Pressure Switches Series 11D

OBSOLETE DOCUMENT
Technical Reference Only

Diaphragm-actuated
For neutral gaseous and liquid fluids
Switching pressure range: 0 ... 0.25 bar

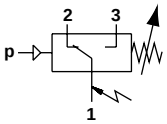
- **High accuracy (deviation < 1%)**
- **Long life**
- **Especially suited for gas**
- **Microswitch with gold plate contacts**

Technical data

Operating fluids:
For air, water, hydraulic oil, lubricants, light fuel oil, gaseous and liquid fluids
Operating viscosity:
Up to1000 mm^2/s
Repeatability:
± 1%
Switching element:
Microswitch with gold plated contacts with electrical connection DIN 43650
Microswitch with silver plated contacts with electrical connection Pg 13.5
Degree of protection:
IP 65
Ambient temperature:
– 10 to + 80 °C
Fluid temperature:
0 to + 80 °C
Max. temperature at switching element:
Max. + 80 °C
Mounting position:
Optional
Vibrations:
Should be avoided (1 g max.)

Ordering example

Pressure switch for filtered compressed air,
signal at + 0.1 bar rising,
electrical connection DIN 43650
Type: **0823006**



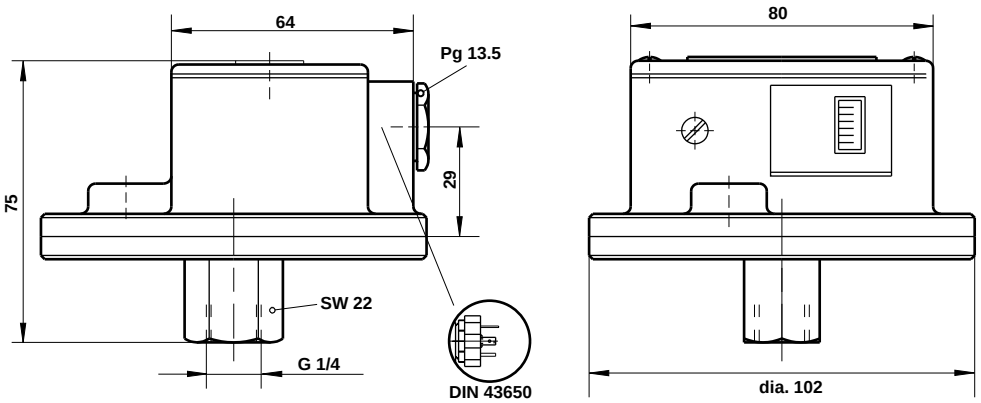
Switching function:
Microswitch SPDT
Terminals 1 – 3: Contacts close on rising pressure,
Terminals 1 – 2: Contacts open on rising pressure.

General information – Fixed switching pressure difference

Type With el. connection Pg 13.5 (silver plated contacts)	Type With el. connection DIN 43650 (gold plated contacts)	Pressure range [1] $p_{vu\ min.}$ ... $p_{vo\ max.}$ (VDI 3283) (bar)	Switching pressure difference (bar) Upper range	Lower range	Max. allowable pressure [2]	Switching cycles per minute	Pressure sensor materials Housing	Seal (NBR)	Connection internal thread	Total weight (kg)	Dimensional drawing No.
0823003	**0823006**	–0.2 ... +0.2	0.006	0.009	6	10	Al 3.2582	Perbunan	G 1/4	0.5	01 / 02
0823100	**0823101**	0 ... +0.02	0.0008	0.0009	6 (1)	10	Al 3.2582	Perbunan	G 1/4	0.5	01 / 02
0823000	**0823001**	0.002 ... +0.25	0.009	0.009	6 (1)	10	Al 3.2582	Perbunan	G 1/4	0.5	01 / 02

[1] Ref. pressure = atmospheric pressure.
[2] Even short pressure peaks must not exceed this value during actual operation (max. value = max. testing pressure). The limiting value corresponds to the max. test pressure.

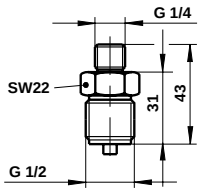
Dimensional drawing
01



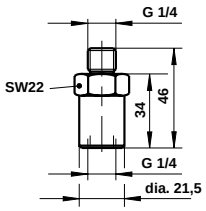
Dimensional drawing
02

Accessories

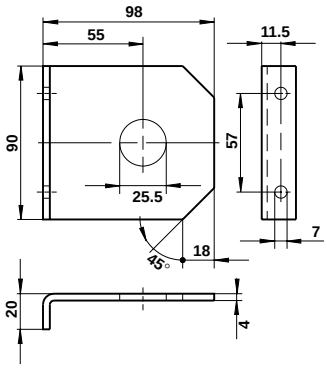
Reducer
G 1/4 to G 1/2
external thread
Type **0574767**



Surge damper
G 1/4
Type: **0574773**



11 D Mounting bracket
Type **0520554**



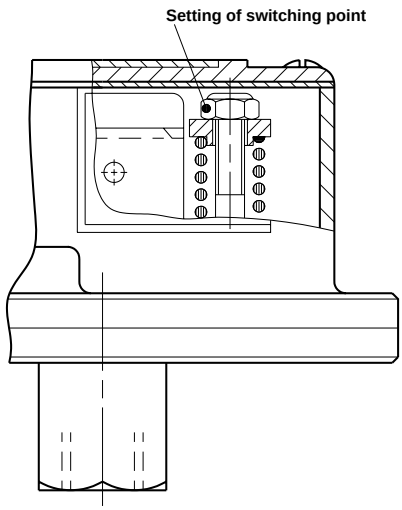
Switch selection and mountinginstructions

The switching points should normally be in about the middle of the adjustable range.Do not exceed electrical ratings.Electrical connection by Pg 13.5 cable gland, in accordance with local regulations. For outdoor installation sufficient protection has to provided for. Critical conditions are: Aggressiveness of air, high or low temperatures, drastic changes in temperature, solar radiation, penetration of water.Avoid twisting of pressure sensor, hold it tight when connecting the switch.

Setting of the switching points

The upper or lower switching point is set be means of the self-locking hexagon head screw.The opposite one is determined by the fixed switching pressure difference.Turning the hexagon head screw clockwise shifts both switching points upwards and vice versa.

For precise setting of switching points a pressure gauge is required. (The pressure switch is a switching and regulating device and not a measuring instrument Ä even if it has a scale to assist in the setting).The setting can be changed at any time, even during operation.The range spindle is provided with a releasable detent, if desired, switch can also be lead-sealed.



Making and/or breaking capacity / Change-over switch with silver spring contacts

Type of current	Type of load	Voltage U_S (V)			
		24	60	110	230
		Make and break current I (A)			
AC	Resistive load	15	15	15	15
AC	Inductive load, cos φ ≈ 0.7	4	2.5	1.5	0.9
AC	Inductive load, spark quenching with RC-link	6	4	2.5	1.5
DC	Resistive load	0.2	–	–	–
DC	Inductive load, L/R ≈ 10 ms	0.1	–	–	–
DC	Inductive load, spark quenching with diode	0.15	–	–	–

Reference number of switchings: 60/min.
Reference temperature + 30 °C
(with a reference temperature of + 70 °C, Imax corresponds to 50% of the tabulated values only).

Contact-life appr. 1 x 10^6 switching cycles at max. current (at 50% of max. current, contact life is appr. 3 times as long).

Mechanical life appr. 5 x 10^6 switching cycles.

For non-aggressive atmosphere, which in particular does not contain any sulphur, the following limits are valid:

Microswitch with standard silver contacts:
V_{min} appr. 8 ... 12 V, I_{min} appr. 10 mA,
Maximum values acc. to table above.

Microswitch with gold-plated contacts: (available at extra charge):
V_{min} and I_{min}: No lower limit Sensible upper limit:
V_{max} appr. 48 V, I_{max} appr. 20 mA; (for higher values silver spring contacts are completely sufficient).

Creepage and air paths correspond to insulation group B according to VDE Reg. 0110 (except contact clearence of microswitch).

Spark quenching (direct current):

1. Diode in parallel to inductive load Make sure polarity is correct when making connections.

   Dimensioning of quenching diode (rectifier):
   Rated voltage of diode $V_D \geq 1.4 \times V_{Term.}$
   Rated current of diode $I_{Rated} \geq I_{load}$
   Choose quick switching diode (recovery trr ≤ 200 ns).

2. RC-link in parallel to load (or in parallel to switching contact). Suited for direct and alternating current.

Ratings: R in [Ω] ≈ 0.2 · R_{Load} in [Ω]
C in [µF] ≈ I_{Load} in [A]