

Intrinsically Safe Submersible Transmitters - ATEX/IECEX certified

ATM/N/Ex - Analog Level Transmitter



Customer benefits

- Certificate: ATEX
- Fast customization thanks to configurable product design
- Compact design requires minimal space
- Short response times suitable for dynamic pressure measurements

Version: 04.05.2016

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 0 ... 70 $^{\circ}$ C	≤ 0.06	≤ 0.03	≤ 0.015
Zero point -25 ... 85 $^{\circ}$ C	≤ 0.08	≤ 0.04	≤ 0.02
Span 0 ... 70 $^{\circ}$ C	≤ 0.015	≤ 0.015	≤ 0.015
Span -25 ... 85 $^{\circ}$ 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, (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
Process temperature	-5 ... 80 $^{\circ}$ C
Storage temperature	-10 ... 80 $^{\circ}$ 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		
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, (1)	Surge	10 kA (8 / 20 µs)	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
Weight (2)	108 g

(1) Hastelloy (C-276) on request

(2) Specification for a ATM/N/Ex, closed, 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/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	$\leq \pm 0.5$ % FS			0	
	$\leq \pm 0.25$ % FS			1	
	$\leq \pm 0.1$ % 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

(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

Technical drawings

Dimensions

Fig. 1: Closed version

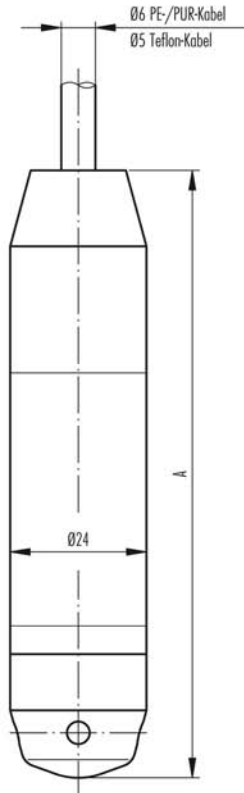


Fig. 2: Open version

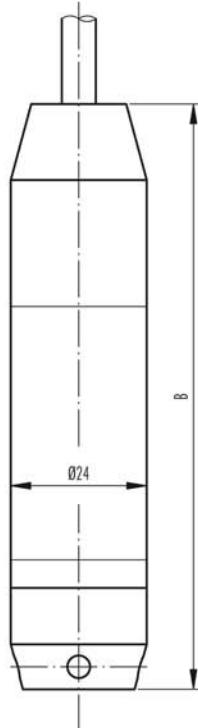


Fig. 3: with process connection

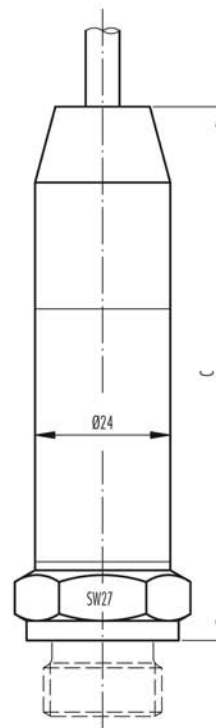
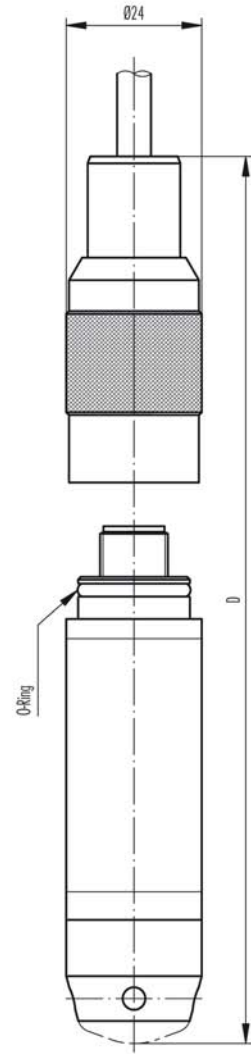


Fig. 4: Electrical connection, connectable



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

with +Vin
yellow Pout
brown

Specifications may change without notice.

STS Headquarters, Switzerland:
STS Sensor Technik Sirmach AG
Rüthofstrasse 8, 8370 Sirmach, Switzerland
sales@stssensors.com | www.stssensors.com

STS France:
STS France
844 Route de la Caille, 74350 Allonzier la Caille, France
info-fr@stssensors.com | www.stssensors.fr

STS Germany:
STS Sensoren Transmitter Systeme GmbH
Poststrasse 7, 71063 Sindelfingen, Germany
info-de@stssensors.com | www.stssensors.de

STS Great Britain:
STS Great Britain Ltd.
Box 3942 | Warwick | CV34 9AE, United Kingdom
contact@stssensors.com | www.stssensors.co.uk

STS Italy:
STS Italia s.r.l.
Via Gesù 5, 20090 Opera (Milano), Italy
info-italia@stssensors.com | www.stssensors.it