

DS31 || Differential Pressure Switch

Applications

Differential pressure switch for positive / negative gauge pressure or differential pressure of neutral media such as industrial water, water for heating systems, neutral gases and oils. It is suitable for on/off control due to the continuously adjustable switching point between 10% and 100% of the measuring range

Main Features

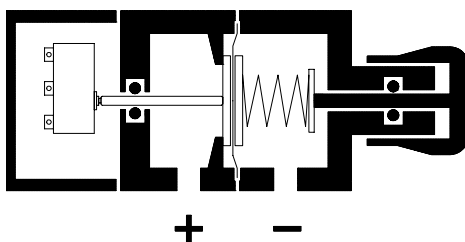
- high repeatability of switching points
- long service life
- high overpressure protection

Principles of Operation

These pressure switches are based on a rugged and uncomplicated diaphragm movement. They are suitable for monitoring positive / negative gauge and differential pressure. The operating principle of the system is identical in all three cases. The monitored pressure or differential pressure creates an unbalanced force on the diaphragm. This force moves the diaphragm system against the force of the range selector springs. A tappet, which is mounted on the diaphragm, actuates the microswitch.

The setpoint can be adjusted by a scaled hand-wheel.

Schematic Diagram

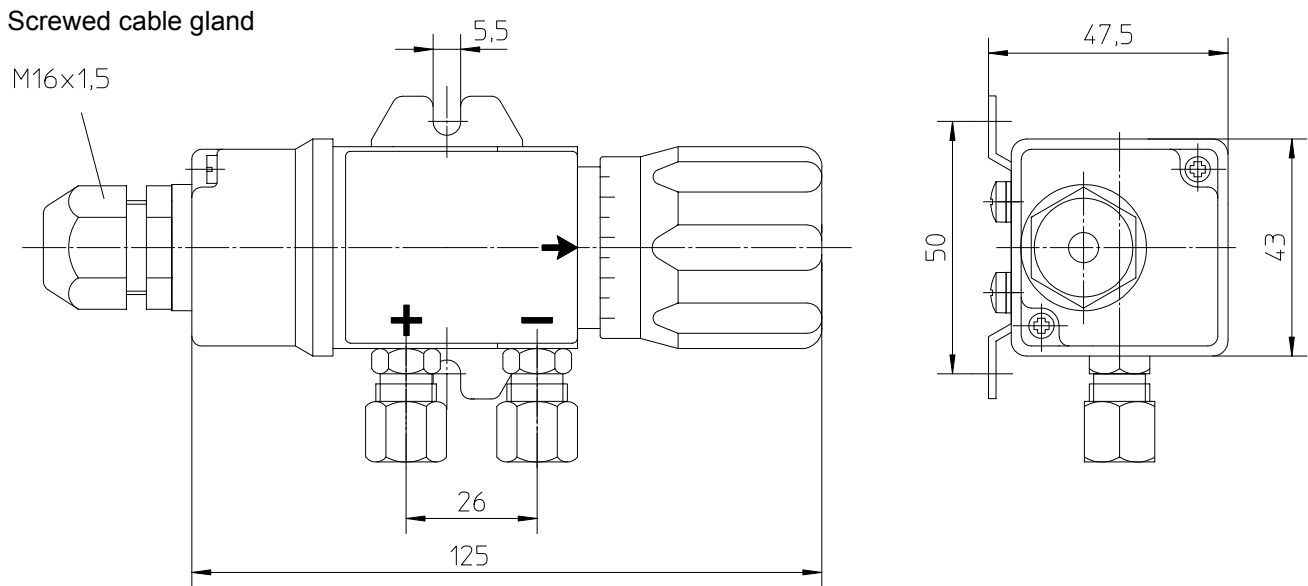


Specifications

Measuring range	0-0.6 up to 0-6 bar
Max. static operating pressure	16 bar (safe against positive and negative pressure)
Perm. ambient temp.	+80°C
Perm. media temperature	+80°C
Pressure chamber	Al HART-COAT®
Diaphragm	NBR or Viton®, depending on usage
Pressure connections	G1/8 female cutting ring fitting for 6/8 mm tube
Mounting	base for Wallmounting
Electrical connection	numbered cable, prewired
Switching point	10-100% of range, continuously adjustable
Contact type	Microswitch, hysteresis approx. 2%
Contact rating of micro-switch	U _{~ max} 250 VAC; I _{max} 3A; P _{max} 500VA U _{= max} 30 VDC; I _{max} 0.4A; P _{max} 10W



Dimensions (all units in mm unless stated otherwise)



Ordering Code

Differential Pressure Switch	DS31		F				
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Measuring Ranges

0 ... 0.6 bar	>	0	1
0 ... 1.0 bar	>	0	2
0 ... 1.6 bar	>	0	3
0 ... 2.5 bar	>	0	4
0 ... 4.0 bar	>	0	5
0 ... 6.0 bar	>	0	6

Nominal Pressure

16 bar	>	F
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Measuring System

Pressure chamber, diaphragm, gaskets: Al HART-COAT®/NBR	>	C
Pressure chamber, diaphragm, gaskets: Al HART-COAT®/Viton®	>	B
Pressure chamber, diaphragm, gaskets: Ms/NBR (only on request)	>	M
Pressure chamber, diaphragm, gaskets: Ms/Viton® (only on request)	>	N

Pressure Connection

G 1/8 female	>	0	0
Cutting ring fitting in steel for 6 mm tube	>	2	0
Cutting ring fitting in brass for 6 mm tube	>	2	8
Cutting ring fitting in brass for 8 mm tube	>	2	9

Switch

1 adjustable microswitch	>	A
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Electrical Connection*

1m numbered cable, prewired	>	1
2.5 m numbered cable, prewired	>	2
5m numbered cable, prewired	>	5

*Please state switching function with your ordering: NO or NC.