Programmable submersible level transmitters

PTM/N

Version: 26.06.2014

global.sensor.excellence

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Technical Specifications

Pressure measuring range (mH2O)

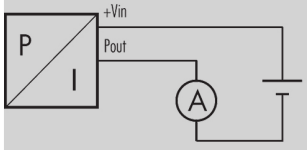
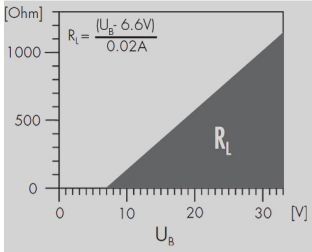
	1 ... 5	> 5 ... 20	> 20 ... 250
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 200 bar
Accuracy, (1), (± % FS)	≤ ± 0.25	≤ ± 0.1	≤ ± 0.1
Thermal shift, (± % FS/°C)			
Zero point 0...70°C	≤ 0.06	≤ 0.03	≤ 0.015
Zero point -25...85°C	≤ 0.08	≤ 0.04	≤ 0.02
Span 0...70°C	≤ 0.015	≤ 0.015	≤ 0.015
Span -25...85°C	≤ 0.02	≤ 0.02	≤ 0.02
Total error, (2), (3), (± % FS)			
-10...50°C, (typ. / max.)	≤ 0.15 / 0.3 (≤ 200 mbar: 0.3 / 0.6)	≤ 0.15 / 0.3	≤ 0.15 / 0.3
-25...85°C, (typ. / max.)	≤ 0.65 / 0.7 (≤ 200 mbar: 0.65 / 0.8)	≤ 0.65 / 0.7	≤ 0.55 / 0.7
Long term stability, (4)	≤ 0.5% FS / < 4 mbar	≤ 0.2% FS / < 4 mbar	≤ 0.1% FS / < 0.2% FS

(1) Zero based accuracy according to DIN 16086, incl. hysteresis and repeatability at ambient temperature
(2) Total error including accuracy and temperature influences at maximum signal span (16 mA)
(3) Active compensated
(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

Resolution	0.025% FS
Output adjustable	
4 mA	-5% FS...105% FS
20 mA	-5% FS...105% FS
Span	25% FS...110% FS (≥ 0.5 mH2O)
Low pass filter	0.1 / 1 / 10 / 30 Hz (standard: 30 Hz)
Power supply	9...33 V DC
Supply influence	< 0.1% FS
Circuit diagram	
Load resistance	
Load influence	< 0.1% FS

Qualifications

	Description	Level	Typical interferences
EN 60068-2-6	Vibration	4g (4...100 Hz / ± 3.2 mmpp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
EN 55022	Emission, class B	< 30 dBµV/m (0.03...1 GHz)	
EN 61000-4-2	Electrostatic discharge	4 kV contact 8 kV air	
EN 61000-4-3	Irradiated RF	10V/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 µs), (1)	Lightning
EN 61000-4-6	Conducted RF	10 V (0.15...80 MHz, 3 s)	Frequency converters

(1) Only with optional 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

Equipment

Overview

10.00.0091	Accessories overview

Interface

101138	PTM - Interface

Software

101224	PC Software V1.50

Additional documents

Manuals

	Article number	Description
10.00.0079	DEB003	Configuration software
10.00.0089	DEB005	User manual

Operating and safety instructions

	Article number
10.00.0137	DMM009

Ordering information

			X.	XXXX.	XXXX.	XX.	XXX
Type							
	PTM/N	32					
Pressure type							
	Gauge		1				
	Absolute (vacuum)		2				
Pressure measuring range							
	100 mbar ... 25 bar (1)			XX			
	Offset, special adjustment			99			
Process connection							
	Closed, (Fig. 1)			55			
	Open, (Fig. 2)			56			
	Closed, (1.4435), for ACS certfication (Fig. 1)			59			
	G 1/4 M, (Fig. 3)			11			
	G 1/2 M, (Fig. 3)			13			
	Customized connection available			99			
Electrical connection							
	PE cable, black, IP 68, (3), (4)				13		
	PUR cable, black, IP 68, (3), (5)				15		
	FEP cable, black, IP 68, (3)				21		
	PVC cable, blue, IP 68, (6)				14		
	Connectable version, IP 68, (Fig. 4), (2)				07		
	Customized connection available				99		
Output signal							
	4...20 mA				05		
	4…20 mA surge protection				08		
Accuracy							
	≤ ± 0.25 % FS for p < 500 mbar					1	
	≤ ± 0.1 % FS for p ≥ 500 mbar					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: Anderol Food (for food applications)						G
Option 2							
	Electronics packed in gel: Gauge pressure						C
	Electronics packed in gel: Absolute pressure						D
Option 3							
	Ballast weight 1.4435						B
	Active compensated						E
	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
	Cutting ring connection G 1/2 M						
	Strain relief						

(1) mH2O, mWS, mWC etc. available

(2) Connector with required cable has to be ordered separately (KART100)
(3) Please specify the required cable length and medium
(4) Suitable for drinking water (food approved)
(5) For operating temperature > 50°C, PE or FEP cable must be used
(6) ACS Certification
(7) min. Medium temperature -25 ° C
(8) Standard, no special cleaning. Special cleaning must be requested.

Technical drawings

Dimensions

Fig. 1: Closed version

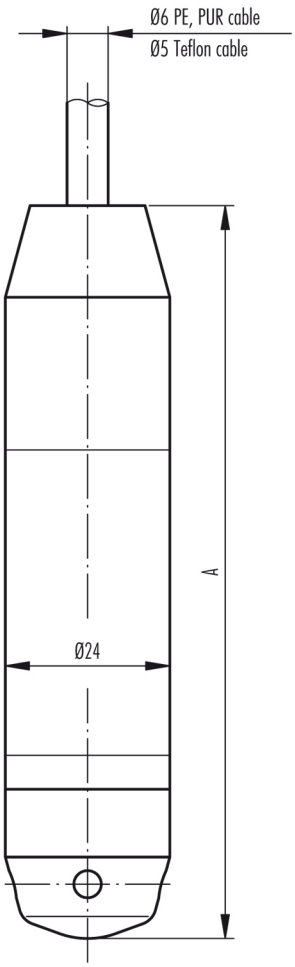


Fig. 2: Open version

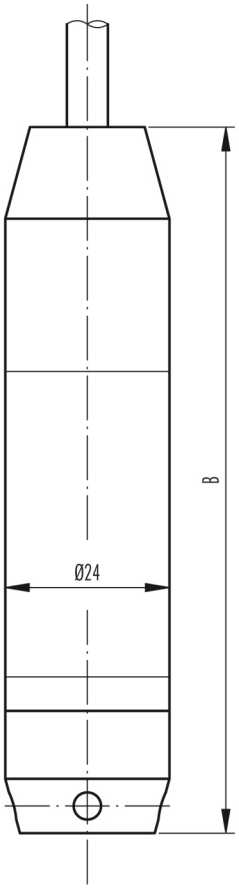


Fig. 3: With process connection

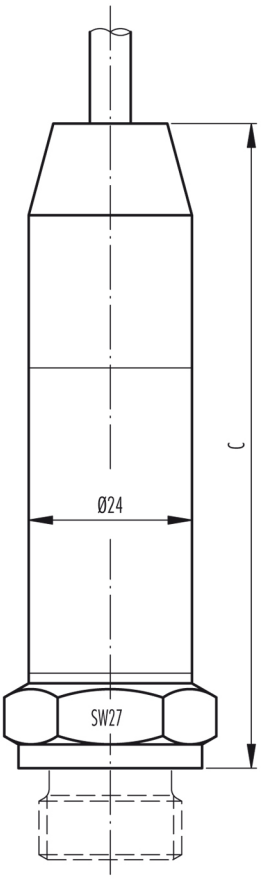
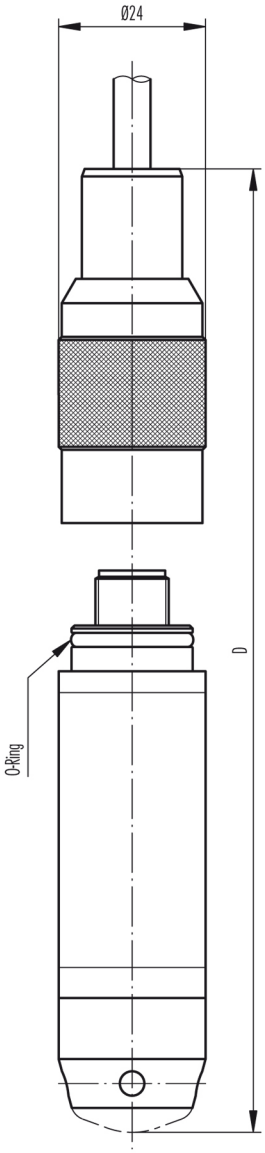


Fig. 4: Electrical connection, connectable



Standard and version with surge (lightning) protection

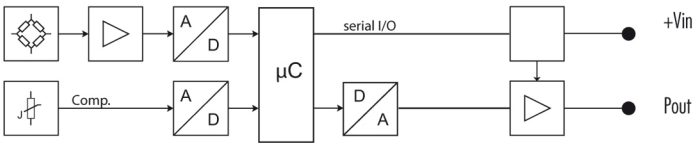
	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	137	133	on request*	on request*	approx. 200
with ballast weight	224	220	on request*	on request*	approx. 460

*C: Depending on process connection

*D: Depending on process connection or version

Colour	2-Wire
white	+Vin
yellow	Pout

Scheme:



4 - 20mA

Specifications may change without notice.

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