

Electronic Differential Pressure Switch S1510

Adjustment ranges

from 0 ... 0.4 up to 0 ... 6 bar



Description

The electronic differential pressure switch S1510 is suitable for measurements of positive or negative gauge pressure or differential pressure.

Typical applications are for example monitoring of compressors, filters or vacuum systems. Other fields of use are measurements of supply and return fuel lines in heating systems as well as flow, control pressure and level measurement.

The integrated electronic circuit converts the measured values into switching signals and shows them at the display. This electronic differential pressure switch additionally provides an analog output signal. The optional output signal (0 ... 10 V or 0/4 ... 20 mA) can be damped, spread, inverted or linearly transformed by a table function.

Features

- High repeatability
- Robust design, high over pressure safety
- Long mechanical service life
- Easy switch point adjustment with pressurizing
- RoHS conform

Measuring ranges

- Differential pressure 0 ... 6 bar
- Max. system pressure 16 bar

Applications

- Filter control and monitoring
- Flow and level measurement
- Plant and machine construction

Adjustment ranges

| Adjustment range (bar) | Max. system pressure (bar) | Overload pressure (bar) | Burst pressure (bar) |
|------------------------|----------------------------|-------------------------|----------------------|
| 0 ... 0.4 | 0 ... 16 | 16 | 25 |
| 0 ... 0.6 | | | |
| 0 ... 1.0 | | | |
| 0 ... 1.6 | | | |
| 0 ... 2.5 | | | |
| 0 ... 4.0 | | | |
| 0 ... 6.0 | | | |

Model: S1510

Technical data

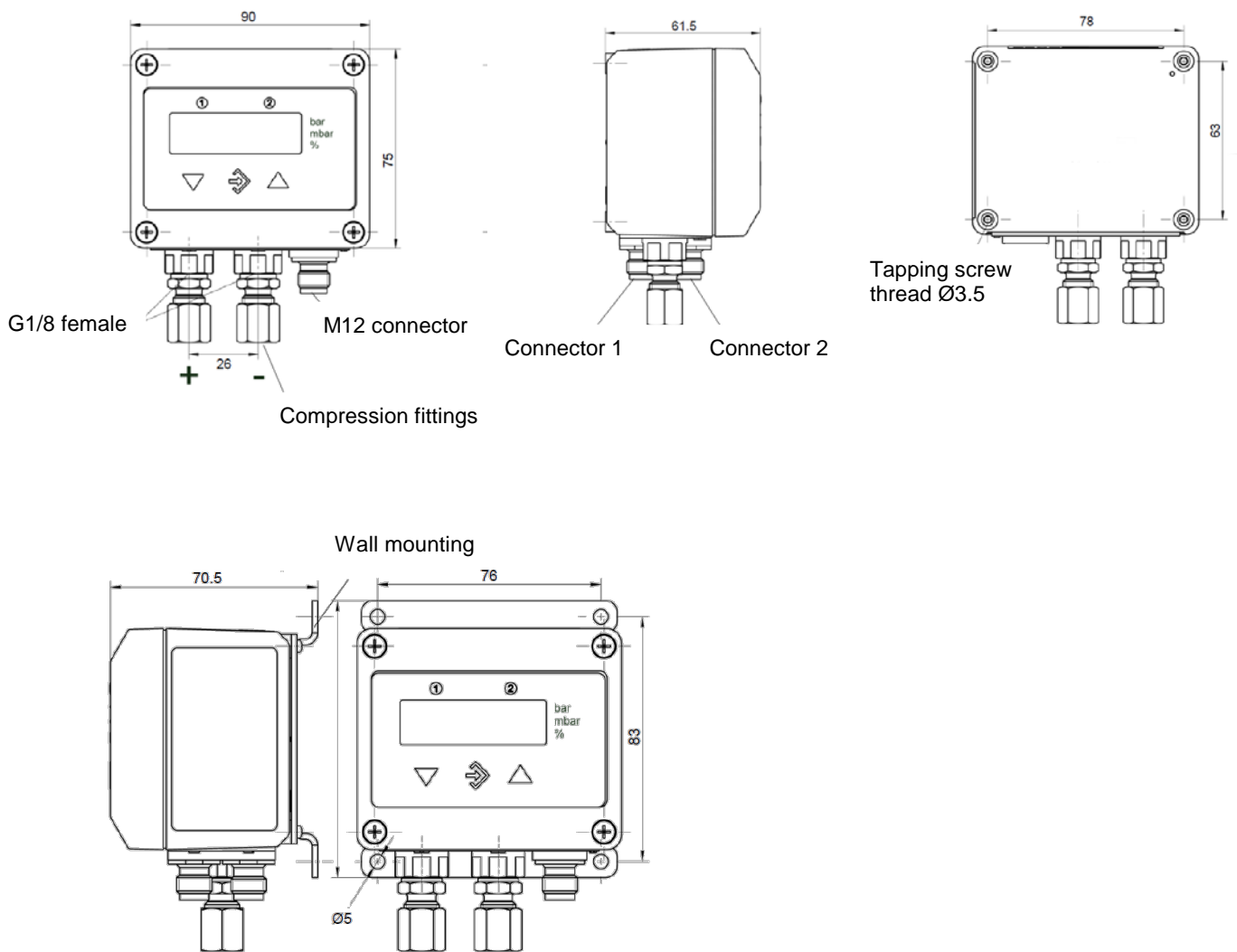
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|----------------------------------|--|--|
| Model | S1510 | |
| Version | Diaphragm | |
| Media | Compressed air, neutral fluids, self-lubricating fluids | |
| Execution | Differential pressure | |
| Connections | | |
| Electrical connections | 2 x round connectors M12 for power supply and analog signal (5 pin, male) and for switch contacts (4 pin, male) | |
| Process connections | | |
| Standard | G1/8 female | |
| Optional | Compression fittings for 6 or 8 mm pipes (brass) | |
| Material | | |
| Measuring element | | |
| Standard | NBR | |
| Optional | Viton® | |
| Process connection | Brass | |
| Housing | Polyamid | |
| Display | | |
| Resolution | 3½ digit LED | |
| Units | Status LED: bar, mbar, % Status LED: ① ② | |
| Switching contacts | | |
| Number | 2 relay contacts or MOSFET switch outputs (isolated) | |
| Switching function | NO or NC (programmable) | |
| Output signal (optional) | | |
| Max. load | $U_S \leq 26 \text{ V}$: $R_L \leq (U_b - 4 \text{ V}) / 0.02 \text{ A}$ $U_S > 26 \text{ V}$: $R_L \leq 1100 \Omega$ | 0 ... 10 V, 3 wire $U_S \geq 15 \text{ V}$: $R_L \geq 2 \text{ k}\Omega$ $U_S = 12 \dots 15 \text{ V}$: $R_L \geq 10 \text{ k}\Omega$ |
| Adjustable parameters | Adjustable within the measuring range, min. 25 % of F.S. | |
| Scaling | 0 ... 100 s (step response time 10 % / 90 %) | |
| Damping | 0 ... 1/3 of f.s. (e.g. low flow cut-off) | |
| Zero stabilization | 0 ... 1/3 of f.s. (for compensation of different mounting orientations) | |
| Zero pressure calibration | Linear, square rooted, horizontal cylindr. tank, table with 3 ... 30 entries | |
| Output characteristic | | |
| Accuracy | typ. | max. |
| Linearization error ¹ | 0.8 % of f.s. | 2.5 % of f.s. |
| TC span | 0.2 % of f.s. / 10 K | 0.4 % of f.s. / 10 K ² |
| TC zero point | 0.2 % of f.s. / 10 K | 0.5 % of f.s. / 10 K ³ |
| Power rating | | |
| Relays contact | max. 2 A @ 30 V DC / 32 V AC (max. 60 W) | |
| Semiconductor switch | max. 0.25 A @ 32 V DC/AC (max. 8 W) | |
| Temperature ranges | | |
| Storage | -20 ... + 70°C | |
| Medium | -10 ... + 70°C | |
| Ambient | -10 ... + 70°C | |
| Protection class | IP65 | |
| Mounting | | |
| Standard | Rear mounting holes for panel mounting | |
| Optional | Wall mounting set | |
| Power supply | | |
| Nominal supply voltage | 24 V DC/AC | |
| Operating supply voltage U_S | 12 ... 32 V DC/AC | |
| Power consumption | approx. 2 W | |
| Weight | approx. 0.9 kg | |

¹ Non-linearity and hysteresis @ 25°C

² For adjustment range 0 ... 400 mbar: 0.8 % of F.S. / 10 K

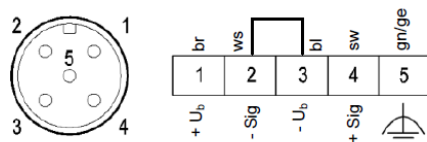
³ For adjustment range 0 ... 400 mbar: 0.8 % of F.S. / 10 K

Dimensions (in mm)

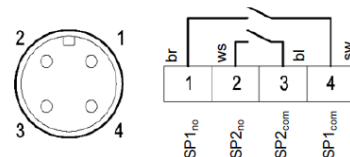


Electrical connections

Connector 1: Power supply and output signal



Connector 2: Switching contacts (shown: NO)



Subject of technical changes