

**Actuator with snap-action switching element****Switching system**

Self-cleaning, double-break, snap action switching system (with contact gap 2 x 0.5 mm).

1 Normally closed or 1 Normally open contact per element.

Snap-action switching elements with soldering terminals at the sides: Up to 4 switching element can be on a pushbutton (max. 4 Normally closed and 4 Normally open contacts).

Snap-action switching element with axial plug-in terminals 2.8 mm stackable, only 1 switching element can be on a pushbutton.

**Material****Material of contact**

Gold plated silver

**Switch housing**

Axial plug-in-/soldering terminal 2.8 mm:

Diallylphthalate (DAP), Polyamide (PA66), Polysulfone (PSU), heat-resistant and self-extinguishing

Soldering terminal: Ultramide (PA 6.6)

**Actuator housing**

Polyphenylene (PPO), self-extinguishing

**Mechanical characteristics****Terminals**

Snap-action switching element with tinned soldering terminals at the sides:

Max. wire diameter 2 wires à 1.2 mm

Max. wire cross-section of stranded cable 1 x 1 mm<sup>2</sup>

Snap-action switching element with axial plug-in terminals, which can also be used as soldering terminals: Plug-in terminal 2.8 x 0.5 mm

Soldering terminal:

Max. wire diameter 2 wire of 1 mm<sup>2</sup>

Max. wire cross-section of stranded cable 2 x 0.75 mm<sup>2</sup> or 1 x 1 mm<sup>2</sup>

**Tightening torque**

for fixing nut max. 25 Ncm

**Actuating force**

2 N ... 5.5 N, depending on the number of switching elements

**Actuating travel**

3 mm

**Rebound time**

≤5ms

**Mechanical lifetime**

Momentary action 2 million cycles of operation

Maintained action 1 million cycles of operation

**Electrical characteristics****Standards**

IEC 61058, EN 61058

**Rated voltage**

250 VAC/VDC

**Rated current**

5 A

**Contact resistance**

Starting value (initial) ≤50 mΩ

**Conventional free air thermal current**

5 A

The maximum current in continuous operation and at ambient temperature not exceeding the quoted maximum values.

**Switch rating**

250 VAC, 5 A (cosφ 1)

250 VAC, 3 A (cosφ 0,3)

Switch rating AC (cosφ 0,7)

Voltage	125 VAC	250 VAC
Current	3 A	2 A

Switch rating DC (inductive) L:R = 30 ms

Voltage	24 VDC	60 VDC	110 VDC	220 VDC
Current	2 A	0.7 A	0.2 A	0.1 A

**Electric strength**

2500 VAC, 50 Hz, 1 min. between all terminals and earth, as per IEC 60512-2-11

**Protection class**

II

**Environmental conditions****Storage temperature**

-40 °C ... +85 °C

**Service temperature**

-25 °C ... +55 °C

For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

**Protection degree**

Front P 40

IP 67 with front protective cap

**Shock resistance**

(Single impacts, semi-sinusoidal)

15 g for 11 ms, as per IEC 60512-4-3, IEC 60068-2-27

**Vibration resistance**

(sinusoidal)

10 g at 0-2000 Hz, amplitude 1.5 mm, as per IEC 60512-4-4, IEC 60068-2-6

**Climate resistance**

Standard condition, as per IEC 60068-2-3 and 2-30

Changing condition, as per IEC 60068-2-14 and 2-33

**Actuator with snap-action switching element**

**Approvals**

**Approbations**

CB (IEC 61058)

CSA

ENEC (EN 61058)

Germanischer Lloyd

UL

**Declaration of conformity**

CE

**Actuator with low level switching element****Switching system**

This low level switching element was designed for switching low powers in electronic circuits. The mechanism assures reliable switching of loads ranging from a few  $\mu\text{A}$  /  $\mu\text{V}$  up to 100 mA / 42 VAC/DC.

Single-break momentary contact, as normally open or normally closed with 4 independent points of contact. 2 momentary contacts per switching element; combination of normally open and normally closed is possible.

Special features are the long life, extremely short rebound time and stable contact resistance.

**Material****Material of contact**

Gold plated

**Switch housing**

Polysulfone (PSU), heat-resistant and self-extinguishing

**Actuator housing**

Polyphenylene (PPO), self-extinguishing

**Mechanical characteristics****Terminals**

The universal terminals permit these units to be mounted on printed circuit boards (PCB). These terminals can also be used as soldering or plug-in terminals.

For these terminals we can also supply a plug-in base which, when soldered on to the board, enables the switch to be plugged in.

Soldering terminal:

Max. wire diameter 2 wires  $\leq 0.8$  mm

Max. wire cross-section of stranded cable  $1 \times 0.75$  mm<sup>2</sup>

Plug-in terminal: 2.0 x 0.5 mm

**Actuating force**

3 N ... 3,5 N

**Actuating travel**

3 mm

**Rebound time**

Typ.  $< 100$   $\mu\text{s}$

**Mechanical lifetime**

Momentary action 5 million cycles of operation

Maintained action 1 million cycles of operation

**Electrical characteristics****Standards**

EN 61058

**Contact resistance**

Starting value (initial)  $\leq 50$  m $\Omega$

Switch rating

10  $\mu\text{A}$ , 100  $\mu\text{V}$  to 100 mA at 42 VAC/VDC

**Electric strength**

2500 VAC, 50 Hz, 1 min. between all terminals and earth, as per IEC 60512-2-11

**Protection class**

II

**Environmental conditions****Storage temperature**

-40 °C ... +85 °C

**Service temperature**

-25 °C ... +55 °C

For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

**Protection degree**

Front P 40

IP 67 with front protective cap

**Shock resistance**

(Single impacts, semi-sinusoidal)

15 g for 11 ms, as per IEC 60512-4-3, IEC 60068-2-27

**Climate resistance**

Standard condition, as per IEC 60068-2-3 and 2-30

Changing condition, as per IEC 60068-2-14 and 2-33