

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

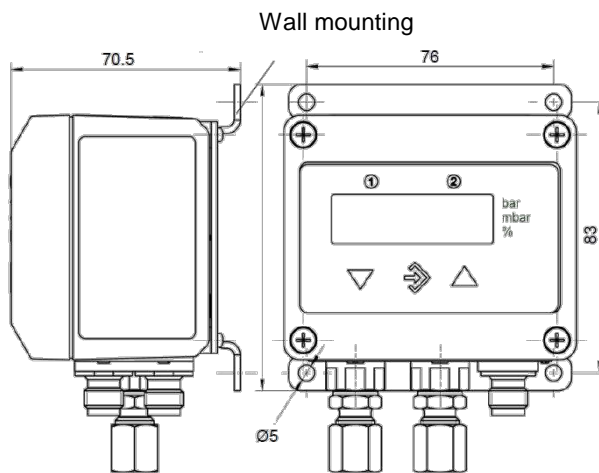
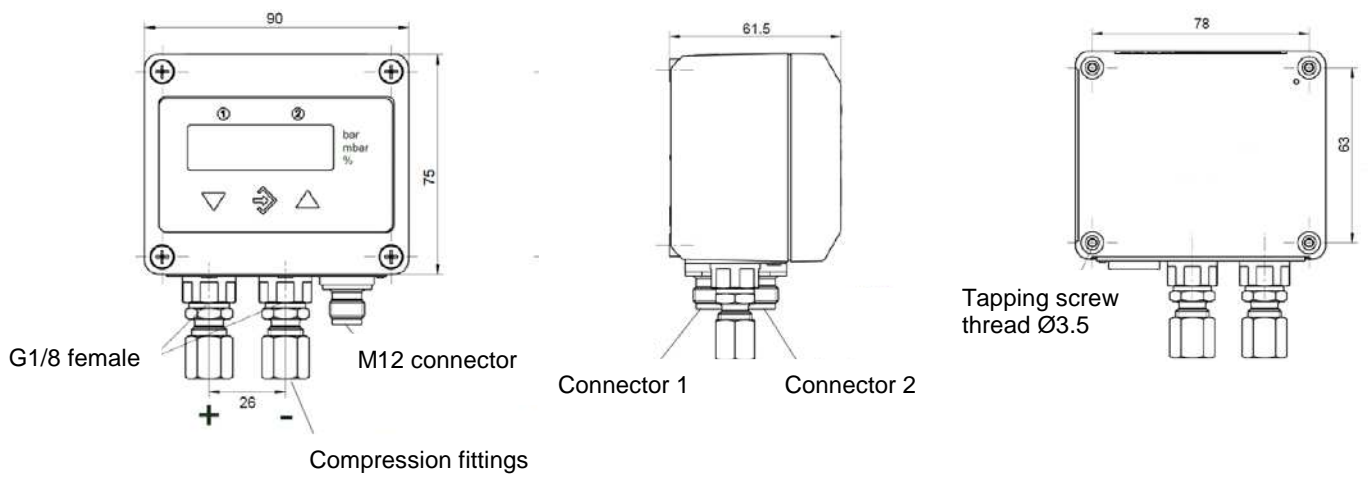
Model	S1510	
Version	Diaphragm	
Media	Compressed air, neutral fluids, self-lubricating fluids	
Execution	Differential pressure	
Connections	2 x round connectors M12 for power supply and analog signal (5 pin, male) and for switch contacts (4 pin, male)	
Electrical connections		
Process connections	G1/8 female	
Standard	Compression fittings for 6 or 8 mm pipes (brass)	
Optional		
Material		
Measuring element	NBR	
Standard	Viton®	
Optional	Brass	
Process connection	Polyamid	
Housing		
Display	3½ digit LED	
Resolution	Status LED: bar, mbar, %	
Units	Status LED: ① ②	
Switching contacts	2 relay contacts or MOSFET switch outputs (isolated)	
Number	NO or NC (programmable)	
Switching function		
Output signal (optional)	0 ... 20 mA or 4 ... 20 mA, 3 wire	0 ... 10 V, 3 wire
Max. load	$U_S \leq 26 \text{ V}: R_L \leq (U_b - 4 \text{ V}) / 0.02 \text{ A}$ $U_S > 26 \text{ V}: R_L \leq 1100 \Omega$	$U_S \geq 15 \text{ V}: R_L \geq 2 \text{ k}\Omega$ $U_S = 12 \dots 15 \text{ V}: R_L \geq 10 \text{ k}\Omega$
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	max. 2 A @ 30 V DC / 32 V AC (max. 60 W)	
Relays contact	max. 0.25 A @ 32 V DC/AC (max. 8 W)	
Semiconductor switch		
Temperature ranges	-20 ... + 70°C	
Storage	-10 ... + 70°C	
Medium	-10 ... + 70°C	
Ambient		
Protection class	IP65	
Mounting	Rear mounting holes for panel mounting	
Standard	Wall mounting set	
Optional		
Power supply	24 V DC/AC	
Nominal supply voltage	12 ... 32 V DC/AC	
Operating supply voltage U_S	approx. 2 W	
Power consumption		
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

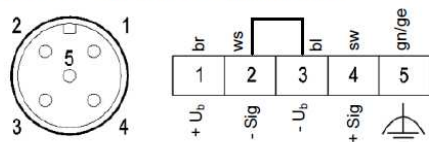
³ For adjustment range 0 ... 400 mbar: 0.8 % of F.S. / 10 K

Dimensions (in mm)

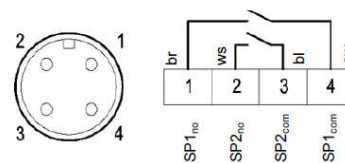


Electrical connections

Connector 1: Power supply and output signal



Connector 2: Switching contacts (shown: NO)



Subject of technical changes