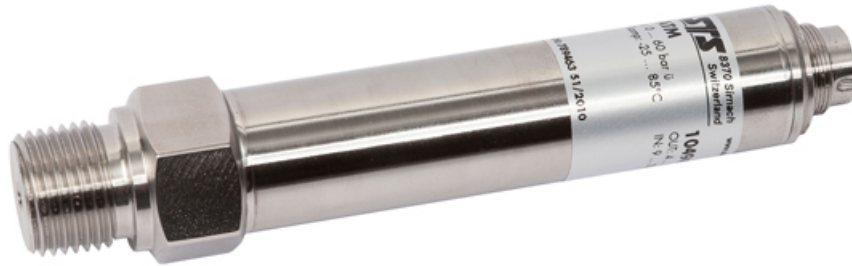


## Pressure transmitters

# ATM

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Version: 11.12.2015

# Technical Specifications

## Pressure measuring range (bar)

	0.1 ... 0.5, (1)	> 0.5 ... 2	> 2 ... 25
<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, (5), (<math>\pm</math> % FS)</b>	$\leq 0.5 / \leq 0.25$	$\leq 0.5 / \leq 0.25 / \leq 0.1$	$\leq 0.5 / \leq 0.25 / \leq 0.1$
<b>Thermal shift, (<math>\pm</math> % FS/<math>^{\circ}</math>C)</b>			
Zero point 0 ... 70 $^{\circ}$ C	$\leq 0.06$	$\leq 0.03$	$\leq 0.015$
Zero point -25 ... 85 $^{\circ}$ C	$\leq 0.08$	$\leq 0.04$	$\leq 0.02$
Span 0 ... 70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$	$\leq 0.015$
Span -25 ... 85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$	$\leq 0.02$
<b>Response time, (typ.)</b>	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
<b>Long term stability, (6)</b>	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

	> 25 ... 600, (2), (3), (4)	> 600 ... 1000, (2)
<b>Overpressure</b>	3 x FS ( $\leq 850 / \leq 1500$ bar)	1500 bar
<b>Burst pressure</b>	> 850 / $\leq 1500$ bar	> 1500 bar
<b>Accuracy, (5), (<math>\pm</math> % FS)</b>	$\leq 0.5 / \leq 0.25 / \leq 0.1$	$\leq 1 / \leq 0.5 / \leq 0.25$
<b>Thermal shift, (<math>\pm</math> % FS/<math>^{\circ}</math>C)</b>		
Zero point 0 ... 70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$
Zero point -25 ... 85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$
Span 0 ... 70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$
Span -25 ... 85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$
<b>Response time, (typ.)</b>	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
<b>Long term stability, (6)</b>	< 0.1% FS / < 0.2% FS	< 0.1% FS / < 0.2% FS

(1) 50 mbar on request

(2) Titanium available  $\leq 400$  bar (burst pressure > 550 bar)

(3) Process connection frontal and flush diaphragm available  $\leq 600$  bar

(4) Overpressure and burst pressure 1500 bar (stainless steel) optional

(5) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature

(6) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

## Temperature range

<b>Operating temperature</b>	-25 ... 85 $^{\circ}$ C
<b>Process temperatur</b>	-40 ... 150 $^{\circ}$ C
<b>Storage temperatur</b>	-25 ... 85 $^{\circ}$ C

## Electrical specifications

	4 ... 20 mA	0 ... 20 mA	0 ... 5 V / 0 ... 10 V
<b>Power supply</b>	9 ... 33 VDC	9 ... 33 VDC	15 ... 30 VDC
Supply influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
<b>Current consumption</b>			3 mA
<b>Circuit diagram</b>			
<b>Load resistance</b>			$R_L > 10k\Omega$
Load influence	< 0.1% FS	< 0.1% FS	< 0.1% FS

## Qualifications

	Description	Level	Typical interferences
<b>EN 61000-4-2</b>	Electrostatic discharge	4 kV contact 8 kV air	
<b>EN 61000-4-3</b>	Irradiated RF	10V/m (0.08 ... 1 GHz)	Radio sets, wireless phones
<b>EN 61000-4-4</b>	Transients (burst)	2 kV	Motors, valves
<b>EN 61000-4-5</b>	Surge	10 kA (8 / 20 $\mu$ s), (1)	Overvoltage
<b>EN 61000-4-6</b>	Conducted RF	10 V (0.15...80 MHz)	Frequency converters

(1) Only with optional overvoltage protection

## 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, FEP, PE

(1) Hastelloy (C-276) on request

## Accessories

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### Cable socket connector

<b>HART001</b>	Cable Socket Connector
<b>HART002</b>	Cable socket connector, Binder 723, IP67, 5-pins
<b>HART006</b>	RSF50, IP67, 2m, angled, for absolute and sealed gauge
<b>HART009</b>	Binder 723, IP 67, 12-pins
<b>HART012</b>	MIL C26482, 10-6, IP40, 6-pins
<b>HART018</b>	Lumberg, RSF 4/5, 5-pins
<b>HART026</b>	Binder 723, IP67, 7-pins
<b>HART049</b>	Cable socket connector RSF50
<b>HART058</b>	Cable socket connector, DIN 43650, micro

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### Overview

<b>10.00.0091</b>	Accessories overview

## Additional documents

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### Operating and safety instructions

	Article number
<b>10.88.0092</b>	DMM029

## Ordering information

		X. XXXX.	XXXX.	XX.	XXX
<b>Type</b>					
	ATM	23			
<b>Pressure type</b>					
	Gauge	1			
	Absolute (vacuum)	2			
	Sealed gauge	3			
<b>Pressure measuring range</b>					
	50 mbar ... < 100 mbar	XX			
	100 mbar ... 600 bar	XX			
	> 600 bar	XX			
	Negative ranges, offset, special adjustment	99			
<b>Process connection</b>					
	G 1/4 F (Fig. 1)	00			
	1/4 NPT M	10			
	1/2 NPT M, (Fig. 8)	19			
	G 1/4 M (Fig. 2)	11			
	G 1/4 flush diaphragm (3)	21			
	G 1/4 M, Manometer DIN-16288 (Fig. 3)	12			
	G 1/2 M, (Fig. 3)	13			
	G 1/2 M, Hastelloy C-276 (3)	41			
	G 1/2 M, frontal diaphragm (Fig. 5), (3)	14			
	G 1/2 M, frontal diaphragm Hastelloy C-276 (3)	37			
	G 1/2 M, flush diaphragm (Fig. 6), (3)	15			
	G 1/2 M, Manometer DIN-16288, (Fig. 7)	16			
	G 1/2M with bore Ø 14 mm	17			
	Customized	99			
<b>Electrical connection</b>					
	DIN-43650 plastic PA, with metal threaded part, demountable		01		
	Binder 723, 5 pins, IP 67, (Fig. 11), (5)		03		
	Binder 723, 5 pins, demountable, IP 67, (Fig. 12), (5)		43		
	MIL C26482, 10-6, IP 40, (Fig. 13), (5)		06		
	Connector Lumberg RSF4, 4 pins (Fig.15), (5)		07		
	PE cable, black, IP 67(Fig. 14), (6), (8)		13		
	PUR cable, black, IP 67 (Fig. 14), (6)		15		
	PUR cable, black, with submersible back end IP 68		24		
	FEP cable, black		21		
	Customized		99		
<b>Output signal</b>					
	4 ... 20 mA		05		
	0 ... 20 mA		00		
	0 ... 5 VDC		46		
	0 ... 10 VDC		47		
	4 ... 20 mA with surge protection		08		
	0 ... 10 VDCC with surge protection		49		
	0 ... 5 VDC with surge protection		50		
	Customized		99		
<b>Accuracy</b>					
	≤ 600 bar ≤ ± 0.5 % FS			0	
	≤ 600 bar ≤ ± 0.25 % FS			1	
	≤ ± 0.1 % FS			2	
	> 600 bar ≤ ± 1 % FS			5	

	> 600 bar $\leq \pm 0.5$ % FS			0	
	> 600 bar $\leq \pm 0.25$ % FS			1	
<b>Temperature range</b>					
	0 ... 70°C compensated (allowed process temperature: -25 ... 100°C)			0	
	25 ... 100°C compensated (allowed process temperature: -25 ... 100°C)			7	
	-25 ... 85°C compensated (allowed process temperature: -25 ... 100°C)			1	
	-25 ... 85°C compensated (allowed process temperature: -25 ... 150°C) with cooling fins			2	
	20 ... 100°C compensated (allowed process temperature: -25 ... 150°C) with cooling fins			6	
	-40 ... 100°C compensated (allowed process temperature: -40 ... 100°C)			3	
	-40 ... 100°C compensated (allowed process temperature: -40 ... 150°C) with cooling fins			4	
	Customized			9	
<b>Option 1</b>					
	Throttle, (9)				A
	Special oil filling: Anderol Food (for food applications)				G
	Special oil filling: AS 100				J
	Special oil filling: PAO4 (silicone free)				Q
	Pressure connection elastomerfree				N
	Pressure connection welded				V
<b>Option 2</b>					
	Electronics packed in gel: Gauge pressure				C
	Electronics packed in gel: Absolute pressure				D
<b>Option 3</b>					
	Version titanium				K
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez (Industry)				T
	Seals: NBR (ACS)				H

(3) Process connection available  $\leq 600$  bar

(4) Only parts which are in contact with medium

(5) Cable socket connector not included

(6) Please specify the required cable length and medium

(7) Suitable for drinking water (food approved)

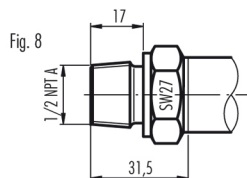
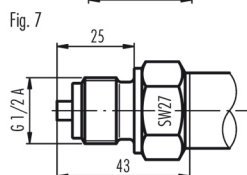
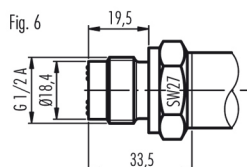
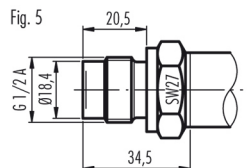
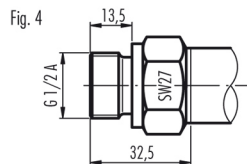
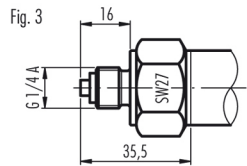
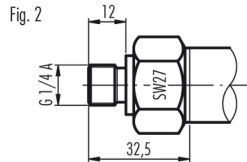
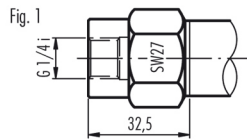
(8) For operating temperature  $> 50^\circ\text{C}$ , PE or FEP cable must be used

(9) Only with pressure connection Fig. 2, Fig. 3, Fig. 4, Fig. 7 and Fig. 8

(11) ACS Certification

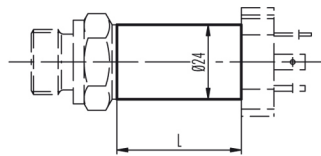
# Technical drawings

## Pressure Connections



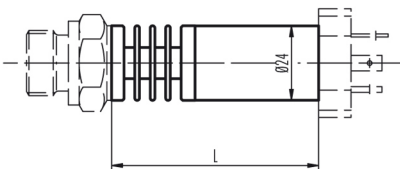
## Dimensions

Version for medium temperature up to 100°C



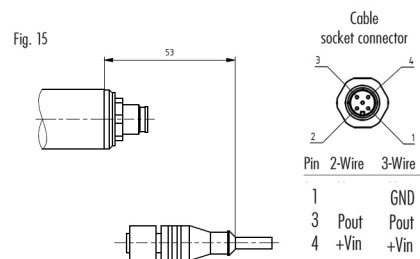
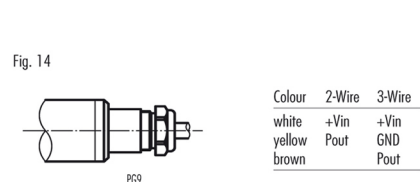
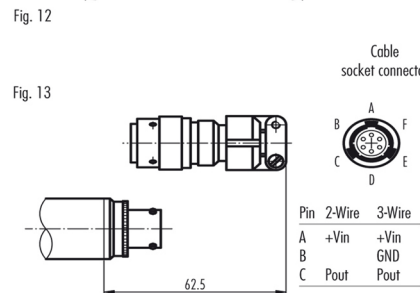
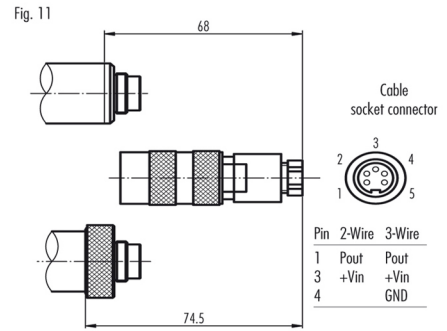
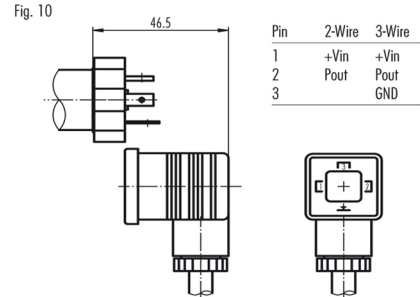
L = 40 mm for connector DIN 43650 (Fig. 10)  
L = 94 mm for version with surge (lightning) protection  
L = 45 mm for all other versions

Version for medium temperature >100°C up to 150°C



L = 67 mm for connector DIN 43650 (Fig. 10)  
L = 121 mm for version with surge (lightning) protection  
L = 72 mm for all other versions

## Electrical Connections



Specifications may change without notice.

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