

Mechanical pressure switch S4150

Versatile and economical changeover switch



Description

Mechanical pressure switch with a diaphragm or a piston sensing element and a change over contact for converting pressure into an electrical switching signal. An adjusting screw allows setpoints to be easily adjusted, even in situ. Optionally the setpoint may be factory preadjusted. The integrated micro switch allows switching capacities from 5 mA to 4 A.

The switch is suitable for non-aggressive fluids and gases or self-lubricating fluids, other media on request. It is available as standard with a 1/4" thread zinc plated steel process connection. The switch is provided with flat connectors 3 x 6.3 x 0.8 as standard. Many other threads and materials, including stainless steel, are optionally available. A protection cap made of NBR can be ordered as an accessory (AZM90X101007).

The S4150 is used for controlling and monitoring of liquids in machine and plant engineering, for pneumatic, hydraulic and mobile hydraulic systems.

Features

- Change-over contact
- Many thread variants
- Diaphragm versions up to 16 bar
- Piston versions up to 400 bar
- RoHS-conform

Applications

- Mechanical engineering
- Plant construction
- Filter monitoring
- Hydraulic
- Pneumatic

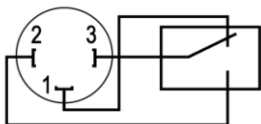
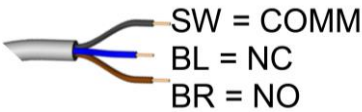
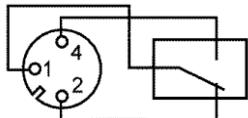
Model: S4150

Technical data

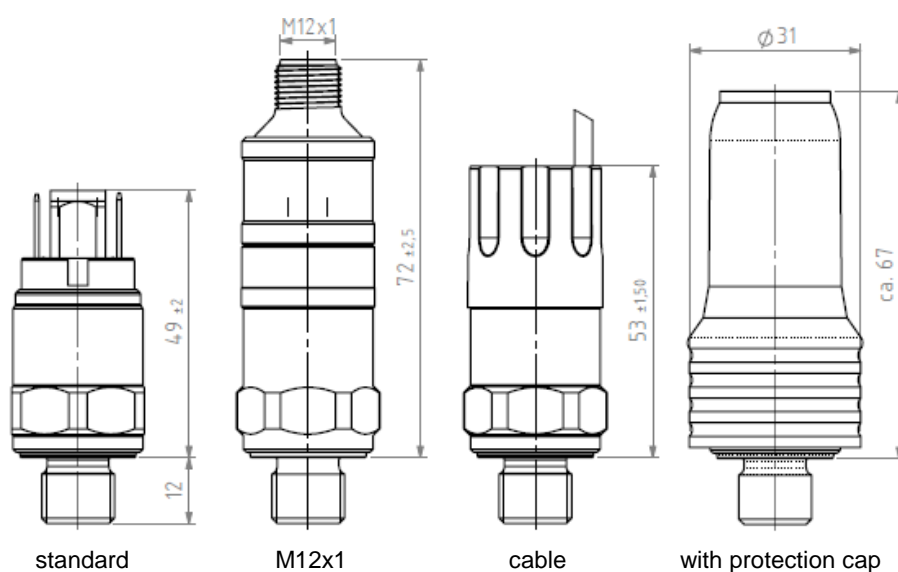
	Mechanical pressure switch	
Model	S4150	
Execution	positive gauge pressure	
Media	compressed air, neutral fluids and gases, self-lubricating fluids	
Process connection standard optional	G1/4 G1/8, M10x1, NPT1/8, NPT1/4, R1/8, 7/16-20UNF, others on request	
Measuring principle	spring loaded diaphragm ≤16 bar, piston >16 bar	
Materials Measuring element standard optional Thread standard optional Housing standard optional	Diaphragm type NBR EPDM, VITON®, others on request zinc plated steel (piston version with brass throttle) stainless steel 1.4305, others on request zinc plated steel, contact insert plastic stainless steel 1.4305, others on request	Piston type steel, static: NBR, dynamic: PTFE static: VITON®, EPDM, others on request
Switching outputs Number Switching function Repeatability Switching element Adjustment standard option	1 SPDT ± 2 % of end of range micro switch with self-cleaning contacts onsite, with adjustment screw factory adjusted	
Power rating¹⁾ DC up to 28 V AC up to 50 V	5 mA ... 2 A (ohmic load), 5 mA ... 1 A (inductive load) 5 mA ... 2 A	
Load cycles	max. 100 / min	
Expected life cycle	> 10 ⁶ load cycles	
Shock resistance	30 g	
Vibration resistance	10 g (10 ... 2000 Hz)	
Temperature range standard optional	-20°C ... + 80°C (NBR) -40°C ... +100°C (EPDM) 0°C ... +100°C (Viton®)	
Electrical connection standard optional	spade terminals 3 x 6.3 x 0.8 mm M12x1, cable output, others on request	
Protection type Spade terminals Cabel outlet	IP00 IP67	
Mounting position	any	
Weight	~ 0.1 kg	

¹⁾ All specification for ohmic load. For voltages > 42 V regulations for protective means have to be regarded!

Electrical connection

Flat connectors	Cable output	M12x1
		

Dimensions (in mm)



System pressure, repeatability hysteresis, order number

Adjustment ranges (bar) ³⁾	Overload limit (bar)	Repeatability (bar) ¹⁾	Measurement principle	Order numbers for the standard version: zinc plated steel, G1/4, flat connectors
0.2..2	60 ²⁾	± 0.04	<p>Diaphragm Example: At a switching point of 3 bar the switching pressure difference (Hysteresis) is round about 0.3 bar (reference value).</p>	S4150B071001
0.5..8		± 0.16		S4150B144001
1..16		± 0.32		S4150B076001
10..30	350 ²⁾	± 0.6	<p>Piston Example: At a switching point of 100 bar the switching pressure difference (Hysteresis) is round about 18 bar (reference value).</p>	S4150B133001
10..80		± 1.6		S4150B153001
10..120		± 2.4		S4150B866001
10..160		± 3.2		S4150B082001
20..200		± 4.0		S4150B083001
20..250		± 5.0		S4150B084001
30..320	600 ²⁾	± 6.4		S4150B085001
40..400		± 8.0		S4150B086001

1
)

¹⁾ The repeatability is a reference value and refers to room temperature under constant operating conditions.

²⁾ Higher overload limit or other ranges on request.

³⁾ The specification of the hysteresis refers to the standard version and has to be considered as a standard value.
The hysteresis is influenced by operating parameters, such as the fluid, temperature, rate of pressure rise

Subject to technical alternations