

Switching element without illumination

Equipment consisting of (schematic overview)



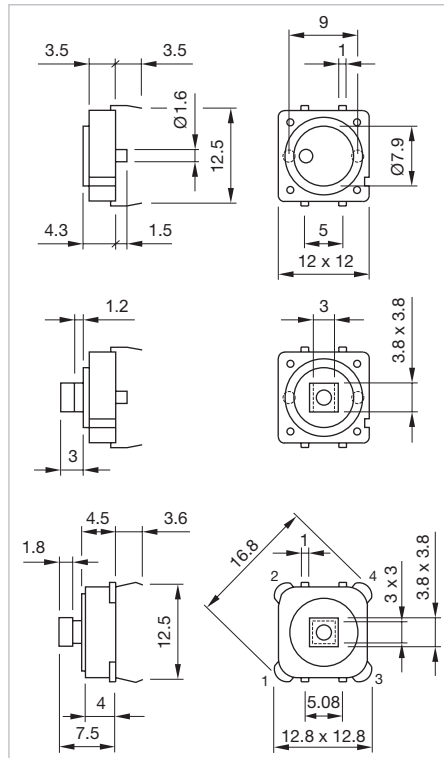
Spacing cap *page 8*



Switching element

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.






Dimensions



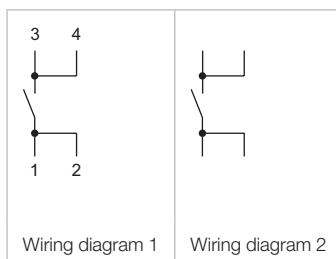
Product can differ from the current configuration.

Additional Information


- Contact normally open
- Switching action momentary
- Dimensions with fitted spacing cap see details «Spacing cap»

Product attribute	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
 <p>Switching element without illumination</p>						
without spacing cap	Silver	PCB	70-100.0	2	2	0.001 kg
 <p>Switching element without illumination</p>						
without spacing cap	Silver	PCB	70-101.0	2	2	0.001 kg
 <p>Switching element without illumination</p>						
without spacing cap	Gold	PCB	70-201.0	1	1	0.001 kg

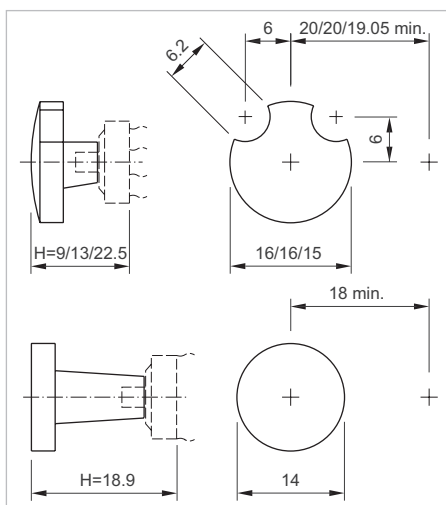
The component layouts you will find from page 10




70 Accessories

Lens	Part No.	Weight
		
Lens, Front dimension Ø 12.4 mm		
Plastic red translucent	70-912.2	0.001 kg
Plastic orange translucent	70-912.3	0.001 kg
Plastic yellow translucent	70-912.4	0.001 kg
Plastic green translucent	70-912.5	0.001 kg
Plastic white translucent	70-912.9	0.001 kg

Spacing cap



Dimensions

Product attribute	Part No.	Weight
		
Spacing cap		
without recesses for LED, H = 18.9 mm	70-901.0	0.001 kg
2 recesses for LED, H = 9 mm	70-910.0	0.001 kg
2 recesses for LED, H = 13 mm	70-911.0	0.001 kg
2 recesses for LED, H = 22.5 mm	70-912.0	0.001 kg

Electrical characteristics

Isolation resistance

≥ 50 MΩ

Contact resistance

≤ 100 mΩ

as per 500 000 cycles of operation at 12 VDC, 5 mA resistive load ≤ 200 mΩ

Electrical life

at 5 VDC, 1 mA > 1 million operations

at 24 VDC, 1 mA > 100 000 operations

Switch rating

≤ 1 VA (resistive load)

Switch rating

≤ 24 VDC, ≤ 50 mA

Electric strength

250 VAC for 1 min.

Environmental conditions

Storage temperature

-30 °C ... +85 °C

Operating temperature

-20 °C ... +70 °C

Switching element non-illuminated Part No. 70-201.0

Switching system

Short-travel switching system with two independent contact points and tactile operation. Guarantees reliable switching even of very light loads.

1 normally open contact

Material

Material of contact

Gold (Au)

Switching element

Thermoplastic Polyester (PET, PBT) and Polyacetale (POM)

Mechanical characteristics

Actuating force

with overlay foil 2.1 N ±0.2 N

Max. actuating force > 50 N, as per DIN 42115

Actuating travel

max. 0.5 mm

Rebound time

≤ 1 ms

Resistance to heat of soldering

260 °C, 5 s, as per IEC 60068-2-20

Mechanical lifetime

> 5 million operations

Front protection

front with overlay foil IP 65

Electrical characteristics

Contact resistance

Starting value (initial) ≤ 100 mΩ, as per IEC 60512-2-2b

Isolation resistance

≥ 1000 MΩ

Contact resistance

≤ 100 mΩ

as per 500 000 cycles of operation at 12 VDC, 5 mA resistive load ≤ 200 mΩ

Electrical life

≥ 500 000 operations at 42 VDC, 50 mA, as per IEC 60512-5-9c

When attention is paid to the direction of current flow from terminal ¼ to ½ the electrical life can be prolonged.

Switch rating

max. 42 V, 50 mA

min. 50 mV, 10 µA

Switch rating

Switching voltage VDC/VAC	min. 50 mV	max. 42 V
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Switching current VDC/VAC	min. 10 mA	max. 100 mA
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Switch rating	max. 2 W
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Electric strength

500 VAC, 50 Hz, 1 min, as per IEC 60512-2-4a

Environmental conditions

Storage temperature

-40 °C ... +85 °C

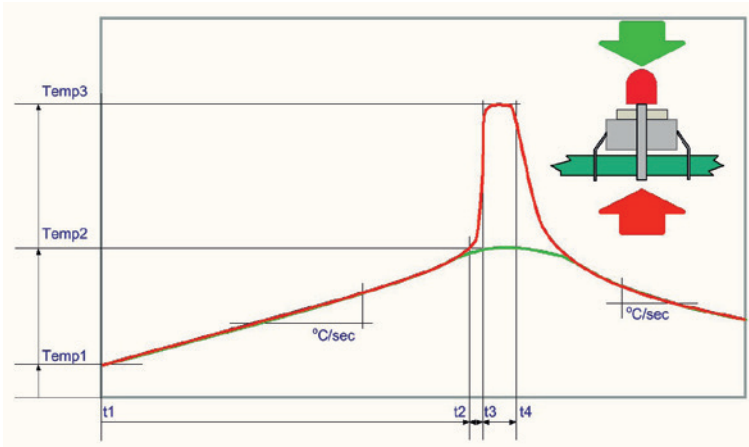
Operating temperature

-25 °C ... +70 °C

EAO reserves the right to alter specifications without further notice.

70 Application guidelines

Temperature curve wave soldering



Green curve: Temperature on the component side of the pcb
Red curve: Temperature on the soldering side of the pcb

Room temperature: Temp 1

Preheating: Temperature process = Temp 1 ... Temp 2
Process time = t1 ... t2

Ramp up to soldering temperature: Process time = t2 ... t3

Soldering phase: Temperature process = Temp 3
Process time = t3 ... t4

Iron soldering

Basic specification for iron soldering IEC 60068-2-20

Maximum temperature at tip of iron: 320 °C

Maximum soldering time: 3 sec

Cleaning/Lacquering

The switching elements are not sealed. Cleaning up the PCB may damage the contacts in the switching elements. For this reason, the following points should be noted:

- When soldering make sure that the flux does not pass on the upper side of the PCB.
- When cleaning the PCB with detergents ensure that no dust or other debris may get inside of the switching elements.
- Ensure that no lacquer penetrates into the interior of the switching element when lacquering the PCB.

Storage of components

To obtain the optimum solderability of the components, the following points should be noted during storage:

- Do not store components in locations with high temperature or humidity.
- Do not expose components to corrosive gases.
- Avoid direct sunlight for a long period.