

Submersible level 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 (MH20)

	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

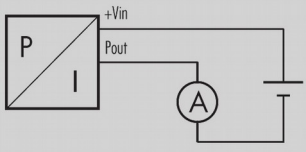
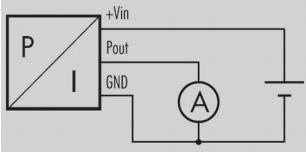
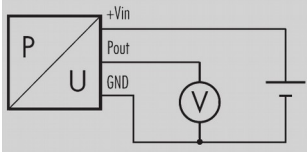
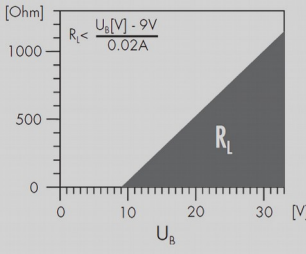
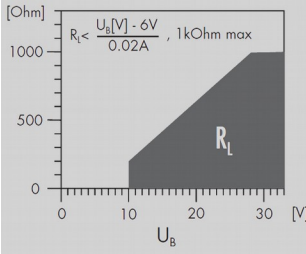
(4) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

TEMPERATURE RANGE

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

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, (1)	Surge	10 kA (8 / 20 μ s)	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), 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, M12(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					
$\leq \pm 0.5\%$ FS					0
$\leq \pm 0.25\%$ FS					1
$\leq \pm 0.1\%$ FS					2
Temperature range					
-5 ... 50°C compensated process temperature: -5 ... 50°C			(allowed)		4
-5 ... 80°C compensated process temperature: -5 ... 80°C			(allowed)		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

(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

Technical drawings

Dimensions

Fig. 1: Closed version

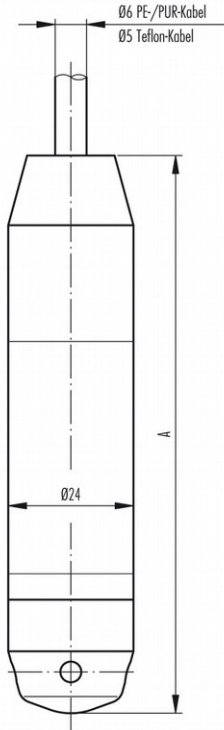


Fig. 2: Open version

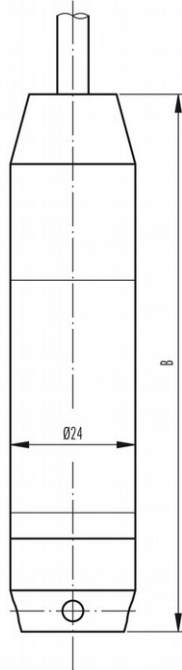


Fig. 3: with process connection

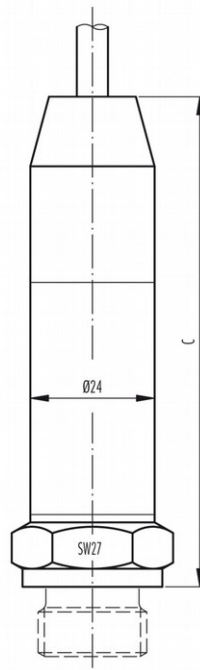
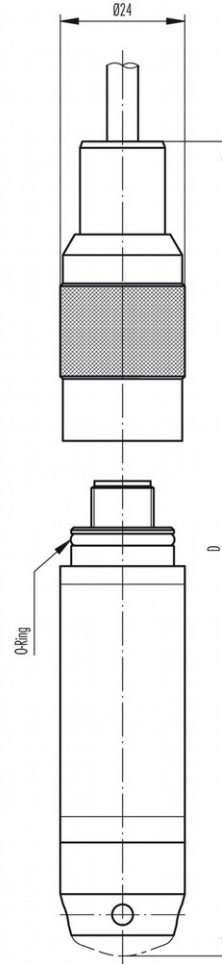


Fig. 4: Electrical connection, connectable



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	