

Series 71

22.5mm 21x21mm 21x27mm IP65 3A 250VAC



Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.

Product Profile

The Series 71 is a high quality, modular switch range that includes pushbuttons, indicators, selector switches and keylock switches in flush mount with self cleaning snap-action switching elements. The switching elements may be soldered directly onto the PCB and the actuators are lockable with an interlocking pin, no spacing pins needed.

Technical data see page 114

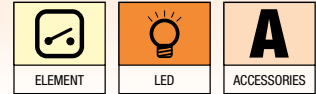
- IP65 Protection
- Switch Rating, 3A, 250VAC
- Flush Mounting into 22.5mm, 21 x 21 mm and 21 x 27 mm cut out
- Illumination using midget-grooved T13/4 lamps or single chip LED's
- All standard lenses are transparent with translucent diffuser available in different colours
- For keylock switches 135 different keys are available

Indicator	Switching element	LED	Accessories	Accessories
For a complete indicator you will need to order the appropriate contact block, LED, lens and bezel				
Illuminated pushbutton	Switching element	LED	Accessories	Accessories
For a complete illuminated pushbutton you will need to order the appropriate contact block, LED, lens and bezel				
Keylock switch	Switching element	Accessories	Accessories	
For a complete keylock switch you will need to order the appropriate contact block and bezel				
Selector switch	Switching element	LED	Accessories	Accessories
For a complete selector switch you will need to order the appropriate contact block, LED, lever and bezel				

Ordering Guide

Choice of front bezel determines front shape

Choose one component from each of the coloured sections to assemble a complete switch.
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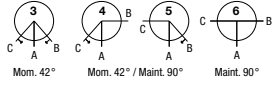
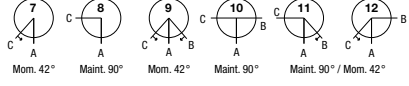


Indicator	Illuminated pushbutton	Keylock switch
		
Indicator body for flush mount, black plastic	Illuminated flush mount pushbutton actuator, round, black plastic	Keylock switch actuator, 2 position for flush mount
Part No. 71-600.0	Part No. Function 71-611.0 Momentary 71-612.0 Maintained	Graphic Part No. Function Key rem. 1 71-621.0/D Momentary A 2 71-622.0/D Maintained A 2 71-623.0/D Maintained C 2 71-624.0/D Maintained A + C
		

For complete switch also order **A**

For complete switch also order **A**

For complete switch also order **A**

Keylock switch	Selector switch	Contact block
		
Keylock switch actuator, 3 position for flush mount	Selector switch actuator, 2 and 3 position for flush mount	Indicator Element and Switching Element. Interlocking pin for PCB assembly supplied with each element
		
Graphic Part No. Function Key rem. 3 71-631.0/D Momentary/Momentary A 4 71-638.0/D Momentary/Maintained A 4 71-639.0/D Momentary/Maintained A + B 5 71-636.0/D Maintained/Momentary A 5 71-637.0/D Maintained/Momentary A/C 6 71-632.0/D Maintained/Maintained A 6 71-635.0/D Maintained/Maintained A + B + C 6 71-634.0/D Maintained/Maintained B + C 6 71-633.0/D Maintained/Maintained C	Graphic Part No. Function Positions 7 71-641.0 Momentary 2 8 71-642.0 Maintained 2 9 71-651.0 Momentary/Momentary 3 12 71-658.0 Momentary/Maintained 3 11 71-656.0 Maintained/Momentary 3 10 71-652.0 Maintained/Maintained 3	Image Part No. Contact type Product description 1 71-670.006 Indicator element 2 71-671.026 1NO/1NC Switching element 3 71-672.026 2NO/2NC Switching element

For complete switch also order **A**

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LED



LED, T1¼ MG, 12 Volt and 28 Volt.
(Also available in 6 Volt, 24 Volt and 48 Volt)

Colour	Part No.	Voltage
● Red	10-2J09.1062	12VAC/DC, 7/14mA
● Yellow	10-2J09.1064	12VAC/DC, 7/14mA
● Green	10-2J09.1065	12VAC/DC, 7/14mA
● Blue	10-2J09.1066	12VAC/DC, 7/14mA
○ White	10-2J09.1069	12VAC/DC, 7/14mA
● Red	10-2J13.1062	28VAC/DC, 7/14mA
● Yellow	10-2J13.1064	28VAC/DC, 7/14mA
● Green	10-2J13.1065	28VAC/DC, 7/14mA
● Blue	10-2J13.1066	28VAC/DC, 7/14mA
○ White	10-2J13.1069	28VAC/DC, 7/14mA

A Accessories



Lens, plastic for flush mount rectangular indicator and pushbutton actuators

Colour	Part No.	Size
● Red	61-9681.2	24x30 mm
● Yellow	61-9681.4	24x30 mm
● Green	61-9681.5	24x30 mm
● Blue	61-9681.6	24x30 mm
○ Clear	61-9681.7	24x30 mm



Lens, plastic for flush mount round indicator and pushbutton actuators

Colour	Part No.	Size
● Red	61-9642.2	25 mm Ø
● Yellow	61-9642.4	25 mm Ø
● Green	61-9642.5	25 mm Ø
● Blue	61-9642.6	25 mm Ø
○ Clear	61-9642.7	25 mm Ø

A Accessories



Lens, plastic for flush mount square indicator and pushbutton actuators

Colour	Part No.	Size
● Red	61-9671.2	24x24 mm
● Yellow	61-9671.4	24x24 mm
● Green	61-9671.5	24x24 mm
● Blue	61-9671.6	24x24 mm
○ Clear	61-9671.7	24x24 mm



Lever for selector switch, flush mount, coloured lever bar options available as indicated

Colour	Part No.
● Red	61-9028.20
● Yellow	61-9028.40
● Green	61-9028.50
● Blue	61-9028.60
○ White	61-9028.9
● Black	61-9028.0



Keylock switch front bezel, black plastic

Image	Part No.	Size
1	61-9230.0	24x30 mm
2	61-9220.0	24x24 mm
3	61-9210.0	25 mm Ø

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A Accessories



Front bezel set for flush mount indicator, illuminated pushbutton and square and rectangular keylock switch

Image	Part No.	Material	Size
1	61-9933.10	Plastic black	25 mm Ø
2	61-9933.0	Aluminium nat.	25 mm Ø
3	61-9931.0	Plastic black	24 x 30 mm
4	61-9930.0	Plastic black	24 x 24 mm



Front bezel set for round flush mount selector, keylock switch and square selector switch

Image	Part No.	Material	Size
1	61-9932.10	Plastic black	25 mm Ø
2	61-9936.0	Plastic black	24 x 24 mm
3	61-9932.0	Aluminium nat.	25 mm Ø



Flap guard, flush mount

Image	Part No.	for switch
1	61-9922.0	24 x 30 mm
2	61-9921.0	24 x 24 mm
3	61-9924.0	25 mm Ø

A Accessories



Blanking plate

Image	Part No.	Mounting hole
1	61-9453.0	22.5 mm Ø
2	61-9452.0	21 x 27 mm
3	61-9451.0	21 x 21 mm



Lens remover for flush mount, mounting tool and LED remover

Image	Part No.	Product description
1	61-9730.0	Lens remover for flush mount
2	01-907	Mounting tool
3	61-9740.0	LED remover

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

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

≥ 10¹² 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

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 IP65

Shock resistance

(semi-sinusoidal)

max. 500 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Vibration resistance

(sinusoidal)

max. 100 m/s² at 10 Hz ... 500 Hz, as per EN IEC 60068-2-6

Climate resistance

Damp heat, state

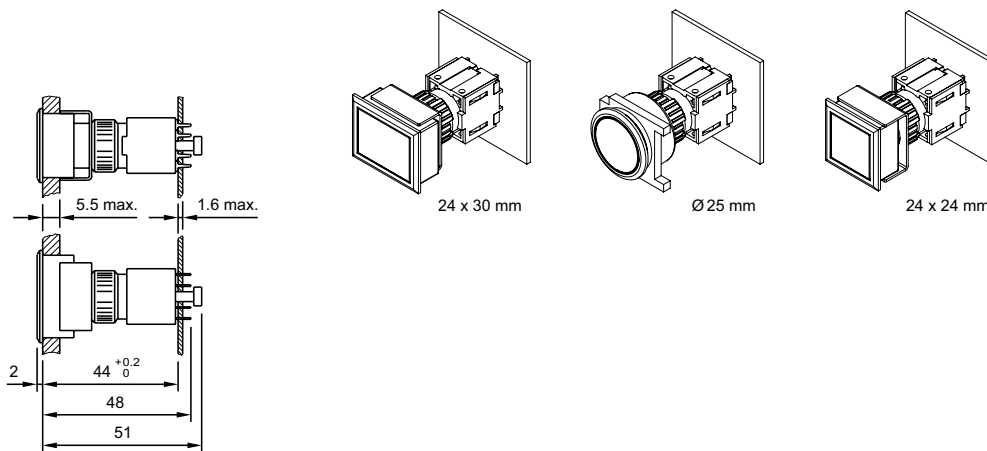
56 days, +40 °C / 93% relative humidity, as per EN IEC 60068-2-78

Approvals**Declaration of conformity**

CE

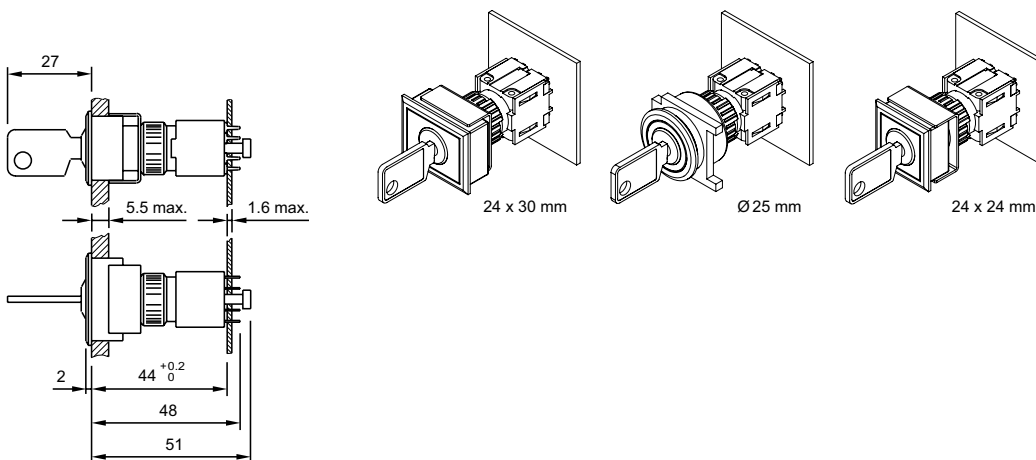
71 Indicator Illuminated, Pushbutton

Flush, Round, Square, Rectangular



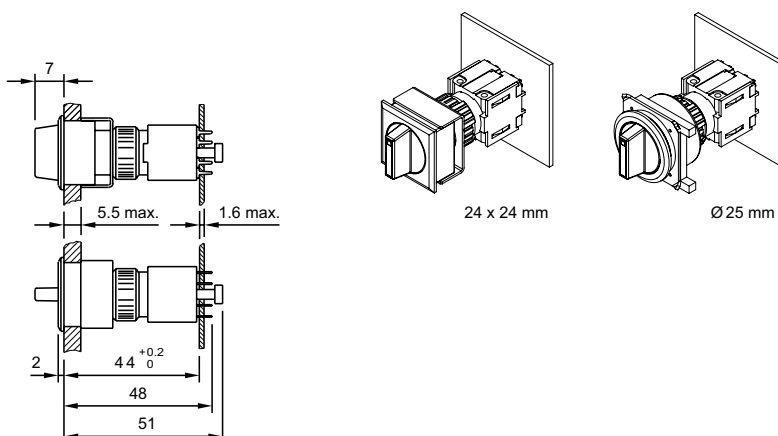
71 Keylock switch

Flush, Round, Square, Rectangular



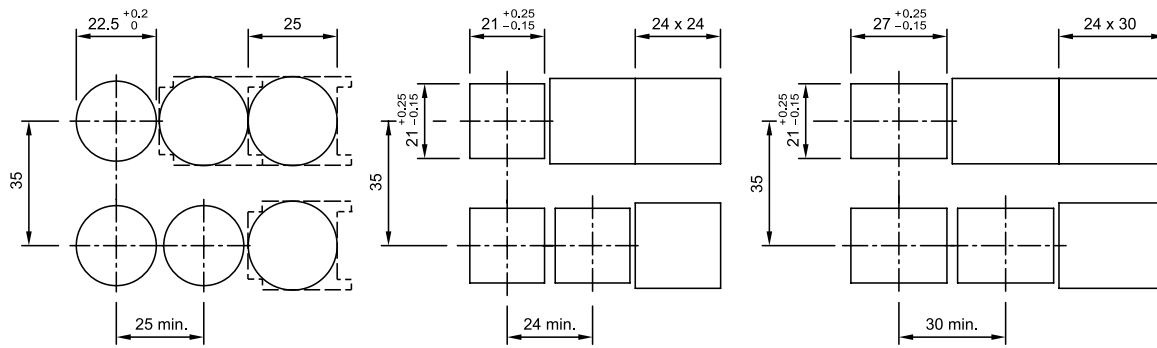
71 Selector switch

Flush, Round, Square, Rectangular



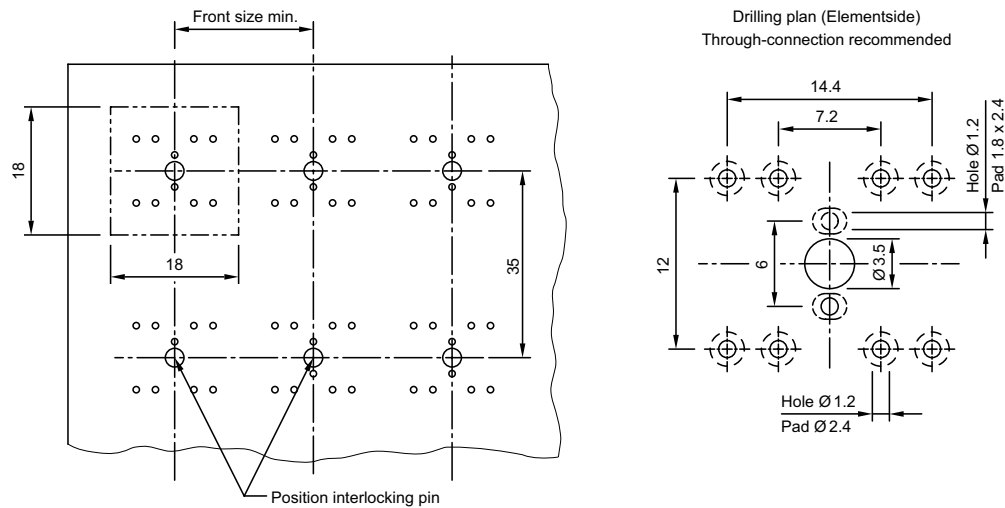
71 Cut-outs

Indicator, Pushbutton Flush, Keylock Flush, Selector Flush



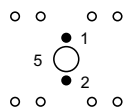
71 PCB Layout

Indicator, Pushbutton Flush, Keylock Flush, Selector Flush

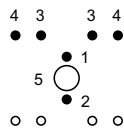


Note:
Pitch of the print circuit board hole $\text{Ø} 3.5$ must agree with the mounting holes on the front plate

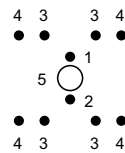
Layout



Illumination element
71-670.006



Switching element
71-671.026



Switching element
71-672.006

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