

Pressure transmitter SPTW

FESTO



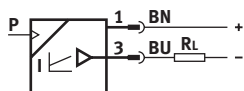
Characteristics

At a glance

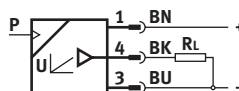
- Sensor versions: piezoresistive pressure sensor or metal thin-film pressure sensor
- Measured variable: Relative pressure
- Operating medium: Liquid media and gaseous media
- Without seal: Pressure measuring cell and interfaces in stainless steel
- Degree of protection IP67

Electrical output 1

[A] 4 ... 20 mA



[VD] 0.1 ... 10 V



Type code

001	Series	
SPTW	Pressure transmitter	

002	Pressure measuring range	
B2	-1 ... 1 bar	
B11	-1 ... 10 bar	
P2	0 ... 2 bar	
P6	0 ... 6 bar	
P10	0 ... 10 bar	
P16	0 ... 16 bar	
P25	0 ... 25 bar	
P50	0 ... 50 bar	
P100	0 ... 100 bar	

003	Pressure inlet	
R	Relative pressure	

004	Pneumatic connection	
G14	G1/4	

005	Electrical output 1	
A	4 ... 20 mA	
VD	0.1 ... 10 V	

006	Electrical connection	
M12	Plug M12, A-coded	

Datasheet

General technical data

Approval	RCM trademark, c UL us listed (OL)
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions
Note on materials	RoHS-compliant

1) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/sptw → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or industrial environments as well as small businesses, further measures for reducing the emitted interference may be necessary.

Input signal, measuring element

Pressure measuring range	-1 ... 1 bar	-1 ... 10 bar	0 ... 2 bar	0 ... 6 bar	0 ... 10 bar	0 ... 16 bar	0 ... 25 bar	0 ... 50 bar	0 ... 100 bar
Measured variable	Relative pressure								
Measurement method	Piezoresistive pressure sensor	Metal thin-film pressure sensor	Piezoresistive pressure sensor		Metal thin-film pressure sensor				
Start value for pressure measuring range	-0.1 MPa		0 MPa						
Start value for pressure measuring range	-1 bar		0 bar						
Start value for pressure measuring range	-14.5 psi		0 psi						
End value for pressure measuring range	0.1 MPa	1 MPa	0.2 MPa	0.6 MPa	1 MPa	1.6 MPa	2.5 MPa	5 MPa	10 MPa
End value for pressure measuring range	1 bar	10 bar	2 bar	6 bar	10 bar	16 bar	25 bar	50 bar	100 bar
End value for pressure measuring range	14.5 psi	145 psi	29 psi	87 psi	145 psi	232 psi	362.5 psi	725 psi	1,450 psi
Max. overload pressure	2 bar	20 bar	4 bar	12 bar	20 bar	32 bar	50 bar	100 bar	200 bar
Overload pressure	0.2 MPa	2 MPa	0.4 MPa	1.2 MPa	2 MPa	3.2 MPa	5 MPa	10 MPa	20 MPa
Overload pressure	2 bar	20 bar	4 bar	12 bar	20 bar	32 bar	50 bar	100 bar	200 bar
Overload pressure	29 psi	290 psi	58 psi	174 psi	290 psi	464 psi	725 psi	1,450 psi	2,900 psi
Operating medium	Compressed air to ISO 8573-1:2010 [:-:-], Liquid media, Gaseous media								
Media temperature	0 ... 80°C								
Ambient temperature	0 ... 80°C								

Output, general

Accuracy in ± % FS	1 %FS
Repetition accuracy in ± %FS	0.1 %FS

Analogue output

Electrical output 1	4 ... 20 mA [A]	0.1 ... 10 V [VD]
Analogue output	4 - 20 mA	0.1 - 10 V
Linearity error in ± %FS ¹⁾	0.5 %FS	

1) % FS = % of the measuring range (full scale)

Output, additional data

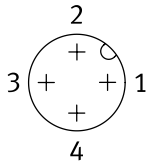
Short circuit current rating	yes
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Electronics

Electrical output 1	4 ... 20 mA [A]	0.1 ... 10 V [VD]
Operational voltage range DC	8 ... 30 V	14 ... 30 V
Reverse polarity protection	For operating voltage	

Datasheet

Electromechanics



SPTW-...A

1: UB (operating voltage/signal+)

3: 0V / (signal -)

SPTW-...VD

1: UB (operating voltage)

3: 0V (0V)

4: Out (analogue output)

Electrical connection 1, connection type	Plugs
Electrical connection 1, connector system	M12x1, A-coded to EN 61076-2-101
Electrical connection 1, number of connections/cores	4
Electrical connection 1, used connections/cores	2 ... 3
Electrical connection 1, type of mounting	Screw-type lock
Material connector housing	PA

Mechanics

Type of mounting	Via female thread, With accessories
Mounting position	optional
Pneumatic connection	G1/4
Product weight	80 g
Material housing	PA, VMQ (silicone), High-alloy stainless steel
Material in contact with the medium ¹⁾	High-alloy stainless steel

1) CrNiMo group: 316L, from a measuring range of 10 bar the diaphragm consists of 13-8-PH

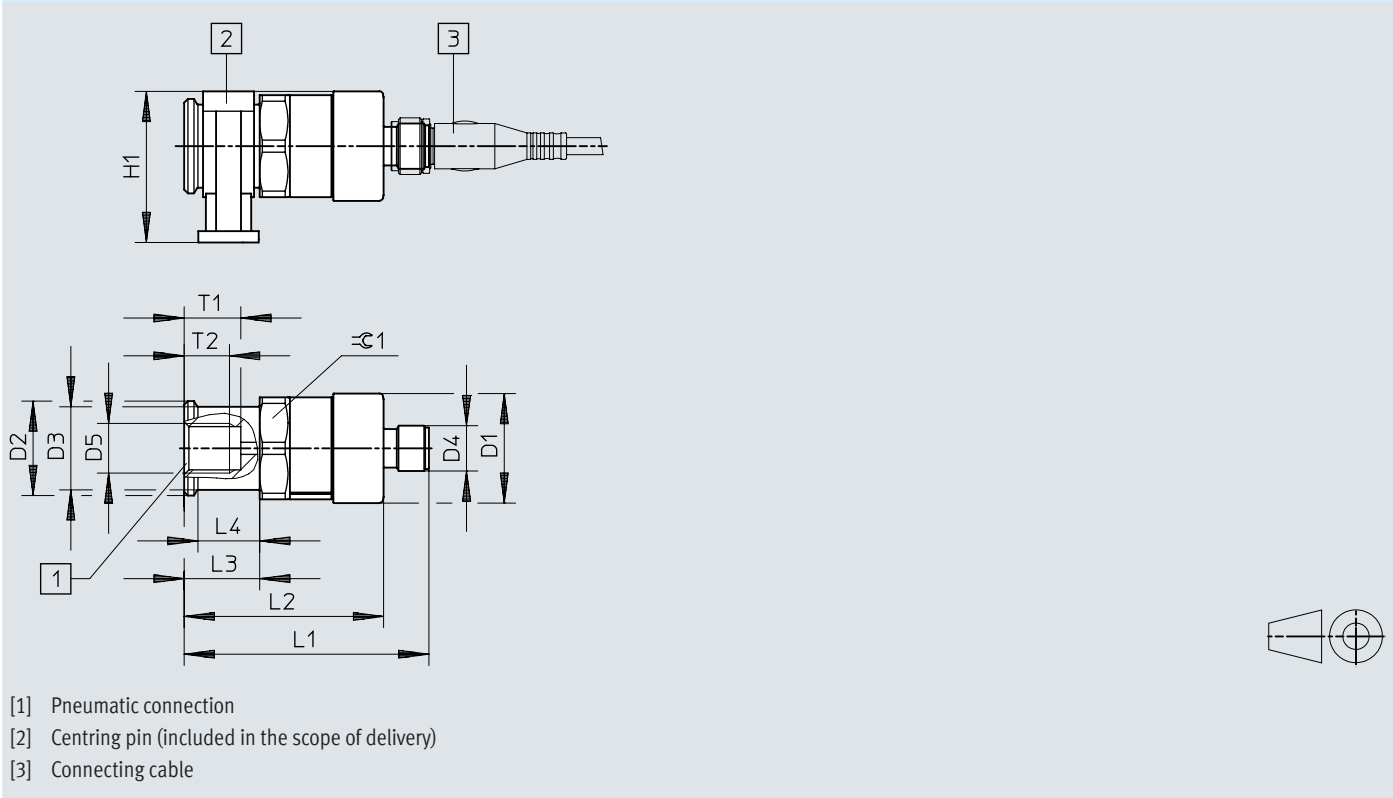
Immission, emission

Degree of protection	IP67
Corrosion resistance class CRC ¹⁾	4 - Very high corrosion stress
LABS (PWIS) conformity	VDMA24364 zone III

1) More information www.festo.com/x/topic/crc.

Dimensions

Dimensions – Pressure transmitter [Download CAD data](http://www.festo.com) www.festo.com



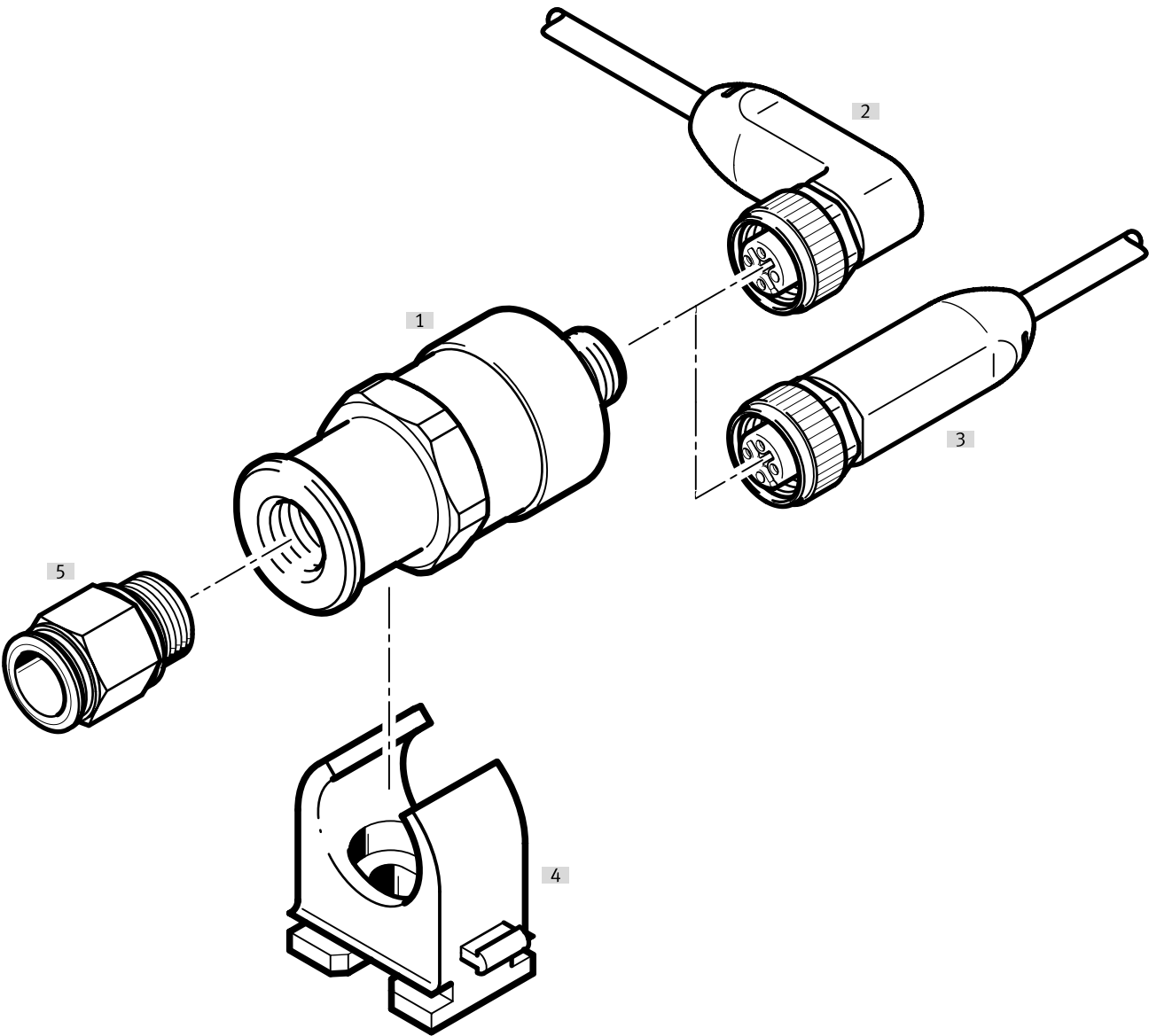
	D1 Ø	D2 Ø	D3 Ø	D4	D5	H1	L1	L2	L3	L4	T1	T2	≈C
SPTW	29	25	22	M12x1	G1/4	40	64,8	52,8	20	16,5	15	12	27

Ordering data

Ordering data						
	Pressure measuring range	Analogue output	Pneumatic connection	Electrical connection 1, connection type	Part no.	Type
	-1 ... 1 bar	0.1 - 10 V	G1/4	Plugs	8000109	SPTW-B2R-G14-VD-M12
		4 - 20 mA			8000100	SPTW-B2R-G14-A-M12
	-1 ... 10 bar	0.1 - 10 V			8000110	SPTW-B11R-G14-VD-M12
		4 - 20 mA			8000101	SPTW-B11R-G14-A-M12
	0 ... 2 bar	0.1 - 10 V			8000111	SPTW-P2R-G14-VD-M12
		4 - 20 mA			8000102	SPTW-P2R-G14-A-M12
	0 ... 6 bar	0.1 - 10 V			8000112	SPTW-P6R-G14-VD-M12
		4 - 20 mA			8000103	SPTW-P6R-G14-A-M12
	0 ... 10 bar	0.1 - 10 V			8000113	SPTW-P10R-G14-VD-M12
		4 - 20 mA			8000104	SPTW-P10R-G14-A-M12
	0 ... 16 bar	0.1 - 10 V			8000114	SPTW-P16R-G14-VD-M12
		4 - 20 mA			8000105	SPTW-P16R-G14-A-M12
	0 ... 25 bar	0.1 - 10 V			8000115	SPTW-P25R-G14-VD-M12
		4 - 20 mA			8000106	SPTW-P25R-G14-A-M12
	0 ... 50 bar	0.1 - 10 V			8000116	SPTW-P50R-G14-VD-M12
		4 - 20 mA			8000107	SPTW-P50R-G14-A-M12
	0 ... 100 bar	0.1 - 10 V			8000117	SPTW-P100R-G14-VD-M12
		4 - 20 mA			8000108	SPTW-P100R-G14-A-M12

Peripherals

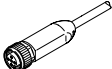
Peripherals overview



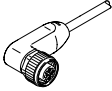
Accessories			→ Link
Type/order code	Description		
[1]	Pressure transmitter	SPTW	sptw
[2]	Connecting cable NEBA M12	Angled socket	9
[3]	Connecting cable NEBA M12	Straight socket	9
[4]	Pipe clamp	Included in the scope of delivery	9
[5]	Push-in fitting QS-1/4		9

Accessories

Connecting cable M12x1, straight socket

	Cable structure	Cable length	Product weight	Part no.	Type
	3 x 0.25 mm ²	2.5 m	55 g	8078236	NEBA-M12G5-U-2.5-N-LE3
		5 m	102 g	8078237	NEBA-M12G5-U-5-N-LE3
	4 x 0.25 mm ²	2.5 m	72 g	8078239	NEBA-M12G5-U-2.5-N-LE4
		5 m	134 g	8078240	NEBA-M12G5-U-5-N-LE4
	5 x 0.25 mm ²	2.5 m	85 g	8078242	NEBA-M12G5-U-2.5-N-LE5
		5 m	142 g	8078243	NEBA-M12G5-U-5-N-LE5

Connecting cable M12x1, angled socket

	Cable structure	Cable length	Product weight	Part no.	Type
	3 x 0.25 mm ²	2.5 m	56 g	8078245	NEBA-M12W5-U-2.5-N-LE3
		5 m	103 g	8078246	NEBA-M12W5-U-5-N-LE3
	4 x 0.25 mm ²	2.5 m	73 g	8078248	NEBA-M12W5-U-2.5-N-LE4
		5 m	135 g	8078249	NEBA-M12W5-U-5-N-LE4

Push-in fittings

	Pneumatic connection, port 2 ¹⁾	Pneumatic connection, port 1	Type of mounting	Part no.	Type
	For tubing outside diameter of 4 mm	Male thread R1/4	External hexagon, size 14 mm	190644	QS-1/4-4
	For tubing outside diameter of 6 mm			153003	QS-1/4-6
	For tubing outside diameter of 8 mm			153005	QS-1/4-8

1) Temperature-dependent operating pressure 0.95 ... 14 bar

Pipe clamp

	Nominal size	Ambient temperature	Product weight	Size of pack	Part no.	Type
	22 mm	-25 ... 85 °C	5.1 g	10	550598	PQ-RK-22-B