# Pressure transmitters SPTW

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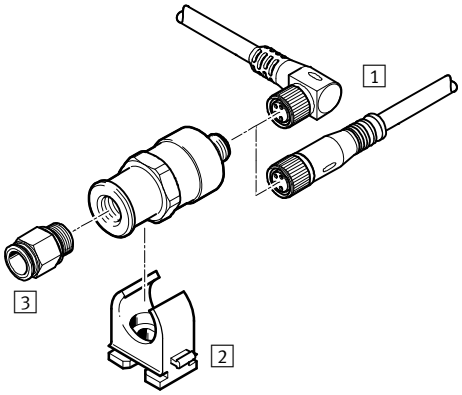
# Pressure transmitters SPTW

Product range overview

| Method of measurement | Pressure measuring range [bar] | Measured variable | Pneumatic connection | Operating voltage [V DC] | Electrical connection |
|---|---|---|---|---|---|
| Piezoresistive pressure sensor | –1 … +1 | Relative pressure | G1/4 | 8 … 30 | Plug M12x1, 4-pin, to EN 60947-5-2, round design |
| | 0 … 2 | | | | |
| | 0 … 6 | | | | |
| Thin-film metal pressure sensor | 0 … 10 | Relative pressure | G1/4 | 8 … 30 | Plug M12x1, 4-pin, to EN 60947-5-2, round design |
| | –1 … +10 | | | | |
| | 0 … 16 | | | | |
| | 0 … 25 | | | | |
| | 0 … 50 | | | | |
| | 0 … 100 | | | | |

# Pressure transmitters SPTW

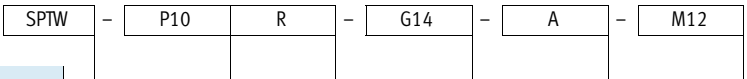
Peripherals overview




| Mounting attachments and accessories | | ➔ Page/Internet |
|---|---|---|
| 1 | Connecting cable<br>NEBU-M12 | 8 |
| 2 | Pipe clamp<br>(included in the scope of delivery) | – |
| 3 | Push-in fitting<br>QS-1/4 | 8 |

# Pressure transmitters SPTW

Type codes




| Function | |
|---|---|
| SPTW | Pressure transmitter |

| 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 |

| Pressure input | |
|---|---|
| R | Relative pressure |

| Pneumatic connection | |
|---|---|
| G14 | Female thread G1/4 |

| Electrical output | |
|---|---|
| A | 4 … 20 mA |
| VD | 0.1 … 10 V |

| Electrical connection | |
|---|---|
| M12 | Plug M12x1, 4-pin |

# Pressure transmitters SPTW

Technical data

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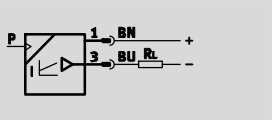
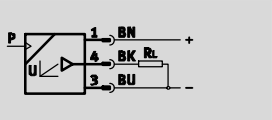
Function

SPTW-...-A




SPTW-...-VD




Voltage
8 ... 30 V DC

Pressure
–1 ... +100 bar

Temperature range
0 ... 80 °C

- Pressure and vacuum sensing for gaseous and liquid media
- High media resistance

| General technical data | |
|---|---|
| Certification | cULus listed (OL) |
| | C-Tick |
| CE mark (see declaration of conformity)[1] | To EU EMC Directive |
| Note on materials | Contains PWIS (paint wetting impairment substances) |
| | RoHS-compliant |

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ Certificates.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

| Input signal/measuring element | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SPTW- | | B2 | P2 | P6 | P10 | B11 | P16 | P25 | P50 | P100 |
| Measured variable | | Relative pressure | | | | | | | | |
| Method of measurement | | Piezoresistive pressure sensor | | | Thin-film metal pressure sensor | | | | | |
| Pressure measuring range starting value | [bar] | –1 | 0 | 0 | 0 | –1 | 0 | 0 | 0 | 0 |
| Pressure measuring range final value | [bar] | 1 | 2 | 6 | 10 | 10 | 16 | 25 | 50 | 100 |
| Overload pressure | [bar] | 2 | 4 | 12 | 20 | 20 | 32 | 50 | 100 | 200 |
| Operating medium | | Compressed air in accordance with ISO 8573-1:2010 [–:–:–] | | | | | | | | |
| | | Neutral liquids | | | | | | | | |
| | | Gaseous media | | | | | | | | |
| Temperature of medium | [°C] | 0 ... 80 | | | | | | | | |
| Ambient temperature | [°C] | 0 ... 80 | | | | | | | | |

| Output, general | | |
|---|---|---|
| Accuracy ±FS[1] | [%] | 1 |
| Repetition accuracy ±FS[1] | [%] | 0.1 |

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

| Analogue output | | | |
|---|---|---|---|
| SPTW-...- | | A | VD |
| Analogue output | [mA] | 4 ... 20 | – |
| | [V] | – | 0.1 ... 10 |
| Linearity error ±FS[1] | [%] | 0.5 | |

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

| Output, additional data | |
|---|---|
| Protection against short circuit | Yes |

| Electronic components | | | |
|---|---|---|---|
| SPTW-...- | | A | VD |
| Operating voltage range DC | [V] | 8 ... 30 | 14 ... 30 |
| Reverse polarity protection | | For operating voltage | |

| Electromechanical components | |
|---|---|
| Electrical connection | Plug M12x1, 4-pin |
| | To EN 60947-5-2 |
| | Round design |
| Plug housing material | PA |

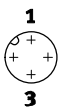
| Mechanical components | |
|---|---|
| Type of mounting | Via female thread |
| | Via accessories |
| Mounting position | Any |
| Pneumatic connection | G1/4 |
| Product weight [g] | 80 |
| Housing materials | High-alloy stainless steel |
| | PA |
| | VMQ (silicone) |
| Materials in contact with the medium[1)] | High-alloy stainless steel |

| Immissions/emissions | |
|---|---|
| Protection class | IP67 |
| Corrosion resistance class CRC[2)] | 4 |

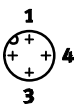
1) Group CrNiMo: 316L, from measurement range 10 bar the membrane is composed of 13-8-PH
2) Corrosion resistance class 4 according to Festo standard 940 070
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

**Pin allocation**

SPTW-...-A

| Plug M12x1, 4-pin | Pin | Meaning |
|---|---|---|
|  | 1 | Operating voltage $U_0$/signal + |
| | 3 | 0 V/signal – |

SPTW-...-VD

| Plug M12x1, 4-pin | Pin | Meaning |
|---|---|---|
|  | 1 | Operating voltage $U_0$ |
| | 3 | 0 V |
| | 4 | Analogue output |

# Pressure transmitters SPTW

Technical data

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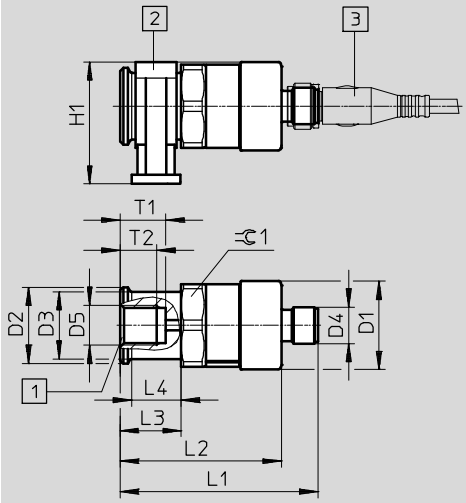
**Dimensions** Download CAD data ➔ **www.festo.com**




1 Pneumatic connection
2 Pipe clamp (included in the scope of delivery)
3 Connecting cable

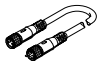
| Type | D1 ∅ | D2 ∅ | D3 ∅ | D4 | D5 | H1 | L1 | L2 | L3 | L4 | T1 | T2 | ⊂ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPTW | 29 | 25 | 22 | M12x1 | G1/4 | 40 | 64.8 | 52.8 | 20 | 16.5 | 15 | 12 | 27 |

**Ordering data**

| Pressure measuring range [bar] | Analogue output | Pneumatic connection | Electrical connection | Part No. | Type |
|---|---|---|---|---|---|
| −1 … +1 | 4 … 20 mA | G1/4 | Plug M12x1, 4-pin | **8000100** | **SPTW-B2R-G14-A-M12** |
| −1 … +10 | | | | **8000101** | **SPTW-B11R-G14-A-M12** |
| 0 … 2 | | | | **8000102** | **SPTW-P2R-G14-A-M12** |
| 0 … 6 | | | | **8000103** | **SPTW-P6R-G14-A-M12** |
| 0 … 10 | | | | **8000104** | **SPTW-P10R-G14-A-M12** |
| 0 … 16 | | | | **8000105** | **SPTW-P16R-G14-A-M12** |
| 0 … 25 | | | | **8000106** | **SPTW-P25R-G14-A-M12** |
| 0 … 50 | | | | **8000107** | **SPTW-P50R-G14-A-M12** |
| 0 … 100 | | | | **8000108** | **SPTW-P100R-G14-A-M12** |
| −1 … +1 | 0.1 … 10 V | G1/4 | Plug M12x1, 4-pin | **8000109** | **SPTW-B2R-G14-VD-M12** |
| −1 … +10 | | | | **8000110** | **SPTW-B11R-G14-VD-M12** |
| 0 … 2 | | | | **8000111** | **SPTW-P2R-G14-VD-M12** |
| 0 … 6 | | | | **8000112** | **SPTW-P6R-G14-VD-M12** |
| 0 … 10 | | | | **8000113** | **SPTW-P10R-G14-VD-M12** |
| 0 … 16 | | | | **8000114** | **SPTW-P16R-G14-VD-M12** |
| 0 … 25 | | | | **8000115** | **SPTW-P25R-G14-VD-M12** |
| 0 … 50 | | | | **8000116** | **SPTW-P50R-G14-VD-M12** |
| 0 … 100 | | | | **8000117** | **SPTW-P100R-G14-VD-M12** |

**Ordering data – Connecting cables**

Technical data ➔ Internet: nebu

| | Number of wires/pins | Cable length [m] | Part No. | Type |
|---|---|---|---|---|
| M12x1, straight socket, open end | | | | |
|  | 3 | 2.5 | **541363** | **NEBU-M12G5-K-2.5-LE3** |
| | | 5 | **541364** | **NEBU-M12G5-K-5-LE3** |
| | 4 | 2.5 | **550326** | **NEBU-M12G5-K-2.5-LE4** |
| | | 5 | **541328** | **NEBU-M12G5-K-5-LE4** |
| | 5 | 2.5 | **541330** | **NEBU-M12G5-K-2.5-LE5** |
| | | 5 | **541331** | **NEBU-M12G5-K-5-LE5** |
| M12x1, angled socket, open end | | | | |
|  | 3 | 2.5 | **541367** | **NEBU-M12W5-K-2.5-LE3** |
| | | 5 | **541370** | **NEBU-M12W5-K-5-LE3** |
| | 4 | 2.5 | **550325** | **NEBU-M12W5-K-2.5-LE4** |
| | | 5 | **541329** | **NEBU-M12W5-K-5-LE4** |
| Socket M12x1, straight; plug M8x1, straight | | | | |
|  | 4 | 2.5 | **554034** | **NEBU-M12G5-E-2.5-W2-M8G4-V1** [1] |
| | 4 | | **554033** | **NEBU-M12G5-E-2.5-W3-M8G4-V2** [2] |

1) Pin allocation designed for connecting the pressure transmitter SPTW-...-A-M12 to the signal converter SVE4-IS
2) Pin allocation designed for connecting the pressure transmitter SPTW-...-VD-M12 to the signal converter SVE4-US

**Ordering data – Push-in fittings**[1]

Technical data ➔ Internet: qs

| | For tubing O.D. | Part No. | Type |
|---|---|---|---|
|  | 4 mm | **190644** | **QS-¼-4**[1] |
| | 6 mm | **153003** | **QS-¼-6**[1] |
| | 8 mm | **153005** | **QS-¼-8**[1] |

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