

Intrinsically safe level transmitters

# ATM.ECO/N/Ex



# Technical Specifications

## Pressure measuring range (mH2O)

	1 ... 5, (1)	> 5 ... 20	> 20 ... 250
<b>Overpressure</b>	3 bar	3 x FS ( $\geq 3$ bar)	3 x FS
<b>Burst pressure</b>	> 200 bar	> 200 bar	> 200 bar
<b>Accuracy, (2), (<math>\pm</math> % FS)</b>	$\leq 0.25$	$\leq 0.25$	$\leq 0.25$
<b>Total Error, (3), (<math>\pm</math> % FS)</b>			
-5...50 °C, (typ. / max.)	$\leq 1.0 / 1.5$	$\leq 0.7 / 1.0$	$\leq 0.7 / 1.0$
-5...80 °C, (typ. / max.)	$\leq 2.0 / 2.5$	$\leq 1.0 / 1.5$	$\leq 1.0 / 1.5$
<b>Response time, (typ.)</b>	< 1ms / 10...90% FS	< 1ms / 10...90% FS	< 1ms / 10...90% FS
<b>Long term stability, (4)</b>	< 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 DIN16086, incl. hysteresis and repeatability at ambient temperature

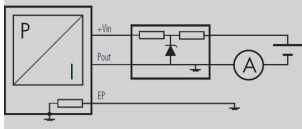
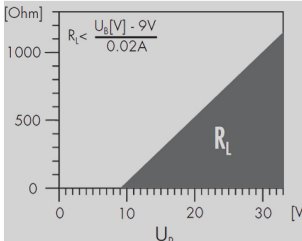
(3) Total error including accuracy and temperature influences at maximum signal span (16 mA)

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

## Temperature range

<b>Operating temperature</b>	-5...80 °C
<b>Process temperature</b>	-5...80 °C
<b>Storage temperature</b>	-10...80 °C

## Electrical specifications

	4 ... 20 mA
<b>Power supply</b>	9... 28 V DC
Supply influence	< 0.05% FS
<b>Circuit diagram</b>	
<b>Load resistance</b>	
Load influence	< 0.05% FS

## ATEX Approval

<b>Certificate, (1)</b>	SEV 09 ATEX 0108		
<b>Gas</b>	II 1G Ex ia IIC T3 / T4 / T6	EN 60079-0 / -11 / -26	
<b>Dust</b>	II 1D Ex iaD 20 IP6x Tx°C	EN 61241-0 / -11	
<b>Mining</b>	I M1 Ex ia I	EN 50303	
<b>Temperature class, (2)</b>	T6	T4	T3
Ambient temperature	-5...50 °C	-5...80 °C	-5...80 °C
Process temperature	-5...50 °C	-5...80 °C	-5...80 °C
<b>Maximum values of the intrinsically safe circuit</b>	28V / 93 mA / 0.65W		

(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

<b>Certificate</b>	75878-09 HH
<b>Field of application</b>	C, H, EMC1

---

## Additional approvals

<b>IEC Ex</b>	IEC Ex SEV 10.0003
---------------	--------------------

---

## Qualifications

	Description	Level	Typical interferences
<b>EN 60068-2-6</b>	Vibration	10g (4...2000 Hz / ± 10 mmpp)	
<b>EN 60068-2-27</b>	Shock	100g (impulse duration 6 ms)	
<b>EN 55022</b>	Emission, class B	< 30 dBµV/m (0.03...1 GHz)	
<b>EN 61000-4-2</b>	Electrostatic discharge	8 kV contact 15 kV air	
<b>EN 61000-4-3</b>	Irradiated RF	10V/m (0.08...2.7 GHz, 3s)	Radio sets, wireless phones
<b>EN 61000-4-4</b>	Transients (burst)	4 kV	Motors, valves
<b>EN 61000-4-5</b>	Surge	Line-Line: 0.5 kV/42 Ω Line-Earth: 1 kV/42 Ω	Lightning
<b>EN 61000-4-6</b>	Conducted RF	10 V (0.15...80 MHz, 3 s)	Frequency converters

---

## Physical specifications

<b>Materials</b>	
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, PTFE

(1) Hastelloy (C-276) on request

## Equipment

---

### Overview

<b>10.00.0091</b>	Accessories overview
-------------------	----------------------

## Additional documents

---

### Operating and safety instructions

<b>10.88.0092</b>	Article number DMM029
-------------------	--------------------------

## Ordering information

		X. XXXX.	XXXX.	XX.	XXX
<b>Type</b>	ATM.ECO/N/Ex				
<b>Pressure type</b>	Gauge	1			
	Absolute (vacuum)	2			
<b>Pressure measuring range</b>	Any pressure measuring ranges between 0...1 mH <sub>2</sub> O and 0...250 mH <sub>2</sub> O available, (1), (2)	XX			
<b>Process connection</b>	Closed, (Fig. 1)	55			
	Open, (Fig. 2)	56			
	G 1/4 M, (Fig. 3)	11			
	G 1/2 M, (Fig. 3)	13			
	Customized connections available	XX			
<b>Electrical connection</b>	Connectable version, IP 68, (Fig. 4), (3)		07		
	PUR cable, blue, IP 68, (4), (5)		17		
	PTFE cable, blue, IP 68, (4)		22		
	Customized connection available		XX		
<b>Output signal</b>	4...20 mA		05		
<b>Accuracy</b>	≤ ± 0.25 % FS			0	
<b>Temperature range</b>	T6 (Ta: -5...50 °C) -5...50 °C compensated (allowed process temperature: -5...50°C)			3	
	T4 (Ta: -5...80 °C) -5...80 °C compensated (allowed process temperature: -5...80°C)			5	
<b>Option 1</b>	Special oil filling: ASEOL Food (for food applications)				G
	Special oil filling: Halocarbon (for oxygen applications)				H
<b>Option 2</b>					
<b>Option 3</b>	Ballast weight				B
	Version titanium				K
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez				T
	Aging				Z

(1) 0.5 mH<sub>2</sub>O on request

(2) mH<sub>2</sub>O, 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, PTFE cable must be used

# Technical drawings

## Dimensions

Fig. 1 Closed version

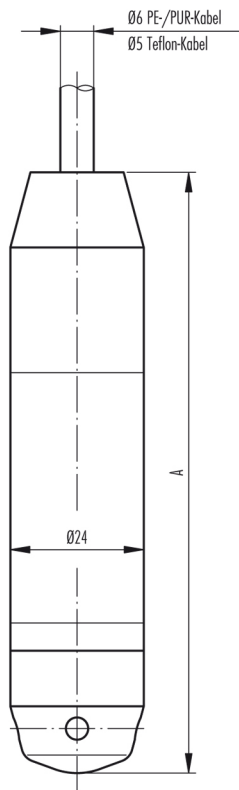


Fig. 2 Open version

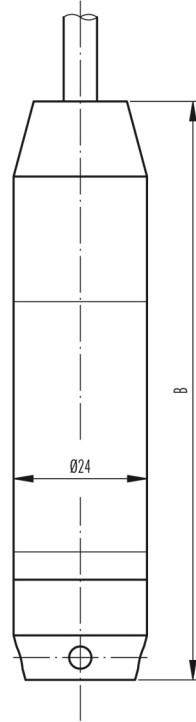


Fig. 3 With process connection

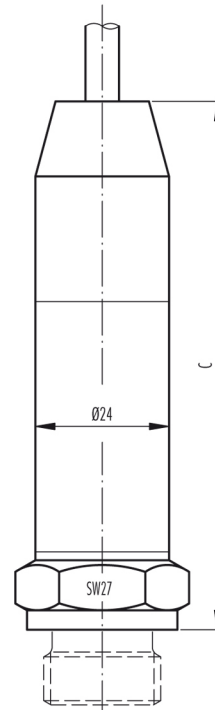
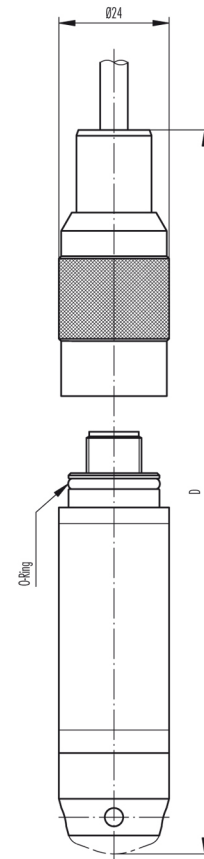


Fig. 4 Electrical connection, connectable



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

**STS Headquarters, Switzerland:**  
 STS Sensor Technik Sirmach AG  
 Rütihofstrasse 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 Italy:**  
 STS Italia s.r.l.  
 Via Gesù 5, 20090 Opera (Milano), Italy  
 info-italia@stssensors.com | www.stssensors.it