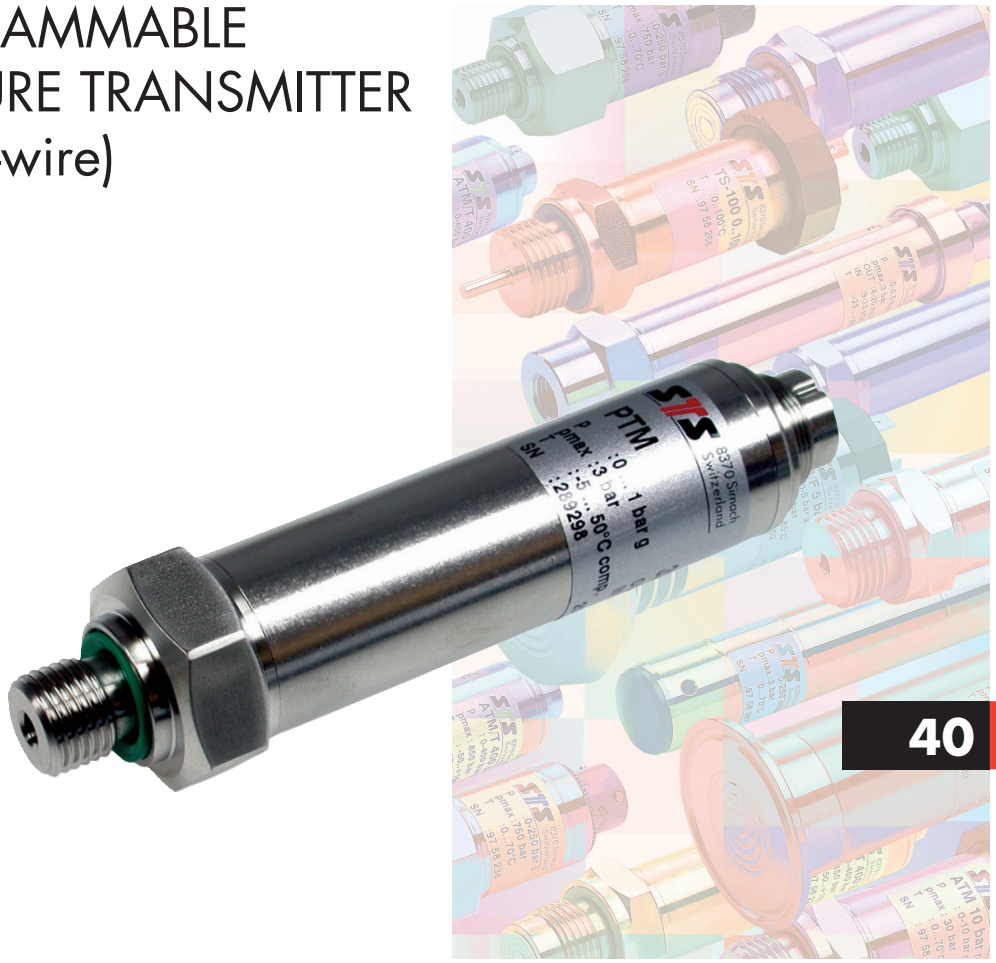
PROGRAMMABLE PRESSURE TRANSMITTER PTM (2-wire)



40

CE

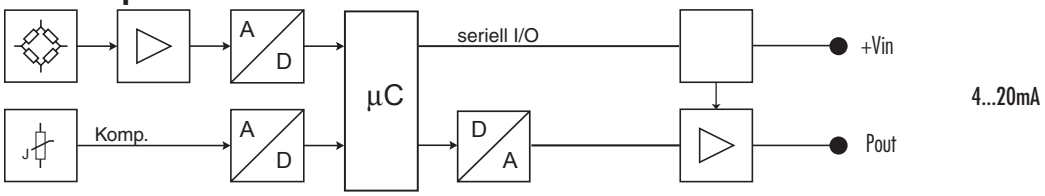
Features

- Piezoresistive measuring element
- Pressure range adjustable up to 1:4 from -5% to +105% FS
- Measuring ranges between 0...100 mbar and 0...1000 bar available
- Pressure units selectable
- Adjustable damping
- Reverse polarity- and short circuit-protected
- Medium temperature up to 150°C (optional)

Typical applications

- Mechanical and systems engineering
- Process and control engineering
- Food & beverage technology
- Mobile hydraulics
- Testing, measuring and control technology

Technical specifications



Pressure range [bar]		0.05 … 0.5	> 0.5 … 2	> 2 … 25	> 25 … 600	> 600 … 1000
Overload		3 bar	3 x FS (but minimum 3 bar)	3 x FS	3 x FS (maximum 850 bar, optionally up to 1500 bar)	1500 bar
Burst pressure		≥ 200 bar	≥ 200 bar	≥ 200 bar	≥ 850 bar (optionally up to 1500 bar)	≥ 1500 bar
Temperature error	[± % FS/°C]					
Zero	0…70°C	≤ 0.06 [3]	≤ 0.03	≤ 0.015	≤ 0.015	0.015
	-25...85°C	≤ 0.08 [4]	≤ 0.04	≤ 0.02	≤ 0.02	0.02
Span	0...70°C	≤ 0.015	≤ 0.015	≤ 0.015	0.015	0.015
	-25...85°C	≤ 0.02	≤ 0.02	≤ 0.02	0.02	0.02
Total error [1]	[± % FS]					
Actively compensated (typ./max.)	-10…50°C	≤ 0.15/0.3 (≤ 200 mbar: 0.3/0.6)	≤ 0.15/0.3	≤ 0.1/0.15	≤ 0.1/0.15	0.1/0.15
	-25...85°C	≤ 0.65/0.7 (≤ 200 mbar: 0.65/0.8)	≤ 0.65/0.7	≤ 0.55/0.7	≤ 0.55/0.7	≤ 0.55/0.7
Characteristic curve deviation [2]	≤ ± 0.25% FS, ≤ 500 mbar ≤ ± 0.1% FS, > 500 mbar					

Electrical specifications

Supply voltage	Range:	9…33 V DC
	Supply-voltage influence:	< 0.1% FS
Analogue output	Resolution:	≤ ± 0.025% FS
	Output at 4 mA:	adjustable from -5% FS…105% FS
	Output at 20 mA:	adjustable from -5% FS…105% FS
	Span:	adjustable from 25% FS…110% FS, min. 50 mbar
	Adjustable damping:	100 ms, 1 s, 10 s, (standard = approx. 30 ms)
Permissible load resistance		$R_L = U_B$ [V] - 6.6V / 0.02A
Load-resistance influence		< 0.1% FS
Programming interface [5]	VART199, including PC program (VART244)	

Materials

Pressure connection, diaphragm, housing	Stainless steel 1.4435 (316L), other materials (e.g. titanium) on request
Seals (standard)	Viton (for other materials, see ordering information)

Electromagnetic compatibility

Standard		Level	Typical sources of interference
Emissions:			
EN 61000-6-3	Generic emission standard		
EN 55022	Emission,class B		
Immunity:			
EN 61000-6-2	Generic immunity standard		
EN 61000-4-2	Electrostatic discharge	4 kV contact, 8 kV air	
EN 61000-4-3	Radiated electromagnetic field	10V/m, 80-1000 MHz, 80% AM 1kHz	Radio sets, wireless phones
EN 61000-4-3	Radiated electromagnetic field (GSM)	10V/m, 950 MHz, 200 Hz on/off	Digital portable phone
EN 61000-4-4	Fast transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Line-conducted electromagnetic interference	10 V, 0.15-80 MHz, 80% AM 1 kHz	Radio sets, wireless phones
EN 61000-4-5	Surge	10 kA (8/20 µs) [6]	Lightnin

[1] Total temperature error including characteristic curve deviation

[2] Characteristic curve deviation as per DIN 16086 start-point setting, including hysteresis and repeatability

[3] 50–99 mbar: ≤ 0.12

[4] 50–99 mbar: ≤ 0.16

[5] Please order separately

[6] Only variants with optional overvoltage protection (lightning protection)

Ordering information

			40	X	. XXXX	. XXXX	. XX	. XXX
Type	PTM		40					
Pressure type	Relative pressure			1				
	Absolute pressure (vacuum)			2				
	Overpressure			3				
Pressure range	0…100 mbar				00			
	0…160 mbar				01			
	0…250 mbar				02			
	0…400 mbar				03			
	0…600 mbar				04			
	0…1.0 bar				05			
	0…1.6 bar				06			
	0…2.5 bar				07			
	0…4.0 bar				08			
	0…6.0 bar				09			
	0…10 bar				10			
	0…16 bar				11			
	0…25 bar				12			
	0…40 bar			3	13			
	0…60 bar			3	14			
	0…100 bar			3	15			
	0…160 bar			3	16			
	0…250 bar			3	17			
	0…400 bar			3	18			
	0…600 bar			3	19			
	0…1000 bar			3	20			
	Special calibration				99			
Pressure connection	G 1/4" female	(Fig. 1)				00		
	G 1/4" male	(Fig. 2)				11		
	G 1/4" male DIN 16288 manometer	(Fig. 3)				12		
	G 1/2" male	(Fig. 4)				13		
	G 1/2" male, frontal diaphragm	(Fig. 5)				14		
	G 1/2" male, flush diaphragm	(Fig. 6)				15		
	G 1/2" male DIN 16288 manometer	(Fig. 7)				16		
	1/4" NPT male	(Fig. 8)				10		
	1/2" NPT male	(Fig. 9)				19		
	Customized pressure connection					99		
Electrical connection	DIN 43650 connector (screw-down) [2]	(Fig. 10) IP 65					01	
	Binder 723 connector, 5-pin [2]	(Fig. 11) IP 67					03	
	Binder 723 connector, 7-pin [2]	(Fig. 11) IP 67					04	
	MIL C26482 connector, (10-6) [2]	(Fig. 13) IP 40					06	
	Lumber RSF4 connector (M12x1), 4-pin	(Fig. 14) IP 65					07	
	PE cable [3] [4]	(Fig. 15) IP 67					13	
	PUR cable [3]	(Fig. 15) IP 67					15	
	Teflon cable [3]	(Fig. 15) IP 67					21	
	Customized connection						99	
Output signal	4…20 mA							05
	4…20 mA with overvoltage protection (lightning protection)							08
Characteristic curve deviation	≤ ± 0.25% FS (for pressure ranges ≤ 500mbar)							1
	≤ ± 0.1% FS (for pressure ranges > 500mbar)							2
Temperature range	0…70°C (-10…50°C compensated, permitted medium temp. 0… 80°C)						0	
	-25…85°C compensated (permitted medium temp. -25…100°C)						1	
	-25…85°C compensated (permitted medium temp. -25…150°C)						2	
Options	Throttle [1]							A
	Moulded electronics: Relative-pressure sensors							C
	Absolute-pressure and overpressure sensors							D
	Special oil filling in TD: for food applications							G
	Halocarbon (for oxygen applications)							H
	AS100 (suitable for medium temp. -25…100°C)							J
	PA04 (silicon-free)							Q
	Seals: Viton (standard)							U
	EPDM							S
	Kalrez							T
	Temperature calibration active							E
	Titanium version							K

[1] Only possible with pressure connections Fig. 2, Fig. 4, Fig. 7, Fig. 8 or Fig. 9

[2] Cable socket connector not supplied

[3] Please state medium and desired cable length when ordering

[4] Food-safe

Pressure connections

Fig. 1

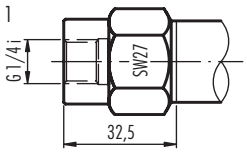


Fig. 2

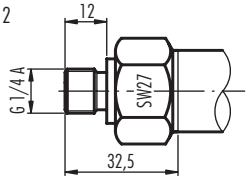


Fig. 3

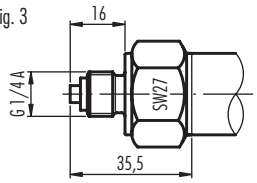


Fig. 4

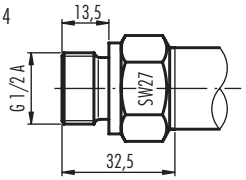


Fig. 5

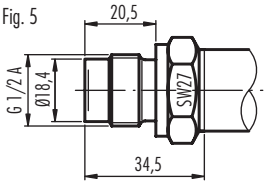


Fig. 6

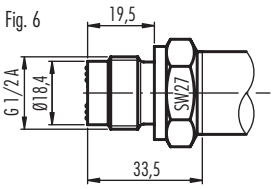


Fig. 7

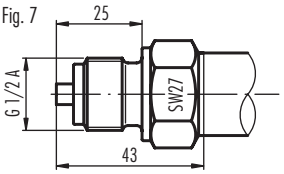


Fig. 8

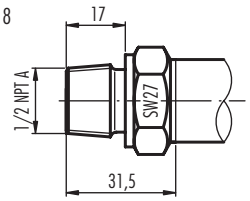
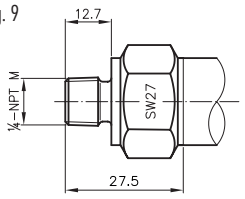
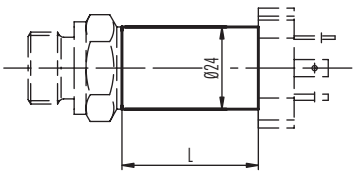


Fig. 9



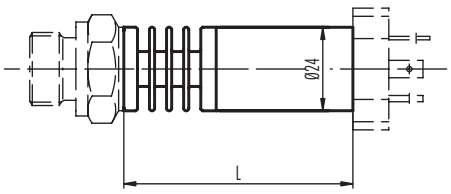
Dimensions

Variant for medium temperature up to 100°C



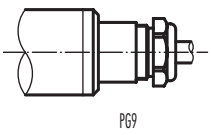
L = 74 mm for DIN 43650 connector (Fig. 10)

Variant for medium temperature >100°C up to a max. 150°C



L = 101 mm for DIN 43650 connector (Fig. 10)

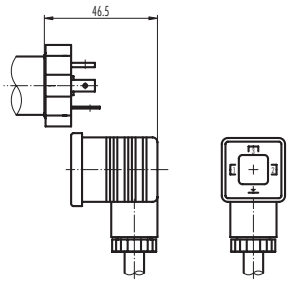
Fig. 12



Colour	2-wire
white	+Vin
yellow	Pout

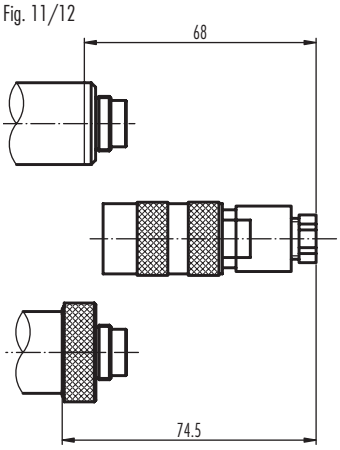
Electrical connections

Fig. 10



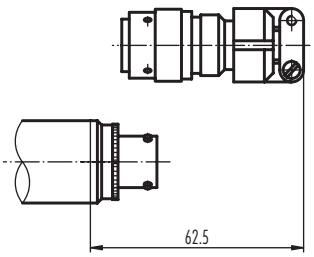
Pin	2-wire
1	+Vin
2	Pout

Fig. 11/12



Pin	2-wire
1	Pout
2	
3	+Vin
4	
5	

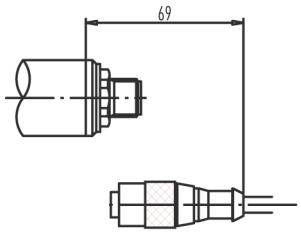
Fig. 13



Top view of cable-socket connector

Pin	2-wire
A	+Vin
B	
C	Pout
D	
E	
F	

Fig. 14



Pin	2-wire
1	
2	
3	Pout
4	+Vin

Specifications may change without notice.

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