Intrinsically safe submersible level transmitters

ATM/N/Ex

Version: 07.01.2015

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Technical Specifications

Pressure measuring range (mH2O)

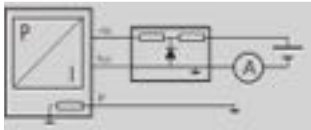
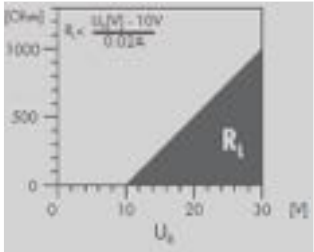
	1 ... 5 (1)	> 5 ... 20	> 20 ... 250
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 200 bar
Accuracy, (2), (± % FS)	≤ 0.5 / ≤ 0.25	≤ 0.5 / ≤ 0.25 / ≤ 0.1	≤ 0.5 / ≤ 0.25 / ≤ 0.1
Thermal shift, (± % FS/°C)			
Zero point 0 ... 70°C	≤ 0.06	≤ 0.03	≤ 0.015
Zero point -25 … 85°C	≤ 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
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°C
Process temperature	-5 ... 80°C
Storage temperature	-10 ... 80°C

Electrical specifications

	4 ... 20 mA
Power supply	10 ... 30 VDC
Supply influence	< 0.1% FS
Circuit diagram	
Load resistance	
Load influence	< 0.1% FS

ATEX Approval

Certificate, (1)	SEV 11 ATEX 0142		
Gas	II 1G Ex ia IIC T3 ... T6	EN 60079-0 / -11 / -26	
Dust	II 1D Ex iaD 20 IP6x T125°C ... T80°C	EN 61241-0 / -11	
Mining	I M1 Ex ia I	EN 50303	
Temperature class, (2)	T6	T4	T4
Ambient temperature	-5 ... 50°C	-5 ... 80°C	-5 ... 80°C
Process temperature	-5 ... 50°C	-5 ... 50°C	-5 ... 80°C
Maximum values of the intrinsically safe circuit	30 V / 100 mA / 1 W		

(1) For detailed Ex specifications see certificate and operating an safety instructions
(2) Without any information about temperature class the transmitter will be delivered for T4

GL Approval

Certificate	40869-01 HH
Field of application	C, EMC1

Qualifications

	Description	Level	Typical interferences
EN 61000-4-2	Electrostatic discharge	4 kV contact 8 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08 ... 1 GHz, 3s)	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)	Overvoltage
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz, 3 s)	Frequency converters

(1) Only with optional overvoltage 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

(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/N/Ex	34	
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 certification (Fig. 1)	59	
	Open (Fig. 2)	56	
	G 1/4 M (Fig. 3)	11	
	G 1/2 M (Fig. 3)	13	
	Customized	99	
Electrical connection			
	Connectable version, IP 68 (Fig. 4), (3)	07	
	PUR cable, blue, IP 68 (4), (5)	17	
	FEP cable, blue, IP 68 (4)	22	
	Customized	99	
Output signal			
	4 ... 20 mA	05	
	4 … 20 mA surge overvoltage protection	08	
Accuracy			
	≤ ± 0.5 % FS	0	
	≤ ± 0.25 % FS	1	
	≤ ± 0.1 % FS	2	
Temperature range			
	T6 (Ta: -5 ... 50°C) -5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)	3	
	T4 (Ta: -5 ... 80°C) -5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)	4	
	T4 (Ta: -5 ... 80 °C) -5 ... 80°C compensated (allowed process temperature: -5 ... 80°C)	5	
Option 1			
Option 2			
Option 3			
	Ballast weight 1.4435		B
	Seals: Viton (standard)		U
	Seals: EPDM		S
	Seals: Kalrez (Level)		T
	Version titanium (without ballast weight)		K
	Humidity filter element for gauge versions (only for PUR cable)		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) For operating temperature > 50°C, FEP cable must be used

(6) min. Medium temperature -25 ° C

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

Technical drawings

Dimensions

Fig. 1: Closed version

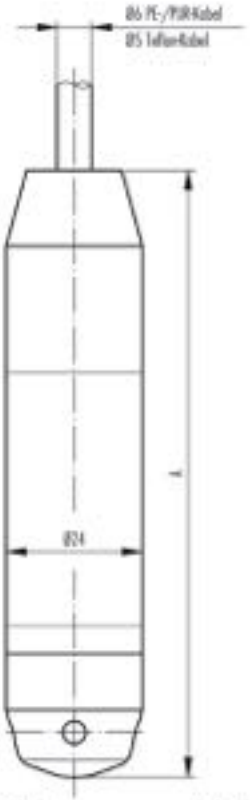


Fig. 2: Open version

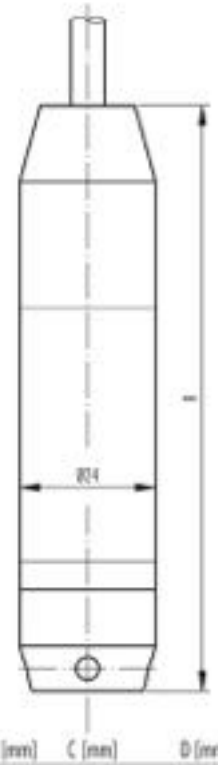


Fig. 3: with process connection

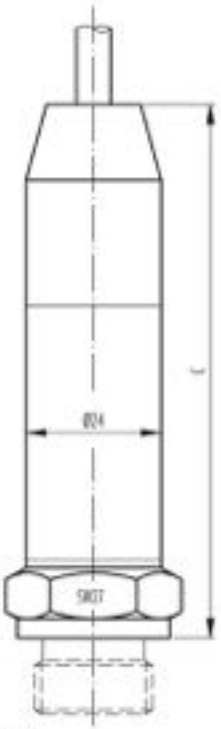
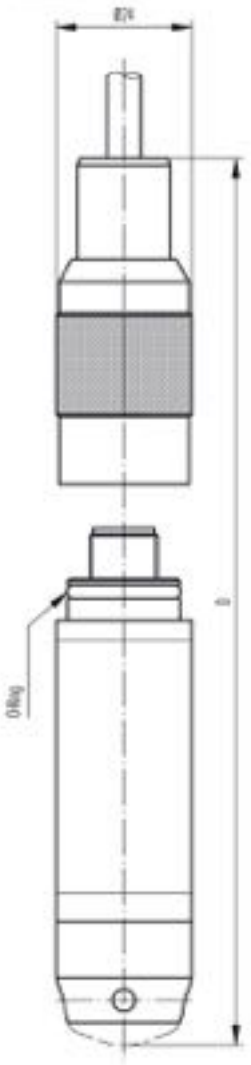


Fig. 4: Electrical connection, connectible



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
with	+Vin
yellow	Pout
brown	

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