
61-8430.22/25
61-8615.11

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Product Information

General notes
The indicators, illuminated pushbuttons, selector-, keylock switches or emergency-stop switches with spray-water protection at the front (IP 65) are modular and consist of an actuator and switching element.
In addition to the standard switching elements (gold-plated silver contact with universal soldering terminals), forced-opening, slow-make switching elements with gold or silver contacts with soldering terminals are available. EAO can also offer screw terminals on its slow make elements.Switching elements with soldering terminals can also be fitted with flat receptacle 2.8 x 0.5 mm
The front dimensions of the units in this series are 24 x 24 mm, 24 mm dia., 18 x 24 mm, 18 x 18 mm or 18 mm dia. For flush mounting the dimensions 25 mm dia., 24 x 30 mm or 24 x 24 mm can be supplied.

Mounting
All switch actuators are mounted from the front by pushing them through the mounting hole in the front panel. They are then fixed from the back with a fixing nut and the mounting tool Typ-Nr. 01-907. Max. tightening torque 50 Ncm.
The preassembled switching element with the connecting wires in a single plane can be clipped on afterwards. A range of assembly and service tools are available.
PCB mounting adaptors are available for universal solder terminal switching elements.
All raised profile actuators are provided with an anti-twist device.

Lenses
The flat or concave lenses are available in various colours and a transparent or translucent version. The lens surface is non-reflecting (matt). Round lenses for devices 24 mm dia. or 25 mm dia. can also be supplied in aluminium.

Marking
For further information about engraving, hot stamping and film inserts see part Marking.

Illumination
T1 $^3/_4$ midget groove LED's in red, blue, green, yellow and white or filament lamps give superb illumination and can be supplied in 6, 12, 24, or 48 V.
Luminosity and wave length scattering caused by the technology used in the LED manufacturing processes may lead to visual differences in our products.

Position indication
The status of a maintained action switch can be determinded by the position of the lens.

Keylock switch
Standard lock (Index D). Standard lock number is 311. If the lock number is not specified, we will supply standard number 311.
An additional 134 special locks (Index X) are available on request.
Master keys for lock numbers 311...445 may be ordered by quoting Typ-Nr. 31-989.300. Two keys are supplied with each keylock switch.
Spare keys (Index D) for standard locks may be ordered by quoting Typ-Nr. 31-989.xxx (please state the lock number).

Emergency stop switche, foolproof with key to release
KABA safety lock. Standard lock number is 1001. Other lock numbers are available on request. Spare keys for KABA safety lock may be ordered under Typ-Nr. 14-987.xxx (please state the lock number).

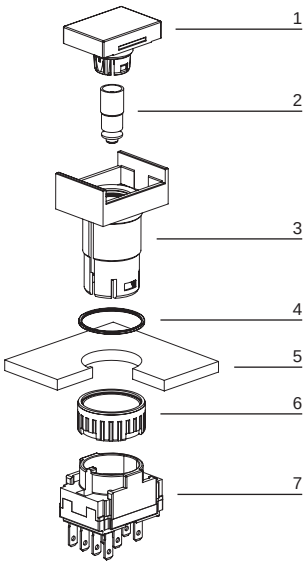
Specimen order

Indicator :
- Indicator complete, flush mounting, 24 x 24 mm — 61-0000.02

Essential accessories :
- Lens plastic colourless transparent flush, 24 x 24 mm — 61-9671.7
- Single-LED T1 $^3/_4$ MG, 24 VDC, white diffuse — 10-2J12.1069
- Front bezel set for Indicator, flush mounting, plastic black, 24 x 24 mm — 61-9930.0

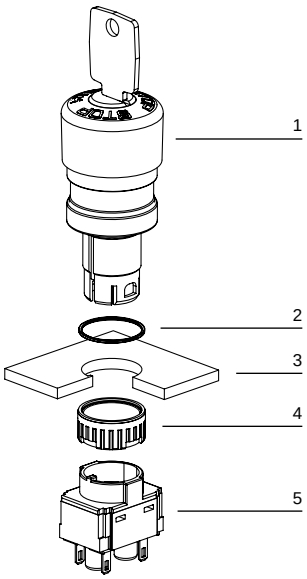
We reserve the right to modify technical data
All dimensions in mm

Pushbutton illuminative, raised mounting



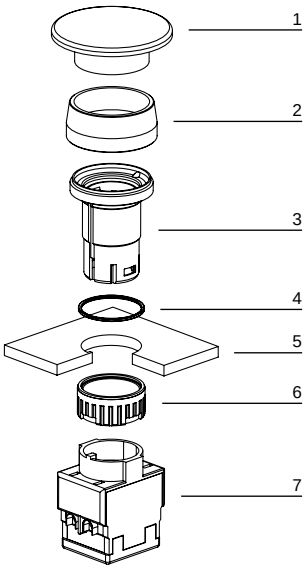
1 Lens
2 LED
3 Actuator housing
4 Sealing
5 Front plate
6 Fixing nut
7 Switching element

Emergency-stop pushbutton



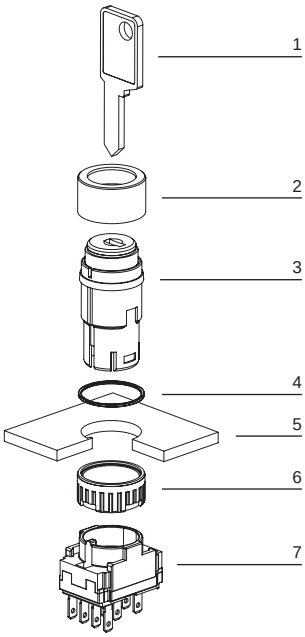
1 Emergency-stop pushbutton actuator
2 Sealing
3 Front plate
4 Fixing nut
5 Switching element

Mushroom-head pushbutton, raised mounting



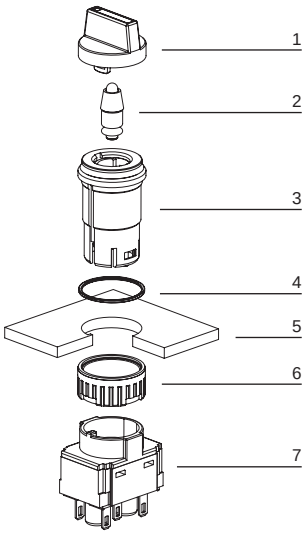
1 Mushroom-head cap
2 Front ring
3 Actuator housing
4 Sealing
5 Front plate
6 Fixing nut
7 Switching element

Keylock switch, raised mounting



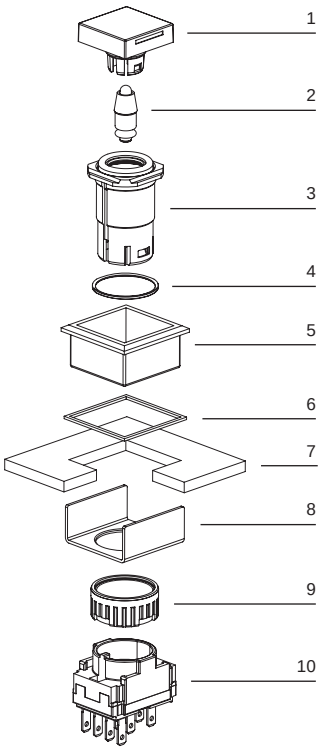
1 Key
2 Keylock front bezel
3 Keylock switch actuator
4 Sealing
5 Front plate
6 Fixing nut
7 Switching element

Selector switch illuminative, raised mounting



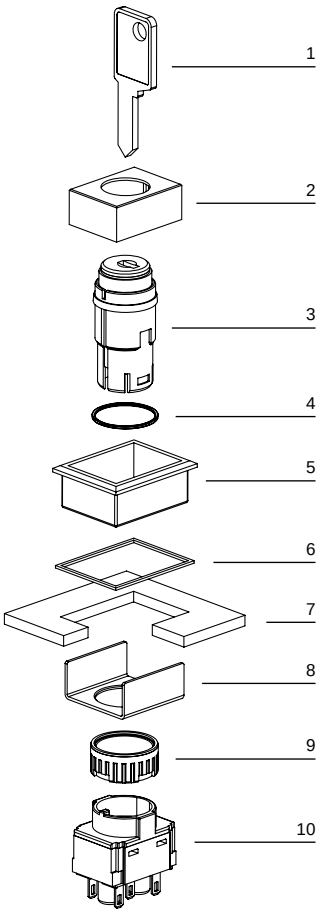
1 Lever
2 LED
3 Selector switch actuator
4 Sealing
5 Front plate
6 Fixing nut
7 Switching element

Pushbutton illuminative, flush mounting



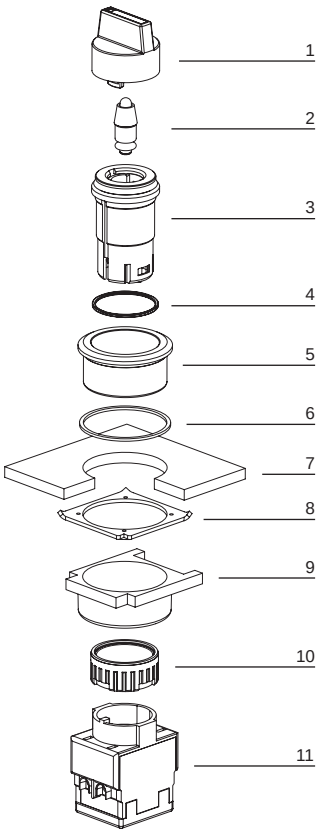
1 Lens
2 LED
3 Actuator housing
4 Sealing
5 Front bezel
6 Sealing
7 Front panel
8 Fixing bracket
9 Fixing nut
10 Switching element

Keylock switch, flush mounting



1 Key
2 Keylock front bezel
3 Keylock switch actuator
4 Sealing
5 Front bezel
6 Sealing
7 Front plate
8 Fixing bracket
9 Fixing nut
10 Switching element

Selector switch illuminative, flush mounting

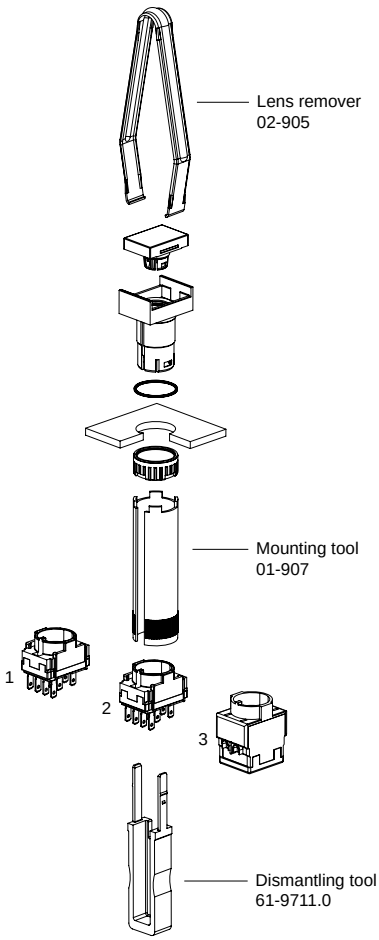


1 Lever
2 LED
3 Selector switch actuator
4 Sealing
5 Front bezel
6 Sealing
7 Front plate
8 Anti-twist ring
9 Thrust piece
10 Fixing nut
11 Switching element

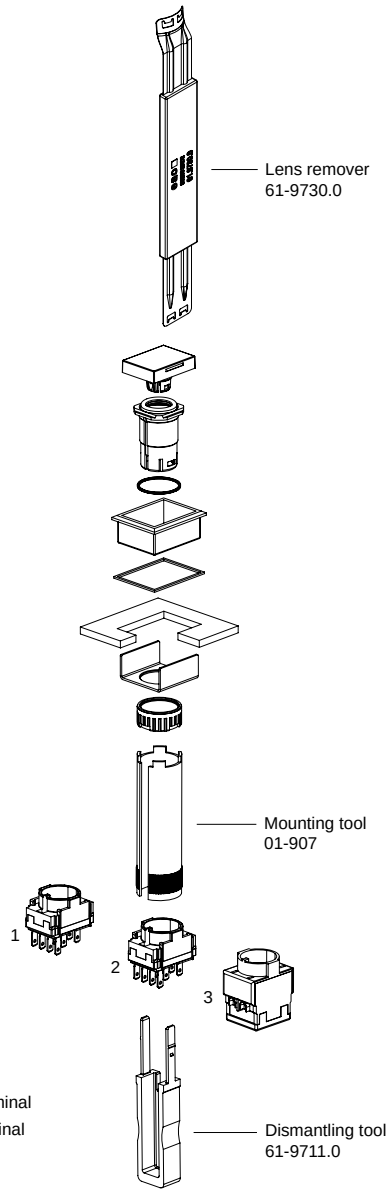
Tool set

Lens remover, Mounting tool, Dismantling tool with Lamp- and LED remover are part of the Tool set K61-999.100

raised mounting



flush mounting



1 Snap-action switching element with soldering terminal
2 Slow-make switching element with soldering terminal
3 Slow-make switching element with screw terminal

Indicator complete







Essential Accessories:

- Front ring, raised mounting page 30
- Lens plastic, raised mounting page 25
- Single-LED page 37

	Front protection	Terminals	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Ø 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Indicator complete Actuator housing black	IP 65	S1	**61-0050.02**	**61-0020.02**	**61-0030.02**	**61-0040.02**	**61-0010.02**	1	3	4	0.005

Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Indicator actuator







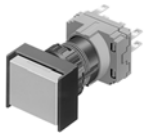
Essential Accessories:

- Diode element page 33
- Flasher element page 33
- Front ring, raised mounting page 30
- Lamp element page 32
- Lens plastic, raised mounting page 25
- Single-LED page 37

	Front protection	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Ø 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Indicator actuator Actuator housing black	IP 65	**61-0059.0**	**61-0029.0**	**61-0039.0**	**61-0049.0**	**61-0019.0**	1	12	4	0.005

Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Illuminated pushbutton actuator




Essential Accessories:

- Front ring, raised mounting page 30
- Lens plastic, raised mounting page 25
- Single-LED page 37
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34

	Front protection	Switching action	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 24 mm Typ-Nr.	⍞ 18 x 24 mm Typ-Nr.	Ø 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Illuminated pushbutton actuator Actuator housing black	IP 65	MA	**61-1250.0**	**61-1220.0**	**61-1230.0**	**61-1240.0**	**61-1210.0**	1	14	6	0.005
		M	**61-1150.0**	**61-1120.0**	**61-1130.0**	**61-1140.0**	**61-1110.0**	1	14	13	0.005
		M-MA	**61-1350.0**	**61-1320.0**	**61-1330.0**		**61-1310.0**	1	14	13	0.005

M-MA convertible from Momentary to Maintained action
Switching action: MA = Maintained action, M = Momentary action, M-MA = Momentary action-Maintained action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Emergency-stop pushbutton actuator, foolproof EN IEC 60947-5-5

Application as per EN 60204-1 and EN 418






Essential Accessories:

Switching element for Emergency-stop pushbutton page 35

	Front protection	Switching action	Mushroom had cap	Marking	Ø 27 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Emergency-stop pushbutton actuator, foolproof EN IEC 60947-5-5 Position indication ring black Key to unlock clockwise Standard lock 1001	IP 65	MA	Plastic red	Stop	**61-5441.4/K**	2	17	5	0.033
Position indication ring black Twist to unlock clockwise	IP 65	MA	Plastic red	Arrows	**61-3440.4/1**	2	17	5	0.020
				Stop	**61-3440.4/2**	2	17	5	0.020
Position indication ring black Twist to unlock clockwise with adaptor for mosaic	IP 65	MA	Plastic red	Arrows	**61-3440.4/1S**	2	17	5	0.021
Position indication ring black Twist to unlock clockwise with metal Fixing nut	IP 65	MA	Plastic red	Arrows	**61-3440.4/D**	2	17	5	0.020
Position indication ring green Twist to unlock clockwise	IP 65	MA	Plastic red	Arrows	**61-3440.4/5**	2	17	5	0.020

Other lock numbers on request
Switching action: MA = Maintained action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Emergency-stop pushbutton actuator, foolproof





Essential Accessories:

Switching element for Emergency-stop pushbutton page 35

	Front protection	Switching action	Mushroom had cap	Marking	Ø 27 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Emergency-stop pushbutton actuator, foolproof Position indication ring black Key to unlock clockwise Standard lock 1001	IP 65	MA	Plastic black	without	**61-5441.0/K**	2	17	5	0.033
Position indication ring black Twist to unlock clockwise	IP 65	MA	Plastic grey	Arrows	**61-3440.4/8**	2	17	5	0.020

Other lock numbers on request
Switching action: MA = Maintained action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Mushroom-head pushbutton actuator



Essential Accessories:

Front ring, raised mounting page 30

Mushroom-head cap page 26

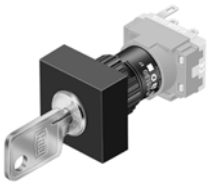
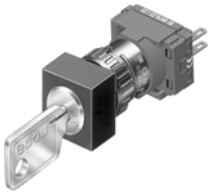
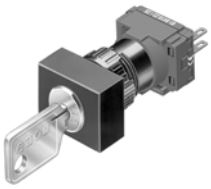
Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34

	Front protection	Switching action	Ø 32 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Mushroom-head pushbutton actuator Actuator housing black	IP 65	MA	**61-1240.0**	2	13	6	0.005
		M	**61-1140.0**	2	13	13	0.005

Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

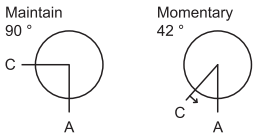
Keylock switch actuator 2 positions

if mounted with anti-twist device, the lug is on the left side


Essential Accessories:

- Anti-twist ring page 39
- Keylock front bezel, raised mounting page 27
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



	Front protection	Switching action	Key remove	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Keylock switch actuator 2 positions Position A: Basic position Position C: Maintained action Standard lock 311	IP 65	MA	A	**61-2201.0/D**	**61-2201.0/D**	**61-2201.0/D**	**61-2201.0/D**	1	15	17	0.065
			C	**61-2203.0/D**	**61-2203.0/D**	**61-2203.0/D**	**61-2203.0/D**	1	15	17	0.065
			C + A	**61-2205.0/D**	**61-2205.0/D**	**61-2205.0/D**	**61-2205.0/D**	1	15	17	0.065
Position A: Basic position Position C: Momentary action Standard lock 311	IP 65	M	A	**61-2101.0/D**	**61-2101.0/D**	**61-2101.0/D**	**61-2101.0/D**	1	15	16	0.065

Other lock numbers on request
Anti-twist ring (not needed by using anti-twist device)
Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Keylock switch actuator 3 positions

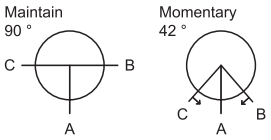
if mounted with anti-twist device, the lug is on the left side






Essential Accessories:

- Anti-twist ring page 39
- Keylock front bezel, raised mounting page 27
- Switching element for Keylock- and Selector switch 3 positions page 35



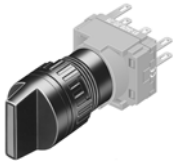
Front protection	Switching action	Key remove	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Keylock switch actuator 3 positions Pos. C: Maintained action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	MA-O-MA	A	**61-2601.0/D**	**61-2601.0/D**	**61-2601.0/D**	**61-2601.0/D**	1	15	19	0.065
			A + B	**61-2604.0/D**	**61-2604.0/D**	**61-2604.0/D**	**61-2604.0/D**	1	15	19	0.065
			B	**61-2602.0/D**	**61-2602.0/D**	**61-2602.0/D**	**61-2602.0/D**	1	15	19	0.065
			C	**61-2603.0/D**	**61-2603.0/D**	**61-2603.0/D**	**61-2603.0/D**	1	15	19	0.065
			C + A	**61-2605.0/D**	**61-2605.0/D**	**61-2605.0/D**	**61-2605.0/D**	1	15	19	0.065
			C + A + B	**61-2607.0/D**	**61-2607.0/D**	**61-2607.0/D**	**61-2607.0/D**	1	15	19	0.065
			C + B	**61-2606.0/D**	**61-2606.0/D**	**61-2606.0/D**	**61-2606.0/D**	1	15	19	0.065
Pos. C: Maintained action Pos. A: Basic position Pos. B: Momentary action Standard lock 311	IP 65	MA-O-M	A	**61-2701.0/D**	**61-2701.0/D**	**61-2701.0/D**	**61-2701.0/D**	1	15	18	0.065
			C	**61-2703.0/D**	**61-2703.0/D**	**61-2703.0/D**	**61-2703.0/D**	1	15	18	0.065
			C + A	**61-2705.0/D**	**61-2705.0/D**	**61-2705.0/D**	**61-2705.0/D**	1	15	18	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	M-O-MA	A + B	**61-2804.0/D**	**61-2804.0/D**	**61-2804.0/D**	**61-2804.0/D**	1	15	15	0.065
			B	**61-2802.0/D**	**61-2802.0/D**	**61-2802.0/D**	**61-2802.0/D**	1	15	15	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	M-O-MA	A	**61-2801.0/D**	**61-2801.0/D**	**61-2801.0/D**	**61-2801.0/D**	1	15	15	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Momentary action Standard lock 311	IP 65	M-O-M	A	**61-2501.0/D**	**61-2501.0/D**	**61-2501.0/D**	**61-2501.0/D**	1	15	14	0.065

Other lock numbers on request
Anti-twist ring (not needed by using anti-twist device)
Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Selector switch actuator 2 positions

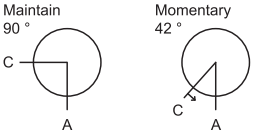
illuminative
if mounted with anti-twist device, the lug is on the left side





Essential Accessories:

- Anti-twist ring page 39
- Lever, raised mounting page 27
- Single-LED page 37
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



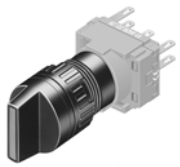
	Front protection	Switching action	⧻ 26 x 26 mm Typ-Nr.	⧻ 24 x 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Selector switch actuator 2 positions Position C: Maintained action Position A: Basic position	IP 65	MA	**61-4210.0**	**61-4210.0**	**61-4210.0**	1	16	8	0.006
Position C: Momentary action Position A: Basic position	IP 65	M	**61-4110.0**	**61-4110.0**	**61-4110.0**	1	16	7	0.006

Anti-twist ring (not needed by using anti-twist device)
Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Selector switch actuator 3 positions

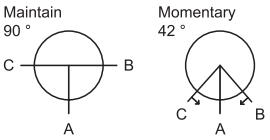
illuminative
if mounted with anti-twist device, the lug is on the left side





Essential Accessories:

- Anti-twist ring page 39
- Filament lamp page 37
- Lever, raised mounting page 27
- Single-LED page 37
- Switching element for Keylock- and Selector switch 3 positions page 35



	Front protection	Switching action	⍞ 26 x 26 mm Typ-Nr.	⍞ 24 x 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Selector switch actuator 3 positions Position C: Maintained action Position A: Basic position Position B: Maintained action	IP 65	MA-O-MA	**61-4610.0**	**61-4610.0**	**61-4610.0**	1	16	12	0.006
Position C: Maintained action Position A: Basic position Position B: Momentary action	IP 65	MA-O-M	**61-4710.0**	**61-4710.0**	**61-4710.0**	1	16	11	0.006
Position C: Momentary action Position A: Basic position Position B: Maintained action	IP 65	M-O-MA	**61-4810.0**	**61-4810.0**	**61-4810.0**	1	16	10	0.006
Position C: Momentary action Position A: Basic position Position B: Momentary action	IP 65	M-O-M	**61-4510.0**	**61-4510.0**	**61-4510.0**	1	16	9	0.006

Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Indicator complete, flush mounting





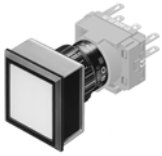
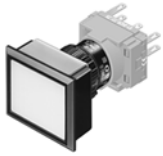
Essential Accessories:

- Front bezel set for Indicators and Illuminated pushbutton, flush mounting page 29
- Lens plastic, flush mounting page 25
- Single-LED page 37

	Front protection	Terminals	⍞ 24 x 24 mm Typ-Nr.	⍈ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Indicator complete, flush mounting	IP 65	S1	**61-0000.02**	**61-0000.02**	**61-0000.02**	3	4	4	0.006

Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Indicator actuator, flush mounting

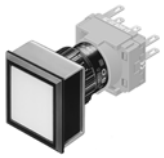
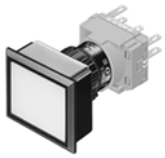

Essential Accessories:

- Diode element page 33
- Flasher element page 33
- Front bezel set for Indicators and Illuminated pushbutton, flush mounting page 29
- Lamp element page 32
- Lens plastic, flush mounting page 25
- Single-LED page 37

	Front protection	⍞ 24 x 24 mm Typ-Nr.	⍈ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Indicator actuator, flush mounting	IP 65	**61-0009.0**	**61-0009.0**	**61-0009.0**	3	19	4	0.005

Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Illuminated pushbutton actuator, flush mounting

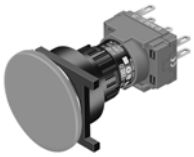

Essential Accessories:

- Front bezel set for Indicators and Illuminated pushbutton, flush mounting page 29
- Lens plastic, flush mounting page 25
- Single-LED page 37
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34

	Front protection	Switching action	⧠ 24 x 24 mm Typ-Nr.	▭ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Illuminated pushbutton actuator, flush mounting	IP 65	MA	**61-1200.0**	**61-1200.0**	**61-1200.0**	3	18	2	0.005
		M	**61-1100.0**	**61-1100.0**	**61-1100.0**	3	18	3	0.005
		M-MA	**61-1300.0**	**61-1300.0**	**61-1300.0**	3	18	3	0.005

M-MA convertible from Momentary to Maintained action
Switching action: MA = Maintained action, M = Momentary action, M-MA = Momentary action-Maintained action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Mushroom-head pushbutton actuator, flush mounting



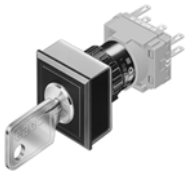
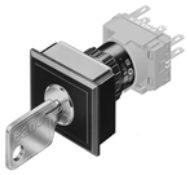
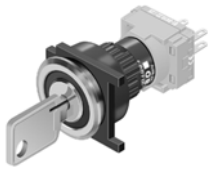
Essential Accessories:

- Front bezel set for Mushroom-head pushbutton, flush mounting page 29
- Mushroom-head cap page 26
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34

	Front protection	Switching action	Ø 32 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Mushroom-head pushbutton actuator, flush mounting	IP 65	MA	**61-1200.0**	3	22	2	0.005
		M	**61-1100.0**	3	22	3	0.005
		M-MA	**61-1300.0**	3	22	3	0.005

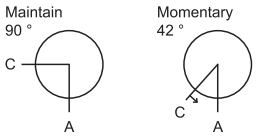
M-MA convertible from Momentary to Maintained action
Switching action: MA = Maintained action, M = Momentary action, M-MA = Momentary action-Maintained action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Keylock switch actuator 2 positions, flush mounting

Essential Accessories:

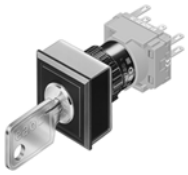
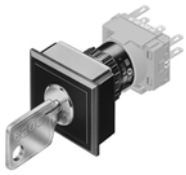
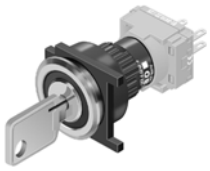
- Anti-twist ring page 39
- Front bezel set for Keylock switch, flush mounting page 30
- Keylock front bezel, flush mounting page 27
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



	Front protection	Switching action	Key remove	⍞ 24 x 24 mm Typ-Nr.	⍞ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Keylock switch actuator 2 positions, flush mounting Position A: Basic position Position C: Maintained action Standard lock 311	IP 65	MA	A	**61-2201.0/D**	**61-2201.0/D**	**61-2201.0/D**	3	20	17	0.065
			C	**61-2203.0/D**	**61-2203.0/D**	**61-2203.0/D**	3	20	17	0.065
			C + A	**61-2205.0/D**	**61-2205.0/D**	**61-2205.0/D**	3	20	17	0.065
Position A: Basic position Position C: Momentary action Standard lock 311	IP 65	M	A	**61-2101.0/D**	**61-2101.0/D**	**61-2101.0/D**	3	20	16	0.065

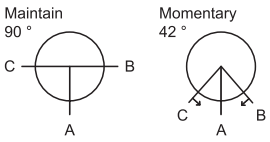
Other lock numbers on request
Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Keylock switch actuator 3 positions, flush mounting

Essential Accessories:

- Anti-twist ring page 39
- Front bezel set for Keylock switch, flush mounting page 30
- Keylock front bezel, flush mounting page 27
- Keylock front bezel, raised mounting page 27
- Switching element for Keylock- and Selector switch 3 positions page 35



	Front protection	Switching action	Key remove	⧠ 24 x 24 mm Typ-Nr.	⧠ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Keylock switch actuator 3 positions, flush mounting Pos. C: Maintained action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	MA-O-MA	A	**61-2601.0/D**	**61-2601.0/D**	**61-2601.0/D**	3	23	19	0.065
			A + B	**61-2604.0/D**	**61-2604.0/D**	**61-2604.0/D**	3	20	19	0.065
			B	**61-2602.0/D**	**61-2602.0/D**	**61-2602.0/D**	3	20	19	0.065
			C	**61-2603.0/D**	**61-2603.0/D**	**61-2603.0/D**	3	20	19	0.065
			C + A	**61-2605.0/D**	**61-2605.0/D**	**61-2605.0/D**	3	20	19	0.065
			C + A + B	**61-2607.0/D**	**61-2607.0/D**	**61-2607.0/D**	3	20	19	0.065
			C + B	**61-2606.0/D**	**61-2606.0/D**	**61-2606.0/D**	3	20	19	0.065
Pos. C: Maintained action Pos. A: Basic position Pos. B: Momentary action Standard lock 311	IP 65	MA-O-M	A	**61-2701.0/D**	**61-2701.0/D**	**61-2701.0/D**	3	20	18	0.065
			C	**61-2703.0/D**	**61-2703.0/D**	**61-2703.0/D**	3	20	18	0.065
			C + A	**61-2705.0/D**	**61-2705.0/D**	**61-2705.0/D**	3	20	18	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	M-O-MA	A + B	**61-2804.0/D**	**61-2804.0/D**	**61-2804.0/D**	3	20	15	0.065
			B	**61-2802.0/D**	**61-2802.0/D**	**61-2802.0/D**	3	20	15	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Maintained action Standard lock 311	IP 65	M-O-MA	A	**61-2801.0/D**	**61-2801.0/D**	**61-2801.0/D**	3	20	15	0.065
Pos. C: Momentary action Pos. A: Basic position Pos. B: Momentary action Standard lock 311	IP 65	M-O-M	A	**61-2501.0/D**	**61-2501.0/D**	**61-2501.0/D**	3	20	14	0.065

Other lock numbers on request
Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Selector switch actuator 2 positions, flush mounting

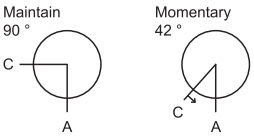
illuminative





Essential Accessories:

- Anti-twist ring page 39
- Front bezel set for Selector switch, flush mounting page 30
- Lever, flush mounting page 28
- Single-LED page 37
- Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



	Front protection	Switching action	⧠ 24 x 24 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Selector switch actuator 2 positions, flush mounting Position C: Maintained action Position A: Basic position	IP 65	MA	**61-4210.0**	**61-4210.0**	3	21	8	0.006
Position C: Momentary action Position A: Basic position	IP 65	M	**61-4110.0**	**61-4110.0**	3	21	7	0.006

Switching action: MA = Maintained action, M = Momentary action

Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Selector switch actuator 3 positions, flush mounting

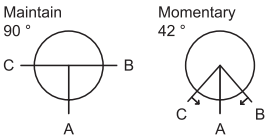
illuminative





Essential Accessories:

- Anti-twist ring page 39
- Front bezel set for Selector switch, flush mounting page 30
- Keylock front bezel, flush mounting page 27
- Lever, flush mounting page 28
- Single-LED page 37
- Switching element for Keylock- and Selector switch 3 positions page 35



	Front protection	Switching action	⍁ 24 x 24 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Selector switch actuator 3 positions, flush mounting Position C: Maintained action Position A: Basic position Position B: Maintained action	IP 65	MA-O-MA	**61-4610.0**	**61-4610.0**	3	21	12	0.006
Position C: Maintained action Position A: Basic position Position B: Momentary action	IP 65	MA-O-M	**61-4710.0**	**61-4710.0**	3	21	11	0.006
Position C: Momentary action Position A: Basic position Position B: Maintained action	IP 65	M-O-MA	**61-4810.0**	**61-4810.0**	3	21	10	0.006
Position C: Momentary action Position A: Basic position Position B: Momentary action	IP 65	M-O-M	**61-4510.0**	**61-4510.0**	3	21	9	0.006

Switching action: MA = Maintained action, M = Momentary action
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Potentiometer, flush mounting





	Front protection	Front bezel	Terminals	⍁ 24 x 24 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	kg
Potentiometer, flush mounting 10 k Ω (linear), 1 W, mechanical travel 300 °	IP 65	Plastic black	FR	**61-4970.13**		3	9	1	0.023
					61-4970.10	3	9	1	0.016

Cable length 300 mm
Terminals: FR = Flat ribbon cable
Mounting dimensions from page 55, Technical drawing from page 56, Circuit drawing from page 62

Front

Lens plastic, raised mounting

matt



	Lens	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍁ 18 x 24 mm Typ-Nr.	Ø 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	kg
Lens plastic, raised mounting flush, illuminative	blue transparent	**61-9351.6**	**61-9321.6**	**61-9331.6**	**61-9642.6**	**61-9311.6**	0.002
	colourless transparent	**61-9351.7**	**61-9321.7**	**61-9331.7**	**61-9642.7**	**61-9311.7**	0.002
	green transparent	**61-9351.5**	**61-9321.5**	**61-9331.5**	**61-9642.5**	**61-9311.5**	0.002
	orange transparent	**61-9351.3**	**61-9321.3**	**61-9331.3**	**61-9642.3**	**61-9311.3**	0.002
	red transparent	**61-9351.2**	**61-9321.2**	**61-9331.2**	**61-9642.2**	**61-9311.2**	0.002
	smoked transparent	**61-9351.1**	**61-9321.1**	**61-9331.1**	**61-9642.1**	**61-9311.1**	0.002
	yellow transparent	**61-9351.4**	**61-9321.4**	**61-9331.4**	**61-9642.4**	**61-9311.4**	0.002
flush, non-illuminative	black opaque	**61-9251.0**	**61-9221.0**	**61-9231.0**		**61-9211.0**	0.002
	grey opaque	**61-9251.8**	**61-9221.8**	**61-9231.8**		**61-9211.8**	0.002
	white translucent	**61-9251.9**	**61-9221.9**	**61-9231.9**		**61-9211.9**	0.002
concave, illuminative	blue transparent		**61-9326.6**	**61-9336.6**			0.002
	colourless transparent		**61-9326.7**	**61-9336.7**			0.002
	green transparent		**61-9326.5**	**61-9336.5**			0.002
	orange transparent		**61-9326.3**	**61-9336.3**			0.002
	red transparent		**61-9326.2**	**61-9336.2**			0.002
	yellow transparent		**61-9326.4**	**61-9336.4**			0.002
concave, non-illuminative	black opaque		**61-9226.0**	**61-9236.0**			0.002
	grey opaque		**61-9226.8**	**61-9236.8**			0.002
	white translucent		**61-9226.9**	**61-9236.9**			0.002

Lens plastic, flush mounting

matt



	Lens	⍞ 24 x 24 mm Typ-Nr.	⍁ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	kg
Lens plastic, flush mounting illuminative	blue transparent	**61-9671.6**	**61-9681.6**	**61-9642.6**	0.002
	colourless transparent	**61-9671.7**	**61-9681.7**	**61-9642.7**	0.002
	green transparent	**61-9671.5**	**61-9681.5**	**61-9642.5**	0.002
	orange transparent	**61-9671.3**	**61-9681.3**	**61-9642.3**	0.002
	red transparent	**61-9671.2**	**61-9681.2**	**61-9642.2**	0.002
	smoked transparent	**61-9671.1**	**61-9681.1**	**61-9642.1**	0.002
	yellow transparent	**61-9671.4**	**61-9681.4**	**61-9642.4**	0.002
non-illuminative	black opaque	**61-9771.0**	**61-9781.0**		0.002
	grey opaque	**61-9771.8**	**61-9781.8**		0.002
	white opaque	**61-9771.9**	**61-9781.9**		0.002

Marking plate for Lens plastic

can be hot stamped



	Marking plate	Typ-Nr.	kg
Marking plate for Lens plastic only applicable with Lens round Typ-Nr. 61-9642.X	Plastic colourless transparent	**61-9707.7**	0.001

Lens metal with window, raised mounting

matt



	Lens	Ø 24 mm Typ-Nr.	kg
Lens metal with window, raised mounting	Aluminium natural	**61-9841.8A**	0.002

Lens metal with window, flush mounting

matt



	Lens	Ø 25 mm Typ-Nr.	kg
Lens metal with window, flush mounting	Aluminium natural	**61-9841.8A**	0.002

Lens metal, raised mounting

matt



	Lens	Ø 24 mm Typ-Nr.	kg
Lens metal, raised mounting	Aluminium black	**61-9841.0**	0.002
	Aluminium blue	**61-9841.6**	0.002
	Aluminium green	**61-9841.5**	0.002
	Aluminium natural	**61-9841.8**	0.002
	Aluminium red	**61-9841.2**	0.002
	Aluminium yellow	**61-9841.4**	0.002

Lens metal, flush mounting

matt



	Lens	Ø 25 mm Typ-Nr.	kg
Lens metal, flush mounting	Aluminium black	**61-9841.0**	0.002
	Aluminium blue	**61-9841.6**	0.002
	Aluminium green	**61-9841.5**	0.002
	Aluminium natural	**61-9841.8**	0.002
	Aluminium red	**61-9841.2**	0.002
	Aluminium yellow	**61-9841.4**	0.002

Mushroom-head cap



	Mushroom had cap	Ø 32 mm Typ-Nr.	kg
Mushroom-head cap	Plastic black opaque	**61-9593.0**	0.004
	Plastic green opaque	**61-9593.5**	0.004
	Plastic red opaque	**61-9593.2**	0.004
	Plastic yellow opaque	**61-9593.4**	0.004

Keylock front bezel, raised mounting

	Keylock front bezel	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 24 x 18 mm Typ-Nr.	Ø 18 mm Typ-Nr.	kg
Keylock front bezel, raised mounting	Plastic black	**61-9250.0**	**61-9220.0**	**61-9230.0**	**61-9210.0**	0.001



Keylock front bezel, flush mounting

	Keylock front bezel	⍞ 24 x 24 mm Typ-Nr.	⍈ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	kg
Keylock front bezel, flush mounting	Plastic black	**61-9220.0**	**61-9230.0**	**61-9210.0**	0.001



Lever, raised mounting

with bar and marking dot

	Lever	Bar colour	Typ-Nr.	kg
Lever, raised mounting illuminative	Plastic black	blue	**52-928.60**	0.001
		green	**52-928.50**	0.001
		orange	**52-928.30**	0.001
		red	**52-928.20**	0.001
		yellow	**52-928.40**	0.001
	Plastic grey	blue	**52-929.60**	0.001
		green	**52-929.50**	0.001
		orange	**52-929.30**	0.001
		red	**52-929.20**	0.001
		yellow	**52-929.40**	0.001
non-illuminative	Plastic black	black	**52-928.0**	0.001
		white	**52-928.9**	0.001
	Plastic grey	grey	**52-929.8**	0.001
		white	**52-929.9**	0.001



Lever, flush mounting



	Lever	Bar colour	Typ-Nr.	kg
Lever, flush mounting illuminative	Plastic black	blue	**61-9028.60**	0.001
		green	**61-9028.50**	0.001
		orange	**61-9028.30**	0.001
		red	**61-9028.20**	0.001
		yellow	**61-9028.40**	0.001
	Plastic grey	blue	**61-9029.60**	0.001
		green	**61-9029.50**	0.001
		orange	**61-9029.30**	0.001
		red	**61-9029.20**	0.001
		yellow	**61-9029.40**	0.001
non-illuminative	Plastic black	black	**61-9028.0**	0.001
		white	**61-9028.9**	0.001
	Plastic grey	grey	**61-9029.8**	0.001
		white	**61-9029.9**	0.001

Legend plate

can be marked



	Typ-Nr.	Technical drawing	kg
Legend plate 30 x 42 mm, adhesive, Aluminium natural, Mounting hole size 22.5 mm dia.	**704.962.0**	10	0.002
42 x 42 mm, adhesive, Aluminium natural, Mounting hole size 22.5 mm dia.	**704.962.5**	10	0.003

Technical drawing from page 56

Legend frame

for devices 25 mm dia., flush mounting



	Typ-Nr.	Technical drawing	kg
Legend frame 30 x 50 mm, adhesive, Aluminium black	**61-9980.0**	11	0.001

Technical drawing from page 56

Legend plate insert

for Legend frame 61-9980.0



	Typ-Nr.	Technical drawing	kg
Legend plate insert 14.5 x 23.5 mm, adhesive, Aluminium black	**704.968.1**	11	0.001
14.5 x 23.5 mm, adhesive, Aluminium natural	**704.968.0**	11	0.001

Technical drawing from page 56

Front bezel square, raised mounting



	Front bezel	Typ-Nr.	kg
Front bezel square, raised mounting 24 x 24 mm, for Selector switch	Plastic black	**52-950.0**	0.001
26 x 26 mm, for Selector switch	Plastic black	**52-952.0**	0.001

Front bezel set for Indicators and Illuminated pushbutton, flush mounting



	Front bezel	□ 24 x 24 mm Typ-Nr.	□ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	kg
Front bezel set for Indicators and Illuminated pushbutton, flush mounting	Plastic black	**61-9930.0**	**61-9931.0**	**61-9933.10**	3	0.008
	Aluminium black			**61-9933.1**	3	0.006
	Aluminium natural			**61-9933.0**	3	0.006

Mounting dimensions from page 55

Front bezel set for Mushroom-head pushbutton, flush mounting



	Front bezel	Ø 32 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	kg
Front bezel set for Mushroom-head pushbutton, flush mounting	Aluminium natural	**61-9934.8**		3	0.013
	Aluminium black		**61-9933.1**	3	0.006
	Aluminium natural		**61-9933.0**	3	0.006
	Plastic black		**61-9933.10**	3	0.008

Mounting dimensions from page 55

Front bezel set for Keylock switch, flush mounting

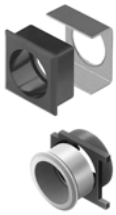
	Front bezel	⧠ 24 x 24 mm Typ-Nr.	⧠ 24 x 30 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	kg
Front bezel set for Keylock switch, flush mounting	Plastic black	**61-9930.0**	**61-9931.0**	**61-9932.10**	3	0.008
	Aluminium black			**61-9932.1**	3	0.006
	Aluminium natural			**61-9932.0**	3	0.006



Mounting dimensions from page 55

Front bezel set for Selector switch, flush mounting

	Front bezel	⧠ 24 x 24 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	kg
Front bezel set for Selector switch, flush mounting	Plastic black	**61-9936.0**		3	0.007
	Aluminium black		**61-9932.1**	3	0.006
	Aluminium natural		**61-9932.0**	3	0.006
	Plastic black		**61-9932.10**	3	0.008



Mounting dimensions from page 55

Front ring, raised mounting

	Front ring	Typ-Nr.	kg
Front ring, raised mounting for Actuator 24 mm dia.	Aluminium black	**61-9600.0**	0.003
	Aluminium natural	**61-9600.1**	0.003



Front protective cap

	Front protective cap	Typ-Nr.	kg
Front protective cap for front bezel set 24 x 30 mm, flush mounting	Silicone natural transparent	**61-9927.2**	0.001
for front bezel set round, flush mounting	Silicone natural transparent	**84-9103.7**	0.001

ATTENTION
when using the front protection cover for push buttons the external sealing in the front bezel set and the silicone bellows in the actuator are to be removed !

Protective cover, raised mounting



	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Technical drawing	kg
Protective cover, raised mounting hinged, transparent, with means not for sealing	**61-9920.0**			5	0.004
hinged, transparent, with means for sealing		**51-920**		1	0.002
			51-925	2	0.002

Technical drawing from page 56

Protective cover, flush mounting



	⍞ 24 x 24 mm Typ-Nr.	⍈ 30 x 24 mm Typ-Nr.	Ø 25 mm Typ-Nr.	Mounting dimensions	Technical drawing	kg
Protective cover, flush mounting hinged, transparent, with means for sealing	**61-9921.0**			3	6	0.006
		61-9922.0		3	7	0.006
slide by side, with means not for sealing			**61-9924.0**	3	8	0.006

Mounting dimensions from page 55, Technical drawing from page 56

Blind plug, raised mounting



	Blind plug	⍞ 24 x 24 mm Typ-Nr.	⍞ 18 x 18 mm Typ-Nr.	⍈ 18 x 24 mm Typ-Nr.	Ø 18 mm Typ-Nr.	Mounting dimensions	kg
Blind plug, raised mounting	Plastic black	**61-9450.0**	**51-948.0**	**51-947.0**	**51-949.0**	1	0.003

Mounting dimensions from page 55

Blind plug, flush mounting



	Blind plug	⍞ 24 x 24 mm Typ-Nr.	⍈ 24 x 30 mm Typ-Nr.	Ø 28 mm Typ-Nr.	Mounting dimensions	kg
Blind plug, flush mounting	Plastic black	**61-9451.0**	**61-9452.0**	**61-9453.0**	3	0.006

Mounting dimensions from page 55

Master key

	Typ-Nr.	kg
Master key Lock numbers 311 ... 445 (DOM)	**31-989.300**	0.006



Spare key

	Typ-Nr.	kg
Spare key Emergency-stop, standard lock 1001 (KABA)	**14-987.1001**	0.006
Key lock switch, standard lock 311 (DOM)	**31-989.311**	0.006

Other lock numbers on request



EMC Key protection cap

	Typ-Nr.	kg
EMC Key protection cap Plastic black, for lock type DOM	**31-985.0**	0.005



Backside

Lamp element

	Terminals	Typ-Nr.	Component layout	Circuit drawing	kg
Lamp element	ST	**61-8006.01**	31	4	0.005
	S1	**61-8006.02**	3	4	0.005



Terminals: ST = Screw terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Component layout from page 50, Circuit drawing from page 62

Diode element



	Terminals	Typ-Nr.	Component layout	Circuit drawing	kg
Diode element 1 Diode	S1	**61-8101.02**	1	20	0.007
2 Diodes	S1	**61-8102.02**	2	21	0.008

Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Component layout from page 50, Circuit drawing from page 62

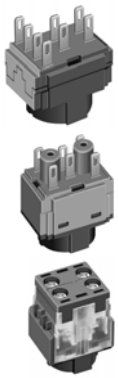
Flasher element



	Terminals	Typ-Nr.	Component layout	kg
Flasher element Operation voltage : 12 ... 28 VAC/DC ±10 %	S	**61-8000.05**	30	0.005

Further information in the Technical data and Typical applications
Terminals: S = Soldering terminal
Component layout from page 50

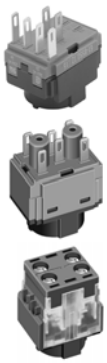
Switching element for Pushbutton | Keylock- and Selector switch 2 positions



	Diode (1N 4007)	Switch rating	Switching system	Contacts	Terminals	Contact material	Typ-Nr.	Component layout	Circuit drawing	kg
Switching element for Pushbutton | Keylock- and Selector switch 2 positions with lamp terminal	2 D	250 VAC, 5 A	SA	1 NO	S1	Au / Ag	**61-8212.22**	36	28	0.007
						Ag	**61-8212.12**	36	28	0.007
	-	250 VAC, 5 A	SM	1 NC	ST	Ag	**61-8640.11**	23	22	0.008
					S1	Ag	**61-8640.17**	14	23	0.008
				1 NC + 1 NO	S1	Ag	**61-8670.17**	13	30	0.008
				1 NO	ST	Ag	**61-8610.11**	22	27	0.008
					S1	Ag	**61-8610.17**	11	27	0.008
				2 NC	S1	Ag	**61-8650.17**	15	24	0.008
				2 NO	S1	Ag	**61-8620.17**	12	34	0.008
			SA	1 NC	S1	Au / Ag	**61-8440.22**	4	23	0.007
						Ag	**61-8440.12**	4	23	0.007
				1 NC + 1 NO	S1	Au / Ag	**61-8470.22**	34	30	0.007
						Ag	**61-8470.12**	34	30	0.007
				1 NC + 2 NO	S1	Au / Ag	**61-8490.22**	35	32	0.007
						Ag	**61-8490.12**	35	32	0.007
				1 NO	S1	Au / Ag	**61-8410.22**	28	27	0.007
						Ag	**61-8410.12**	28	27	0.007
				2 NC	S1	Au / Ag	**61-8450.22**	5	24	0.007
						Ag	**61-8450.12**	5	24	0.007
				2 NC + 1 NO	S1	Au / Ag	**61-8480.22**	7	31	0.007
						Ag	**61-8480.12**	7	31	0.007
				2 NO	S1	Au / Ag	**61-8420.22**	32	34	0.007
						Ag	**61-8420.12**	32	34	0.007
				3 NC	S1	Au / Ag	**61-8460.22**	6	25	0.007
						Ag	**61-8460.12**	6	25	0.007
				3 NO	S1	Au / Ag	**61-8430.22**	33	35	0.007
						Ag	**61-8430.12**	33	35	0.007
		42 VAC, 100 mA	SM	1 NC	S1	Au	**61-8640.37**	14	23	0.008
				1 NC + 1 NO	S1	Au	**61-8670.37**	13	30	0.008
				1 NO	S1	Au	**61-8610.37**	11	27	0.008
				2 NC	S1	Au	**61-8650.37**	15	24	0.008
				2 NO	S1	Au	**61-8620.37**	12	34	0.008
without lamp terminal	-	250 VAC, 5 A	SM	1 NC	ST	Ag	**61-8645.11**	25	22	0.008
				1 NC + 1 NO	ST	Ag	**61-8675.11**	26	29	0.008
				1 NO	ST	Ag	**61-8615.11**	24	26	0.008
				2 NC	ST	Ag	**61-8655.11**	29	36	0.008
				2 NO	ST	Ag	**61-8625.11**	27	33	0.008

We offer a Dismantling tool Typ-Nr. 61-9711.0 for dismantling of the Switching element
Diode (1N 4007): D = Diode, - = without
Switching system: SA = Snap-action switching element, SM = Slow-make switching element
Contacts: NO = Normally open, NC = Normally closed
Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm), ST = Screw terminal
Contact material: Au = Gold, Ag = Silver
Component layout from page 50, Circuit drawing from page 62

Switching element for Keylock- and Selector switch 3 positions



	Switch rating	Switching system	Contacts	Terminals	Contact material	Typ-Nr.	Component layout	Circuit drawing	kg
Switching element for Keylock- and Selector switch 3 positions with lamp terminal	250 VAC, 5 A	SM	1 NC + 1 NO	S1	Ag	**61-8770.17**	16	30	0.008
			2 NC	S1	Ag	**61-8750.17**	18	24	0.008
			2 NO	S1	Ag	**61-8720.17**	17	34	0.008
		SA	1 NC + 1 NO	S1	Au / Ag	**61-8574.22**	10	30	0.008
					Ag	**61-8574.12**	10	30	0.008
			2 NC	S1	Au / Ag	**61-8550.22**	8	24	0.008
					Ag	**61-8550.12**	8	24	0.008
			2 NO	S1	Au / Ag	**61-8520.22**	9	34	0.008
					Ag	**61-8520.12**	9	34	0.008
	42 VAC, 100 mA	SM	1 NC + 1 NO	S1	Au	**61-8770.37**	16	30	0.008
			2 NO	S1	Au	**61-8720.37**	9	34	0.008
without lamp terminal	250 VAC, 5 A	SM	1 NC + 1 NO	ST	Ag	**61-8775.11**	26	37	0.008
			2 NC	ST	Ag	**61-8755.11**	29	36	0.008
			2 NO	ST	Ag	**61-8725.11**	27	33	0.008

We offer a Dismantling tool Typ-Nr. 61-9711.0 for dismantling of the Switching element
Switching system: SM = Slow-make switching element, SA = Snap-action switching element
Contacts: NC = Normally closed, NO = Normally open
Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm), ST = Screw terminal
Contact material: Ag = Silver, Au = Gold
Component layout from page 50, Circuit drawing from page 62

Switching element for Emergency-stop pushbutton



	Switch rating	Switching system	Contacts	Terminals	Contact material	Typ-Nr.	Component layout	Circuit drawing	kg
Switching element for Emergency-stop pushbutton	250 VAC, 5 A	SM	1 NC	ST	Ag	**61-8745.11**	25	38	0.008
				S1	Ag	**61-8745.17**	20	38	0.008
			1 NC + 1 NO	ST	Ag	**61-8775.11**	26	37	0.008
				S1	Ag	**61-8775.17**	19	37	0.008
			2 NC	ST	Ag	**61-8755.11**	29	36	0.008
				S1	Ag	**61-8755.17**	21	36	0.008
	42 VAC, 100 mA	SM	1 NC	S1	Au	**61-8745.37**	20	38	0.008
			1 NC + 1 NO	S1	Au	**61-8775.37**	19	37	0.008
			2 NC	S1	Au	**61-8755.37**	21	36	0.008

General specifications for Switching element for Emergency-stop pushbutton : If not otherwise stated, certified according to EN IEC 60947-5-5. Further specifications in the Technical data
Switching system: SM = Slow-make switching element
Contacts: NC = Normally closed, NO = Normally open
Terminals: ST = Screw terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Contact material: Ag = Silver, Au = Gold
Component layout from page 50, Circuit drawing from page 62

PCB plug-in base

	Terminals	Typ-Nr.	Component layout	kg
PCB plug-in base 15 x 23 x 9.4 mm for Snap-action Switching element, Indicator- and Diode element, Pins axial	P	**61-9823**	39	0.002
17.7 x 23.6 x 10.9 mm for Slow-make Switching element, Pins axial	P	**61-9821.1**	38	0.003
13.1 x 12.8 mm for Indicator complete	P	**61-9820.1**	37	0.003



Terminals: P = PCB terminal
Component layout from page 50

Multi-plug housing

	Typ-Nr.	kg
Multi-plug housing for Snap-action Switching element, max. 6 connections possible	**61-9830**	0.002



Flat receptacle

	Typ-Nr.	kg
Flat receptacle 2.8 x 0.5 mm for multi-plug housing	**51-943.1**	0.001
2.8 x 0.5 mm for Plug-in terminal	**31-946**	0.001



Insulation sleeve

	Typ-Nr.	kg
Insulation sleeve for Flat receptacles 31-946	**31-929**	0.001



Terminal cover

	Typ-Nr.	kg
Terminal cover for Indicator complete	**61-9831.2**	0.001
for Snap-action Switching element with soldering terminal	**61-9830.2**	0.002



Illumination

Filament lamp



	Socket	Operating voltage/-current	Typ-Nr.	kg
Filament lamp	T1 $^{3}/_{4}$ MG	12 VAC/DC, 75 mA	**10-1309.1309**	0.001
		14 VAC/DC, 80 mA	**10-1310.1319**	0.001
		18 VAC/DC, 40 mA	**10-1311.1249**	0.001
		24 VAC/DC, 35 mA	**10-1312.1229**	0.001
		28 VAC/DC, 30 mA	**10-1313.1209**	0.001
		28 VAC/DC, 40 mA	**10-1313.1249**	0.001
		36 VAC/DC, 20 mA	**10-1316.1179**	0.001
		36 VAC/DC, 30 mA	**10-1316.1209**	0.001
		48 VAC/DC, 20 mA	**10-1319.1179**	0.001
		48 VAC/DC, 25 mA	**10-1319.1199**	0.001
		6 VAC/DC, 125 mA	**10-1306.1349**	0.001
		6.3 VAC/DC, 200 mA	**10-1307.1369**	0.001

Single-LED



	Socket	Operating voltage/-current	Colour	Typ-Nr.	kg
Single-LED	T1 $^{3}/_{4}$ MG	12 VAC/DC, 7/14 mA	blue	**10-2J09.1066**	0.002
			green	**10-2J09.1065**	0.002
			red	**10-2J09.1062**	0.002
			white diffuse	**10-2J09.1069**	0.002
			yellow	**10-2J09.1064**	0.002
		24 VAC/DC, 7/14 mA	blue	**10-2J12.1066**	0.002
			green	**10-2J12.1065**	0.002
			red	**10-2J12.1062**	0.002
			white diffuse	**10-2J12.1069**	0.002
			yellow	**10-2J12.1064**	0.002
		28 VAC/DC, 7/14 mA	blue	**10-2J13.1066**	0.002
			green	**10-2J13.1065**	0.002
			red	**10-2J13.1062**	0.002
			white diffuse	**10-2J13.1069**	0.002
			yellow	**10-2J13.1064**	0.002
		48 VAC/DC, 4/8 mA	blue	**10-2J19.1046**	0.002
			green	**10-2J19.1045**	0.002
			red	**10-2J19.1042**	0.002
			white diffuse	**10-2J19.1049**	0.002
			yellow	**10-2J19.1044**	0.002
		6 VDC, 15 mA	blue	**10-2J06.3146**	0.002
			green	**10-2J06.3145**	0.002
			red	**10-2J06.3142**	0.002
			white diffuse	**10-2J06.3149**	0.002
			yellow	**10-2J06.3144**	0.002

Terminal plate empty

for fitting with series resistors and capacitors

	Typ-Nr.	kg
Terminal plate empty 10 spaces 125 x 60 x 15 mm	**02-912.2**	0.045
15 spaces 187.5 x 60 x 15 mm	**02-912.3**	0.090
20 spaces 250 x 60 x 15 mm	**02-912.4**	0.095
5 spaces 62.5 x 60 x 15 mm	**02-912.1**	0.025



Emergency-stop pushbutton

Emergency-stop label

Mounting hole size 16 mm dia.

	Marking	Typ-Nr.	kg
Emergency-stop label 43 mm dia., yellow	ARRET-D´URGENCE	**61-9970.3**	0.002
	EMERGENCY-STOP	**61-9970.2**	0.002
	NOT-AUS	**61-9970.1**	0.002
	without marking	**61-9970.0**	0.002



Emergency-stop protective shroud

	Typ-Nr.	kg
Emergency-stop protective shroud Aluminium anodized, yellow varnished	**61-9965**	0.036



Emergency-stop enclosures

	Typ-Nr.	kg
Emergency-stop enclosures with mounting hole size 16 mm dia., without anti- twist device	**61-9480.5**	0.099



Bottom grey similar RAL 7035; cover lead-sealable, yellow similar RAL 1004
4 openings for cable gland M16 or M20
Protection class IP 66
Dimension: 65 mm long, 65 mm wide, 57 mm high

Cable gland

	Typ-Nr.	kg
Cable gland M16, Plastic grey	**61-9481.6**	0.007
M20, Plastic grey	**704.945.6**	0.011



with traction relief; protection degree IP 68

Assembling

Fixing nut

	Typ-Nr.	kg
Fixing nut Metal, specifically for keylock switches	**31-991**	0.005
Plastic, standard delivery	**61-9915.0**	0.002



Anti-twist ring

	Typ-Nr.	kg
Anti-twist ring Mounting hole size 16 mm dia.	**51-910**	0.001
Mounting hole size 22.5 mm dia.	**61-9912.0**	0.002



Reducing ring

without Keylock- and Selector switch

	Typ-Nr.	kg
Reducing ring only for use of devices with Front size 24 x 24 mm and 24 mm dia., Mounting hole size 22.5 mm dia.	**61-9960**	0.003

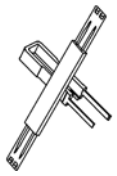


Tool set

consists of Lens remover, Lamp-and LED remover, Mounting tool, Dismantling tool

	Typ-Nr.	kg
Tool set	**K61-999.100**	0.048

for dismantling keep care of the enclosed Packing insert



Lens remover

	Typ-Nr.	kg
Lens remover for raised mounting	**02-905**	0.011
for flush mounting	**61-9730.0**	0.011



Lamp remover

	Typ-Nr.	kg
Lamp remover	**61-9740.0**	0.003



CAUTION
A switching process might be released when replacing the lamp/LED !

Mounting tool

	Typ-Nr.	kg
Mounting tool for tightening or loosening of the Fixing nut	**01-907**	0.020



Dismantling tool

	Typ-Nr.	kg
Dismantling tool for dismantling of the Switching element	**61-9711.0**	0.004



Flat receptacle remover

	Typ-Nr.	kg
Flat receptacle remover for removing the Flat receptacle of the Multi-plug in housing	**51-943.9**	0.001



Enclosure

	Typ-Nr.	kg
Enclosure with mounting hole size 16 mm dia., without anti- twist device	**61-9480.6**	0.099



Grey similar RAL 7035; cover lead-sealable
4 openings for cable gland M16 or M20
Protection class IP 66
Dimension: 65 mm long, 65 mm wide, 57 mm high

Cable gland

	Typ-Nr.	kg
Cable gland M16, Plastic grey	**61-9481.6**	0.007
M20, Plastic grey	**704.945.6**	0.011



with traction relief; protection degree IP 68

Actuator with snap-action switching element

Switching system

Self-cleaning, double-break snap-action switching system with contact opening width 2 x 0.5 mm (switch with small contact opening width as per EN IEC 61058-1).
The switching elements are optionally equipped with the following switching functions :
One to three normally open (NO) or normally closed (NC), or any combination of NO and NC plus connections for T1 $^3/_4$ LED or lamp.
The number of switching elements cannot exceed three.
The switching elements provided for the 3-position switch actuators are equipped with max. 2 NC or 2 NO or any combination. The number of switching elements cannot exceed two.

Material

Lens
Raised mounting Polymethylmethacrylat (PMMA), as per UL 94 HB, flush mounting Polycarbonat (PC), as per UL 94 V0, or Aluminium anodized

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

Front ring
Aluminium anodized

Material of contact
Silver or silver with gold plating

Switching element
Diallylphthalate (DAP), as per UL 94 V0 and Polyamide (PA 66), as per UL 94 V0

Actuator housing
Polyetherimide (PEI), as per UL 94 V0, self-extinguishing

Mechanical characteristics

Terminals

- Solder	rigid	flexible	superflexible
1 wire :	0.5 ... 1.5 mm²	0.5 ... 0.75 mm²	0.5 mm²
2 wires :	0.75 mm²	0.5 mm²	

Actuating torque

Selector-/ Keylock switch : 2.5 ... 10 Ncm

Actuating force

Pushbutton : 2.7 ... 3.6 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
The rebound times apply to normal manual activation

Contact making : 3 ms
Contact breaking : 5 ms

Mechanical lifetime
as per DIN IEC 60512-5-6 and EN IEC 60947-5-1

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

Electrical characteristics

Standards
The devices comply with : EN IEC 61058-1 and EN IEC 60947-5-1

Rated operational voltage
U_e = 250 VAC, as per EN IEC 60947-1

Rated insulation voltage
U_i = 320 VAC, as per EN IEC 60947-5-1

Rated impulse withstand voltage
U_{imp} = 4 kV, as per EN IEC 60947-1

Contact resistance
New state with silver contact : ≤100 mΩ
as per DIN IEC 60512-2-4, measured at 100 mA, 10 V

New state with gold plated contact : ≤50 mΩ
as per DIN IEC 60512-2-3, measured at 20 mV, 10 mA

Electrical life
≥50.000 cycles of operation at 250 VAC, 5 A, cos ϕ 0.95
as per EN IEC 60947-5-1

Electrostatic discharge

Keylock switch : 11 kV

Conventional free air thermal current
I_{th} = 5 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
Switch rating AC with silver contact or silver contact with gold plating, service category AC-15, as per EN IEC 60947-5-1

Voltage :	125 VAC	250 VAC
Current :	2.5 A	2 A

Switch rating DC for silver contact or silver contact with gold plating, service category DC-13, as per EN IEC 60947-5-1

Voltage : 250 VDC
Current : 0.15 A

Recommended minimum operational data

Material of contact	Silver	Silver with gold plating
Voltage :	20 VAC/DC	5 VAC/DC
Current :	100 mA	10 mA

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

Overvoltage category
III, as per EN IEC 60947-5-1

Protection class
Class II, as per EN IEC 61058-1

Degree of pollution
3, as per EN IEC 60947-1

Environmental conditions

Storage temperature
-40 °C ... +85 °C

Operating temperature
-25 °C ... +55 °C

Protection degree
as per EN IEC 60529
Frontside IP 65 | backside IP 40

Shock resistance
(semi-sinusoidal)
max. 100 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, cyclic :
96 hours, +25 °C / 97 %, +55 °C / 93 % relative humidity, as per EN IEC 60068-2-30

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

Rapid change of temperature :
100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14

Approvals

CE (Declaration of conformity)
CB (IEC 60947)
CB (IEC 61058)
CCA-NTR (EN 60947)
CSA
ENEC (EN 61058)
GOST
UL
VDE
German Lloyd
RoHS compliant

Actuator with slow-make switching element

Switching system

Double-break slow-make system, contact opening width 2 x 1.5 mm, with 2 x 2 contact points per switching element.
NC-contact elements in the slow-make elements fulfill requirements of switches with forced opening as per EN IEC 60947-5-1 2.17.
The slow-make elements are optionally obtainable with the following switching functions : 1 NO or 2 NO or 1 NC or 2 NC, 1 NO and 1 NC

Material

Lens
Raised mounting Polymethylmethacrylat (PMMA), as per UL 94 HB, flush mounting Polycarbonat (PC), as per UL 94 V0, or Aluminium anodized

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

Front ring
Aluminium anodized

Material of contact
Silver or gold (specified for operation for low level switching)

Switching element
Diallylphthalate (DAP), as per UL 94 V0 and Polyamide (PA 66), as per UL 94 V0

Actuator housing
Polyetherimide (PEI), as per UL 94 V0, self-extinguishing

Mechanical characteristics

Terminals

- Solder	rigid	flexible	superflexible
1 wire :	0.5 ... 1.5 mm²	0.5 ... 0.75 mm²	0.5 mm²
2 wires :	0.75 mm²	0.5 mm²	
- Screw			
1 wire :	0.5 ... 1.5 mm²	0.5 ... 0.75 mm²	0.5 mm²
2 wires :	0.75 mm²	0.5 mm²	0.5 mm²

Actuating torque

Selector-/ Keylock switch : 4 ... 16 Ncm

Actuating force

Pushbutton :	3.5 ... 11 N
Emergency-stop switch :	max. 65 N

Actuating travel

Pushbutton :	3 mm	
Emergency-stop switch :	10 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
The rebound times apply to normal manual activation
Contact making and contact breaking 2 ms

Mechanical lifetime
as per DIN IEC 60512-5-6 and EN IEC 60947-5-1

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

Electrical characteristics

Standards
The devices comply with : EN IEC 61058-1 and EN IEC 60947-5-1, EN IEC 60947-5-5 (Emergency-stop)

Electrical life
≥50.000 cycles of operation at 250 VAC, 5 A, cos ϕ 0.95
as per EN IEC 60947-5-1
Switching element of Emergency-stop 6050 cycles of operation

Electrostatic discharge

Keylock switch : 11 kV

Electric strength
4000 VAC, 50 Hz, 1 min., as per DIN IEC 60512-2
between all terminals and earth

Overvoltage category
III, as per EN IEC 60947-5-1

Protection class
Class II, as per EN IEC 61058-1

Degree of pollution
3, as per EN IEC 60947-1

Electrical characteristics for silver contacts

Rated operational voltage
U_e = 250 VAC, as per EN IEC 60947-1

Rated insulation voltage
U_i = 320 VAC, as per EN IEC 60947-5-1

Rated impulse withstand voltage
U_{imp} = 4 kV, as per EN IEC 60947-1

Contact resistance
New state : ≤50 mΩ
as per DIN IEC 60512-2-4, measured at 100 mA, 10 V

Conventional free air thermal current
I_{th} = 5 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
Switch rating AC with silver contact, service category AC-15, as per EN IEC 60947-5-1
125 VAC, 2.5 A | 250 VAC, 2 A

Switch rating with silver contact, service category DC-13, as per EN IEC 60947-5-1
250 VDC, 0.15 A

Switch rating AC with silver contact and srew terminal, service category AC-15, as per EN IEC 60947-5-1

Voltage :	125 VAC	250 VAC
Current :	3 A	2 A

Switch rating with silver contact and screw terminal, service category DC-13, as per EN IEC 60947-5-1

Voltage : 250 VDC
Current : 0.2 A

Recommended minimum operational data
20 VAC/DC, 100 mA

Electrical characteristics for gold contacts

Rated operational voltage
U_e = 50 VAC/DC, as per EN IEC 60947-5-1

Rated insulation voltage
U_i = 320 VAC, as per EN IEC 60947-5-1

Rated impulse withstand voltage
U_{imp} = 0.8 kV, as per EN IEC 60947-1

Contact resistance
New state : ≤50 mΩ
as per DIN IEC 60512-2-4, measured at 20 mV, 10 mA

Conventional free air thermal current
I_{th} = 3 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
Switch rating AC with gold contact, service category AC-15, as per EN IEC 60947-5-1

Voltage : 50 VAC
Current : 0.5 A

Switch rating with gold contact, service category DC-13, as per EN IEC 60947-5-1

Voltage : 50 VDC
Current : 0.1 A

Recommended minimum operational data

Voltage : 10 mVAC/DC
Current : 2 mA

Recommended operational data

Voltage :	5 VDC	12 VDC	24 V DC
Current :	10 ... 20 mA	5 ... 10 mA	3 ... 5 mA

Environmental conditions

Storage temperature
-40 °C ... +85 °C

Operating temperature
-25 °C ... +55 °C

Protection degree
as per EN IEC 60529
Frontside IP 65 | backside IP 40

Shock resistance
(semi-sinusoidal)
max. 100 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, cyclic :
96 hours, +25 °C / 97 %, +55 °C / 93 % relative humidity, as per EN IEC 60068-2-30

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

Rapid change of temperature :
100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14

Approvals

CE (Declaration of conformity)
CB (IEC 60947)
CB (IEC 61058)
CCA-NTR (EN 60947)
ENEC (EN 61058)
GOST
SEV
UL
VDE
German Lloyd
RoHS compliant

Actuator with flasher element

Material

Lens
Raised mounting Polymetylmethacrylat PMMA, as per UL 94 HB,
flush mounting Polycarbonat (PC), as per UL 94 V0

Actuator housing
Product Assembly

Mechanical characteristics

Terminals
Soldering terminal

Electrical characteristics

Illumination

Filament lamp	14 V AC/DC	28 VAC/DC
Power consumption :	80 mA	44 mA
Single-LED	12 VAC/DC	28 VAC/DC
Power consumption :	15 mA	18 mA

Flashing frequency
1 Hz ±0.25 Hz

Pulse duty factor
approx. 50 %

Operating voltage
12 ... 28 VAC/DC ±10 %

Environmental conditions

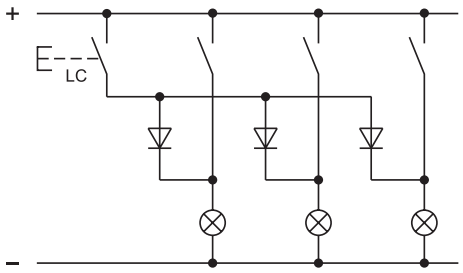
Operating temperature
0 °C ... +45 °C

Protection degree
as per EN IEC 60529
Frontside IP 65 | backside IP 40

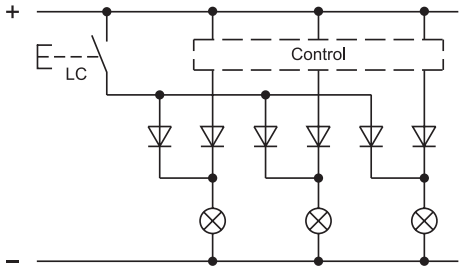
Diode element

When indicators and illuminated pushbuttons equipped with diodes, the user is able to perform a lamp check or wire an alarm circuit simply with a considerable saving of space.

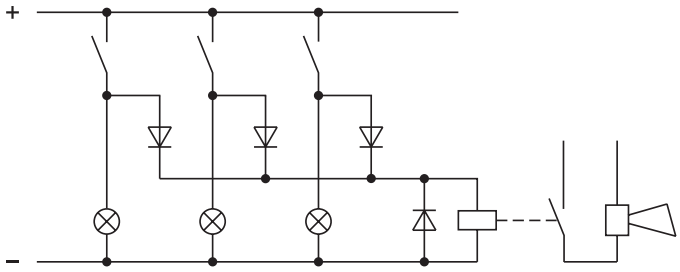
Lamp check



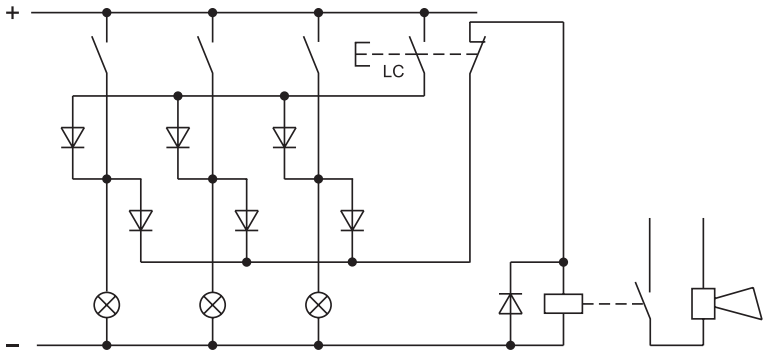
Lamp check with blocking diodes



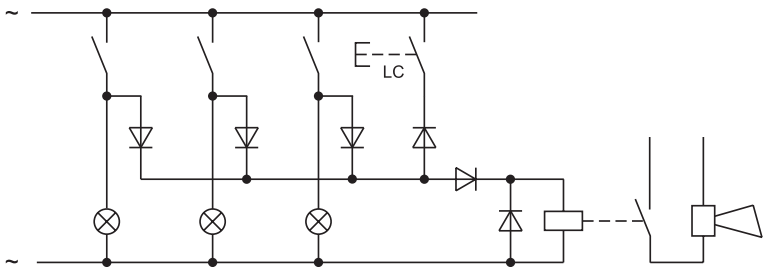
Alarm circuit from fault annunciation system



Lamp check and alarm circuit



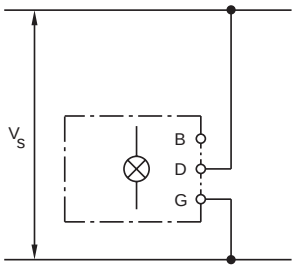
Lamp check and alarm circuit with only one diode and AC voltage



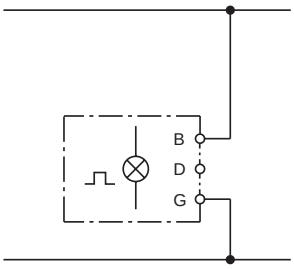
LC = Lamp Check

Flasher element

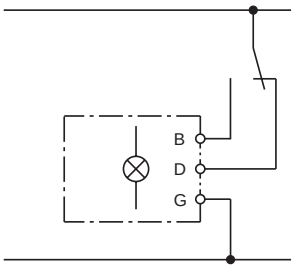
Do not connect terminal B and D simultaneously when powered up. When operating with DC voltage terminal G must have positive polarity.



Continuous light



Flashing light



Flashing- or continuous light

General notes

Typefaces
In addition to the most commonly used world languages, in DIN 1451-3 close spacing, other typefaces are available as Scandinavian, Slavic, Greek, Russian and Polish.

Symbols
For larger series it is worth considering markings by means of hot stamping or laser engraving. We will pleased to advise you.

Color filling of engraving or hot stamping
Red, blue and black lenses are filled with white colour. Other colour lenses are filled in black.

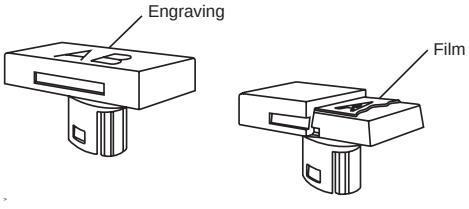
Film inserts
Instead of using engraving the lenses can be fitted with transparent film inserts, as an alternative.
In the case of use of a smoke-black lens the fitted film becomes readable only if the lamp is on.
The film thickness is 0.2 mm.
For lenses 24 mm and 25 mm dia. with Typ-Nr. 619642.x the marking takes place directly on the text plate, Typ-Nr. 61-9707.7, instead of a film insert.

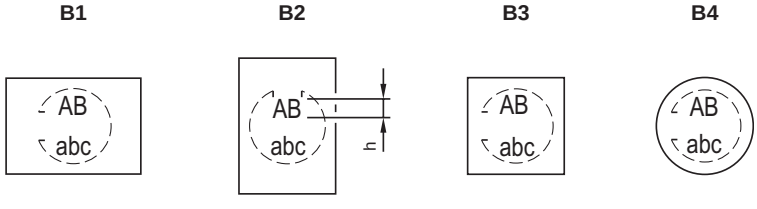
Mounting
Important : Consider pushbutton mounting orientation before specifying engraving characters !

Lenses for Indicators | Illuminated pushbuttons, flush mounting

All dimensions in mm

Front size	Film insert max. size	Height of letters h	Number of lines	Number of (target value) capital letters per line	Number of (target value) small letters per line	Image
24 x 24	15.1 x 15.1	2.5	4	8 - 9	9	B3
		3.0	3	7 - 8	8	B3
		4.0	2	4 - 5	5	B3
		5.0	2	4	4 - 5	B3
		6.0	1	4	4	B3
		8.0	1	2 - 3	2 - 3	B3
24 x 30	15.1 x 21	2.5	4	12	13	B1
			5	8 - 9	9	B2
		3.0	3	10 - 11	11 - 12	B1
			4	7 - 8	8	B2
		4.0	2	7	8	B1
			3	4 - 5	5	B2
		5.0	2	5 - 6	6	B1
				4	4 - 5	B2
		6.0	1	4 - 5	5	B1
			2	3	3 - 4	B2
		8.0	1	3 - 4	3 - 4	B1
				2 - 3	2 - 3	B2
25 dia.	Marking plate	2.5	3	6	6	B4
		3.0	2	5	6	B4
		4.0	2	3	4	B4
		5.0	1	2	3	B4
		6.0	1	2	3	B4
		8.0	1	2	2	B4

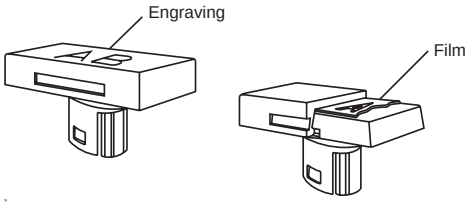


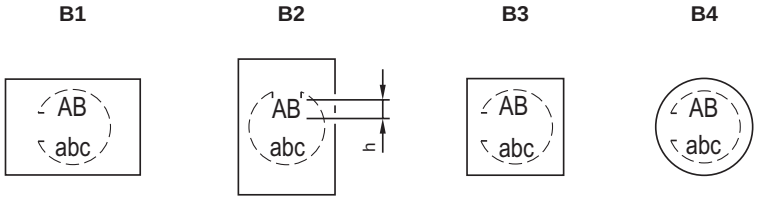


Lenses for Indicators | Illuminated pushbuttons, raised mounting

All dimensions in mm

Front size	Film insert max. size	Height of letters h	Number of lines	Number of (target value) capital letters per line	Number of (target value) small letters per line	Image
18 dia.	12.8 dia.	2.5		6	6	B4
		3.0	2	5	6	B4
		4.0	2	3	4	B4
		5.0	1	2	3	B4
		6.0	1	2	3	B4
		8.0	1	2	2	B4
18 x 18	12.7 x 12.7	2.5	4	7 - 8	8	B3
		3.0	3	6 - 7	7	B3
		4.0	2	4 - 5	5	B3
		5.0	2	3 - 4	4	B3
		6.0	1	3	3 - 4	B3
		8.0	1	2 - 3	2 - 3	B3
18 x 24	12.7 x 18.7	2.5	4	11	12	B1
			5	7 - 8	8	B2
		3.0	3	9 -10	10 - 11	B1
			4	6 - 7	7	B2
		4.0	2	7	7 - 8	B1
			3	4 - 5	5	B2
		5.0	2	5 - 6	6	B1
				3 - 4	4	B2
		6.0	1	4 - 5	5	B1
			2	3	3 - 4	B2
		8.0	1	3 - 4	3 - 4	B1
				2 - 3	2 - 3	B2
24 dia.	Marking plate	2.5	3	6	6	B4
		3.0	2	5	6	B4
		4.0	2	3	4	B4
		5.0	1	2	3	B4
		6.0	1	2	3	B4
		8.0	1	2	2	B4
24 x 24	16.9 x 16.9	2.5	4	9	10	B3
		3.0	3	7 - 8	9	B3
		4.0	2	4 - 5	5	B3
		5.0	2	4	4 - 5	B3
		6.0	1	4	4	B3
		8.0	1	2	2	B3



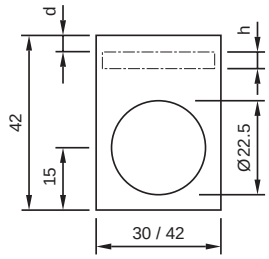


Legend plates with mounting hole 22.5 mm dia

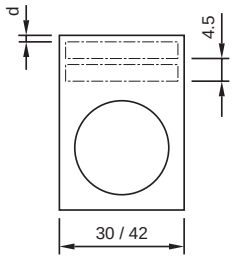
All dimensions in mm

Dimension	Height of letters h	Number of lines	Number of (target value) letters per line	Line spacing d	Image
30 x 42	3.0	1	14	4.5	B1
		2	14	2	B2
	4.0	1	10	4	B1
	8.0	1	5	2	B1
30 x 50	3.0	1	11	8.5	B3
		2	11	6	B3
	4.0	1	7	10	B3
	8.0	1	4	6	B3
42 x 42	3.0	1	20	4.5	B1
		2	20	2	B2
	4.0	1	14	4	B1
	8.0	1	7	2	B1

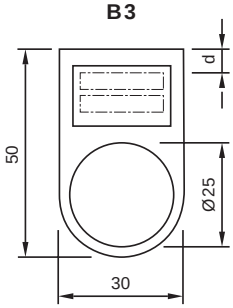
B1



B2

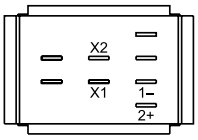


B3

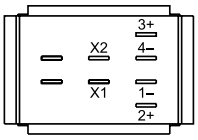


Component layout

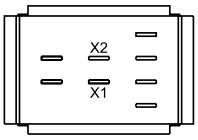
1 Diode element page 33



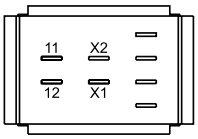
2 Diode element page 33



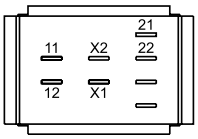
3 Lamp element page 32



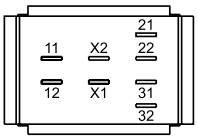
4 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



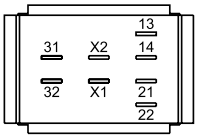
5 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



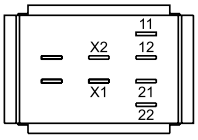
6 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



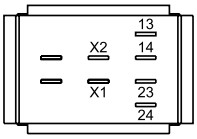
7 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



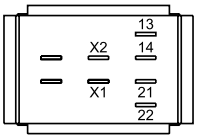
8 Switching element for Keylock- and Selector switch 3 positions page 35



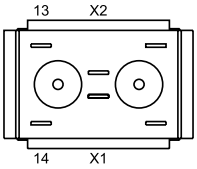
9 Switching element for Keylock- and Selector switch 3 positions page 35



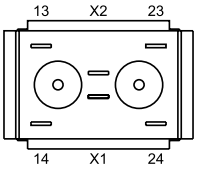
10 Switching element for Keylock- and Selector switch 3 positions page 35



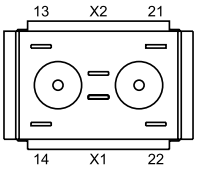
11 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



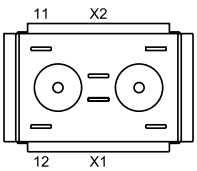
12 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



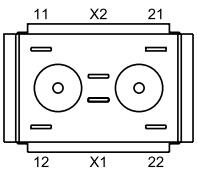
13 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



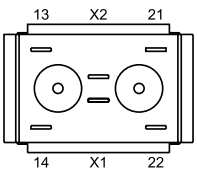
14 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



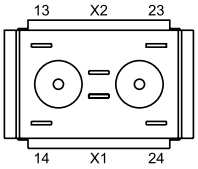
15 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



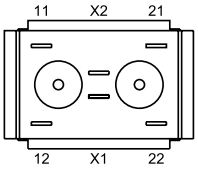
16 Switching element for Keylock- and Selector switch 3 positions page 35



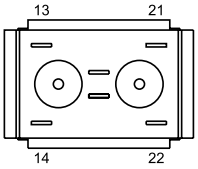
17 Switching element for Keylock- and Selector switch 3 positions page 35



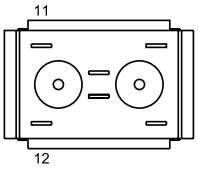
18 Switching element for Keylock- and Selector switch 3 positions page 35



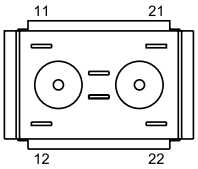
19 Switching element for Emergency-stop pushbutton page 35



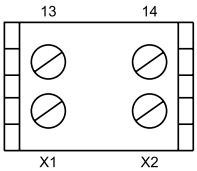
20 Switching element for Emergency-stop pushbutton page 35



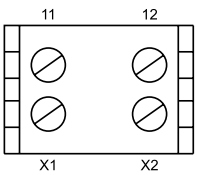
21 Switching element for Emergency-stop pushbutton page 35



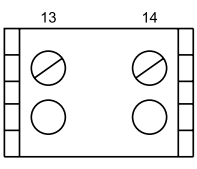
22 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



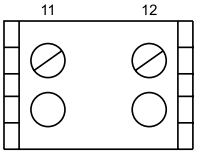
23 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



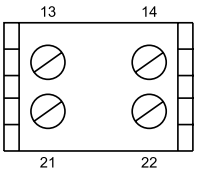
24 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



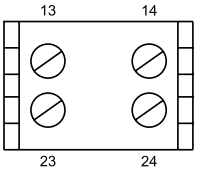
25 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Emergency-stop push-button** page 35



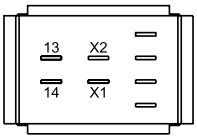
26 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35 **| Switching element for Emergency-stop pushbutton** page 35



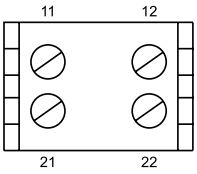
27 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35



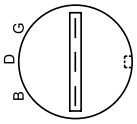
28 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



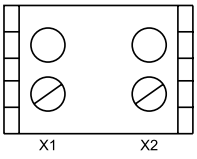
29 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35 **| Switching element for Emergency-stop pushbutton** page 35



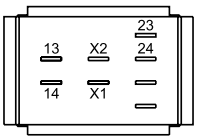
30 Flasher element page 33



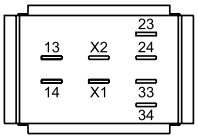
31 Lamp element page 32



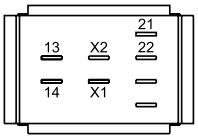
32 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



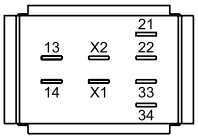
33 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



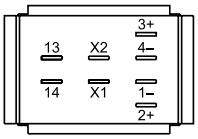
34 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



35 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34

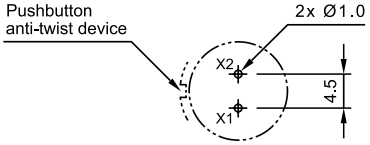


36 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



37 PCB plug-in base page 36

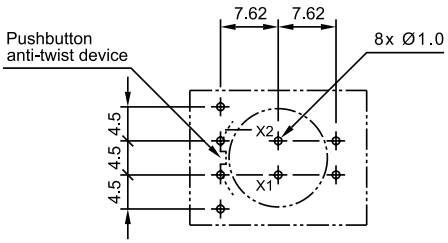
Drilling plan (Element side)
Through-connection recommended



Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

38 PCB plug-in base page 36

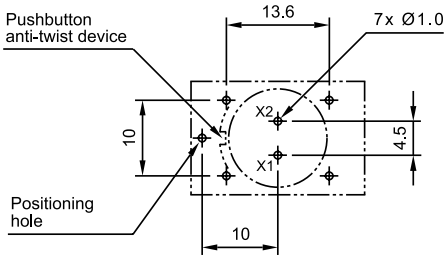
Drilling plan (Elementside)
Through-connection recommended



Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

39 PCB plug-in base page 36

Drilling plan (Elementside)
Trough-connection recommended

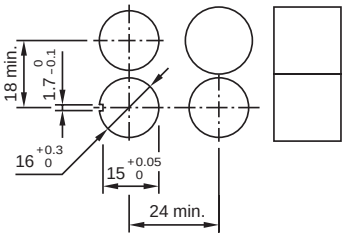


Libraries for the PCB layout-system p-cad 200X see : www.pcad.com/recources/libraries Third-party Libraries

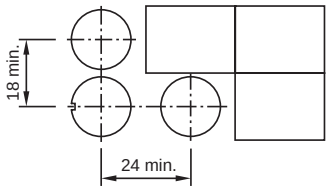
Mounting dimensions

1 Indicator complete page 10 **| Indicator actuator** page 10 **| Illuminated pushbutton actuator** page 11 **| Keylock switch actuator 2 positions** page 14 **| Keylock switch actuator 3 positions** page 15 **| Selector switch actuator 2 positions** page 16 **| Selector switch actuator 3 positions** page 17 **| Blind plug, raised mounting** page 31

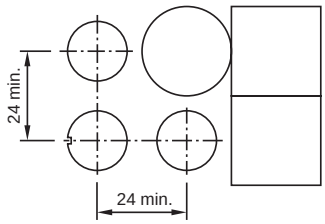
Ø18 mm 18 x 18 mm



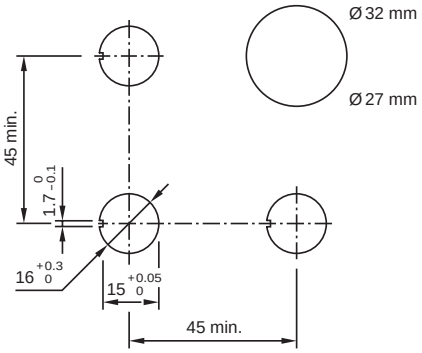
18 x 24 mm



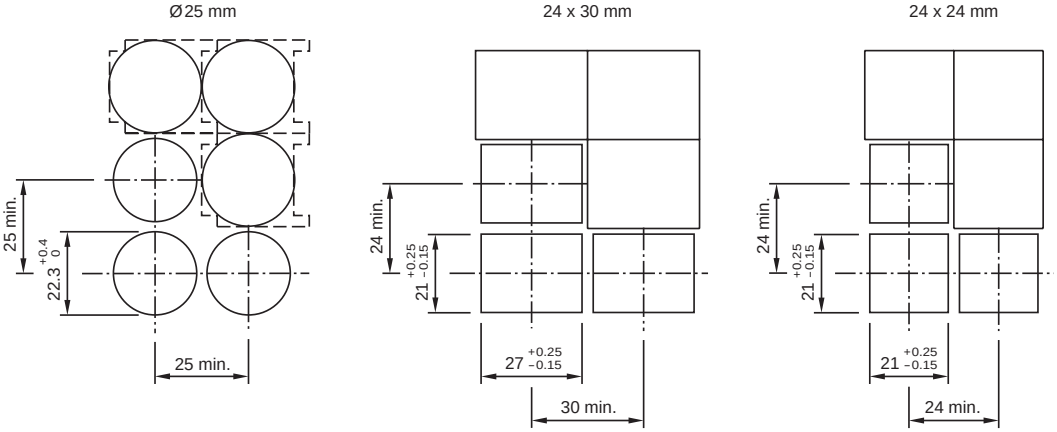
Ø24 mm 24 x 24 mm



2 Emergency-stop pushbutton actuator, foolproof EN IEC 60947-5-5 page 12 **| Emergency-stop pushbutton actuator, foolproof** page 13 **| Mushroom-head pushbutton actuator** page 13

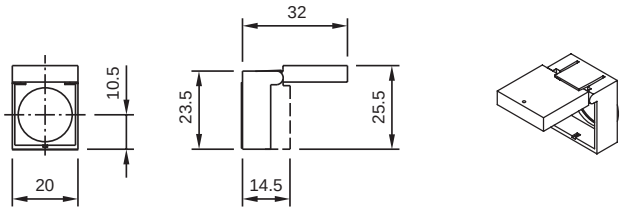


3 Indicator complete, flush mounting page 18 **| Indicator actuator, flush mounting** page 18 **| Illuminated pushbutton actuator, flush mounting** page 19 **| Mushroom-head pushbutton actuator, flush mounting** page 19 **| Keylock switch actuator 2 positions, flush mounting** page 20 **| Keylock switch actuator 3 positions, flush mounting** page 21 **| Selector switch actuator 2 positions, flush mounting** page 22 **| Selector switch actuator 3 positions, flush mounting** page 23 **| Potentiometer, flush mounting** page 24 **| Front bezel set for Indicators and Illuminated pushbutton, flush mounting** page 29 **| Front bezel set for Mushroom-head pushbutton, flush mounting** page 29 **| Front bezel set for Keylock switch, flush mounting** page 30 **| Front bezel set for Selector switch, flush mounting** page 30 **| Protective cover, flush mounting** page 31 **| Blind plug, flush mounting** page 31

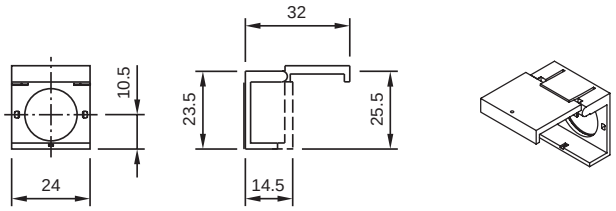


Technical drawing

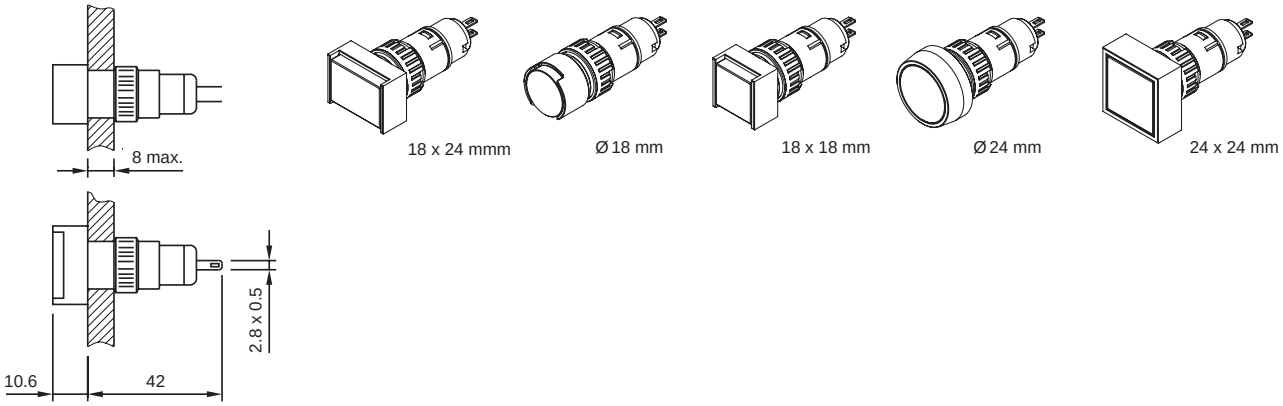
1 Protective cover, raised mounting page 31



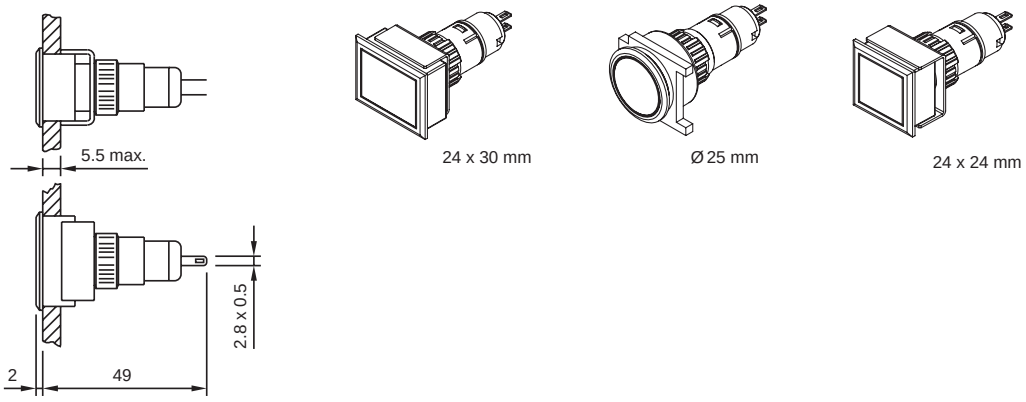
2 Protective cover, raised mounting page 31



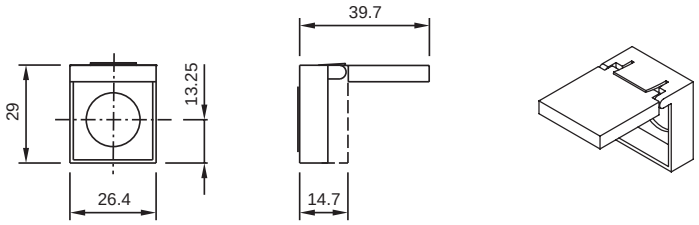
3 Indicator complete page 10



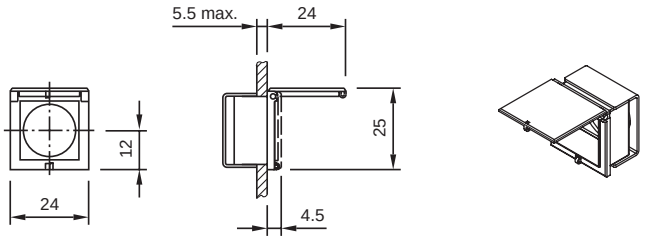
4 Indicator complete, flush mounting page 18



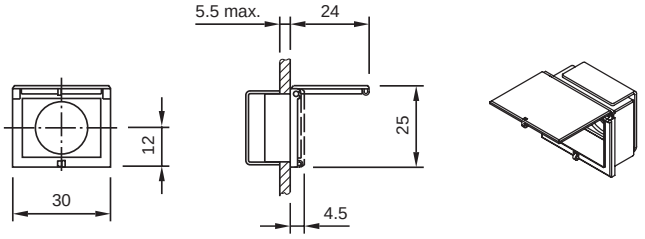
5 Protective cover, raised mounting page 31



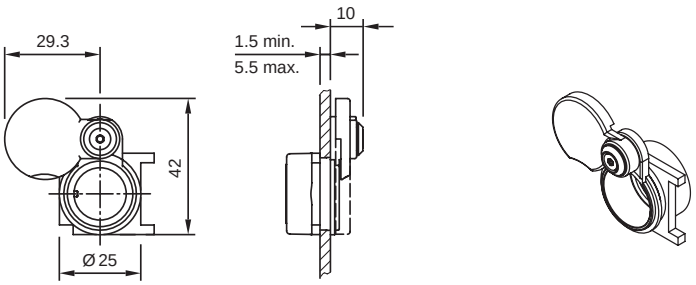
6 Protective cover, flush mounting page 31



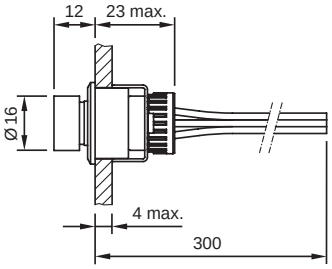
7 Protective cover, flush mounting page 31

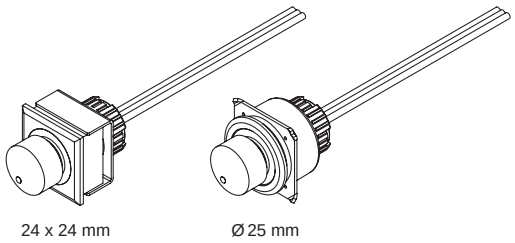


8 Protective cover, flush mounting page 31

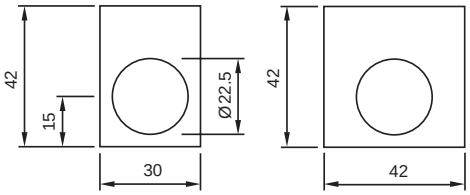


9 Potentiometer, flush mounting page 24

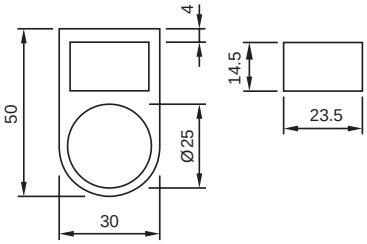




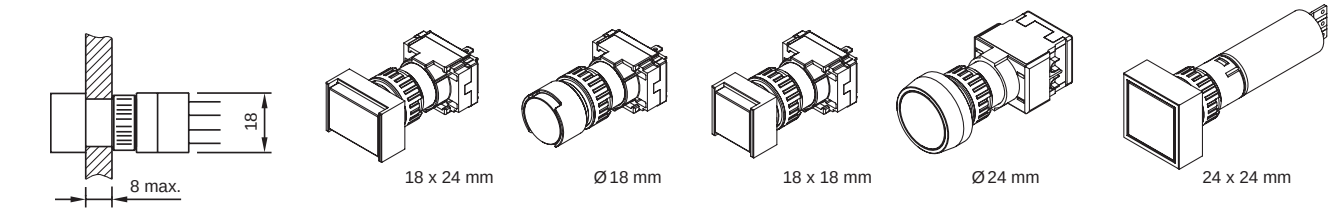
10 Legend plate page 28

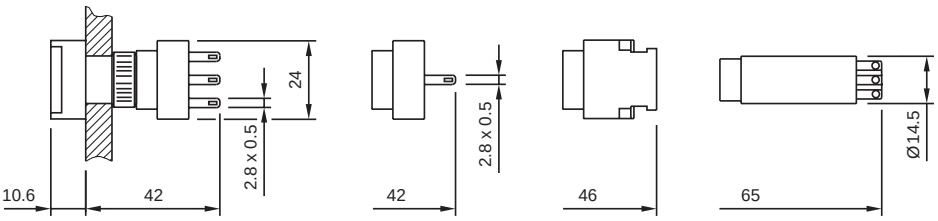


11 Legend frame page 28 **| Legend plate insert** page 29



12 Indicator actuator page 10





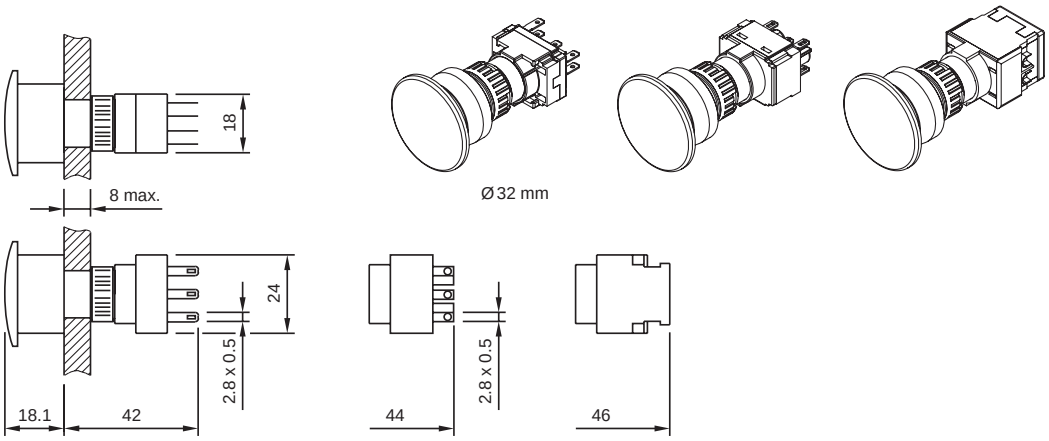
Diode element
Soldering terminal

Lamp element
Soldering terminal

Lamp element
Screw terminal

Flasher element
Soldering terminal

13 Mushroom-head pushbutton actuator page 13

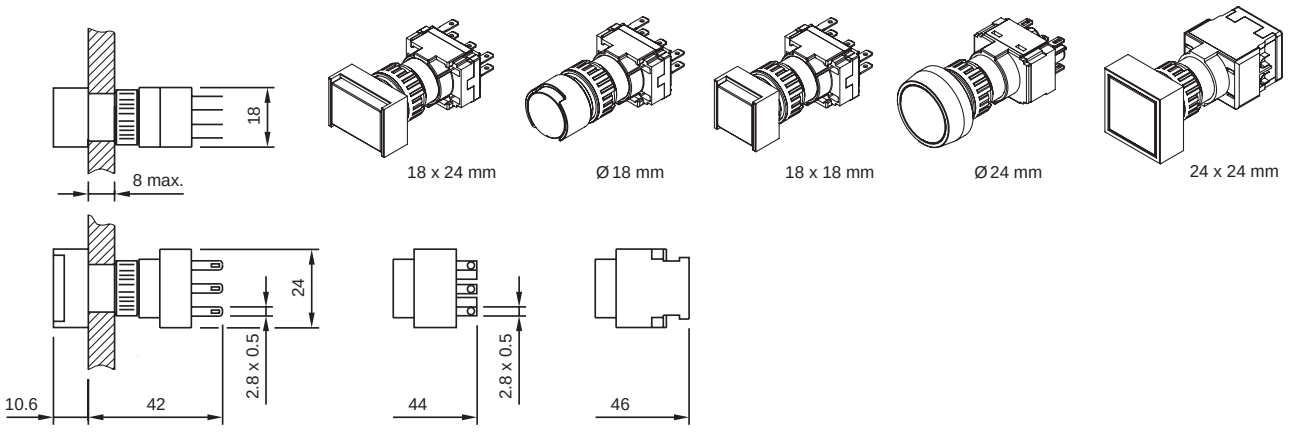


Snap-action switching element
Soldering terminal

Low-make switching element
Soldering terminal

Low-make switching element
Screw terminal

14 Illuminated pushbutton actuator page 11

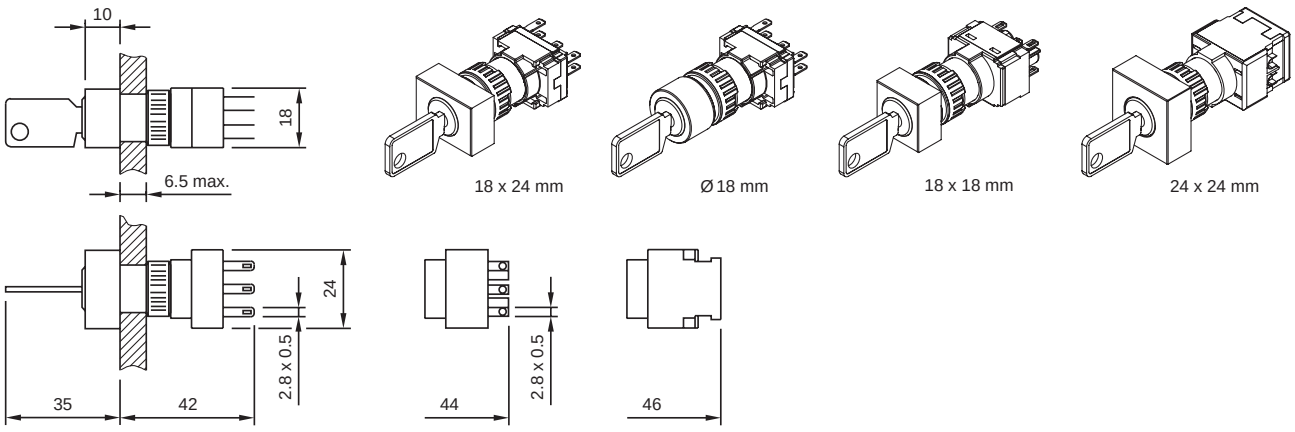


Snap-action switching element
Soldering terminal

Slow-make switching element
Soldering terminal

Slow-make switching element
Screw terminal

15 Keylock switch actuator 2 positions page 14 **| Keylock switch actuator 3 positions** page 15

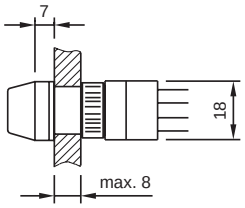


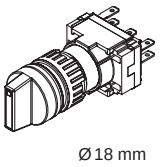
Snap-action switching element
Soldering terminal

Slow-make switching element
Soldering terminal

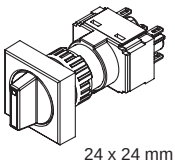
Slow-make switching element
Screw terminal

16 Selector switch actuator 2 positions page 16 **| Selector switch actuator 3 positions** page 17

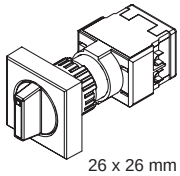




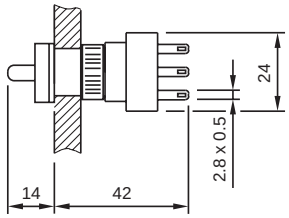
Ø 18 mm



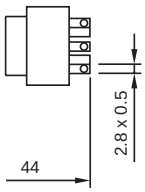
24 x 24 mm



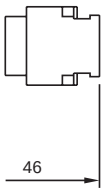
26 x 26 mm



Snap-action switching element
Soldering terminal

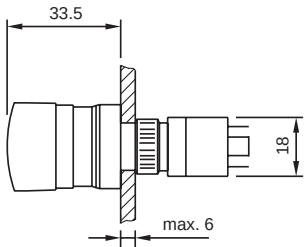


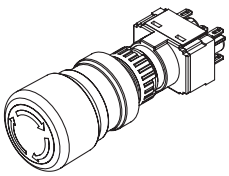
Slow-make switching element
Soldering terminal



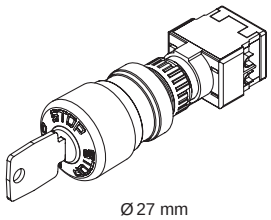
Slow-make switching element
Screw terminal

17 Emergency-stop pushbutton actuator, foolproof EN IEC 60947-5-5 page 12 **| Emergency-stop pushbutton actuator, foolproof** page 13

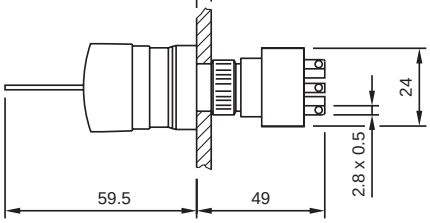




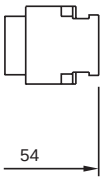
Ø 27 mm



Ø 27 mm

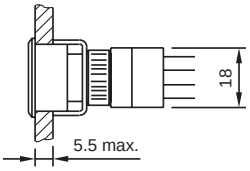


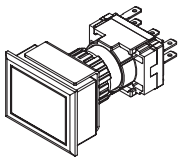
Slow-make switching element
Soldering terminal



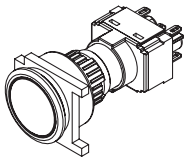
Slow-make switching element
Screw terminal

18 Illuminated pushbutton actuator, flush mounting page 19

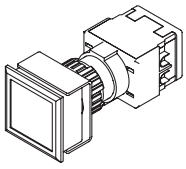




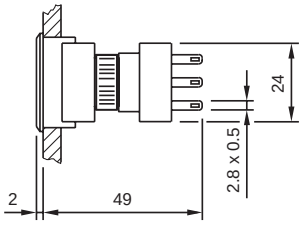
24 x 30 mm



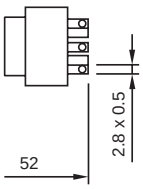
Ø 25 mm



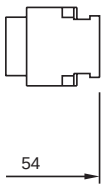
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Snap-action switching element
Soldering terminal

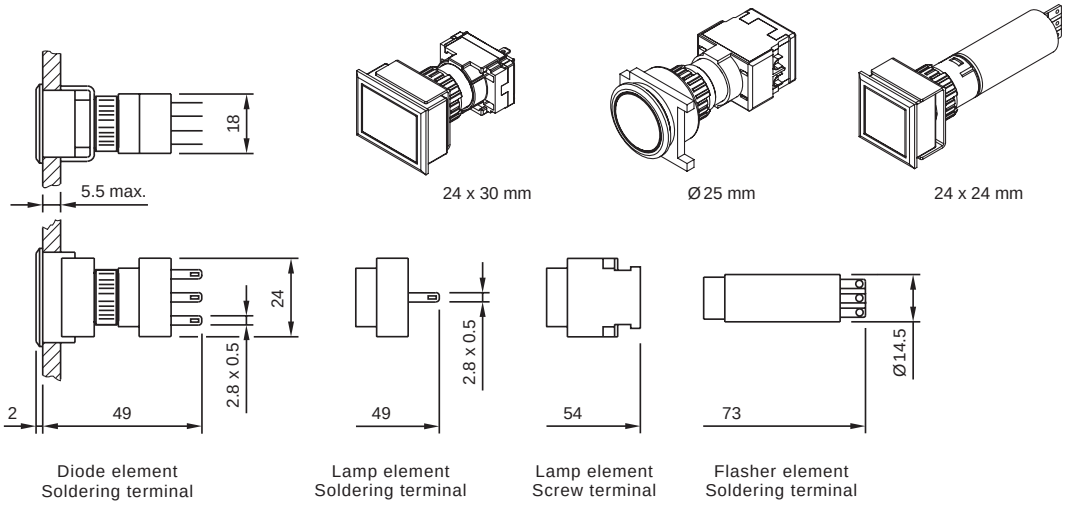


Slow-make switching element
Soldering terminal

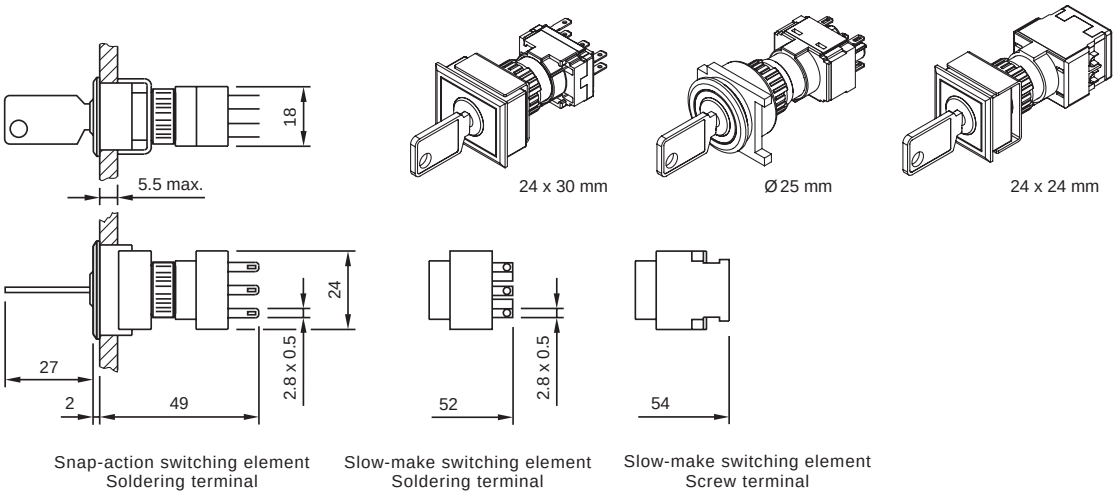


Slow-make switching element
Screw terminal

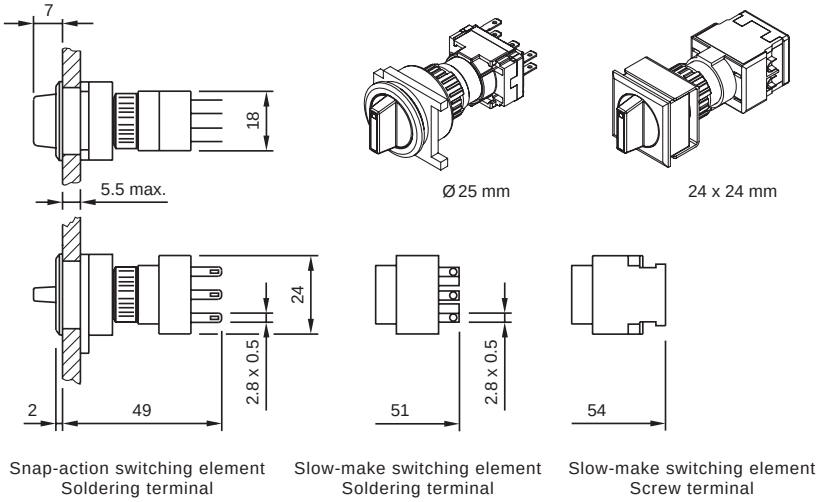
19 Indicator actuator, flush mounting page 18



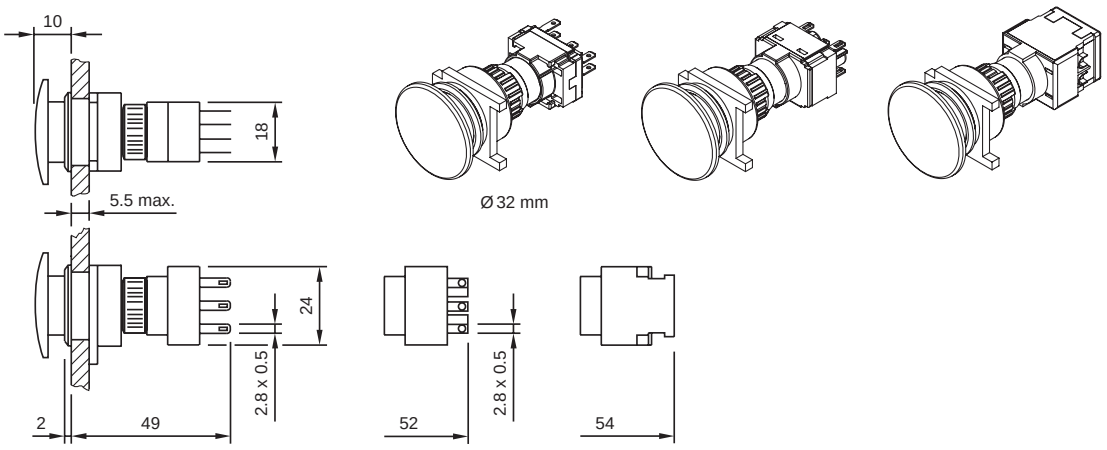
20 Keylock switch actuator 2 positions, flush mounting page 20 **| Keylock switch actuator 3 positions, flush mounting** page 21



21 Selector switch actuator 2 positions, flush mounting page 22 **| Selector switch actuator 3 positions, flush mounting** page 23



22 Mushroom-head pushbutton actuator, flush mounting page 19

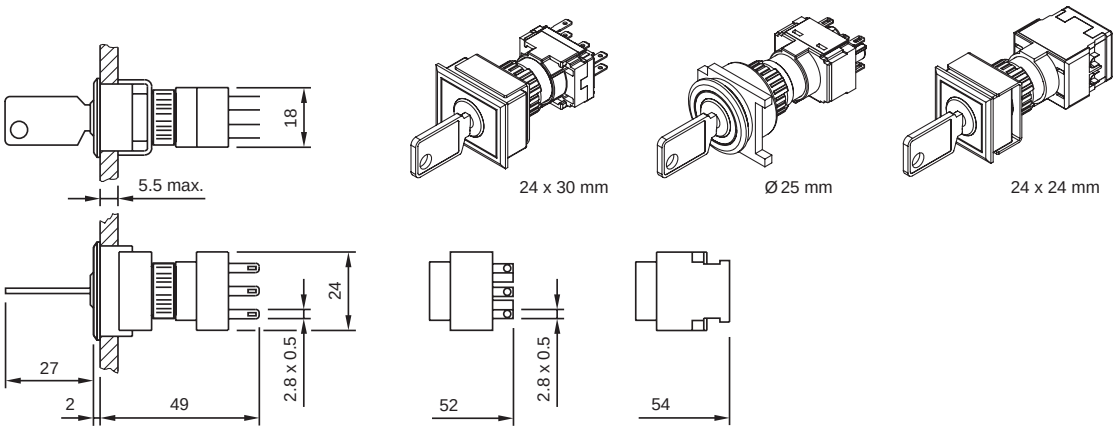


Snap-action switching element
Soldering terminal

Slow-make switching element
Soldering terminal

Slow-make switching element
Screw terminal

23 Keylock switch actuator 3 positions, flush mounting page 21



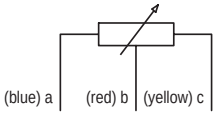
Snap-action switching element
Soldering terminal

Slow-make switching element
Soldering terminal

Slow-make switching element
Screw terminal

Circuit drawing

1 Potentiometer, flush mounting page 24



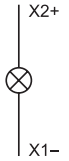
2 Illuminated pushbutton actuator, flush mounting page 19 **| Mushroom-head pushbutton actuator, flush mounting** page 19



3 Illuminated pushbutton actuator, flush mounting page 19 **| Mushroom-head pushbutton actuator, flush mounting** page 19



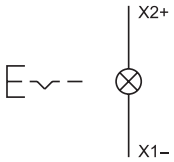
4 Indicator complete page 10 **| Indicator actuator** page 10 **| Indicator complete, flush mounting** page 18 **| Indicator actuator, flush mounting** page 18 **| Lamp element** page 32



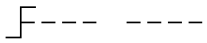
5 Emergency-stop pushbutton actuator, foolproof EN IEC 60947-5-5 page 12 **| Emergency-stop pushbutton actuator, foolproof** page 13



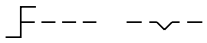
6 Illuminated pushbutton actuator page 11 **| Mushroom-head pushbutton actuator** page 13



7 Selector switch actuator 2 positions page 16 **| Selector switch actuator 2 positions, flush mounting** page 22



8 Selector switch actuator 2 positions page 16 **| Selector switch actuator 2 positions, flush mounting** page 22



9 Selector switch actuator 3 positions page 17 **| Selector switch actuator 3 positions, flush mounting** page 23



10 Selector switch actuator 3 positions page 17 **| Selector switch actuator 3 positions, flush mounting** page 23



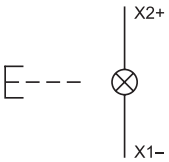
11 Selector switch actuator 3 positions page 17 **| Selector switch actuator 3 positions, flush mounting** page 23



12 Selector switch actuator 3 positions page 17 **| Selector switch actuator 3 positions, flush mounting** page 23



13 Illuminated pushbutton actuator page 11 **| Mushroom-head pushbutton actuator** page 13



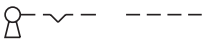
14 Keylock switch actuator 3 positions page 15 **| Keylock switch actuator 3 positions, flush mounting** page 21



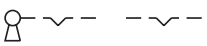
15 Keylock switch actuator 3 positions page 15 **| Keylock switch actuator 3 positions, flush mounting** page 21



16 Keylock switch actuator 2 positions page 14 **| Keylock switch actuator 2 positions, flush mounting** page 20



17 Keylock switch actuator 2 positions page 14 **| Keylock switch actuator 2 positions, flush mounting** page 20



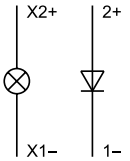
18 Keylock switch actuator 3 positions page 15 **| Keylock switch actuator 3 positions, flush mounting** page 21



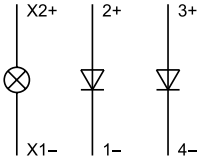
19 Keylock switch actuator 3 positions page 15 **| Keylock switch actuator 3 positions, flush mounting** page 21



20 Diode element page 33



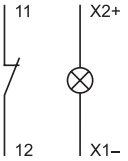
21 Diode element page 33



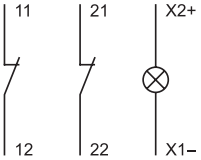
22 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



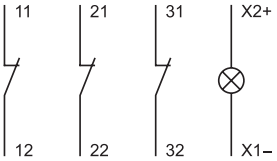
23 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



24 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35



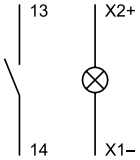
25 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



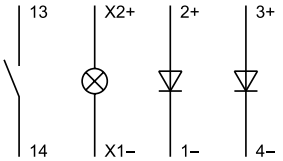
26 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



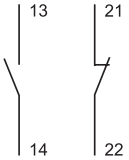
27 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



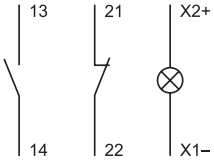
28 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



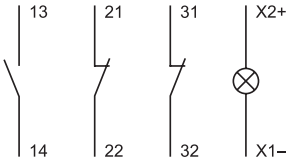
29 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



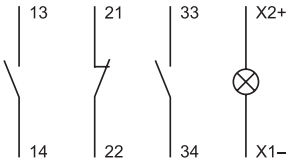
30 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35



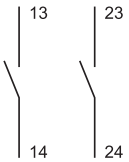
31 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



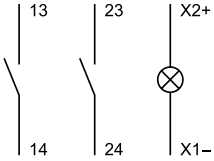
32 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



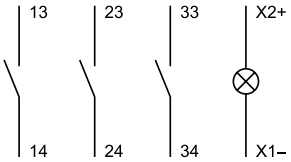
33 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35



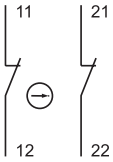
34 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35



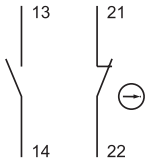
35 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34



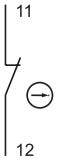
36 Switching element for Pushbutton | Keylock- and Selector switch 2 positions page 34 **| Switching element for Keylock- and Selector switch 3 positions** page 35 **| Switching element for Emergency-stop pushbutton** page 35



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