

## 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

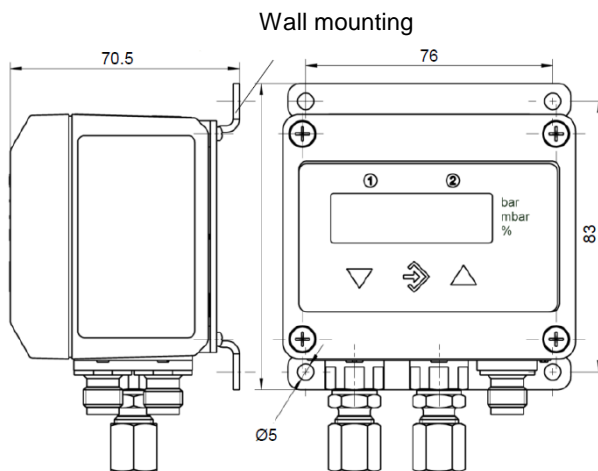
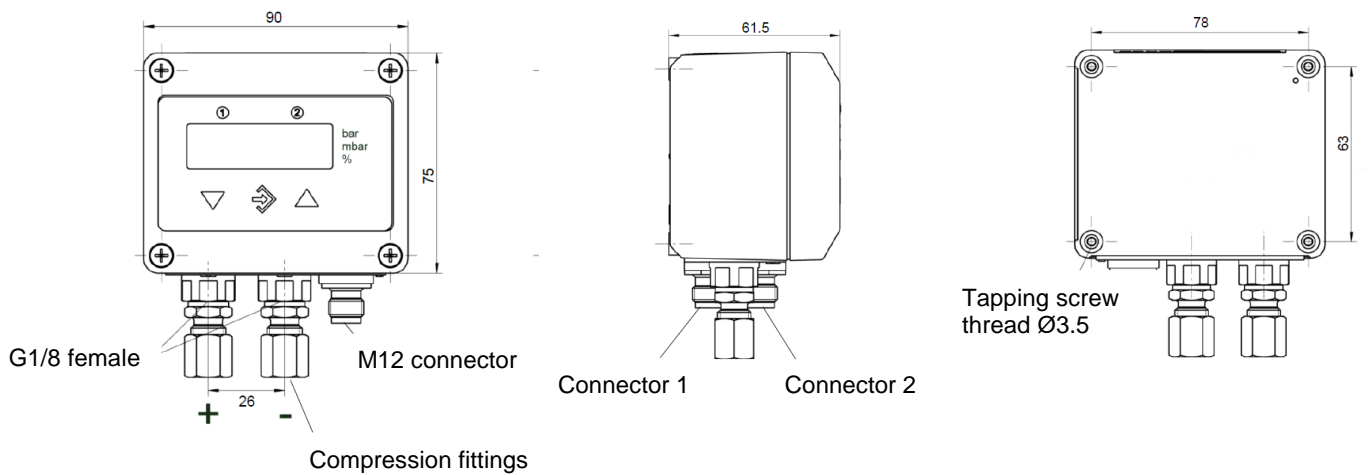
<b>Model</b>	<b>S1510</b>	
<b>Version</b>	Diaphragm	
<b>Media</b>	Compressed air, neutral fluids, self-lubricating fluids	
<b>Execution</b>	Differential pressure	
<b>Connections</b>	2 x round connectors M12 for power supply and analog signal (5 pin, male) and for switch contacts (4 pin, male)	
Electrical connections		
Process connections	G1/8 female	
Standard	Compression fittings for 6 or 8 mm pipes (brass)	
Optional		
<b>Material</b>		
Measuring element	NBR	
Standard	Viton®	
Optional	Brass	
Process connection	Polyamid	
Housing		
<b>Display</b>	3½ digit LED	
Resolution	Status LED: bar, mbar, %	
Units	Status LED: ① ②	
<b>Switching contacts</b>	2 relays contacts or MOSFET switch outputs (isolated)	
Number	NO or NC (programmable)	
Switching function		
<b>Output signal (optional)</b>	<b>0 ... 20 mA or 4 ... 20 mA, 3 wire</b>	<b>0 ... 10 V, 3 wire</b>
Max. load	$U_S \leq 26 \text{ V}: R_L \leq (U_b - 4 \text{ V})/0.02 \text{ A}$ $U_S > 26 \text{ V}: R_L \leq 1100 \Omega$	$U_S \geq 15 \text{ V}: R_L \geq 2 \text{ k}\Omega$ $U_S = 12..15 \text{ V}: R_L \geq 10 \text{ k}\Omega$
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		
<b>Accuracy</b>	<b>typ.</b>	<b>max.</b>
Linearization error <sup>1</sup>	0.8 % of F.S.	2.5 % of F.S.
TC span	0.2 % of F.S. / 10 K	0.4 % of F.S. / 10K <sup>2</sup>
TC zero point	0.2 % of F.S. / 10 K	0.5 % of F.S. / 10K <sup>3</sup>
<b>Power rating</b>	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		
<b>Temperature ranges</b>	-20... + 70°C	
Storage	-10... + 70°C	
Medium	-10... + 70°C	
Ambient		
<b>Protection class</b>	IP65	
<b>Mounting</b>	Rear mounting holes for panel mounting	
Standard	Wall mounting set	
Optional		
<b>Power supply</b>	24 V DC/AC	
Nominal supply voltage	12 ... 32 V DC/AC	
Operating supply voltage $U_S$	approx. 2 W	
Power consumption		
<b>Weight</b>	approx. 0.9 kg	

<sup>1</sup> Non-linearity and hysteresis @ 25°C

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

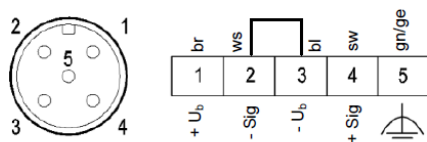
<sup>3</sup> For adjustment range 0 ... 400 mbar: 0.8 % of F.S. / 10 K

## Dimensions (in mm)

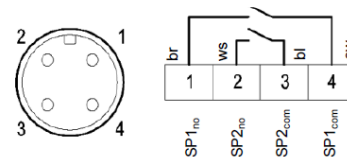


## Electrical connections

Connector 1: Power supply and output signal



Connector 2: Switching contacts (shown: NO)



Subject of technical changes