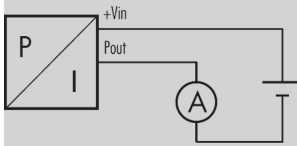
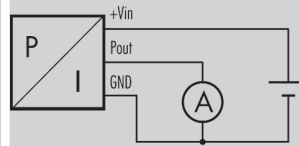
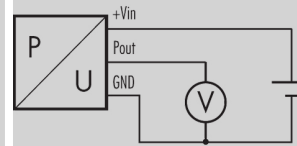
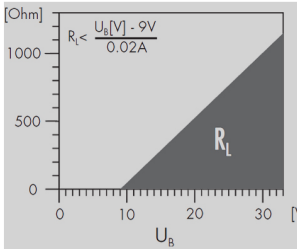
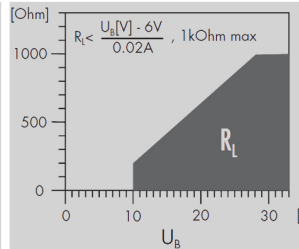
(2) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature

(3) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

Temperature range

Operating temperature	-5 ... 80 $^{\circ}$ C
Process temperature	-5 ... 80 $^{\circ}$ C
Storage temperature	-10 ... 80 $^{\circ}$ C

Electrical specifications

	4 ... 20 mA	0 ... 20 mA	0 ... 5 V / 0 ... 10 V
Power supply	9 ... 33 VDC	9 ... 33 VDC	15 ... 30 VDC
Supply influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
Current consumption			3 mA
Circuit diagram			
Load resistance			$R_L > 10k\Omega$
Load influence	< 0.1% FS	< 0.1% FS	< 0.1% FS

Qualifications

	Description	Level	Typical interferences
EN 61000-4-2	Electrostatic discharge	4 kV contact 8 kV air	
EN 61000-4-3	Irradiated RF	10 V/m (0.08 ... 1 GHz)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	2 kV	Motors, valves
EN 61000-4-5	Surge	10 kA (8 / 20 μ s), (1)	Overvoltage
EN 61000-4-6	Conducted RF	10 V (0.15...80 MHz)	Frequency converters

(1) Only with optional overvoltage protection

Physical specifications

Materials	
Transducer	Stainless steel (316L / 1.4435), titanium (Gr. 2)
Housing	Stainless steel (316L / 1.4404), titanium (Gr. 2)
Seals	Viton (Standard), EPDM, Kalrez
Cable	PUR, FEP, PE, PVC

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/N	24			
Pressure type					
	Gauge	1			
	Absolute (vacuum)	2			
Pressure measuring range					
	50 mbar ... < 100 mbar	XX			
	100 mbar ... 25 bar	XX			
	Offset, special adjustment	99			
Process connection					
	Closed, (Fig. 1)	55			
	Closed, (1.4435), for ACS certificate (Fig. 1)	59			
	Open, (Fig. 2)	56			
	G 1/4 M, (Fig. 3)	11			
	G 1/2 M, (Fig. 3)	13			
	Customized connections available	99			
Electrical connection					
	PE cable, IP 68, black (4) (5)		13		
	PUR cable, IP 68, black (4) (6)		15		
	FEP cable, IP 68, black (4)		21		
	PVC cable, blue, IP 68, (4) (7)		14		
	Connectable version, IP 68, Lumberg RSF4 (Fig. 4), (3)		07		
	Customized		99		
Output signal					
	0 ... 5 VDC		46		
	0 ... 10 VDC		47		
	0 ... 20 mA		00		
	4 ... 20 mA		05		
	4 ... 20 mA with overvoltage protection		08		
	0 ... 10 VDC with overvoltage protection		49		
	0 ... 5 VDC with overvoltage protection		50		
	Customized		99		
Accuracy					
	$\leq \pm 0.5 \% \text{ FS}$			0	
	$\leq \pm 0.25 \% \text{ FS}$			1	
	$\leq \pm 0.1 \% \text{ FS}$			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					
Option 2					
	Electronics packed in gel: Gauge pressure				C
	Electronics packed in gel: Absolute pressure				D
Option 3					
	Ballast weight 1.4435				B
	Version titanium (without ballast weight)				K
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez (Level)				T
	Seals: NBR (ACS)				H

Humidity filter element for gauge versions (only for PUR and PE cable)					Z
Separate electronic (2 tube housings)					Y

- (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) Standard, no special cleaning. Special cleaning must be requested.

Technical drawings

Dimensions

Fig. 1: Closed version

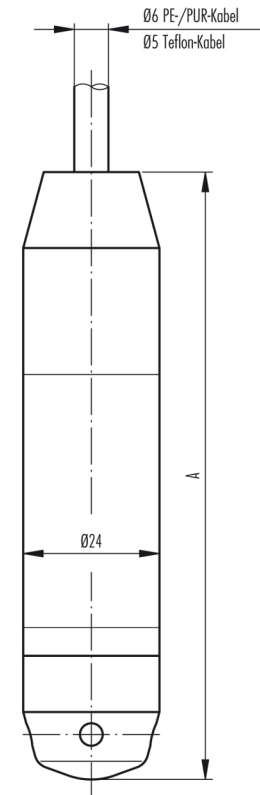


Fig. 2: Open version

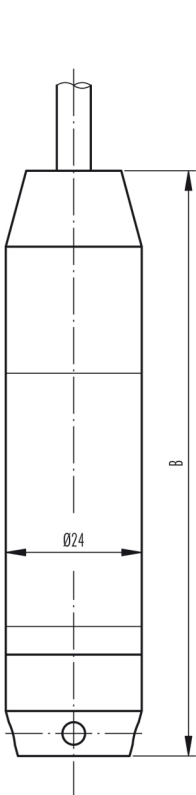


Fig. 3: with process connection

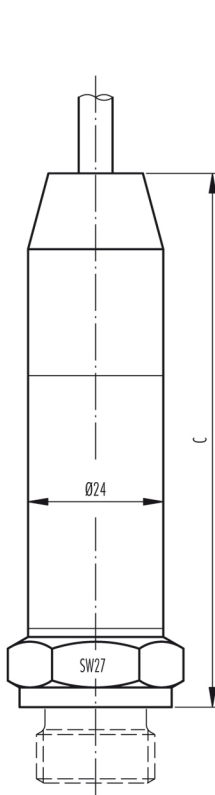
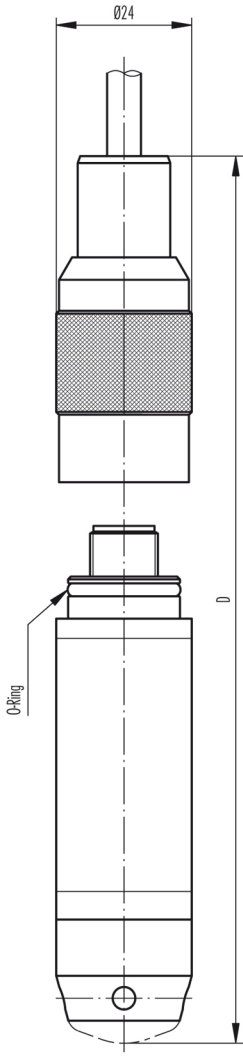


Fig. 4: Electrical connection, connectable



Standard	A [mm]	B [mm]	C [mm]	D [mm]	Weight[g]
without ballast weight	108	104	on request*	on request*	approx. 160
with ballast weight	195	191	on request*	on request*	approx. 420

*C: Depending on process connection

*D: Depending on process connection or version

Version with surge (lightning) protection	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	157	153	on request	on request	approx. 200
with ballast weight	244	240	on request	on request	approx. 460

Colour 2-Wire 3-Wire

with	+Vin	+Vin
yellow	Pout	GND
brown		Pout

Specifications may change without notice.

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