



## PS-01

### Diaphragm Piston Pressure Switch



- **Setting screw**
- **Auxiliary scale**
- **Highly safe on overpressure**
- **Long life span**
- **NPT or G thread**

#### **Description:**

Mechanical pressure switches are intended for pressure-dependent switching on or off an electrical circuit. A pressure switch can be used as a control device as well as for visual or acoustic control for a operating point. The setpoint for a device is set by the user by means of a knurled screw with the operating range. The life span and repeatability depend on the extent and speed of the changes in pressure, the number of load shifts and effect of temperature. The best accuracy is obtained at operational levels above 70%, the maximum life span at operational levels below 30% of the operating range end value. Therefore, the ideal combination of these parameters lies in the middle of the operating range.

#### **Range of application:**

Mechanical pressure switches are preferably used where robust and simple devices are needed. A number of applications are possible in the construction of installations, in vehicle and machine manufacturing, in medical engineering, in water management, in the treatment of effluents and in pneumatic technology. Profimess' pressure switches are often found in fluid-technical systems for monitoring minimum pressures, for example, as a protection against dry runs in a pump or for safeguarding oil lubrication units. Similarly, monitoring maximum pressure is also possible such as directly switching off a machine if the pressure reaches its safety limits.

## Versions:

### PS-01 Diaphragm Piston Pressure Switch

#### Operating range:

Type	Adjustment range [bar]		max. Operating pressure [bar]	Proof pressure [bar]* (short term)	Max. hysteresis of switch types in bar (end of range)	
	Increasing press.	Decreasing press.			H, GH [bar]	M, GM [bar]
PS-01.1	0.10 to 1.0	0.04 to 1.0	46	30/70	0.08	0.080
PS-01.2	0.80 to 6.0	0.20 to 5.0	46	30/70	0.55	0.680
PS-01.3	2.10 to 17.0	0.70 to 16.0	46	30/70	1.37	1.440
PS-01.4	3.70 to 34.0	1.72 to 32.0	46	30/70	1.93	2.750
PS-01.5	-0.28 to -0.9	-0.20 to -0.82	2.0	-1.0	0.08	0.077

\* Designed for 70 bar proof pressure, for practical production reasons, however, the standard proofing pressure is 30 bar.

## Ordering codes:

Ordering number: PS-01. 1. 1. 1. 1. 1. 1. 1. 1

#### PS-01 Diaphragm Piston Pressure Switch

##### Operating range:

- 1 = to 1 bar
- 2 = to 6 bar
- 3 = to 17 bar
- 4 = to 34 bar
- 5 = vacuum

##### Micro-switch:

- 1 = switch M
- 2 = switch H
- 4 = switch GH

##### Process connection:

- 0N = 1/4" NPT-female (standard)
- 1N = 1/8" NPT-female and 1/2" NPT-male
- 2N = G1/4"-female (operating range 1 to 4)

##### Housing lid material:

- 1 = polycarbonat

##### Membrane material:

- 1 = NBR
- 2 = FKM
- 3 = PTFE (operating range 1 to 4)
- 4 = EPDM (operating range 1 to 4)
- 5 = CR (operating range 1 to 4)

##### Process connection material:

- 1 = aluminium anodized
- 2 = polysulphone (only up to range 3)
- 3 = aluminium nickel-plated
- 6 = other materials on request

##### El. connection:

- 0 = M20x1,5
- 1 = plug, 3-pin + E, DIN EN 175301-801-A
- 2 = plug, Amphenol plug 4-pin + E

##### Approvals:

- 1 = none
- 2 = for intrinsically safe applications

#### Micro-switch:

Optionally, the PS-01 is equipped with a micro-switch of type M or that of type H. The H switch has small return switching values, high AC voltage but low DC voltage loads.

In the M switch the return switching values are relatively higher; however, higher DC voltage loads can be connected.

#### Process connection:

PS-01.1, PS-01.2, PS-01.3 and PS-01.4 can be supplied with 1/4" NPT-female, 1/8" NPT-female, 1/2" NPT-male or G1/4"-female.

For the PS-01.5 connection of 1/8" NPT-female plus 1/2" NPT-male or 1/4" NPT-female are available.

#### Housing lid material:

The lid plate of the housing is made of polycarbonate.

#### Membrane material:

The membrane is made of NBR. Also available is FKM, PTFE, EPDM and CR.

#### Process connection material:

Along with the membrane, the pressure connection forms the part of PS-01 contacted by the media. Depending on the medium, it is available as aluminium anodized, polysulphone or aluminium nickel-plated models.

#### Set point adjustment:

Pressure switches: Turn the adjustment screw clockwise to increase the set point.

Vacuum switches: Turn the adjustment screw clockwise to decrease the set point.

#### Intrinsically safe:

The switches are designed for intrinsically safe applications. To comply with the intrinsically safe approval following max. ratings must not be exceeded:

- U<sub>max</sub> = 28 V
- I<sub>max</sub> = 50 mA

## Electrical specifications:

### Electrical ratings:

Micro switch	Special features	Volt AC 50/60Hz	Ind. load A	Res. load A	Volt DC	Ind. load A	Res. load A	Comments
H	Micro switch with silver contacts	125 250	10 10	10 10	6 to 24	0.50	0.5	small hysteresis; high AC/ low DC loads
M	Micro switch with silver contacts	125 250	10 10	10 10	12 24 250	5.00 1.00 0.25	15.0 2.0 0.4	medium hysteresis; high AC and DC loads
GH	Micro switch with gold-plated contacts for low voltage and/or low current	125	1	1	24	1.00	1.0	small hysteresis

**Electrical connection:** screw clamps and cable gland  
M20x1,5

**Protection class:** IP 65

## Technical specifications:

**Operating range:** -0.9 bar to +34 bar

**Switching frequency:** max. 20/min

**max. Pressure:** 70 bar short spell,  
-1 bar in PS-01.5

**Repeatability:** +/- 2% at constant temperature

**max. Media**

**Housing:** anodized aluminium

**temperature:** -30°C to +70°C

**Weight:** 0.7 kg

## Dimensions (in mm):



