Submersible level transmitters

ATM.ECO/N

Version: 12.01.2015

global.sensor.excellence

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Technical Specifications

Pressure measuring range (mH2O)

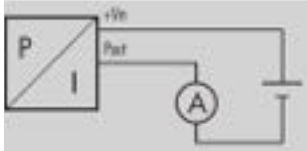
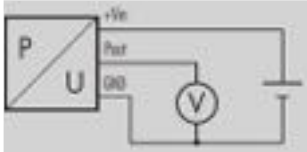
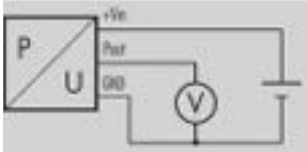
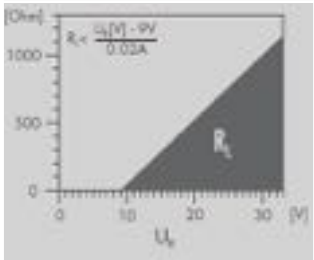
	1 ... 5, (1)	> 5 ... 20	> 20 ... 250
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 200 bar
Accuracy, (2), (± % FS)	≤ 0.25	≤ 0.25	≤ 0.25
Total Error, (3), (± % FS)			
-5 ... 50°C, (typ. / max.)	≤ 1.0 / 1.5	≤ 0.7 / 1.0	≤ 0.7 / 1.0
-5 ... 80°C, (typ. / max.)	≤ 2.0 / 2.5	≤ 1.0 / 1.5	≤ 1.0 / 1.5
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) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature
(3) Total error including accuracy and temperature influences at maximum signal span (16 mA / 10 V DC)
(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	-40 ... 80°C

Electrical specifications

	4 ... 20 mA	0 ... 5 V	0 ... 10 V
Power supply	9 ... 33 VDC	10 ... 30 VDC	12 ... 30 VDC
Supply influence	< 0.05% FS	< 0.05% FS	< 0.05% FS
Current consumption		3 mA	3 mA
Circuit diagram			
Load resistance		R_L > 10kOhm	R_L > 10kOhm
Load influence	< 0.05% FS	< 0.05% FS	< 0.05% FS

Qualifications

	Standard	Level	Typical interferences
EN 60068-2-6	Vibration	10g (4 ... 2000 Hz / ± 10 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	8 kV contact 15 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08 ... 2.7 GHz, 3s)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	4 kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/42 Ω Line-Earth: 1 kV/42 Ω	Overvoltage
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz, 3 s)	Frequency converters

Physical specifications

Materials	
Transducer	Stainless steel (316L / 1.4435)
Housing	Stainless steel (316L / 1.4404)
Seals	Viton (Standard), EPDM, Kalrez
Cable	PUR, FEP, PE

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.ECO/N	
Pressure type		
	Gauge	1
	Absolute (vacuum)	2
Pressure measuring range		
	100 mbar ... 25 bar	XX
Process connection		
	Closed (Fig. 1)	55
	Closed, (1.4435), for ACS (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		
	PE cable, black, IP 68 (4) (5)	13
	PUR cable, black, IP 68 (4) (6)	15
	FEP cable, black, IP 68 (4)	21
	PVC cable, blue, IP 68, ACS certified (4), (7)	14
	Connectable version, IP68, Lumberg RSF4 (Fig. 4), (3)	07
	Customized	99
Output signal		
	0 ... 5 VDC	46
	0 ... 10 VDC	47
	4 ... 20 mA	05
	4 ... 20 mA surge protection	08
Accuracy		
	≤ ± 0.25 % FS	1
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
	Cutting ring connection G 1/2 M	
	Strain relief	
	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

(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) Suitable for drinking water (food approved)
(6) For operating temperature > 50°C, PE or FEP cable must be used
(7) ACS Certification
(8) min. Medium temperature -25 ° C
(9) Standard, no special cleaning. Special cleaning must be requested.

Technical drawings

Dimensions

Fig. 1 Closed version

Fig. 2 Open version

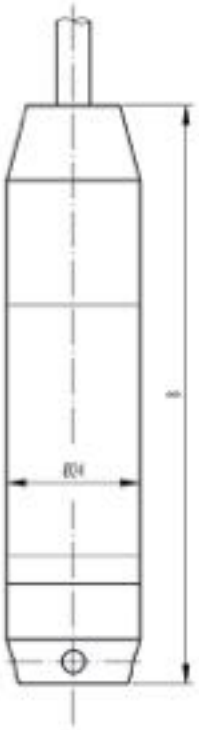


Fig. 3 With process connection

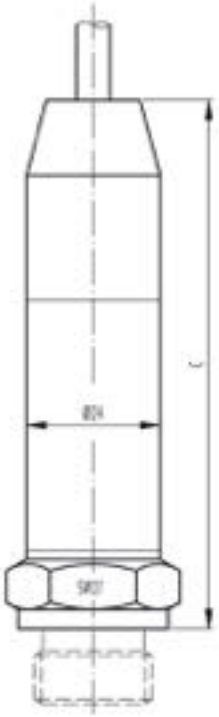
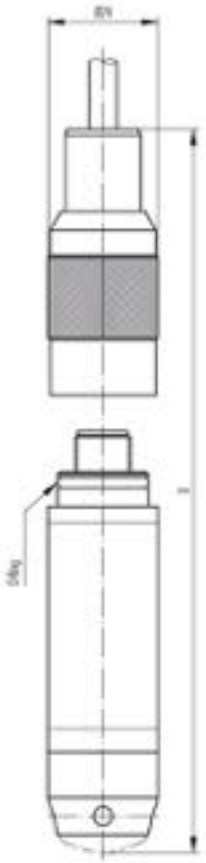


Fig. 4 Electrical connection, connectable



	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	88	84	on request*	119*	ca. 145
with ballast weight	175	171	on request*	201*	ca. 405

*C: Depending on process connection

Colour	2-wire	3-wire
white	+Vin	+Vin
yellow	Pout	GND
brown		Pout
grey	EP (only Ex)	

Specifications may change without notice.

STS Headquarters, Switzerland
STS Sensor Technik Sirnach AG
Rüthofstrasse 8, 8370 Sirnach, 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 1942 | Warwick | CV34 9AE, United Kingdom
contact@stssensors.com | www.stssensors.co.uk

STS Italy:
STS Italia s.r.l.
Via Gesù 6, 20090 Opera (Milano), Italy
info-italia@stssensors.com | www.stssensors.it