

# 56 Front mounting

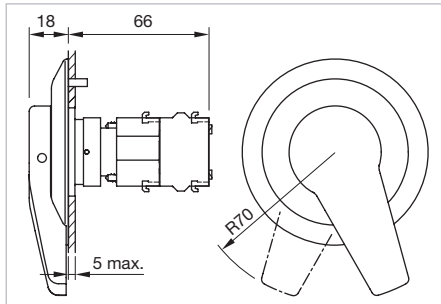
## Lever switch



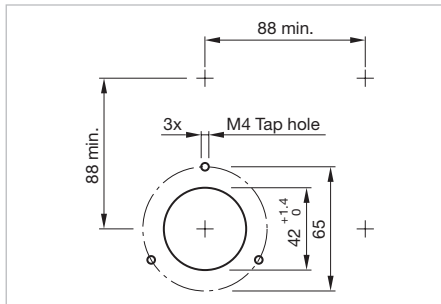
The preview is based on a sample product. This can differ from your current configuration.

### Additional Information

- Lever aluminium naturel anodized
- Two switching positions
- Switching action: 0-maintain
- 45° switching angle
- Switching element see technical data Series O4

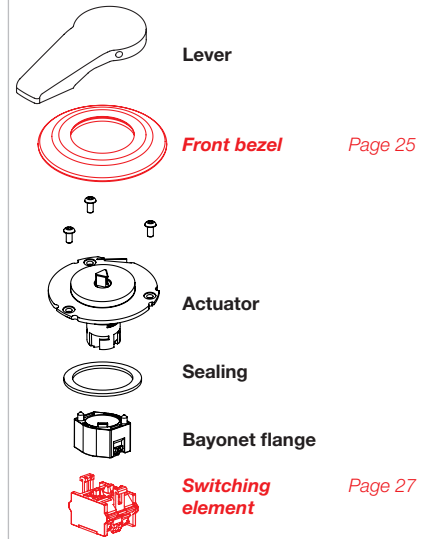


Dimensions [mm]



Mounting cut-outs [mm]

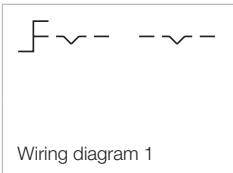
### Equipment consisting of



Each part 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.*

Part No.	Weight
704.107.1	0.314 kg




**Front**
**Front bezel**
**Additional Information**

- Special colours for front bezel on request

Product attribute	Colour	Front bezel	Part No.	Weight
 <b>Front bezel, front dimension 87 x 87 mm</b>				
For single side indicator and single side pushbutton, front mounting	RAL 3020	Plastic red	<b>56-2200</b>	0.026 kg
	RAL 1023	Plastic yellow	<b>56-2400</b>	0.026 kg
	RAL 6024	Plastic green	<b>56-2500</b>	0.026 kg
	RAL 5017	Plastic blue	<b>56-2600</b>	0.026 kg
		Metal matt chrome	<b>56-4600</b>	0.085 kg
 <b>Front bezel, front dimension Ø 87 mm</b>				
For single side indicator and single side pushbutton; double side pushbutton external	RAL 9017	Pastic black	<b>56-1000</b>	0.018 kg
	RAL 3020	Plastic red	<b>56-1200</b>	0.018 kg
	RAL 2003	Plastic orange	<b>56-1300</b>	0.018 kg
	RAL 1023	Plastic yellow	<b>56-1400</b>	0.018 kg
	RAL 6024	Plastic green	<b>56-1500</b>	0.018 kg
	RAL 5017	Plastic blue	<b>56-1600</b>	0.018 kg
	RAL 7043	Plastic darkgrey	<b>56-1800</b>	0.018 kg
	RAL 7040	Plastic lightgrey	<b>56-1800A</b>	0.018 kg
	Metal matt chrome	<b>56-3600</b>	0.07 kg	

**Front bezel internal**
**Additional Information**

- For double side pushbutton

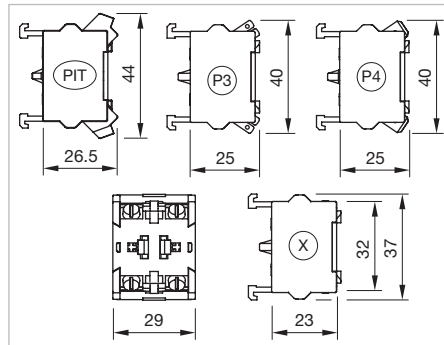
Dimension	Colour	Front bezel	Part No.	Weight
 <b>Front bezel internal</b>				
Ø 87 mm	RAL 3020	Plastic red	<b>56-5200</b>	0.09 kg
	RAL 2003	Plastic orange	<b>56-5300</b>	0.09 kg
	RAL 1023	Plastic yellow	<b>56-5400</b>	0.09 kg
	RAL 6024	Plastic green	<b>56-5500</b>	0.09 kg
	RAL 5017	Plastic blue	<b>56-5600</b>	0.09 kg
	RAL 7043	Plastic darkgrey	<b>56-5800</b>	0.09 kg
	RAL 7040	Plastic lightgrey	<b>56-5800A</b>	0.09 kg
	Metal matt chrome	<b>56-7600</b>	0.115 kg	

Rear side


Switching element



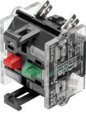

Additional Information

- For the third switching element the terminal marking insert is to be ordered separately

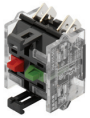


Dimensions [mm]  
 PIT = Push-in terminal,  
 P3 = Plug-in terminal 6.3 x 0.8 mm,  
 P4 = Double plug-in terminal 6.3 x 0.8 mm,  
 X = Screw terminal

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight	
	250 VAC	6 A	Snap-action switching element	1 NO	Gold	Push-in Terminal	<b>704.907.1</b>	3	0.02 kg
				1 NC	Gold	Push-in Terminal	<b>704.907.2</b>	1	0.02 kg
				2 NO	Gold	Push-in Terminal	<b>704.907.3</b>	5	0.027 kg
				2 NC	Gold	Push-in Terminal	<b>704.907.4</b>	4	0.027 kg
				1 NC + 1 NO	Gold	Push-in Terminal	<b>704.907.5</b>	2	0.027 kg
				1 NO	Silver	Push-in Terminal	<b>704.908.1</b>	3	0.02 kg
				1 NC	Silver	Push-in Terminal	<b>704.908.2</b>	1	0.02 kg
				2 NO	Silver	Push-in Terminal	<b>704.908.3</b>	5	0.027 kg
				2 NC	Silver	Push-in Terminal	<b>704.908.4</b>	4	0.027 kg
				1 NC + 1 NO	Silver	Push-in Terminal	<b>704.908.5</b>	2	0.027 kg

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight
 <p><b>Switching element</b></p>								
250 VAC	6 A	Slow-make switching element	1 NO	Gold	Push-in Terminal	<b>704.917.1</b>	3	0.019 kg
			1 NC	Gold	Push-in Terminal	<b>704.917.2</b>	1	0.019 kg
			2 NO	Gold	Push-in Terminal	<b>704.917.3</b>	5	0.026 kg
			2 NC	Gold	Push-in Terminal	<b>704.917.4</b>	4	0.019 kg
			1 NC + 1 NO	Gold	Push-in Terminal	<b>704.917.5</b>	2	0.026 kg
			1 NO	Silver	Push-in Terminal	<b>704.918.1</b>	3	0.019 kg
			1 NC	Silver	Push-in Terminal	<b>704.918.2</b>	1	0.019 kg
			2 NO	Silver	Push-in Terminal	<b>704.918.3</b>	5	0.026 kg
			2 NC	Silver	Push-in Terminal	<b>704.918.4</b>	4	0.019 kg
			1 NC + 1 NO	Silver	Push-in Terminal	<b>704.918.5</b>	2	0.026 kg
 <p><b>Switching element</b></p>								
500 VAC	10 A	Snap-action switching element	1 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.905.1</b>	3	0.021 kg
			1 NC	Silver	Plug 6.3 x 0.8 mm	<b>704.905.2</b>	1	0.021 kg
			2 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.905.3</b>	5	0.028 kg
			2 NC	Silver	Plug 6.3 x 0.8 mm	<b>704.905.4</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.905.5</b>	2	0.028 kg
			 <p><b>Switching element</b></p>					
500 VAC	10 A	Slow-make switching element	1 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.915.1</b>	3	0.021 kg
			1 NC	Silver	Plug 6.3 x 0.8 mm	<b>704.915.2</b>	1	0.021 kg
			2 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.915.3</b>	5	0.028 kg
			2 NC	Silver	Plug 6.3 x 0.8 mm	<b>704.915.4</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Plug 6.3 x 0.8 mm	<b>704.915.5</b>	2	0.028 kg
 <p><b>Switching element</b></p>								
500 VAC	10 A	Snap-action switching element	1 NO	Gold	Double plug 6.3 x 0.8 mm	<b>704.901.1/D</b>	3	0.026 kg
			1 NC	Gold	Double plug 6.3 x 0.8 mm	<b>704.901.2/D</b>	1	0.026 kg
			2 NO	Gold	Double plug 6.3 x 0.8 mm	<b>704.901.3/D</b>	5	0.033 kg
			2 NC	Gold	Double plug 6.3 x 0.8 mm	<b>704.901.4/D</b>	4	0.033 kg

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight
500 VAC	10 A	Snap-action switching element	1 NC + 1 NO	Gold	Double plug 6.3 x 0.8 mm	<b>704.901.5/D</b>	2	0.033 kg
			1 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.905.1/D</b>	3	0.026 kg
			1 NC	Silver	Double plug 6.3 x 0.8 mm	<b>704.905.2/D</b>	1	0.026 kg
			2 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.905.3/D</b>	5	0.033 kg
			2 NC	Silver	Double plug 6.3 x 0.8 mm	<b>704.905.4/D</b>	4	0.033 kg
			1 NC + 1 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.905.5/D</b>	2	0.033 kg



**Switching element**


500 VAC	10 A	Slow-make switching element	1 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.915.1/D</b>	3	0.025 kg
			1 NC	Silver	Double plug 6.3 x 0.8 mm	<b>704.915.2/D</b>	1	0.025 kg
			2 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.915.3/D</b>	5	0.032 kg
			2 NC	Silver	Double plug 6.3 x 0.8 mm	<b>704.915.4/D</b>	4	0.032 kg
			1 NC + 1 NO	Silver	Double plug 6.3 x 0.8 mm	<b>704.915.5/D</b>	2	0.032 kg



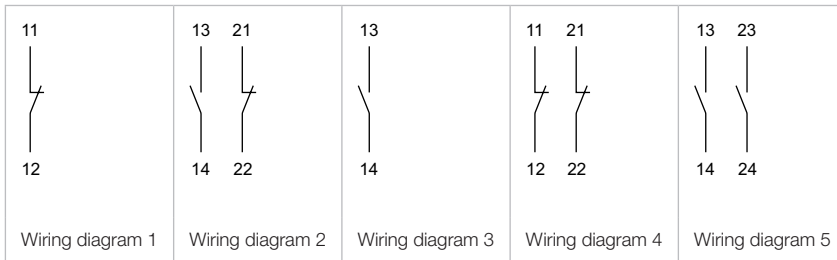
**Switching element**

500 VAC	10 A	Snap-action switching element	1 NO	Gold	Screw	<b>704.901.1</b>	3	0.021 kg
			1 NC	Gold	Screw	<b>704.901.2</b>	1	0.021 kg
			2 NO	Gold	Screw	<b>704.901.3</b>	5	0.028 kg
			2 NC	Gold	Screw	<b>704.901.4</b>	4	0.028 kg
			1 NC + 1 NO	Gold	Screw	<b>704.901.5</b>	2	0.028 kg
			1 NO	Silver	Screw	<b>704.900.1</b>	3	0.021 kg
			1 NC	Silver	Screw	<b>704.900.2</b>	1	0.021 kg
			2 NO	Silver	Screw	<b>704.900.3</b>	5	0.028 kg
			2 NC	Silver	Screw	<b>704.900.4</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Screw	<b>704.900.5</b>	2	0.028 kg
			1 NO	Palladium	Screw	<b>704.902.1</b>	3	0.021 kg
			1 NC	Palladium	Screw	<b>704.902.2</b>	1	0.021 kg
			2 NO	Palladium	Screw	<b>704.902.3</b>	5	0.028 kg
			2 NC	Palladium	Screw	<b>704.902.4</b>	4	0.028 kg
			1 NC + 1 NO	Palladium	Screw	<b>704.902.5</b>	2	0.028 kg

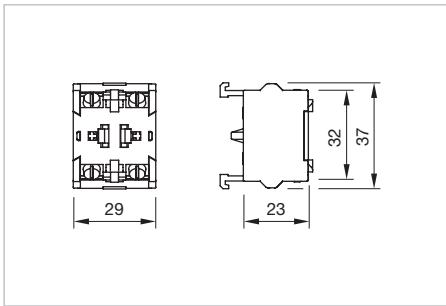
# 56 Accessories

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight
 <p><b>Switching element</b></p>								
500 VAC	10 A	Slow-make switching element	1 NO	Gold	Screw	<b>704.911.1</b>	3	0.021 kg
			1 NC	Gold	Screw	<b>704.911.2</b>	1	0.021 kg
			2 NO	Gold	Screw	<b>704.911.3</b>	5	0.028 kg
			2 NC	Gold	Screw	<b>704.911.4</b>	4	0.028 kg
			1 NC + 1 NO	Gold	Screw	<b>704.911.5</b>	2	0.028 kg
			1 NO	Silver	Screw	<b>704.910.1</b>	3	0.021 kg
			1 NC	Silver	Screw	<b>704.910.2</b>	1	0.021 kg
			2 NO	Silver	Screw	<b>704.910.3</b>	5	0.028 kg
			2 NC	Silver	Screw	<b>704.910.4</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Screw	<b>704.910.5</b>	2	0.028 kg
			1 NO	Palladium	Screw	<b>704.912.1</b>	3	0.021 kg
			1 NC	Palladium	Screw	<b>704.912.2</b>	1	0.021 kg
			2 NO	Palladium	Screw	<b>704.912.3</b>	5	0.028 kg
			2 NC	Palladium	Screw	<b>704.912.4</b>	4	0.028 kg
			1 NC + 1 NO	Palladium	Screw	<b>704.912.5</b>	2	0.028 kg



Contacts: NC = Normally closed, NO = Normally open



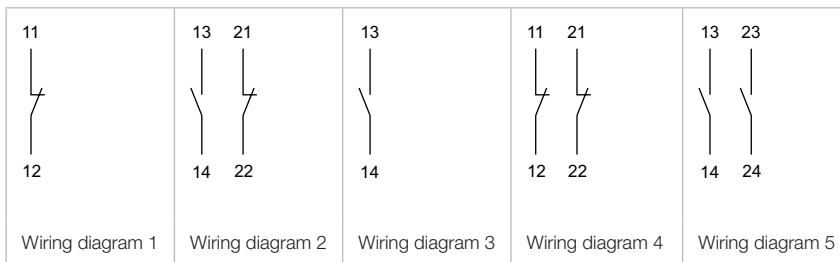
**Switching element ring cable lug**



Dimensions [mm]

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight
 <p><b>Switching element for ring cable shoe</b></p>								
500 VAC	10 A	Snap-action switching element	1 NO	Silver	Screw	<b>704.900.1B</b>	3	0.021 kg
			1 NC	Silver	Screw	<b>704.900.2B</b>	1	0.021 kg
			2 NO	Silver	Screw	<b>704.900.3B</b>	5	0.028 kg
			2 NC	Silver	Screw	<b>704.900.4B</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Screw	<b>704.900.5B</b>	2	0.028 kg
 <p><b>Switching element for ring cable shoe</b></p>								
500 VAC	10 A	Slow-make switching element	1 NO	Gold	Screw	<b>704.911.1B</b>	3	0.021 kg
			1 NC	Gold	Screw	<b>704.911.2B</b>	1	0.021 kg
			2 NO	Gold	Screw	<b>704.911.3B</b>	5	0.028 kg
			2 NC	Gold	Screw	<b>704.911.4B</b>	4	0.028 kg
			1 NC + 1 NO	Gold	Screw	<b>704.911.5B</b>	2	0.028 kg
			1 NO	Silver	Screw	<b>704.910.1B</b>	3	0.021 kg
			1 NC	Silver	Screw	<b>704.910.2B</b>	1	0.021 kg
			2 NO	Silver	Screw	<b>704.910.3B</b>	5	0.028 kg
			2 NC	Silver	Screw	<b>704.910.4B</b>	4	0.028 kg
			1 NC + 1 NO	Silver	Screw	<b>704.910.5B</b>	2	0.028 kg

Contacts: NC = Normally closed, NO = Normally open



**Slow-make switching element**
**Switching system**

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.

Slow-make contacts with forced action are ideal for high switch ratings.

Up to three switching elements can be snapped to each actuator. For the emergency-stop pushbutton use the slow-make switching element (max. 3).

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

Hardsilver, gold-silver, silver-palladium (for aggressive atmospheres)

**Switch housing**

Polycarbonate (PC)

**Mechanical characteristics**
**Terminals**

Screw terminals

Plug-in terminals 6.3 x 0.8 mm

max. wire cross-section 2 x 2.5 mm<sup>2</sup>

max. wire cross-section of stranded cable 2 x 1.5 mm<sup>2</sup>

For switches with plug-in terminals it is necessary to provide insulation sleeves and to maintain a spacing of 65 mm between rows (mounting cut-outs)

**Tightening torque**

Screws at the mounting flange max. 25–30 Ncm

Screws at switching element max. 50 Ncm

**Actuating force**

1 Normally closed 2 N

1 Normally open 3.1 N

**Actuating travel**

5.8 mm ± 0.2 mm

**Rebound time**

≤ 1 ms

**Mechanical lifetime**

(with 1 switching element)

Pushbutton maintained action 1.5 million Cycles of operation

Pushbutton momentary action 3 million Cycles of operation

Selector switch maintained action 1.25 million Cycles of operation

Selector switch momentary action 2.5 million Cycles of operation

Emergency-stop switch 50 000 Cycles of operation

Keylock switch maintained action 25 000 Cycles of operation

Keylock switch momentary action 50 000 Cycles of operation

**Electrical characteristics**
**Standards**

The switches comply with the “Standards for low-voltage switching devices” EN IEC 60947-5-1

**Rated Insulation Voltage U<sub>i</sub>**

500 VAC/600 VDC, as per EN IEC 60947-5-1

**Contact resistance**

New state ≤ 50 mΩ as per DIN IEC 60512-2-4

**Isolation resistance**

≥ 10 MΩ between open contacts at 500 VDC, as per DIN IEC 60512-3-1

**Electrical life**

6050 cycles of operations

**Conventional free air thermal current I<sub>th</sub>**

As per EN IEC 60947-5-1

6 A for plug-in terminals

10 A for screw terminals

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

**Switch rating**

At switch rating AC for gold-silver, silver-palladium and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 (cos φ 0.3)

Voltage	230 VAC	400 VAC	500 VAC
Current	7 A	5 A	4 A

At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage	24 VDC	60 VDC	110 VDC	250 VDC
Current	10 A	5 A	2.5 A	0.6 A

**Recommended minimum operational data**

Gold-silver contacts:

Voltage	24 VDC	110 VDC
Current	5 mA	2 mA

Hardsilver contacts:

Voltage	24 VDC	110 VDC
Current	50 mA	10 mA

**Protection class**

Indicators and switches, fit for mounting into devices with protection class II



## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Operating temperature

-40 °C ... +55 °C

(other temperatures on request)

### Protection degree

IP 00

### Shock resistance

(single impacts, semi-sinusoidal)

300 m/s<sup>2</sup> puls width 11 ms, as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)

100 m/s<sup>2</sup> at 10 Hz ... 500 Hz, amplitude 0.75 mm, as per

EN IEC 60068-2-6

## Approvals

### Approbations

CB (IEC 60947)

CCC

CSA

Germanischer Lloyd

GOST

NFF 16-102

UL

### Declaration of conformity

CE

## Snap-action switching element

### Switching system

The double-break, snap-action switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The snap-action switching element is fitted with self-cleaning contacts.

Up to three switching elements can be snapped to each actuator. Snap-action switching elements are not permissible for emergency-stop pushbuttons!

### Material

#### Material of contact

Hardsilver, gold-silver, silver-palladium (for aggressive atmospheres)

#### Switch housing

Polycarbonate (PC)

### Mechanical characteristics

#### Terminals

Screw terminals

Plug-in terminals 6.3 x 0.8 mm

max. wire cross-section 2 x 2.5 mm<sup>2</sup>

max. wire cross-section of stranded cable 2 x 1.5 mm<sup>2</sup>

For switches with plug-in terminals it is necessary to provide insulation sleeves and to maintain a spacing of 65 mm between rows (mounting cut-outs)

#### Tightening torque

Screws at the mounting flange max. 25–30 Ncm

Screws at switching element max. 50 Ncm

#### Actuating force

1 Normally closed 1.9 N

1 Normally open 2 N

### Actuating travel

5.8 mm ± 0.2 mm

### Rebound time

≤ 3 ms

### Mechanical lifetime

(with 1 switching element)

Pushbutton maintained action 1.5 million Cycles of operation

Pushbutton momentary action 3 million Cycles of operation

Selector switch maintained action 1.25 million Cycles of operation

Selector switch momentary action 2.5 million Cycles of operation

Keylock switch maintained action 25 000 Cycles of operation

Keylock switch momentary action 50 000 Cycles of operation

### Electrical characteristics

#### Standards

The switches comply with the "Standards for low-voltage switching devices" EN IEC 60947-5-1

#### Rated Insulation Voltage U<sub>i</sub>

500 VAC/600 VDC, as per EN IEC 60947-5-1

#### Contact resistance

New state ≤ 50 mΩ as per DIN IEC 60512-2-4

#### Isolation resistance

≥ 10 MΩ between open contacts at 500 VDC, as per

DIN IEC 60512-3-1

#### Electrical life

50 000 cycles of operations

### Conventional free air thermal current $I_{th}$

As per EN IEC 60947-5-1

6A for plug-in terminals

10A for screw terminals

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

### Switch rating

At switch rating AC for gold-silver, silver-palladium and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 ( $\cos\phi$  0.3)

Voltage	230VAC	400VAC	500VAC
Current	6A	4A	2.5A

At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage	24VDC	60VDC	110VDC
Current	10A	3A	1A

### Recommended minimum operational data

Gold-silver contacts:

Voltage	5VDC	24VDC	110VDC
Current	15mA	5mA	2mA

Hardsilver contacts:

Voltage	24VDC	110VDC
Current	50mA	10mA

### Protection class

Indicators and switches, fit for mounting into devices with protection class II

### Environmental conditions

#### Storage temperature

-40°C ... +85°C

#### Operating temperature

-40°C ... +55°C

(other temperatures on request)

#### Protection degree

IP 00

#### Shock resistance

(single impacts, semi-sinusoidal)

300m/s<sup>2</sup> puls width 11 ms, as per EN IEC 60068-2-27

#### Vibration resistance

(sinusoidal)

100m/s<sup>2</sup> at 10Hz ... 500Hz, amplitude 0.75 mm, as per EN IEC 60068-2-6

### Approvals

#### Approbations

CB (IEC 60947)

CCC

CSA

Germanischer Lloyd

GOST

NFF 16-102

UL

#### Declaration of conformity

CE

## Slow-make switching element PIT

### Switching system

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.

Slow-make contacts with forced action are ideal for high switch ratings.

Up to three switching elements can be snapped to each actuator. For the emergency-stop pushbutton use the slow-make switching element (max. 3).

### Material

#### Material of contact

Hardsilver and gold-silver

#### Switch housing

Polycarbonate (PC)

### Mechanical characteristics

#### Terminals

PIT push-in terminal

Skimming 8 mm

Wire cross-section:

Wire 0.2 to 1.0mm<sup>2</sup>

Stranded wire 0.2 to 1.0mm<sup>2</sup> without core and sleeve

Stranded wire 0.2 to 0.75mm<sup>2</sup> with core and sleeve

#### Tightening torque

Screws at the mounting flange max. 25Ncm

#### Actuating force

1 Normally closed 2N

1 Normally open 3.1N

#### Actuating travel

5.8 mm ± 0.2 mm

#### Rebound time

≤ 1 ms

## Mechanical lifetime

(with 1 switching element)

Pushbutton maintained action	1.5 million Cycles of operation
Pushbutton momentary action	3 million Cycles of operation
Selector switch maintained action	1.25 million Cycles of operation
Selector switch momentary action	2.5 million Cycles of operation
Emergency-stop switch	50 000 Cycles of operation
Keylock switch maintained action	25 000 Cycles of operation
Keylock switch momentary action	50 000 Cycles of operation

## Electrical characteristics

### Standards

The switches comply with EN IEC 60947-1/EN IEC 60947-5-1

### Rated Insulation Voltage $U_i$

500 VAC/600 VDC, as per EN IEC 60947-5-1

### Contact resistance

New state  $\leq 50 \text{ m}\Omega$  as per DIN IEC 60512-2-4

### Isolation resistance

$\geq 10 \text{ M}\Omega$  between open contacts at 500 VDC, as per DIN IEC 60512-3-1

### Electrical life

6050 cycles of operations

### Conventional free air thermal current $I_{th}$

6 A, as per EN IEC 60947-5-1

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

### Switch rating

At switch rating AC for gold-silver and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 ( $\cos\phi 0.3$ )

Voltage 250 VAC

Current 6 A

At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage 24 VDC 110 VDC

Current 6 A 1.0 A

## Recommended minimum operational data

Gold-silver contacts:

Voltage 24 VDC

Current 5 mA

Hardsilver contacts:

Voltage 24 VDC

Current 50 mA

## Protection class

Indicators and switches, fit for mounting into devices with protection class II

## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Operating temperature

-40 °C ... +55 °C

(other temperatures on request)

### Protection degree

IP 20

### Shock resistance

(single impacts, semi-sinusoidal)

300 m/s<sup>2</sup> puls width 11 ms, as per EN IEC 60068-2-27

## Approvals

### Approbations

CB (IEC 60947)

CSA

Germanischer Lloyd

GOST

NFF 16-102

UL

### Declaration of conformity

CE

## Snap-action switching element PIT

### Switching system

The double-break, snap-action switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The snap-action switching element is fitted with self-cleaning contacts.

Up to three switching elements can be snapped to each actuator. Snap-action switching elements are not permissible for emergency-stop pushbuttons!

### Material

#### Material of contact

Hardsilver and gold-silver

#### Switch housing

Polycarbonate (PC)

## Mechanical characteristics

### Terminals

PIT push-in terminal  
 Skinning 8 mm  
 Wire cross-section:  
 Wire 0.2 to 1.0 mm<sup>2</sup>  
 Stranded wire 0.2 to 1.0 mm<sup>2</sup> without core and sleeve  
 Stranded wire 0.2 to 0.75 mm<sup>2</sup> with core and sleeve

### Tightening torque

Screws at the mounting flange max. 25 Ncm

### Actuating force

1 Normally closed 1.9 N  
 1 Normally open 2 N

### Actuating travel

5.8 mm ± 0.2 mm

### Rebound time

≤ 3 ms

### Mechanical lifetime

(with 1 switching element)

Pushbutton maintained action	1.5 million Cycles of operation
Pushbutton momentary action	3 million Cycles of operation
Selector switch maintained action	1.25 million Cycles of operation
Selector switch momentary action	2.5 million Cycles of operation
Emergency-stop switch	50 000 Cycles of operation
Keylock switch maintained action	25 000 Cycles of operation
Keylock switch momentary action	50 000 Cycles of operation

## Electrical characteristics

### Standards

The switches comply with EN IEC 60947-1/EN IEC 60947-5-1

### Rated Insulation Voltage $U_i$

500 VAC/600 VDC, as per EN IEC 60947-5-1

### Contact resistance

New state ≤ 50 mΩ as per DIN IEC 60512-2-4

### Isolation resistance

≥ 10 MΩ between open contacts at 500 VDC, as per DIN IEC 60512-3-1

### Electrical life

50 000 cycles of operations

### Conventional free air thermal current $I_{th}$

6 A, as per EN IEC 60947-5-1  
 the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

### Switch rating

At switch rating AC for gold-silver and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 (cos φ 0.3)

Voltage 250 VAC

Current 6 A

At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage 24 VDC 110 VDC

Current 6 A 1.0 A

### Recommended minimum operational data

Gold-silver contacts:

Voltage 24 VDC

Current 5 mA

Hardsilver contacts:

Voltage 24 VDC

Current 50 mA

### Protection class

Indicators and switches, fit for mounting into devices with protection class II

## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Operating temperature

-40 °C ... +55 °C

(other temperatures on request)

### Protection degree

IP 20

### Shock resistance

(single impacts, semi-sinusoidal)

300 m/s<sup>2</sup> puls width 11 ms, as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)

100 m/s<sup>2</sup> at 10 Hz ... 500 Hz, as per EN IEC 60068-2-6 and

EN 61373 Increased broad band noise, class 1B

## Approvals

### Approbations

CB (IEC 60947)

CSA

Germanischer Lloyd

GOST

NFF 16-102

UL

### Declaration of conformity

CE