

Submersible Transmitter

ATM/N - Analog Level Transmitter



CUSTOMER BENEFITS

- Fast customization thanks to configurable product design
- Titanium version with PTFE cable available for use in aggressive media
- Available with overvoltage protection
- Compact design requires minimal space

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, (2)	> 200 bar	> 200 bar	> 200 bar
Accuracy, (3) ($\pm$ % 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, (4)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) 0.5 mH₂O on request

(2) Transducer

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

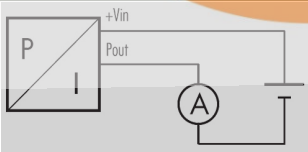
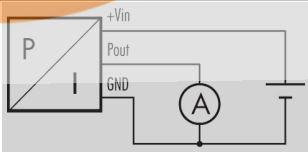
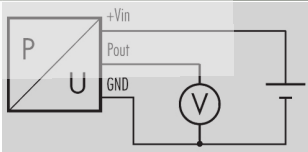
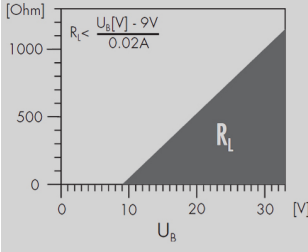
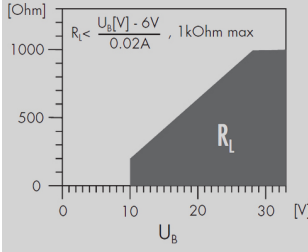
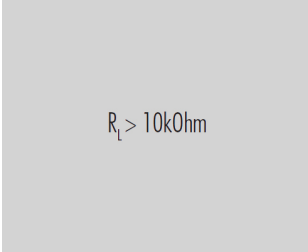
(4) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

TEMPERATURE RANGE

Operating temperature	-5 ... 80 $^{\circ}$ C (1)
Process temperature	-5 ... 80 $^{\circ}$ C (1)
Storage temperature	-10 ... 80 $^{\circ}$ C

(1) For operating temperatures > 50 $^{\circ}$ C, please use PE or FEP cable

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			
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, (1)	Surge	10 kA (8 / 20 µs)	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, NBR
Cable	PUR, FEP, PE, PVC
Weight (1)	108 g

(1) Specification for a ATM/N, closed, without cable

Equipment

OVERVIEW

10.00.0091	Accessories overview
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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 (7) (8), (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, M12x1, (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 (7)			H
Humidity filter element for gauge versions (only for PUR and PE cable)			Z
Separate electronic (2 tube housings)			Y

(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) Recommended for drinking water applications

(8) With stainless steel cap



Dimensions

Fig. 1: Closed version

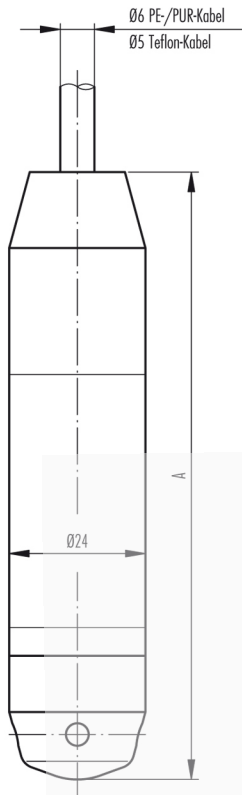


Fig. 2: Open version

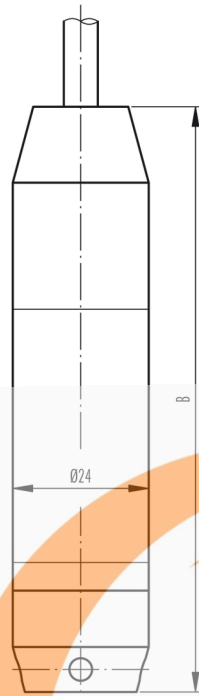


Fig. 3: with process connection

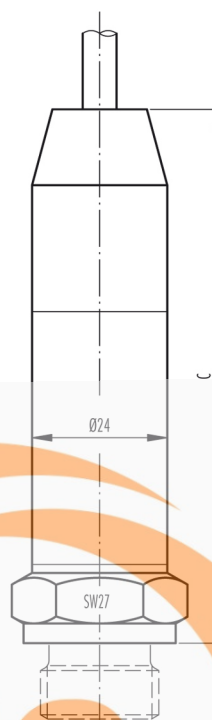
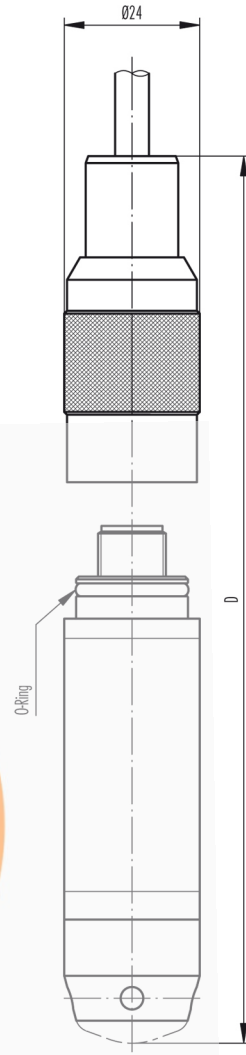


Fig. 4: Electrical connection, connectable



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
white	+Vin	+Vin
yellow	Pout	GND
brown		Pout