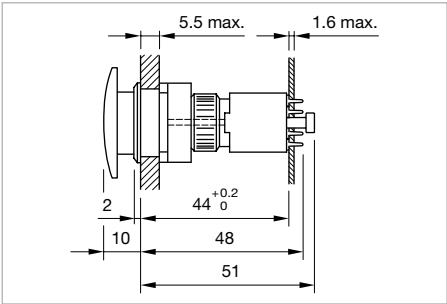


71 Flush design

Mushroom-head pushbutton, IP 65



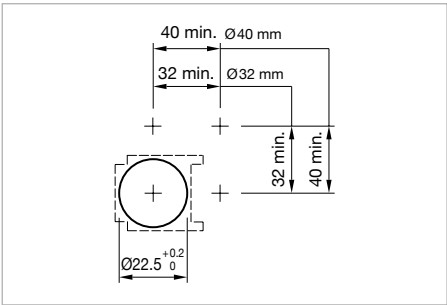
Product can differ from the current configuration.



Dimensions [mm]


Additional Information

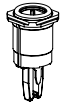
- Pitch of the front plate mounting cut-outs must agree with the printed circuit board holes Ø 3.5





Mounting cut-outs [mm]


Equipment consisting of (schematic overview)


**Lens**page 718

**Actuator**

**Front bezel set**page 721


**Fixing nut**

**Switching element**page 727


**Interlocking pin**


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.

Switching action	Part No.	Wiring diagram	Weight
 <b>Mushroom-head pushbutton actuator, Front dimension Ø 32 mm</b>	B	71-611.0	1 0.005 kg
	C	71-612.0	2 0.005 kg

Switching action: B = Momentary, C = Maintain

  
Wiring diagram 1


  
Wiring diagram 2

# 71 Accessories

## Mushroom-head cap

### Additional Information


- Non-illuminative

Mushroom-head cap	Part No.	Weight
 <b>Mushroom-head cap, Front dimension Ø 32 mm</b>		
Plastic black	<b>61-9593.0</b>	0.004 kg
Plastic red	<b>61-9593.2</b>	0.004 kg
Plastic yellow	<b>61-9593.4</b>	0.004 kg
Plastic green	<b>61-9593.5</b>	0.004 kg




## Marking plate

### Additional Information

- Can be hot stamped
- Only applicable with lens round  
Part No. 61-9642.X

Marking plate	Part No.	Weight
 <b>Legend plate for lens plastic</b>		
Plastic colourless transparent	<b>61-9707.7</b>	0.001 kg

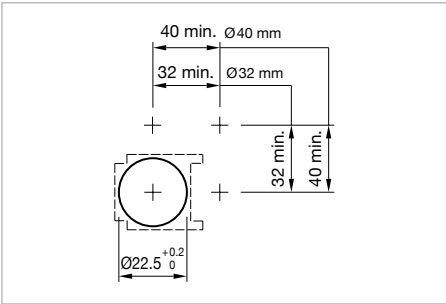
## Keylock front bezel

Product attribute	Dimension	Material	Colour	Part No.	Weight
 <b>Keylock front bezel for keylock switch, flush design</b>					
for device with front dimension 24 x 24 mm	18 x 18 mm	Plastic	black	<b>61-9220.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, flush design</b>					
for device with front dimension 24 x 30 mm	18 x 24 mm	Plastic	black	<b>61-9230.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, flush design</b>					
fro device with front dimension Ø 25 mm	Ø 18 mm	Plastic	black	<b>61-9210.0</b>	0.001 kg



Front bezel set mushroom

Additional Information

- Pitch of the front plate mounting cut-outs must agree with the printed circuit board holes Ø 3,5
- The colour of anodized aluminium parts can vary due to technical production reasons



Mounting cut-outs [mm]


Dimension	Mounting cut-out	Front bezel	Part No.	Weight
	<b>Front bezel set for mushroom-head pushbutton, flush design, Front dimension Ø 40 mm</b>			
	Ø 22.5 mm	Aluminium natural anodized	<b>61-9934.8</b>	0.013 kg
	<b>Front bezel set for mushroom-head pushbutton, flush design</b>			
25 mm	Ø 22.5 mm	Aluminium natural anodized	<b>61-9933.0</b>	0.006 kg
		Aluminium black anodized	<b>61-9933.1</b>	0.006 kg
		Aluminium red anodized	<b>61-9933.2</b>	0.006 kg
		Aluminium gold anodized	<b>61-9933.4</b>	0.006 kg
		Aluminium olive-green anodized	<b>61-9933.5</b>	0.006 kg
		Aluminium blue anodized	<b>61-9933.6</b>	0.006 kg
		Plastic black	<b>61-9933.10</b>	0.008 kg

Rear side

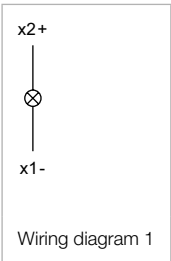
Lamp element

Additional Information

- Including locking pin

Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 <b>Lamp element</b>				
PCB	71-670.006	1	1	0.005 kg


The component layouts you will find from page 733



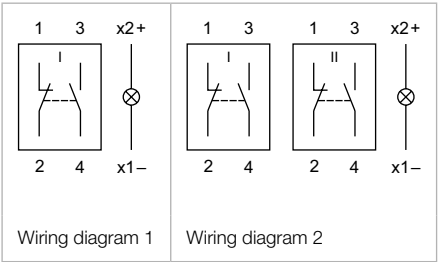
Switching element pushbutton

Additional Information

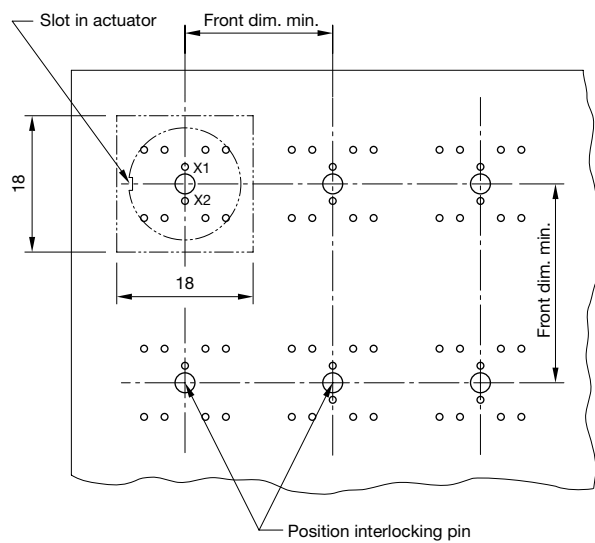
- Including locking pin

Contacts	Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 <b>Switching element for illuminated pushbutton and mushroom-head pushbutton</b>					
1 NC + 1 NO	PCB	71-671.026	1	1	0.005 kg
2 NC + 2 NO	PCB	71-672.026	1	2	0.005 kg

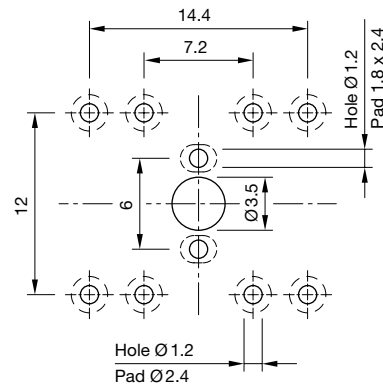
Contacts: NC = Normally closed, NO = Normally open  
The component layouts you will find from page 733



## Drawings

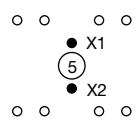


Drilling plan (element side)  
Through-connection recommended

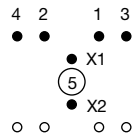


Note:  
Pitch of the print circuit board hole  $\varnothing 3.5$  must agree with the mounting holes on the front plate

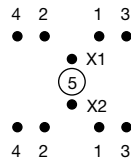
Layout



Illumination element  
71-670.006



Switching element 1NC+1NO  
71-671.026



Switching element 2NC+2NO  
71-672.026

- X1 Lamp cathode (-)
- X2 Lamp anode (+)
- 1-2 Contact normally closed
- 3-4 Contact normally open
- 5 Hole for interlocking pin

Component layout 1

# 71 Technical data

## System switch 71

### Switching system

Self-cleaning, double-break snap-action switching system with one NC- (Normally closed) and one NO-contact (Normally open).

### Material

#### Lens

Polycarbonat (PC), as per UL 94 V0, or Aluminium anodized

#### Front bezel

Polyetherimid (PEI), as per UL 94 V0, or Aluminium anodized

#### Material of contact

AgNi, 2 µm gold plated

#### Switching element

Polyethylene terephthalate (PETP), as per UL 94 V0

#### Actuator housing

Polyetherimide (PEI), as per UL 94 V0

### Mechanical characteristics

#### Terminals

PCB terminal, Brass gold plated

#### Tightening torque

for fixing nut max. 50 Ncm

#### Actuating torque

Selector-/Keylock switch 4 Ncm ... 8 Ncm

#### Actuating force

Pushbutton 2 N ... 3 N

#### Actuating travel

Pushbutton 3 mm

Selector-/keylock switch	2 positions	3 positions
Momentary action	approx. 42°	approx. 2 x 42°
Maintained action	approx. 90°	approx. 2 x 90°

#### Rebound time

≤ 1 ms

#### Mechanical lifetime

Pushbutton maintained action	1 million cycles of operation
Pushbutton momentary action	2 million cycles of operation
Keylock switch	50 000 cycles of operation
Selector switch	100 000 cycles of operation

#### Resistance to heat of soldering

Manual soldering 350 °C, 3 sec.  
Flow soldering 260 °C, 5 sec.

### Electrical characteristics

#### Contact resistance

Starting value (initial) ≤ 50 mΩ

#### Isolation resistance

≥ 10<sup>12</sup> Ω

#### Switch rating

Switch rating AC cosφ 0.7 ... 0.8

Voltage 250 VAC

Current 3 A

Switch rating DC

Voltage 24 VDC 250 VDC

Current 3 A 0.5 A

#### Recommended minimum operational data

Voltage 5 VAC

Current 10 mA

#### Electric strength

2000 VAC, 50 Hz, 1 min. between all terminals and earth

### Environmental conditions

#### Storage temperature

-40 °C ... +85 °C

#### Operating temperature

-25 °C ... +55 °C

#### Protection degree

Frontside IP 65

#### Shock resistance

(semi-sinusoidal)

max. 500 m/s<sup>2</sup>, pulse width 11 ms, 3-axis,

as per EN IEC 60068-2-27

#### Vibration resistance

(sinusoidal)

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

#### Climate resistance

Damp heat, state

56 days, +40 °C/93 % relative humidity, as per EN IEC 60068-2-78

### Approvals

#### Declaration of conformity

CE