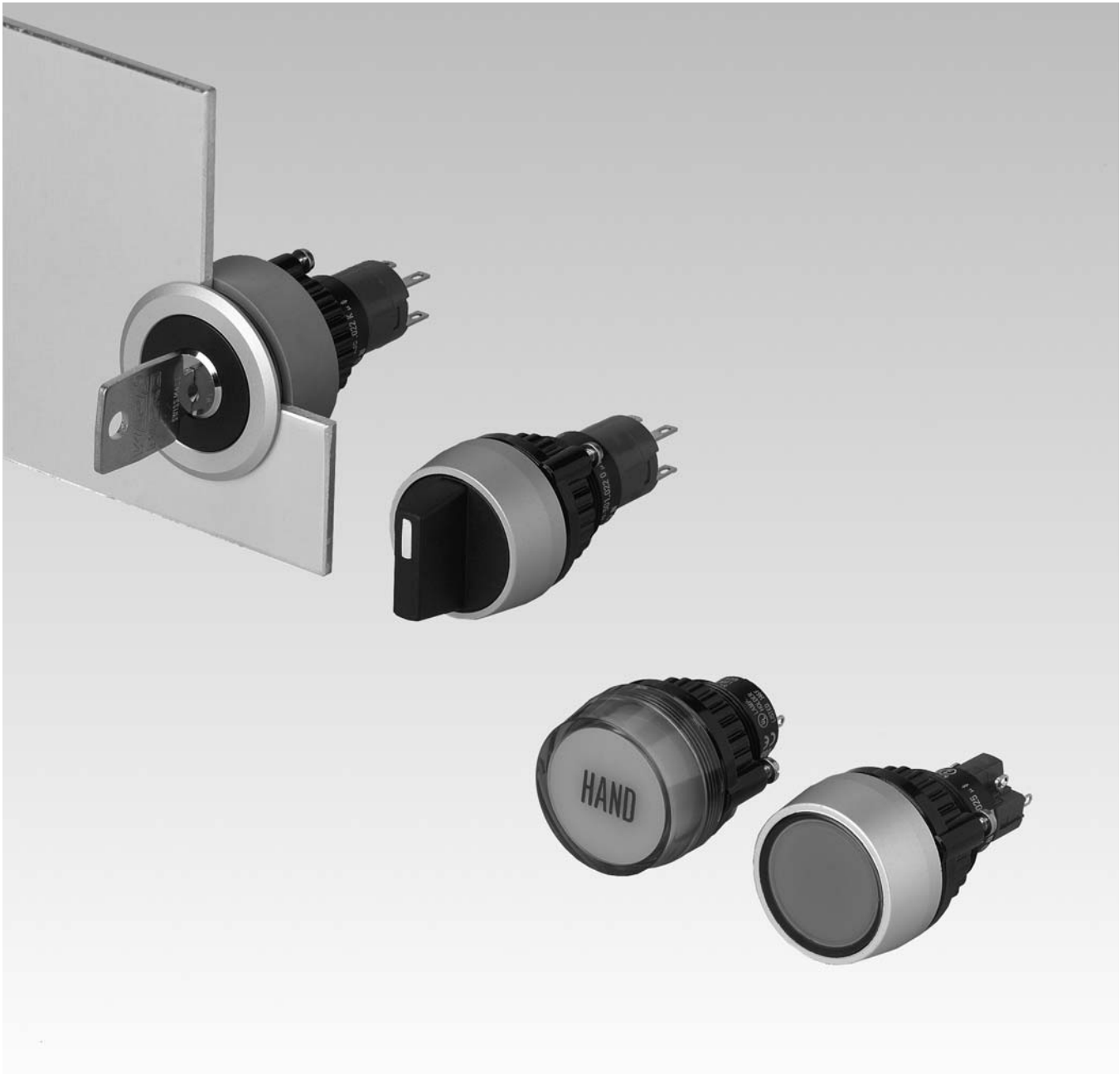




EAO Product Information

Series 14



Description 3

Product Assembly 4

Devices raised mounting 5

Devices flush mounting 12

Accessories..... 16

Technical Data..... 25

Typical Applications 28

Marking 29

Drawings..... 33

Index..... 54

Product Information

General notes

The Series 14 illuminated pushbuttons combine the robust actuators of the Series 04 with choice of either snap-action switching elements with gold plated silver contacts for one changeover only.

These pushbuttons have an IP 67 proof front and can be immersed to a depth of one metre.

The range includes pushbuttons, keylock switches and selector switches.

Anodized aluminium parts can have visible variations due production-technical reasons.

Mounting

Mounted from the front through either 22.5 mm dia cut out for raised or 30.5 mm dia for flush.

The pushbuttons are secured to the panel by means of a fixing ring/ nut and prevented from twisting by two screws.

To ensure correct positioning of the pushbuttons we can provide a positioning insert if required.

The Low Level switching elements with universal terminals allow them to PCB mounted. These terminals are also suitable for dip soldering. A plug-in base is available, which when soldered to the board allows the switch to be easily plugged-in.

Lenses

Lenses of transparent plastic or aluminium are available in various standard colours.

Marking

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

Illumination

The T5.5 incandescent (filament) lamp (6, 12, 24, 28, 30, 36, 48 V) ensures perfect illumination of the lenses, which are supplied in various colours.

T5.5 Single-Chip LED (6, 12, 24, 28, 48 V) are also available in blue, green, red, white or yellow.

Do not solder the terminals directly, because of the high surface temperature.

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 determined by the position of the lens.

Keylock switch

Single locks (2 positions).

There are 10 different locks with standard numbers 1001 ... 1010. If the lock number is not specified, we will supply standard number 1001.

Additional lock numbers are available on request.

Two keys are supplied with each keylock switch.

Spare keys for standard locks may be ordered by quoting Typ-Nr.

14-987 (please state the lock number).

Specimen order

Illuminated pushbutton :

- Illuminated pushbutton actuator, 29 mm dia., snap-action switching element, 1NC + 1 NO, momentary action, soldering terminal 14-131.0252

Essential accessories :

- Lens plastic red 704.602.2
- Marking plate white translucent 704.609.9
- Front ring aluminium natural 704.600.1
- Single-LED, T5.5, 12 VAC/DC, white 10-2109.1069

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

Pushbutton illuminative, raised mounting



- 1 Front ring
- 2 Lens
- 3 Marking plate
- 4 Actuator housing with switching element
- 5 Fixing nut

Pushbutton illuminative, flush mounting



- 1 Front bezel set, flush mounting
- 2 Lens
- 3 Marking plate
- 4 Actuator housing with switching element
- 5 Front panel
- 6 Pressure ring
- 7 Fixing nut

Indicator actuator full face illumination



Essential Accessories:

- Lens cap page 17
- Marking cap for Lens cap page 18
- Single-LED page 22

	Front protection	Diode (1N 4007)	Terminals	Ø 29 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Indicator actuator full face illumination	IP 67	1 D	UT	14-741.006	1	4	17	56	0.011
		2 D	UT	14-742.006	1	4	17	57	0.011
		-	S	14-030.005		4	22	3	0.010
			S1	14-030.002		4	22	3	0.010
			UT	14-031.006	1	4	22	2	0.011

Diode (1N 4007): D = Diode, - = without

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Indicator actuator front illumination



Essential Accessories:

- Front ring page 18
- Lens plastic page 16
- Marking plate for Lens plastic and metal page 17
- Single-LED page 22

	Front protection	Terminals	Ø 29 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Indicator actuator front illumination	IP 67	S	14-040.005		4	22	3	0.050
		S1	14-040.002		4	22	3	0.050
		UT	14-041.006	1	4	22	2	0.050

Terminals: S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm), UT = Universal terminal

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Buzzer



	Front protection		Terminals	Ø 29 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	
Buzzer Operation voltage 24 VDC	IP 65	Front cap						
		Brass nickel-plated	S1	14-810.902	4	1	1	0.016
		Plastic black	S1	14-810.002	4	1	1	0.016

Further information in the Technical Data and Typical Applications
Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)
Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Illuminated actuator pushbutton



Essential Accessories:

-  Front ring page 18
-  Lens plastic page 16
-  Marking plate for Lens plastic and metal page 17
-  Single-LED page 22

	Front protection	Switching system	Contacts	Diode (1N 4007)	Switching action	Terminals	Ø 29 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Illuminated actuator pushbutton	IP 67	LL	1 NC	-	MA	UT	14-476.036	1	4	17	12	0.015
					M	UT	14-436.036	1	4	17	39	0.015
			1 NC + 1 NO	-	MA	UT	14-473.036	1	4	17	15	0.015
					M	UT	14-433.036	1	4	17	42	0.015
			1 NO	-	MA	UT	14-475.036	1	4	17	14	0.015
					M	UT	14-435.036	1	4	17	41	0.015
			2 NC	-	MA	UT	14-472.036	1	4	17	13	0.015
					M	UT	14-432.036	1	4	17	40	0.015
			2 NO	-	MA	UT	14-471.036	1	4	17	16	0.015
					M	UT	14-431.036	1	4	17	43	0.015
		SA	1 NC + 1 NO	1 D	MA	UT	14-747.0292	1	4	26	9	0.014
					M	UT	14-743.0292	1	4	26	36	0.014
				2 D	MA	UT	14-748.0292	1	4	26	10	0.014
					M	UT	14-744.0292	1	4	26	37	0.014
				-	MA	S	14-271.0252		4	24	11	0.013
					S1		14-271.022		4	24	11	0.013
					M	S	14-131.0252		4	24	38	0.013
					S1		14-131.022		4	24	38	0.013
			2 NC + 2 NO	1 D	MA	UT	14-749.0292	1	4	26	6	0.016
					M	UT	14-745.0292	1	4	26	33	0.016
				2 D	MA	UT	14-750.0292	1	4	26	7	0.016
					M	UT	14-746.0292	1	4	26	34	0.016
				-	MA	S	14-272.0252		4	24	8	0.015
					M	S	14-132.0252		4	24	35	0.015
			3 NC + 3 NO	-	MA	S	14-273.0252		4	24	5	0.017
					M	S	14-133.0252		4	24	32	0.017
			4 NC + 4 NO	-	MA	S	14-274.0252		4	24	4	0.019
					M	S	14-134.0252		4	24	31	0.019

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

Diode (1N 4007): - = without, D = Diode

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Mushroom-head actuator pushbutton



Essential Accessories:

-  Front ring page 18
-  Marking plate for Mushroom-head cap page 17
-  Mushroom-head cap page 17

	Front protection	Switching system	Contacts	Switching action	Terminals	Ø 40 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Mushroom-head actuator pushbutton	IP 67	LL	1 NC	MA	UT	14-476.036	1	2	16	12	0.015
				M	UT	14-436.036	1	2	16	39	0.015
			1 NC + 1 NO	MA	UT	14-473.036	1	2	16	15	0.015
				M	UT	14-433.036	1	2	16	42	0.015
			1 NO	MA	UT	14-475.036	1	2	16	14	0.015
				M	UT	14-435.036	1	2	16	41	0.015
			2 NC	MA	UT	14-472.036	1	2	16	13	0.015
				M	UT	14-432.036	1	2	16	40	0.015
			2 NO	MA	UT	14-471.036	1	2	16	16	0.015
				M	UT	14-431.036	1	2	16	43	0.015
		SA	1 NC + 1 NO	MA	S	14-271.0252		2	23	11	0.013
					S1	14-271.022		2	23	11	0.013
				M	S	14-131.0252		2	23	38	0.013
					S1	14-131.022		2	23	38	0.013
			2 NC + 2 NO	MA	S	14-272.0252		2	23	8	0.015
				M	S	14-132.0252		2	23	35	0.015
			3 NC + 3 NO	MA	S	14-273.0252		2	23	5	0.017
				M	S	14-133.0252		2	23	32	0.017
			4 NC + 4 NO	MA	S	14-274.0252		2	23	4	0.019
				M	S	14-134.0252		2	23	31	0.019

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Illuminated mushroom-head actuator pushbutton



Essential Accessories:

- Front ring page 18
- Marking plate for Mushroom-head cap page 17
- Mushroom-head cap illuminated page 17
- Single-LED page 22

	Front protection	Switching system	Contacts	Diode (1N 4007)	Switching action	Terminals	Ø 40 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Illuminated mushroom-head actuator pushbutton	IP 67	LL	1 NC	-	MA	UT	14-476.036	1	2	16	12	0.015
					M	UT	14-436.036	1	2	16	39	0.015
			1 NC + 1 NO	-	MA	UT	14-473.036	1	2	16	15	0.015
					M	UT	14-433.036	1	2	16	42	0.015
			1 NO	-	MA	UT	14-475.036	1	2	16	14	0.015
					M	UT	14-435.036	1	2	16	41	0.015
			2 NC	-	MA	UT	14-472.036	1	2	16	13	0.015
					M	UT	14-432.036	1	2	16	40	0.015
			2 NO	-	MA	UT	14-471.036	1	2	16	16	0.015
					M	UT	14-431.036	1	2	16	43	0.015
		SA	1 NC + 1 NO	1 D	MA	UT	14-747.0292	1	2	25	9	0.014
					M	UT	14-743.0292	1	2	25	36	0.014
				2 D	MA	UT	14-748.0292	1	2	25	10	0.014
					M	UT	14-744.0292	1	2	25	37	0.014
				-	MA	S	14-271.0252		2	23	11	0.013
						S1	14-271.022		2	23	11	0.013
					M	S	14-131.0252		2	23	38	0.013
						S1	14-131.022		2	23	38	0.013
			2 NC + 2 NO	1 D	MA	UT	14-749.0292	1	2	25	6	0.016
					M	UT	14-745.0292	1	2	25	33	0.016
				2 D	MA	UT	14-750.0292	1	2	25	7	0.016
					M	UT	14-746.0292	1	2	25	34	0.016
				-	MA	S	14-272.0252		2	23	8	0.015
					M	S	14-132.0252		2	23	35	0.015
			3 NC + 3 NO	-	MA	S	14-273.0252		2	23	5	0.017
					M	S	14-133.0252		2	23	32	0.017
			4 NC + 4 NO	-	MA	S	14-274.0252		2	23	4	0.019
					M	S	14-134.0252		2	23	31	0.019

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

Diode (1N 4007): - = without, D = Diode

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Keylock switch 2 positions



	Front protection	Front ring	Switching system	Contacts	Switching action	Terminals	Key remove	Ø 29 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Keylock switch 2 positions Position A : Basic position Position C : Maintained action Standard lock 1001, Front : Plastic black	IP 65	Aluminium natural	LL	1 NC + 1 NO	MA	UT	A	14-415.036K	1	4	18	54	0.030
							C	14-418.036K	1	4	18	54	0.030
							C + A	14-412.036K	1	4	18	54	0.030
				2 NO	MA	UT	A	14-414.036K	1	4	18	55	0.030
							C	14-417.036K	1	4	18	55	0.030
							C + A	14-411.036K	1	4	18	55	0.030
			SA	1 NC + 1 NO	MA	S	A	14-235.025K2		4	27	50	0.029
							C	14-335.025K2		4	27	50	0.029
							C + A	14-135.025K2		4	27	50	0.029
						S1	A	14-235.022K		4	27	50	0.029
							C	14-335.022K		4	27	50	0.029
							C + A	14-135.022K		4	27	50	0.029
				2 NC + 2 NO	MA	S	A	14-236.025K2		4	27	51	0.031
							C	14-336.025K2		4	27	51	0.031
							C + A	14-136.025K2		4	27	51	0.031
				3 NC + 3 NO	MA	S	A	14-237.025K2		4	27	52	0.033
							C	14-337.025K2		4	27	52	0.033
							C + A	14-137.025K2		4	27	52	0.033
				4 NC + 4 NO	MA	S	A	14-238.025K2		4	27	53	0.035
							C	14-338.025K2		4	27	53	0.035
							C + A	14-138.025K2		4	27	53	0.035
Position A : Basic position Position C : Momentary action Standard lock 1001 Front : Plastic black	IP 65	Aluminium natural	LL	1 NC + 1 NO	M	UT	A	14-438.036K	1	4	18	48	0.030
				2 NO	M	UT	A	14-437.036K	1	4	18	49	0.030
			SA	1 NC + 1 NO	M	S	A	14-141.025K2		4	27	44	0.029
						S1	A	14-141.022K		4	27	44	0.029
				2 NC + 2 NO	M	S	A	14-142.025K2		4	27	45	0.031
				3 NC + 3 NO	M	S	A	14-143.025K2		4	27	46	0.033
				4 NC + 4 NO	M	S	A	14-144.025K2		4	27	47	0.035

Keylock switches are supplied with 2 keys.

Other lock numbers on request

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

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

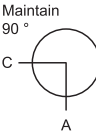
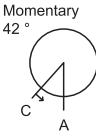
Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Selector switch 2 positions

non-illuminative



	Front protection	Front ring	Lever	Switching system	Contacts	Switching action	Terminals	Ø 29 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Selector switch 2 positions Position A : Basic position  	IP 67	Aluminium natural	Plastic black long	LL	1 NC + 1 NO	MA	UT	14-572.0360	1	4	19	29	0.025
						M	UT	14-567.0360	1	4	19	22	0.025
					2 NC	MA	UT	14-571.0360	1	4	19	28	0.025
						M	UT	14-566.0360	1	4	19	21	0.025
					2 NO	MA	UT	14-570.0360	1	4	19	30	0.025
						M	UT	14-565.0360	1	4	19	23	0.025
			Plastic black short	SA	1 NC + 1 NO	MA	S	14-556.02502		4	28	24	0.024
							S1	14-556.0220		4	28	24	0.024
						M	S	14-551.02502		4	28	17	0.024
							S1	14-551.0220		4	28	17	0.024
					2 NC + 2 NO	MA	S	14-557.02502		4	28	25	0.026
						M	S	14-552.02502		4	28	18	0.026
					3 NC + 3 NO	MA	S	14-558.02502		4	28	26	0.028
						M	S	14-553.02502		4	28	19	0.028
					4 NC + 4 NO	MA	S	14-559.02502		4	28	27	0.030
						M	S	14-554.02502		4	28	20	0.030
				LL	1 NC + 1 NO	MA	UT	14-522.0360	1	4	20	29	0.025
						M	UT	14-517.0360	1	4	20	22	0.025
					2 NC	MA	UT	14-521.0360	1	4	20	28	0.025
						M	UT	14-516.0360	1	4	20	21	0.025
					2 NO	MA	UT	14-520.0360	1	4	20	30	0.025
						M	UT	14-515.0360	1	4	20	23	0.025
				SA	1 NC + 1 NO	MA	S	14-506.02502		4	29	24	0.024
							S1	14-506.0220		4	29	24	0.024
						M	S	14-501.02502		4	29	17	0.024
							S1	14-501.0220		4	29	17	0.024
					2 NC + 2 NO	MA	S	14-507.02502		4	29	25	0.026
						M	S	14-502.02502		4	29	18	0.026
					3 NC + 3 NO	MA	S	14-508.02502		4	29	26	0.028
						M	S	14-503.02502		4	29	19	0.028
					4 NC + 4 NO	MA	S	14-509.02502		4	29	27	0.030
						M	S	14-504.02502		4	29	20	0.030

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Indicator actuator, flush mounting



Essential Accessories:

-  Front bezel set, flush mounting page 18
-  Lens plastic page 16
-  Marking plate for Lens plastic and metal page 17
-  Single-LED page 22

	Front protection	Terminals	Ø 35 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Indicator actuator, flush mounting	IP 67	S	14-040.005		1	30	3	0.050
		S1	14-040.002		1	30	3	0.050
		UT	14-041.006	1	1	30	3	0.050

Terminals: S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm), UT = Universal terminal

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Buzzer, flush mounting



	Front protection	Front cap	Terminals	Ø 35 mm Typ-Nr.	Mounting dimensions	Technical drawing	Circuit drawing	
Buzzer, flush mounting Operation voltage : 24 VDC	IP 40	Aluminium black	S1	14-810.910	1	21	1	0.016
		Aluminium natural	S1	14-810.918	1	21	1	0.016

Further information in the Technical Data and Typical Applications

Terminals: S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Illuminated pushbutton actuator, flush mounting



Essential Accessories:

-  Front bezel set, flush mounting page 18
-  Lens plastic page 16
-  Marking plate for Lens plastic and metal page 17
-  Single-LED page 22

	Front protection	Switching system	Contacts	Diode (1N 4007)	Switching action	Terminals	Ø 35 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Illuminated pushbutton actuator, flush mounting	IP 67	LL	1 NC	-	MA	UT	14-476.036	1	1	32	12	0.015
					M	UT	14-436.036	1	1	32	39	0.015
			1 NC + 1 NO	-	MA	UT	14-473.036	1	1	32	15	0.015
					M	UT	14-433.036	1	1	32	42	0.015
			1 NO	-	MA	UT	14-475.036	1	1	32	14	0.015
					M	UT	14-435.036	1	1	32	41	0.015
			2 NC	-	MA	UT	14-472.036	1	1	32	13	0.015
					M	UT	14-432.036	1	1	32	40	0.015
			2 NO	-	MA	UT	14-471.036	1	1	32	16	0.015
					M	UT	14-431.036	1	1	32	43	0.015
		SA	1 NC + 1 NO	1 D	MA	UT	14-747.0292	1	1	31	9	0.014
					M	UT	14-743.0292	1	1	31	36	0.014
				2 D	MA	UT	14-748.0292	1	1	31	10	0.014
					M	UT	14-744.0292	1	1	31	37	0.014
				-	MA	S	14-271.0252		1	32	11	0.013
						S1	14-271.022		1	32	11	0.013
					M	S	14-131.0252		1	32	38	0.013
						S1	14-131.022		1	32	38	0.013
			2 NC + 2 NO	1 D	MA	UT	14-749.0292	1	1	31	6	0.016
					M	UT	14-745.0292	1	1	31	33	0.016
				2 D	MA	UT	14-750.0292	1	1	31	7	0.016
					M	UT	14-746.0292	1	1	31	34	0.016
				-	MA	S	14-272.0252		1	32	8	0.015
					M	S	14-132.0252		1	32	35	0.015
			3 NC + 3 NO	-	MA	S	14-273.0252		1	32	5	0.017
					M	S	14-133.0252		1	32	32	0.017
			4 NC + 4 NO	-	MA	S	14-274.0252		1	32	4	0.019
					M	S	14-134.0252		1	32	31	0.019

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

Diode (1N 4007): - = without, D = Diode

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

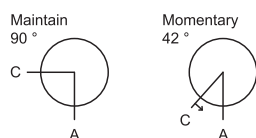
Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Keylock switch actuator 2 positions, flush mounting



Essential Accessories:

-  Anti-twist ring, flush mounting page 23
-  Front bezel set, flush mounting page 18



	Front protection	Switching system	Contacts	Switching action	Terminals	Key remove	Ø 35 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Keylock switch actuator 2 positions, flush mounting Position A : Basic position Position C : Maintained action Standard lock 1001, Front : Plastic black	IP 65	LL	1 NC + 1 NO	MA	UT	A	14-415.036K	1	1	33	54	0.030
						C	14-418.036K	1	1	33	54	0.030
						C + A	14-412.036K	1	1	33	54	0.030
			2 NO	MA	UT	A	14-414.036K	1	1	33	55	0.030
						C	14-417.036K	1	1	33	55	0.030
						C + A	14-411.036K	1	1	33	55	0.030
		SA	1 NC + 1 NO	MA	S	A	14-235.025K2		1	33	50	0.029
						C	14-335.025K2		1	33	50	0.029
						C + A	14-135.025K2		1	33	50	0.029
					S1	A	14-235.022K		1	33	50	0.029
						C	14-335.022K		1	33	50	0.029
						C + A	14-135.022K		1	33	50	0.029
			2 NC + 2 NO	MA	S	A	14-236.025K2		1	33	51	0.031
						C	14-336.025K2		1	33	51	0.031
						C + A	14-136.025K2		1	33	51	0.031
			3 NC + 3 NO	MA	S	A	14-237.025K2		1	33	52	0.033
						C	14-337.025K2		1	33	52	0.033
						C + A	14-137.025K2		1	33	52	0.033
			4 NC + 4 NO	MA	S	A	14-238.025K2		1	33	53	0.035
						C	14-338.025K2		1	33	53	0.035
						C + A	14-138.025K2		1	33	53	0.035
Position A : Basic position Position C : Momentary action Standard lock 1001 Front : Plastic black	IP 65	LL	1 NC + 1 NO	M	UT	A	14-438.036K	1	1	33	48	0.030
			2 NO	M	UT	A	14-437.036K	1	1	33	49	0.030
		SA	1 NC + 1 NO	M	S	A	14-141.025K2		1	33	44	0.029
					S1	A	14-141.022K		1	33	44	0.029
			2 NC + 2 NO	M	S	A	14-142.025K2		1	33	45	0.031
			3 NC + 3 NO	M	S	A	14-143.025K2		1	33	46	0.033
			4 NC + 4 NO	M	S	A	14-144.025K2		1	33	47	0.035

Keylock switches are supplied with 2 keys.

Other lock numbers on request

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

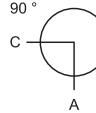
Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Selector switch actuator 2 positions, flush mounting



Essential Accessories:

-  Anti-twist ring, flush mounting page 23
-  Front bezel set, flush mounting page 18

Maintain 90°  Momentary 42° 	Front protection	Lever	Switching system	Contacts	Switching action	Terminals	Ø 35 mm Typ-Nr.	Component layout	Mounting dimensions	Technical drawing	Circuit drawing	
Selector switch actuator 2 positions, flush mounting Position A : Basic position	IP 67	Plastic black short	LL	1 NC + 1 NO	MA	UT	14-522.0360	1	1	34	29	0.025
					M	UT	14-517.0360	1	1	34	22	0.025
				2 NC	MA	UT	14-521.0360	1	1	34	28	0.025
					M	UT	14-516.0360	1	1	34	21	0.025
				2 NO	MA	UT	14-520.0360	1	1	34	30	0.025
					M	UT	14-515.0360	1	1	34	23	0.025
			SA	1 NC + 1 NO	MA	S	14-506.02502		1	34	24	0.024
						S1	14-506.0220		1	34	24	0.024
					M	S	14-501.02502		1	34	17	0.024
						S1	14-501.0220		1	34	17	0.024
				2 NC + 2 NO	MA	S	14-507.02502		1	34	25	0.026
					M	S	14-502.02502		1	34	18	0.026
				3 NC + 3 NO	MA	S	14-508.02502		1	34	26	0.028
					M	S	14-503.02502		1	34	19	0.028
				4 NC + 4 NO	MA	S	14-509.02502		1	34	27	0.030
					M	S	14-504.02502		1	34	20	0.030

Switching system: LL = Low level switching element, SA = Snap-action switching element

Contacts: NC = Normally closed, NO = Normally open

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

Terminals: UT = Universal terminal, S = Soldering terminal, S1 = Soldering terminal (also pluggable 2.8 x 0.5 mm)

Component layout from page 33, Mounting dimensions from page 34, Technical drawing from page 35, Circuit drawing from page 45

Front

Lens plastic

To obtain IP 67 use Marking plate Typ-Nr. 704.609.X

	Lens	Ø 29 mm Typ-Nr.	
Lens plastic	black opaque flush	704.602.0	0.001
	blue transparent flush	704.602.6	0.001
	colourless transparent flush	704.602.7	0.001
	green transparent flush	704.602.5	0.001
	red transparent flush	704.602.2	0.001
	yellow transparent flush	704.602.4	0.001



Lens raised, plastic

To obtain IP 67 use Marking plate Typ-Nr. 704.610.X

	Lens	Ø 29 mm Typ-Nr.	
Lens raised, plastic	colourless transparent flush	704.611.7	0.002
	green transparent flush	704.611.5	0.002
	red transparent flush	704.611.2	0.002
	yellow transparent flush	704.611.4	0.002



Lens metal with window

To obtain IP 67 use Marking plate Typ-Nr. 704.609.X

	Lens	Ø 29 mm Typ-Nr.	
Lens metal with window	Aluminium black flush	704.601.01	0.001
	Aluminium blue flush	704.601.61	0.001
	Aluminium green flush	704.601.51	0.001
	Aluminium natural flush	704.601.81	0.001
	Aluminium red flush	704.601.21	0.001
	Aluminium yellow flush	704.601.41	0.001
	Stainless-steel natural flush	704.601.91	0.001



Lens metal

To obtain IP 67 use Marking plate Typ-Nr. 704.609.9

	Lens	Ø 29 mm Typ-Nr.	
Lens metal	Aluminium black flush	704.601.0	0.001
	Aluminium blue flush	704.601.6	0.001
	Aluminium green flush	704.601.5	0.001
	Aluminium natural flush	704.601.8	0.001
	Aluminium red flush	704.601.2	0.001
	Aluminium yellow flush	704.601.4	0.001
	Stainless-steel natural flush	704.601.9	0.001



Lens cap

To obtain IP 67 use Marking plate Typ-Nr. 704.608.X

	Lens	Ø 29 mm Typ-Nr.	
Lens cap	Plastic blue transparent	704.603.6	0.003
	Plastic colourless transparent	704.603.7	0.003
	Plastic green transparent	704.603.5	0.003
	Plastic red transparent	704.603.2	0.003
	Plastic yellow transparent	704.603.4	0.003

**Mushroom-head cap**

To obtain IP 67 use Marking plate Typ-Nr. 704.609.9

	Mushroom had cap	Ø 40 mm Typ-Nr.	
Mushroom-head cap	Plastic 4/8 opaque	704.604.2	0.001
		704.604.4	0.001
		704.604.5	0.001
	Plastic black opaque	704.604.0	0.001

**Mushroom-head cap illuminated**

To obtain IP 67 use Marking plate Typ-Nr. 704.609.9

	Mushroom had cap	Ø 40 mm Typ-Nr.	
Mushroom-head cap illuminated	Plastic blue transparent	704.614.6	0.007
	Plastic colourless transparent	704.614.7	0.007
	Plastic green transparent	704.614.5	0.007
	Plastic red transparent	704.614.2	0.007
	Plastic yellow transparent	704.614.4	0.007

**Marking plate for Lens plastic and metal**

	Marking plate	Typ-Nr.	
Marking plate for Lens plastic and metal LED	Plastic colourless transparent ribbed	704.609.7	0.001
	Plastic white translucent	704.609.9	0.001
	Plastic black opaque	704.609.0	0.001

**Marking plate for Mushroom-head cap**

	Marking plate	Typ-Nr.	
Marking plate for Mushroom-head cap	Plastic white translucent	704.609.9	0.001



Marking cap for Lens raised, plastic

	Marking cap	Typ-Nr.	 kg
Marking cap for Lens raised, plastic LED	Plastic colourless transparent ribbed	704.610.7	0.001
LED and Filament lamp	Plastic white translucent	704.610.9	0.001



Marking cap for Lens cap

	Marking cap	Typ-Nr.	 kg
Marking cap for Lens cap LED	Plastic colourless transparent ribbed	704.608.7	0.002
LED and Filament lamp	Plastic white translucent	704.608.9	0.002



Front ring

	Front ring	Ø 29 mm Typ-Nr.	 kg
Front ring	Aluminium black	704.600.1A	0.005
	Aluminium natural	704.600.1	0.005
	Plastic black	704.600.0	0.003
	Plastic light-grey	704.600.6	0.003
	Stainless-steel natural	704.600.9	0.006



Front bezel set, flush mounting

	Front bezel	Ø 35 mm Typ-Nr.	Mounting dimensions	 kg
Front bezel set, flush mounting	Aluminium black	704.955.0	1	0.029
	Aluminium natural	704.955.1	1	0.029
	Stainless-steel natural	704.955.9	1	0.029



Mounting dimensions from page 34

Legend frame

adhesive, Aluminium black

	Typ-Nr.	Technical drawing	
Legend frame 30 x 50 mm for raised mounting	704.968.2	9	0.001
35 x 57.5 mm for flush mounting	704.968.3	10	0.001

Technical drawing from page 35



Legend plate insert

for Legend frame 704.968.2 and 704.968.3

	Typ-Nr.		
Legend plate insert 14.5 x 23.5 mm, adhesive, Aluminium black	704.968.1		0.001
14.5 x 23.5 mm, adhesive, Aluminium natural	704.968.0		0.001



Protective cover, raised mounting

Mounting hole size 22.5 mm dia.

	Typ-Nr.	Technical drawing	
Protective cover, raised mounting hinged, transparent, with means for sealing in base position, for Selector switch	704.925.2	6	0.007
hinged, transparent, with means for sealing, for Pushbutton	704.925.0	4	0.007
hinged, transparent, with means for sealing, with spring fitted, for Pushbutton	704.925.3	4	0.007

Technical drawing from page 35



Protective cover, flush mounting

Mounting hole size 30.5 mm dia.

	Typ-Nr.	Technical drawing	
Protective cover, flush mounting hinged, Aluminium natural, with means for sealing, for Pushbutton and Selector switch short lever	704.928.38	8	0.019
hinged, Aluminium natural, with means for sealing, spring fitted, for Pushbutton and Selector switch short lever	704.928.28	5	0.019
hinged, Aluminium natural, with window, spring fitted, for Pushbutton	704.928.18	7	0.019

Technical drawing from page 35



Front protective cap

for Pushbutton | Illuminated pushbutton for protection IP 67 for heavy environmental conditions

	Front protective cap	Typ-Nr.	
Front protective cap only together with Lenses 704.602.X, 704.601.X and Front rings 704.600.X	Silicone colourless transparent	704.953.0	0.002



Front protective ring

for Pushbutton | Illuminated pushbutton with front illumination

	Front protective ring	Ø 29 mm Typ-Nr.	
Front protective ring with transparent Pebax membrane, temperature resistance -40 °C ... +85 °C	Aluminium natural	704.600.5/A	0.005
with transparent silicone membrane (extent resistant to sea water), temperature resistance -40 °C ... +85 °C	Aluminium natural	704.600.3	0.005
	Chromed brass	704.600.2	0.005



Front bezel with protective membrane, flush mounting

for Pushbuttons | Illuminated pushbuttons

	Front bezel	Ø 35 mm Typ-Nr.	
Front bezel with protective membrane, flush mounting with transparent silicone membrane	Aluminium black	704.955.4	0.016
	Aluminium natural	704.955.3	0.016
with transparent silicone membrane, resistant to sea water	Stainless steel natural	704.955.9E	0.047



Blind plug

	Blind plug	Front protection	Typ-Nr.	Technical drawing	
Blind plug Size 28 mm dia., for mounting hole 22.5 mm dia.	Plastic black	IP 65	704.960.4	3	0.004
Size 36 mm dia., for mounting hole 30.5 mm dia.	Plastic black	IP 65	704.964.8	2	0.007



Technical drawing from page 35

Spare key

	Typ-Nr.	
Spare key Standard lock 1001 (KABA)	14-987.1001	0.006



Other lock numbers on request

Backside

PCB plug-in base

	Typ-Nr.	Component layout	
PCB plug-in base 16.4 mm dia. x 9.8 mm for Low level switching element, Pins axial	31-940	2	0.002
17.8 x 12.9 mm x 9.8 mm for Snap-action switching element 2.8 mm, Pins axial	31-942	4	0.002
17.9 x 17.9 x 8.4 mm for Low level switching element, Pins bent at right-angle	31-941	3	0.004

PCB plug-in base Pins right-angle : With the extendable mounting the distance between plug-in base and PCB can be varied up to 3 mm

Component layout from page 33



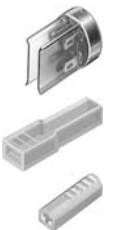
Flat receptacle

	Typ-Nr.	
Flat receptacle 2.0 x 0.5 mm for Universal terminal	31-945	0.001
2.8 x 0.5 mm for Plug-in terminal	31-946	0.001



Insulation sleeve

	Typ-Nr.	
Insulation sleeve Cover Plug-in terminals for snap-action switching element 2.8 mm	01-928	0.001
for Flat receptacle 31-945	31-928	0.001
for Flat receptacle 31-946	31-929	0.001



Terminal cover

	Typ-Nr.	
Terminal cover	01-929	0.010



Illumination

Filament lamp

	Socket	Operating voltage/-current	Typ-Nr.	
Filament lamp	T5.5	12 VAC/DC, 100 mA	10-1109.1329	0.001
		12 VAC/DC, 50 mA	10-1109.1279	0.001
		24 VAC/DC, 25 mA	10-1112.1199	0.001
		24 VAC/DC, 50 mA	10-1112.1279	0.001
		28 VAC/DC, 40 mA	10-1113.1249	0.001
		30 VAC/DC, 40 mA	10-1114.1249	0.001
		36 VAC/DC, 35 mA	10-1116.1229	0.001
		48 VAC/DC, 25 mA	10-1119.1199	0.001
		6 VAC/DC, 200 mA	10-1106.1369	0.001



Single-LED

	Socket	Light colour	Operating voltage/-current	Typ-Nr.	
Single-LED	T5.5	blue	12 VAC/DC, 7/14 mA	10-2109.1066	0.001
			24 VAC/DC, 7/14 mA	10-2112.1066	0.001
			28 VAC/DC, 7/14 mA	10-2113.1066	0.001
			48 VAC/DC, 4/8 mA	10-2119.1046	0.001
			6 VDC, 15 mA	10-2106.3146	0.001
		green	12 VAC/DC, 7/14 mA	10-2109.1065	0.001
			24 VAC/DC, 7/14 mA	10-2112.1065	0.001
			28 VAC/DC, 7/14 mA	10-2113.1065	0.001
			48 VAC/DC, 4/8 mA	10-2119.1045	0.001
			6 VDC, 15 mA	10-2106.3145	0.001
		red	12 VAC/DC, 7/14 mA	10-2109.1062	0.001
			24 VAC/DC, 7/14 mA	10-2112.1062	0.001
			28 VAC/DC, 7/14 mA	10-2113.1062	0.001
			48 VAC/DC, 4/8 mA	10-2119.1042	0.001
			6 VDC, 15 mA	10-2106.3142	0.001
		white diffuse	12 VAC/DC, 7/14 mA	10-2109.1069	0.001
			24 VAC/DC, 7/14 mA	10-2112.1069	0.001
			28 VAC/DC, 7/14 mA	10-2113.1069	0.001
			48 VAC/DC, 4/8 mA	10-2119.1049	0.001
			6 VDC, 15 mA	10-2106.3149	0.001
		yellow	12 VAC/DC, 7/14 mA	10-2109.1064	0.001
			24 VAC/DC, 7/14 mA	10-2112.1064	0.001
			28 VAC/DC, 7/14 mA	10-2113.1064	0.001
			48 VAC/DC, 4/8 mA	10-2119.1044	0.001
			6 VDC, 15 mA	10-2106.3144	0.001



Note:

AC operation through halve-wave rectifier possible, slight flickering can occur.

Terminal plate empty

for fitting with series resistors

	Typ-Nr.	
Terminal plate empty	02-912.2	0.045
10 spaces 125 x 60 x 15 mm		
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

**Assembling****Positioning insert**

	Typ-Nr.	Mounting dimensions	
Positioning insert	14-910	3	0.001



Mounting dimensions from page 34

Anti-twist ring, flush mounting

	Typ-Nr.	
Anti-twist ring, flush mounting	704.954.0	0.002

**Reducing ring**

Devices 22.5 mm dia. in mounting hole size 30.5 mm dia.

	Typ-Nr.	
Reducing ring	704.960.0	0.004
Aluminium black		
Aluminium natural	704.960.8	0.004



You need to install two reduction rings.

Lens plug for round lens, flush mounting

	Typ-Nr.	
Lens plug for round lens, flush mounting	700.006.0	0.003
for mounting and dismantling of Lens round, flush mounting		



Lamp remover

	Typ-Nr.	
Lamp remover	02-906	0.002



CAUTION

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

Enclosure

Grey similar RAL 7035; cover lead-sealable

	Dimension	Typ-Nr.	Technical drawing	
Enclosure with mounting hole 1 x 22.5 mm dia., with anti-twist device	L 94 mm, W 94 mm, H 81 mm	704.945.1	11	0.211
with mounting hole 2 x 22.5 mm dia., with anti-twist device	L 130 mm, W 94 mm, H 81 mm	704.945.2	12	0.251
with mounting hole 3 x 22.5 mm dia., with anti-twist device	L 180 mm, W 94 mm, H 81 mm	704.945.3	13	0.313
with mounting hole 4 x 22.5 mm dia., with anti-twist device	L 180 mm, W 182 mm, H 110 mm	704.945.4	14	0.572
with mounting hole 6 x 22.5 mm dia., with anti-twist device	L 180 mm, W 182 mm, H 110 mm	704.945.5	15	0.568



Openings for cable gland M16 or M20

Protection class IP 66

Technical drawing from page 35

Cable gland

	Typ-Nr.	
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 gap 2 x 0.5 mm).
1 normally closed or 1 normally open contact per element.
Snap-action switching elements with soldering terminals at the sides: up to 4 switching element can be on a pushbutton (max. 4 normally closed and 4 normally open contacts).
Snap-action switching element with axial plug-in terminals 2.8 mm stackable, only 1 switching element can be on a pushbutton.

Material

Material of contact

Gold plated silver

Switch housing

Plug-in-/soldering terminal
Diallylphthalate DAP, Polyamide 66, Polysulfone, heat-resistant and self-extinguishing
Soldering terminal: PA 6.6 Ultramide

Actuator housing

Polyamide

Mechanical characteristics

Terminals

Snap-action switching element with tinned soldering terminals at the sides:
Max. wire diameter 2 wires à 1.2 mm
max. wire cross-section of stranded cable 1x 1 mm²

Snap-action switching element with axial plug-in terminals, which can also be used as soldering terminals: Plug-in terminal 2.8 x 0.5 mm

Soldering terminal:

Max. wire diameter 2 wires of 1 mm
Max. wire cross-section of stranded cable 2 x 0.75 mm² or 1 x 1.0 mm²

Actuating torque

Measured at the key or lever of the keylock- or selector switch
2.5 Ncm ... 5.5 Ncm, depending on the number of switching elements

Actuating force

3.5 ... 5.5 N, depending on the number of switching elements

Actuating travel

Illuminated pushbutton:	3 mm
Switch actuator 2 positions:	
Momentary action	1 x ca. 42° deflection momentary action
Maintained action	1 x ca. 90° deflection maintained action

Rebound time

≤5ms

Mechanical lifetime

Momentary action	2 million	Cycles of operation
Maintained action	1 million	Cycles of operation

Electrical characteristics

Standards

The devices comply with : EN IEC 61058-1

Rated voltage

250 VAC/DC as per EN IEC 61058-1-15

Contact resistance

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

Electrostatic discharge

Keylock switch 15 kV

Rated current

5 A

Conventional free air thermal current I_{th}

5 A

The maximum current in continuous operation and at ambient temperature not exceeding the quoted maximum values.

Switch rating

250 VAC, 5 A (cosφ 1)
250 VAC, 3 A (cosφ 0,3)

Switch rating AC (cosφ 0,7)

Voltage	125 VAC	250 VAC
Current	3 A	2 A

Switch rating DC (inductive) L:R = 30 ms

Voltage	24 VDC	60 VDC	110 VDC	220 VDC
Current	2 A	0.7 A	0.2 A	0.1 A

Electric strength

3000 VAC, 50 Hz, 1 min. between all terminals and earth, as per EN IEC 61058-1-15

Isolation resistance

>7 MΩ between the open contacts at 500 VDC, as per EN IEC 61058-1-15 (reinforced insulation)

Protection class

II

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Service temperature

-25 °C ... +55 °C

For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

Protection degree

as per EN IEC 60529
front side IP 67

Shock resistance

(semi-sinusoidal)
max. 150 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Vibration resistance

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

Climate resistance

Damp heat state as per EN IEC 60068-2-30
Damp heat cyclic as per EN IEC 60068-2-78

Approvals

Approbations

CB (IEC 61058)
CSA
ENEC (EN 61058)
Germanischer Lloyd
UL

Declaration of conformity

CE
RoHS

Actuating travel

Illuminated pushbutton : 3 mm
Switch actuator 2 positions:
Momentary action 1 x ca. 42° deflection
momentary action
Maintained action 1 x ca. 90° deflection
maintained action

Rebound time

typical <100 µs

Mechanical lifetime

Momentary action 5 million cycles of operation
Maintained action 1 million cycles of operation

Electrical characteristics

Contact resistance

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

Electrostatic discharge

Keylock switch 15 kV

Switch rating

10 µA, 100 µV to 100 mA at 42 VAC/VDC

Electric strength

3000 VAC, 50 Hz, 1 min. between all terminals and earth, as per EN IEC 61058-1-15

Protection class

II

Actuator with low level switching element

Switching system

This low level switching element was designed for switching low powers in electronic circuits. The mechanism assures reliable switching of loads ranging from a few µA/µV up to 100 mA/42 VAC/DC.

Single-break momentary contact, as normally open or normally closed with 4 independent points of contact. 2 momentary contacts per switching element; combination of normally open and normally closed is possible.

Special features are the long life, extremely short rebound time and stable contact resistance.

Material

Material of contact

Gold plated

Switch housing

Polysulfone, heat-resistant and self-extinguishing

Actuator housing

Polyamide

Mechanical characteristics

Terminals

The universal terminals permit these units to be mounted on printed circuit boards (PCB). These terminals can also be used as soldering or plug-in terminals.

For these terminals we can also supply a plug-in base which, when soldered on to the board, enables the switch to be plugged in.

Soldering terminal:

Max. wire diameter 2 wires of 1 mm

Max. wire cross-section of stranded cable 2 x 0.75 mm²

Plug-in terminal: 2.0 x 0.5 mm.

Actuating torque

Measured at the key or lever of the keylock- or selector switch
2.5 Ncm ... 5.5 Ncm, depending on the number of switching elements

Actuating force

3 ... 4 N, depending on the number of switching elements

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Service temperature

-25 °C ... +55 °C

For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

Protection degree

as per EN IEC 60529
front side IP 67

Shock resistance

(semi-sinusoidal)

max. 150 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Buzzer

Buzzer system

System

Piezo disc

Material

Alarm buzzer case

Polyamide

Front cap

Plastic Polyamide

Metal Nickel-plated brass (sea-water proof)

Mechanical characteristics

Terminals

Plug-in terminal 2.8 x 0.5 mm

Electrical characteristics

Frequency (tone)

approx. 2.8 kHz continuous tone only

Sound pressure

95 db (A) ± 8 dB at a distance of 0.1 m

Operation Voltage/Current

Operation Voltage 24 VDC ± 10 %

Operation Current ≤ 25 mA

Environmental conditions

Storage temperature

-35 °C ... +85 °C

Operating temperature

-25 °C ... +55 °C

Protection degree

as per EN IEC 60529, frontside

IP 40, devices flush mounting

IP 65, devices raised mounting

Approvals

Declaration of conformity

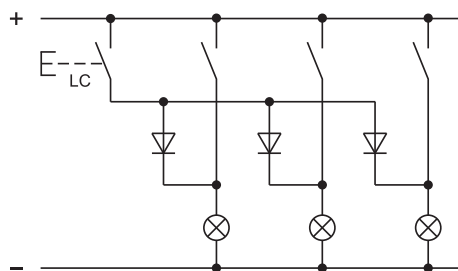
CE

RoHS

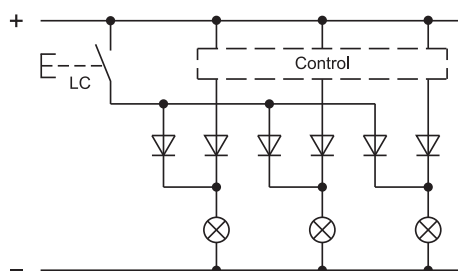
Diode element

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.

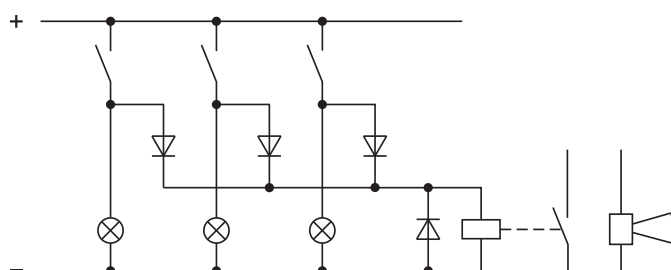
Lamp check



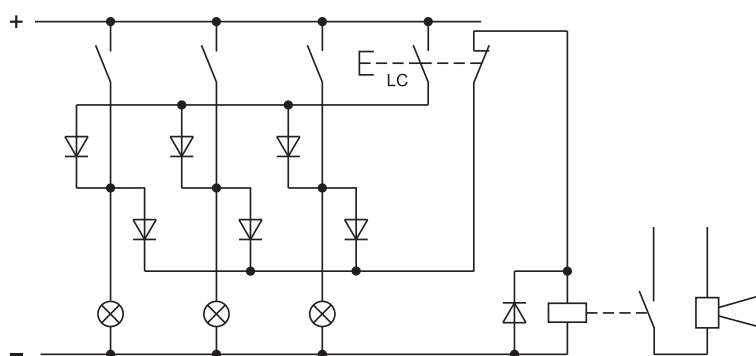
Lamp check with blocking diodes



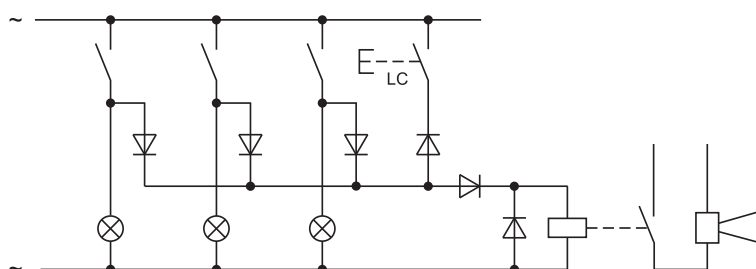
Alarm circuit from fault annunciation system



Lamp check and alarm circuit



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



LC = Lamp Check

General notes

1. Engraving

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.

The lenses are filled with black or white colour.

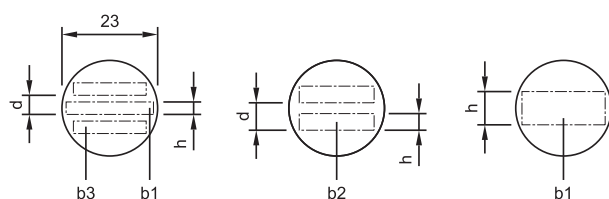
2. Hot stamping

Standard legends and ISO symbols are hot stamped. For larger series it is worth considering markings by means of hot stamping. We will be pleased to advise you.

Engraving marking cap for Indicator round, full face illumination

All dimensions in mm

Height of letters h	Number of lines	Number of (target value) letters per line			Line spacing d
		b1	b2	b3	
3	3	11	10	9	4.6
4	2	8	7	-	6.6
8	1	4	-	-	-

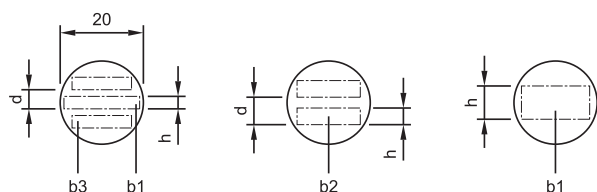


The gap between 2 words results in each case a letter less.

Engraving marking cap for Indicator and illuminated Pushbutton round, front illumination

All dimensions in mm

Height of letters h	Number of lines	Number of (target value) letters per line			Line spacing d
		b1	b2	b3	
3	3	9	9	7	4.6
4	2	7	6	-	6.6
8	1	3	-	-	-

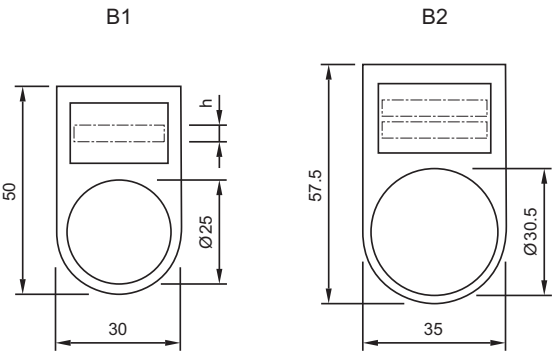


The gap between 2 words results in each case a letter less.

Engraving legend plates

All dimensions in mm

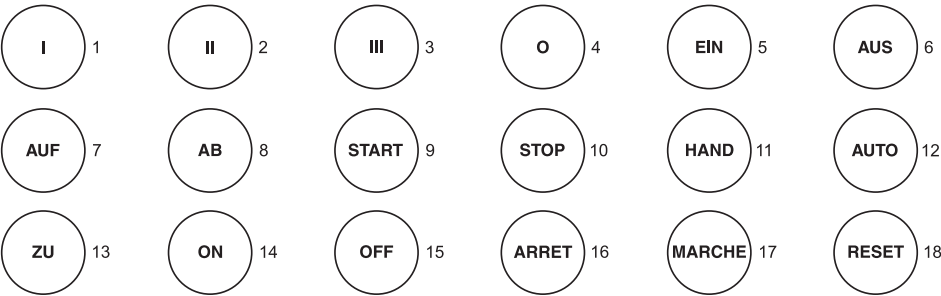
Dimension	Devices mounting style	Height of letters h	Number of lines	Number of (target value) letters per line	Image
30 x 50	round, raised	3	2	12	B1
30 x 50	round, raised	4	1	7	B1
30 x 50	round, raised	8	1	4	B1
35 x 57.5	round, flush	3	2	12	B2
35 x 57.5	round, flush	4	1	7	B2
35 x 57.5	round, flush	8	1	4	B2



The gap between 2 words results in each case a letter less.

Standard texts for marking plates and marking caps for Indicator and Illuminated Pushbutton

Height of letters 6 mm



Symbols for marking plates and marking caps for Indicator and Illuminated Pushbutton

	1 Direction of linear rectilinear motion (also for $\rightarrow \updownarrow$)		13 Direction of spindle rotation		29 Decrease of value (speed, for instance)		49 Cooling pump
	2 Linear motion in 2 directions (also for $\updownarrow$)		14 One revolution		30 Speed of planing cut		50 Lubricant pump
	3 Interrupted linear motion (also for $\leftarrow \updownarrow$)		15 Number of revolutions per minute (spindle speed)		31 Speed of turning cut		51 Hydraulic system pump
	4 Limited linear motion (also for $\leftarrow \updownarrow$)		16 Feed		32 Speed of drilling cut		52 Hydraulic motor
	5 Limited linear motion and return		17 Feed per revolution		33 Speed of milling cut (similar symbol for speed of grinding)		53 Tracer
	6 Oscillating linear motion (continuous)		18 Feed per minute		34 Conventional milling		61 Stepless regulation
	7 Direction of continuous rotation (right)		19 Reduced feed		35 Climb milling (down milling)		62 Adjustable
	7a Direction of continuous rotation (left)		20 Rapid feed		41 Electric motor		63.1 Lock or tighten
	8 Rotation in 2 directions		21 Normal feed		42 Rectangular work table or slide element		63.2 Lock or tighten
	9 Direction of interrupted rotation (right)		22 Direction of feed (orientation not specified)		43 Round work table or rotating element		64.1 Unlock, unclamp
	9a Direction of interrupted rotation (left)		24 Transverse feed		44 Turning spindle		64.2 Chuck open
	10 Limited rotation (right)		25 Vertical feed		45 Drilling spindle		65 Brake on
	10a Limited rotation (left)		26 Rapid traverse		46 Milling spindle		66 Brake off
	11 Limited rotation and return		27 Threading		47 Grinding spindle		67 Automatic (or semi-automatic) cycle
	12 Oscillating rotary movement (continuous)		28 Increase of value (speed, for instance)		48 Pump (general symbol)		68 Hand control

Continuation see next page

Continued from previous page



69 Start, on



77 Open lock-nut



93 Caution!



106 Drain



70 Stop, off



78 Engage sensor



94 Main switch



107 Oil, lubricant



71 Start and stop
with same button



79 Disengage sensor



101 Coolant fluid



108 Blast



72 In action as long as
button is operated



80 Change speed
only in stopped
position



102 Machine lighting



109 Suction



74 Engaging
(mechanical start)



81 Change speed
only in motion



103 Weight



75 Disengaging
(mechanical stop)



91 Shear pin
construction



104 Filter opening



76 Close lock-nut



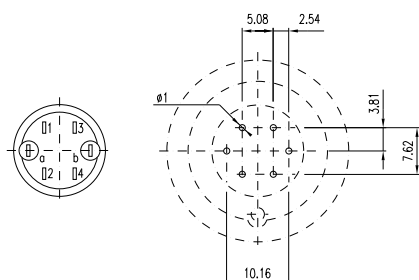
92 Danger
(high voltage)



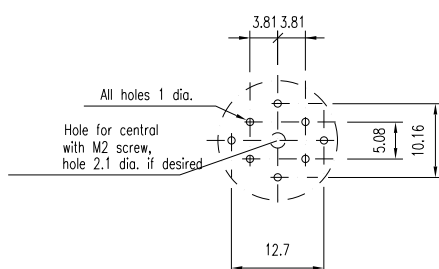
105 Overflow

Component layout

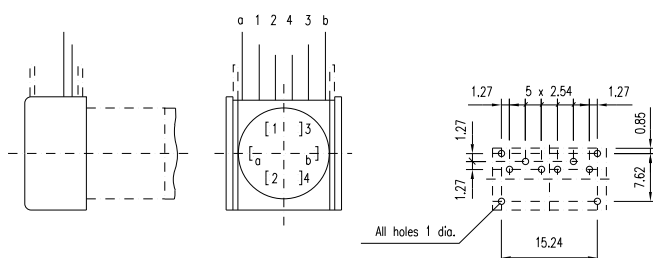
1 Indicator actuator full face illumination page 5 | Indicator actuator front illumination page 5 | Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Keylock switch 2 positions page 10 | Selector switch 2 positions page 11 | Indicator actuator, flush mounting page 12 | Illuminated pushbutton actuator, flush mounting page 13 | Keylock switch actuator 2 positions, flush mounting page 14 | Selector switch actuator 2 positions, flush mounting page 15



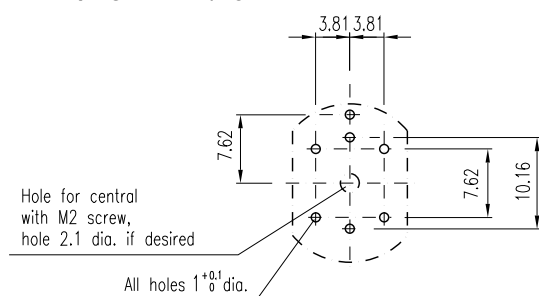
2 PCB plug-in base page 21



3 PCB plug-in base page 21

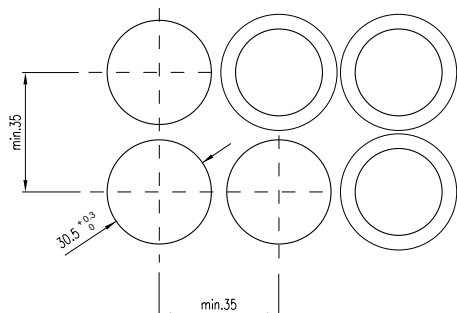


4 PCB plug-in base page 21



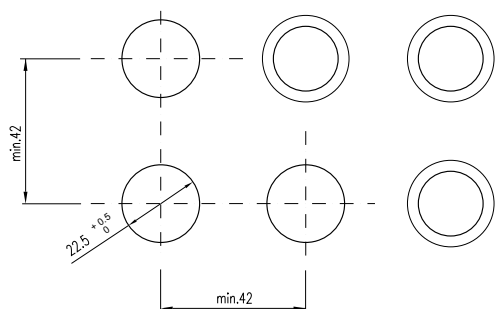
Mounting dimensions

1 Indicator actuator, flush mounting page 12 | **Buzzer, flush mounting** page 12 | **Illuminated pushbutton actuator, flush mounting** page 13 | **Keylock switch actuator 2 positions, flush mounting** page 14 | **Selector switch actuator 2 positions, flush mounting** page 15 | **Front bezel set, flush mounting** page 18

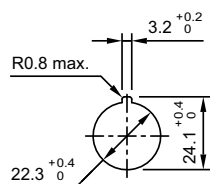


Hole spacing 37 mm min. by using blind plug 704.960.8

2 Mushroom-head actuator pushbutton page 8 | **Illuminated mushroom-head actuator pushbutton** page 9



3 Positioning insert page 23

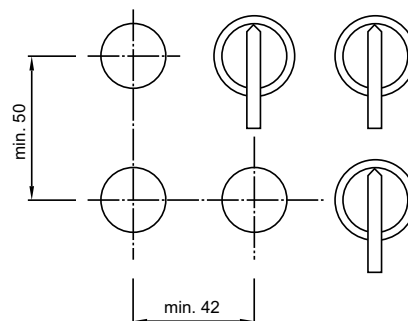
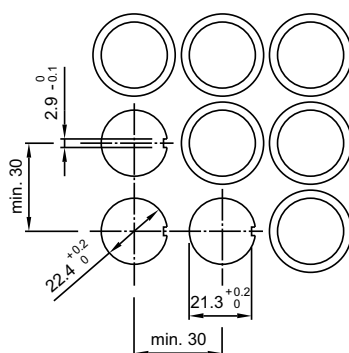
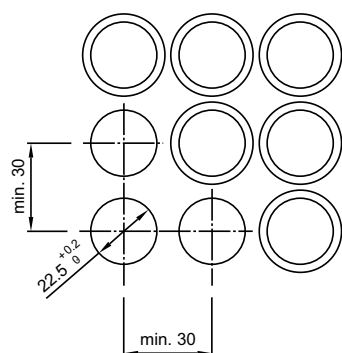


4 Indicator actuator full face illumination page 5 | **Indicator actuator front illumination** page 5 | **Buzzer** page 6 | **Illuminated actuator pushbutton** page 7 | **Keylock switch 2 positions** page 10 | **Selector switch 2 positions** page 11

for devices
without anti-twist device

for devices
with anti-twist device (rotary)
(recommended for keylock switch)

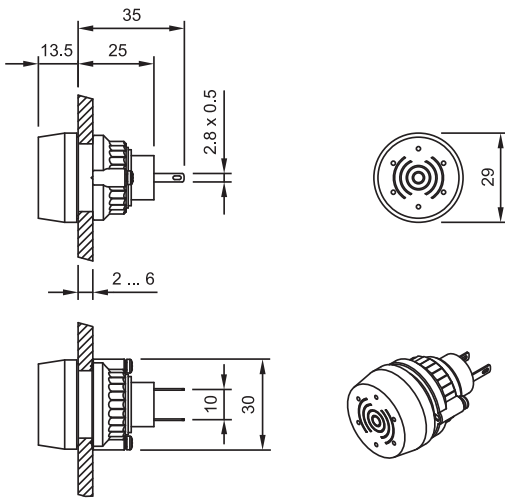
for devices
Selector switch long lever



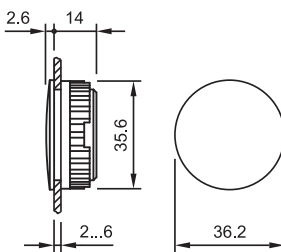
Hole spacing 31 mm min. by using blind plug 704.960.4

Technical drawing

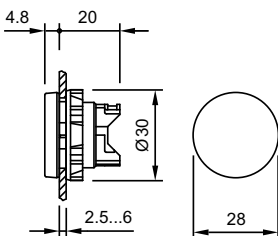
1 Buzzer page 6



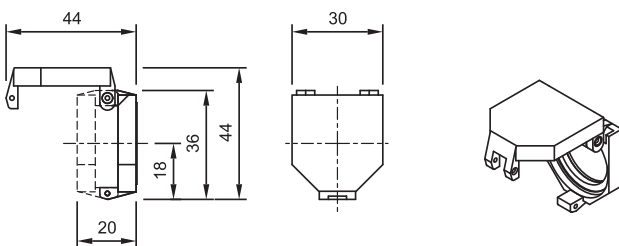
2 Blind plug page 20



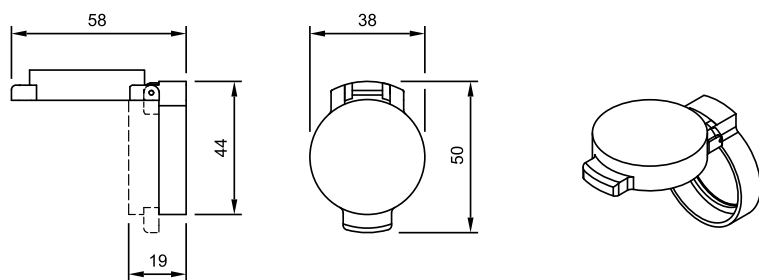
3 Blind plug page 20



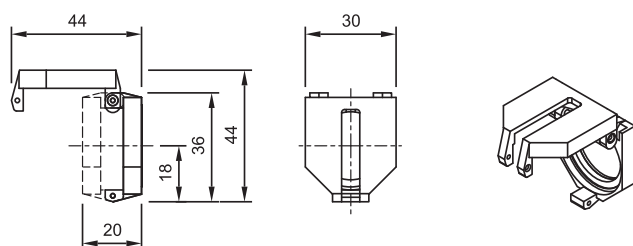
4 Protective cover, raised mounting page 19



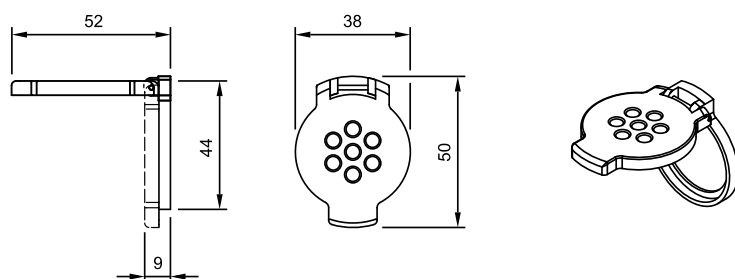
5 Protective cover, flush mounting page 19



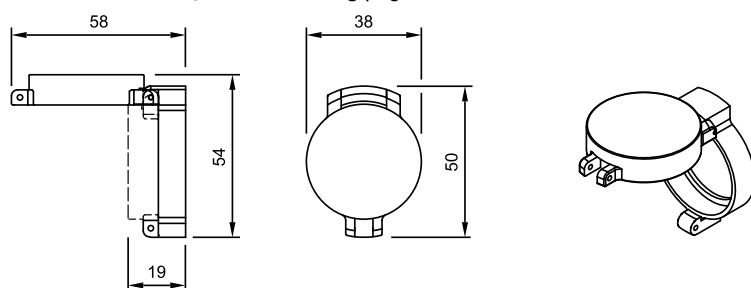
6 Protective cover, raised mounting page 19



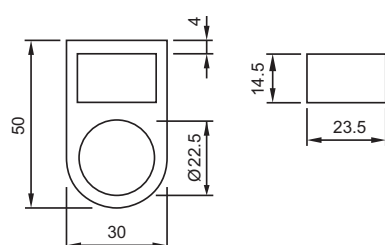
7 Protective cover, flush mounting page 19



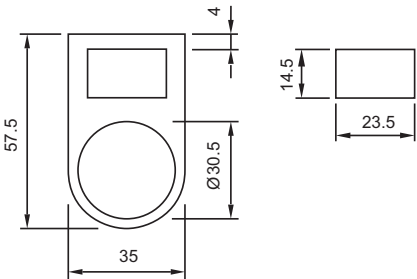
8 Protective cover, flush mounting page 19



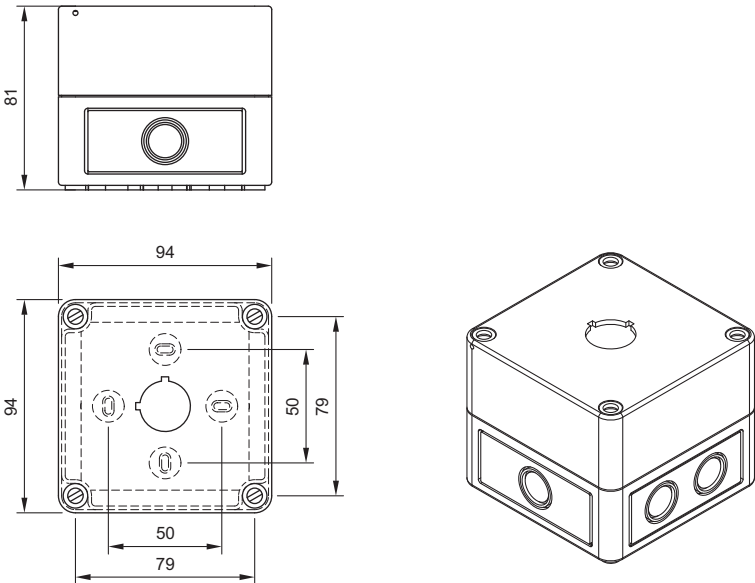
9 Legend frame page 19



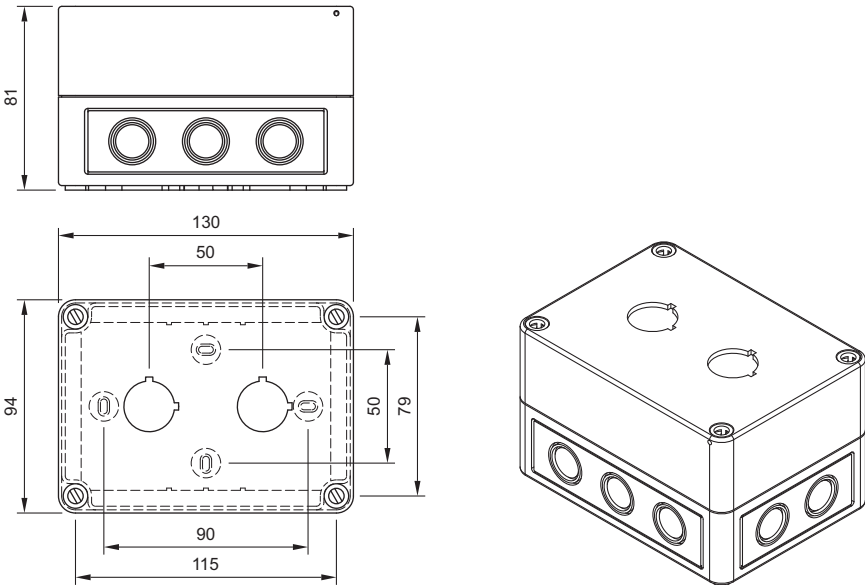
10 Legend frame page 19



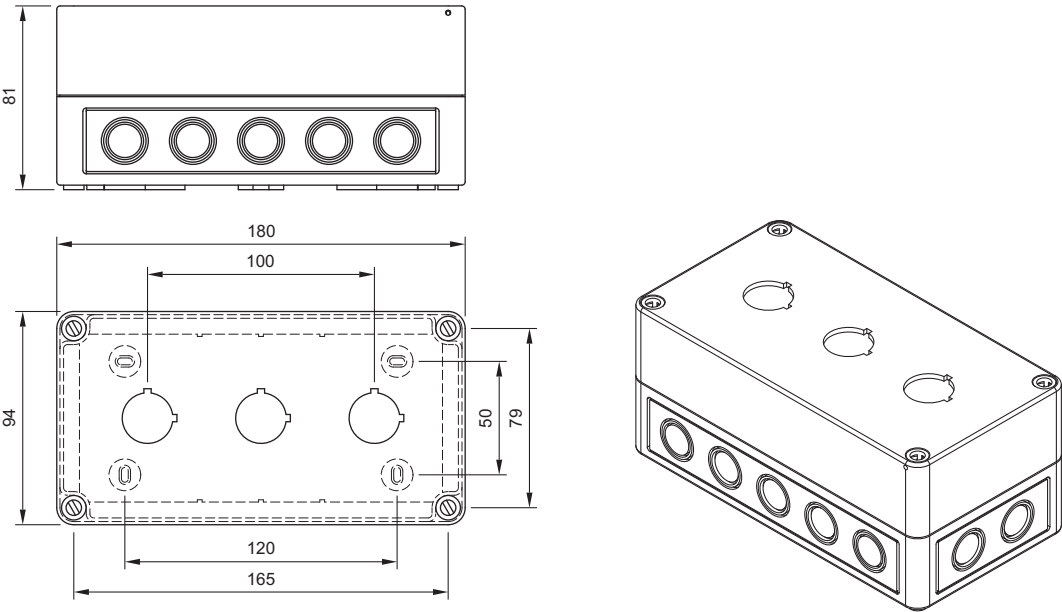
11 Enclosure page 24



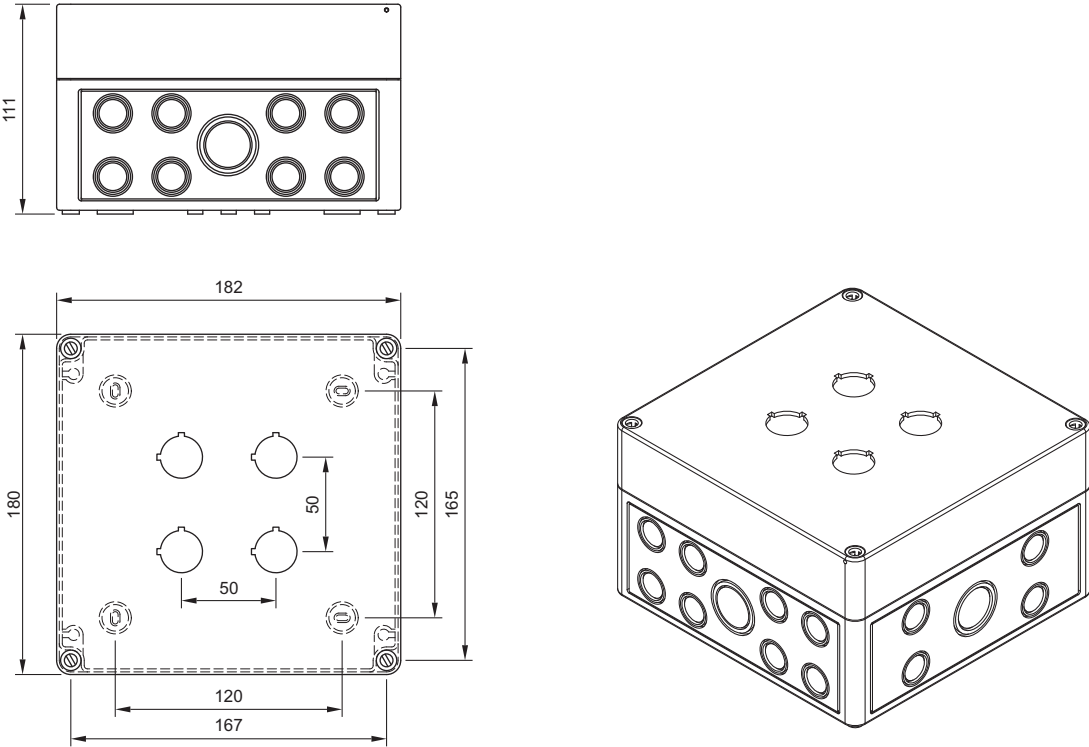
12 Enclosure page 24



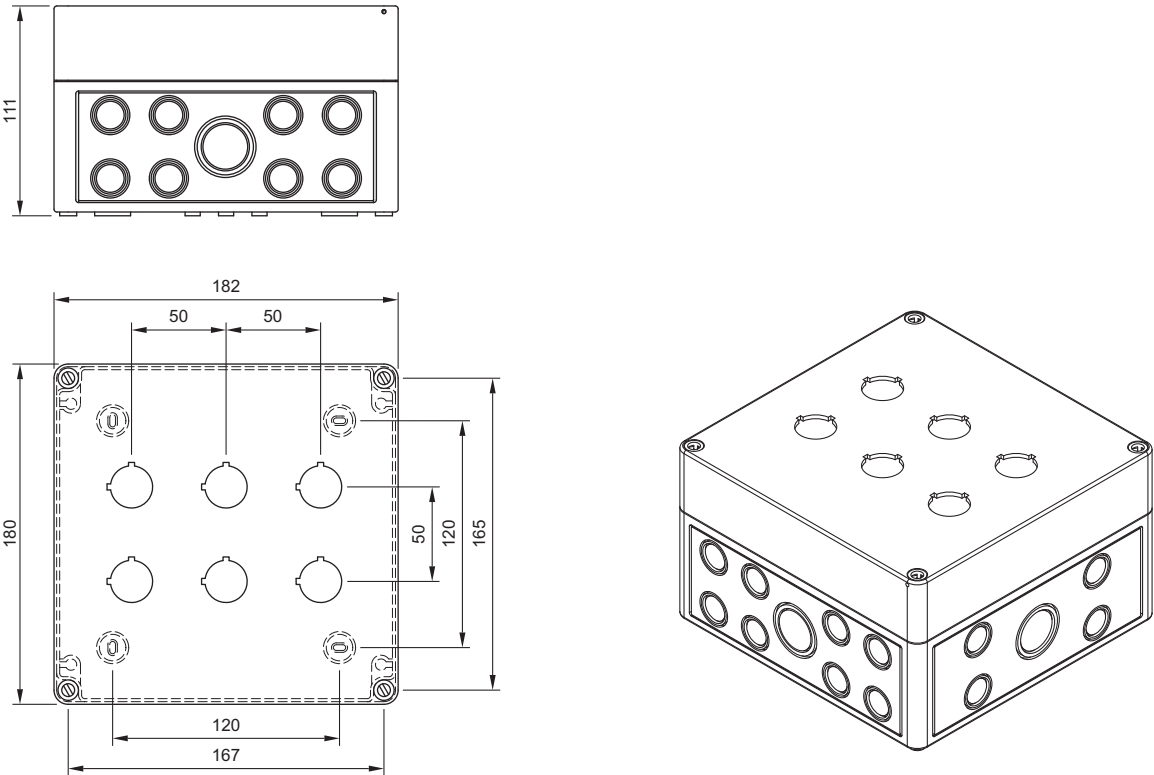
13 Enclosure page 24



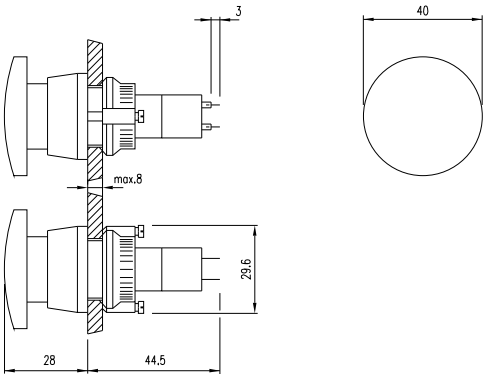
14 Enclosure page 24



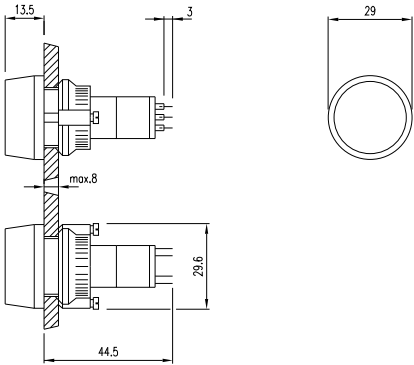
15 Enclosure page 24



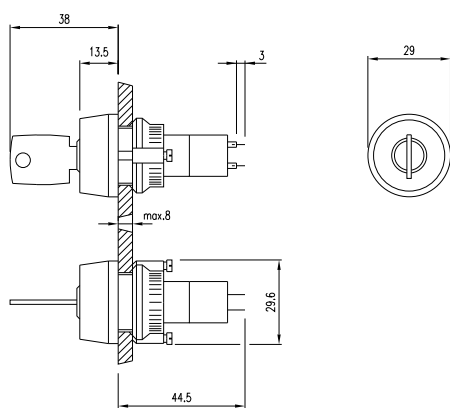
16 Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9



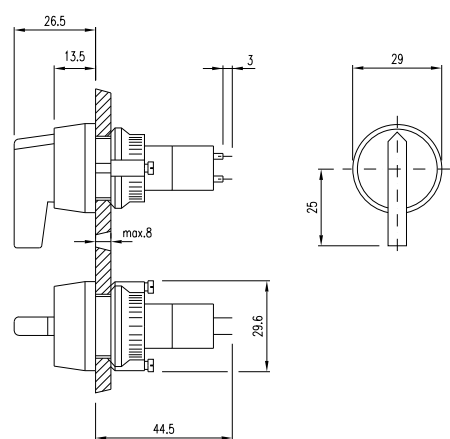
17 Indicator actuator full face illumination page 5 | Illuminated actuator pushbutton page 7



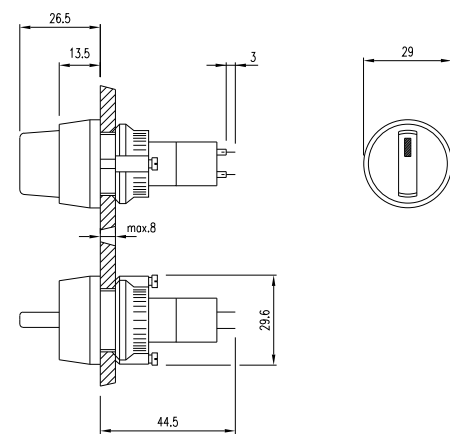
18 Keylock switch 2 positions page 10



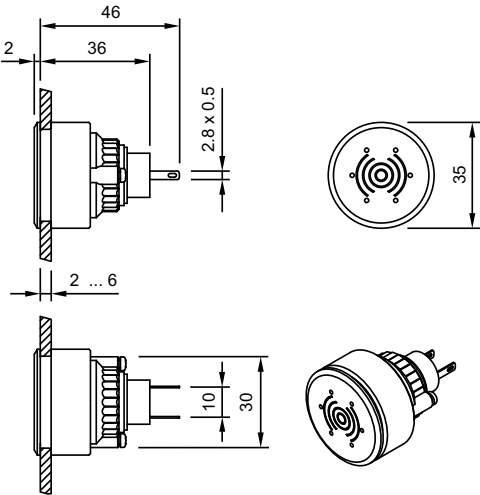
19 Selector switch 2 positions page 11



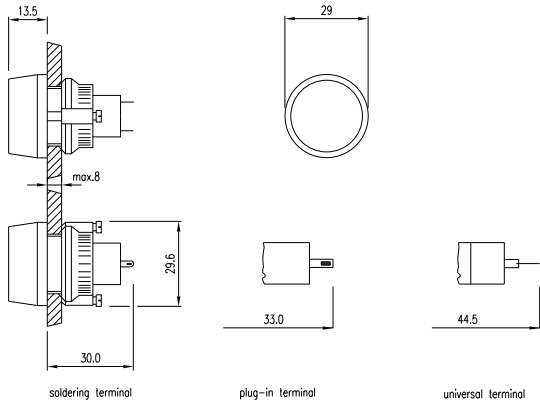
20 Selector switch 2 positions page 11



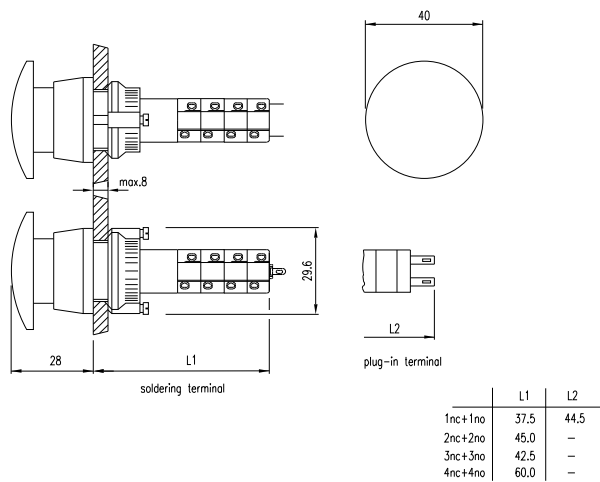
21 Buzzer, flush mounting page 12



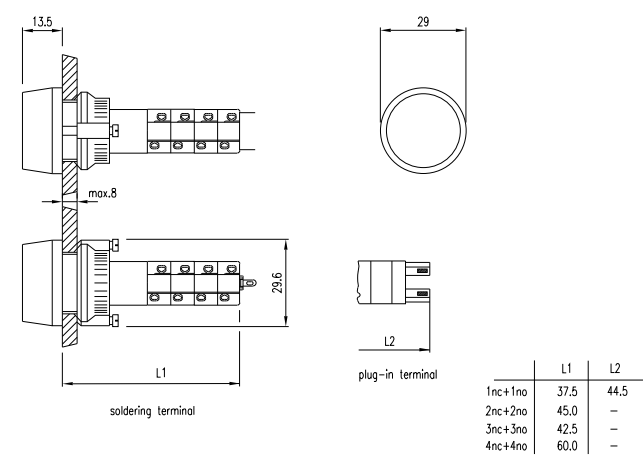
22 Indicator actuator full face illumination page 5 | Indicator actuator front illumination page 5



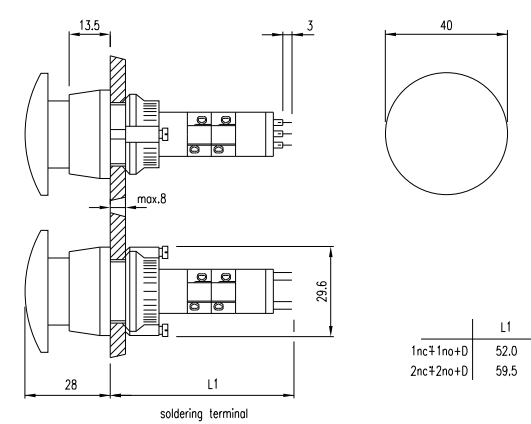
23 Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9



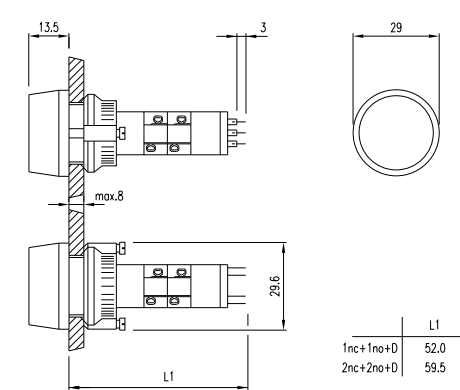
24 Illuminated actuator pushbutton page 7



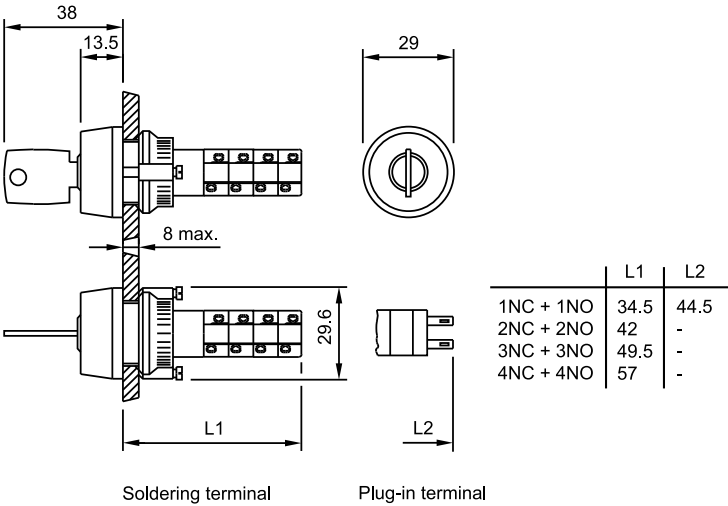
25 Illuminated mushroom-head actuator pushbutton page 9



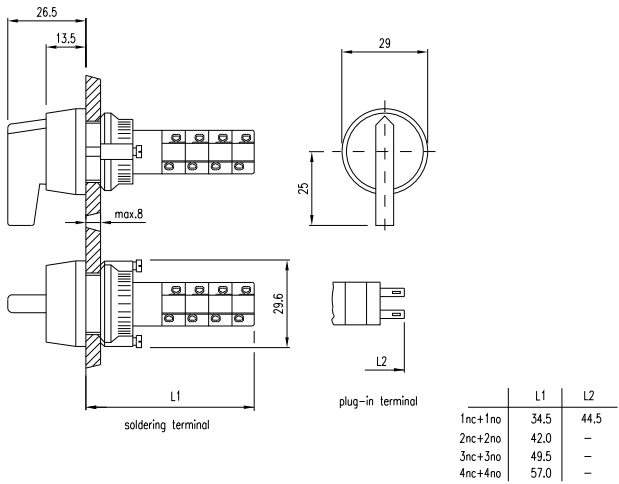
26 Illuminated actuator pushbutton page 7



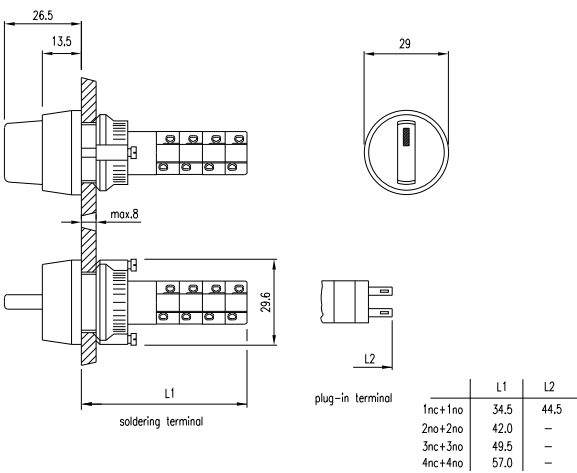
27 Keylock switch 2 positions page 10



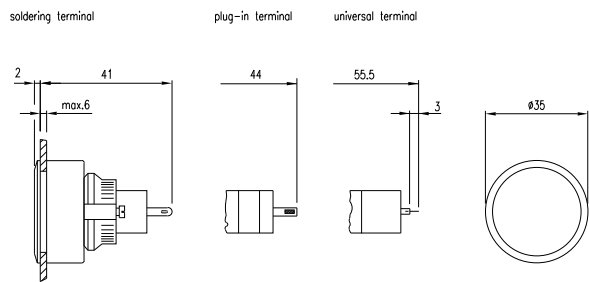
28 Selector switch 2 positions page 11



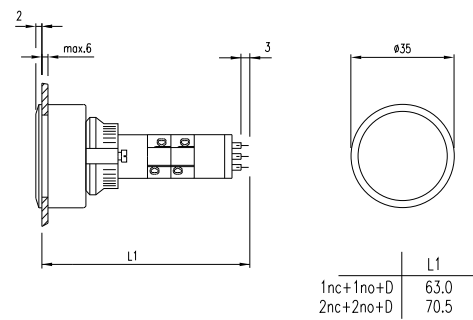
29 Selector switch 2 positions page 11



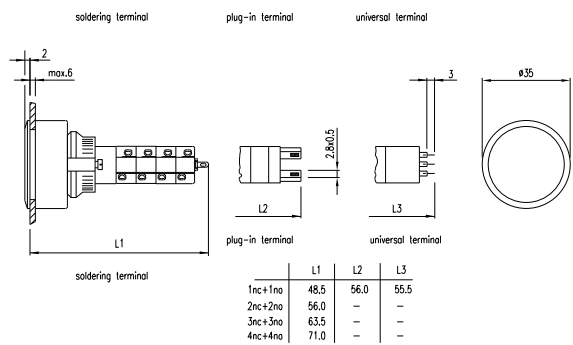
30 Indicator actuator, flush mounting page 12



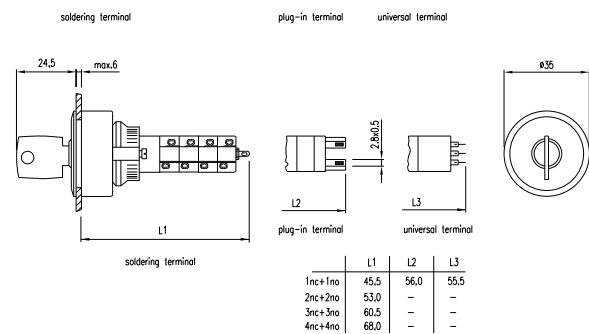
31 Illuminated pushbutton actuator, flush mounting page 13



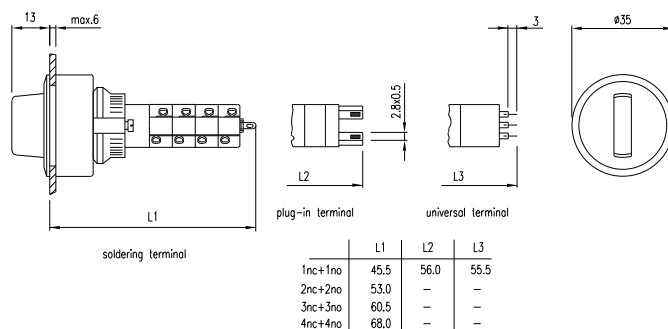
32 Illuminated pushbutton actuator, flush mounting page 13



33 Keylock switch actuator 2 positions, flush mounting page 14

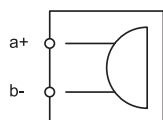


34 Selector switch actuator 2 positions, flush mounting page 15



Circuit drawing

1 Buzzer page 6 | Buzzer, flush mounting page 12



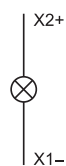
2 Indicator actuator full face illumination page 5 | Indicator actuator front illumination page 5

a-(x1)

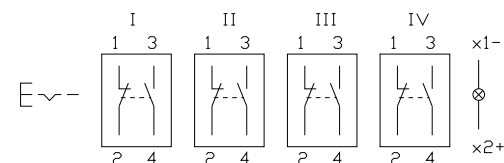


b+(x2)

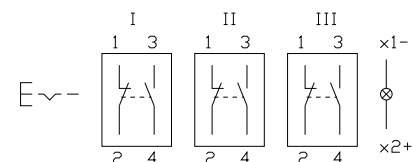
3 Indicator actuator full face illumination page 5 | Indicator actuator front illumination page 5 | Indicator actuator, flush mounting page 12



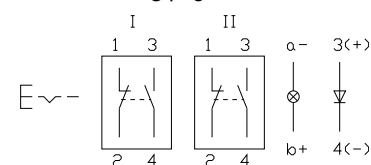
4 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



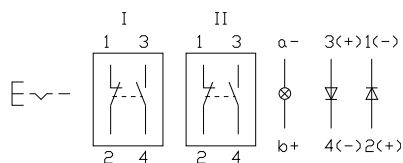
5 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



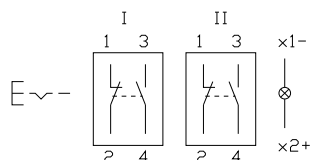
6 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



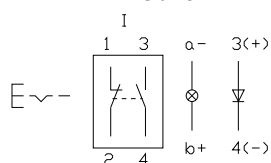
7 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



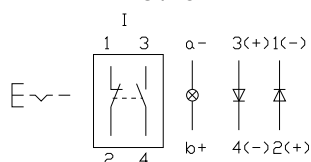
8 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



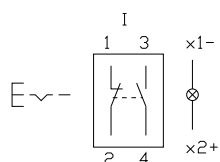
9 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



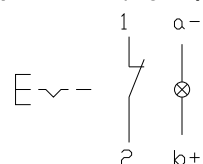
10 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



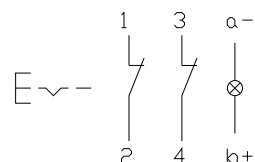
11 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



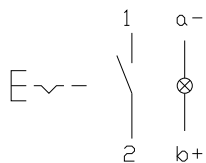
12 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



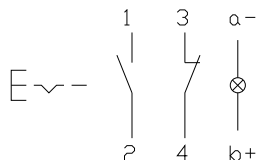
13 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



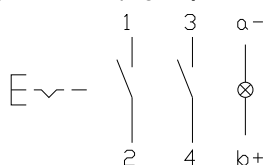
14 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



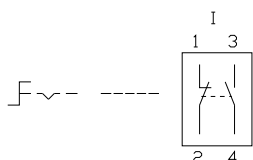
15 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



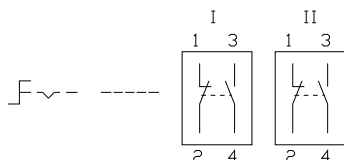
16 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



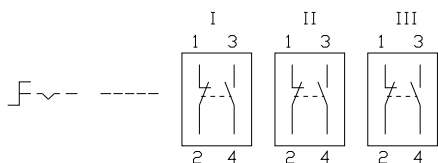
17 Selector switch 2 positions page 11 | **Selector switch actuator 2 positions, flush mounting** page 15



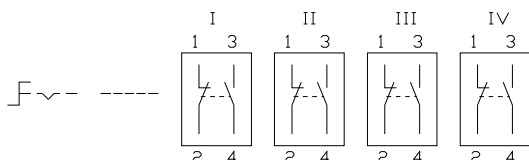
18 Selector switch 2 positions page 11 | **Selector switch actuator 2 positions, flush mounting** page 15



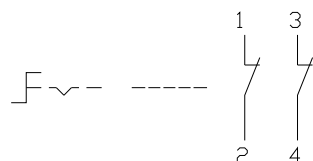
19 Selector switch 2 positions page 11 | **Selector switch actuator 2 positions, flush mounting** page 15



20 Selector switch 2 positions page 11 | **Selector switch actuator 2 positions, flush mounting** page 15



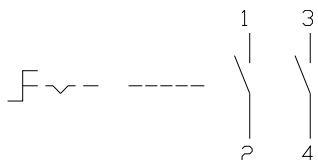
21 Selector switch 2 positions page 11 | **Selector switch actuator 2 positions, flush mounting** page 15



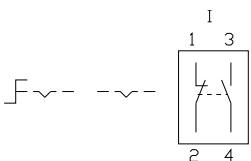
22 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



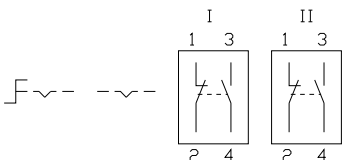
23 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



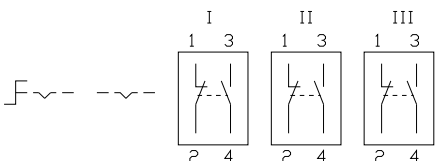
24 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



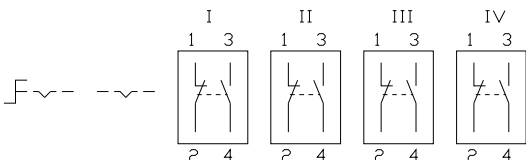
25 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



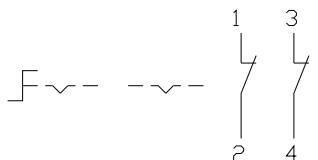
26 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



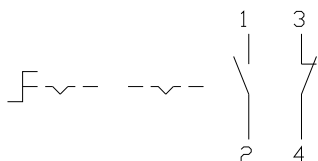
27 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



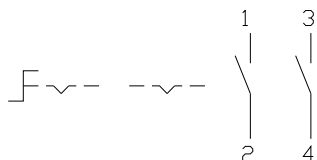
28 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



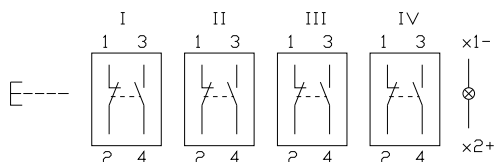
29 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



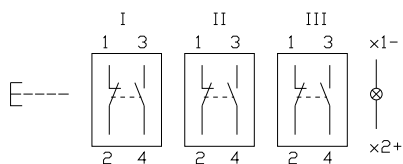
30 Selector switch 2 positions page 11 | Selector switch actuator 2 positions, flush mounting page 15



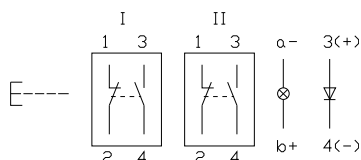
31 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



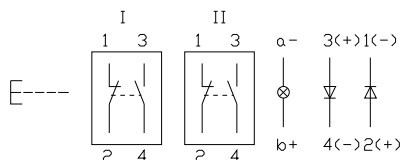
32 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



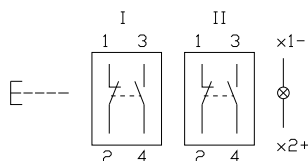
33 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



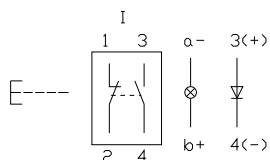
34 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



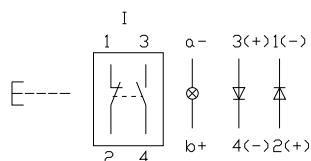
35 Illuminated actuator pushbutton page 7 | Mushroom-head actuator pushbutton page 8 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



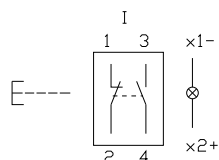
36 Illuminated actuator pushbutton page 7 | Illuminated mushroom-head actuator pushbutton page 9 | Illuminated pushbutton actuator, flush mounting page 13



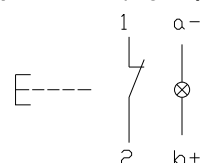
37 Illuminated actuator pushbutton page 7 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



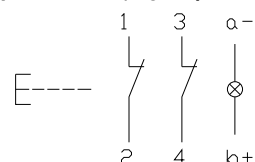
38 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



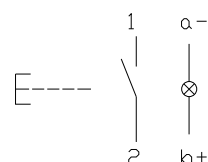
39 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



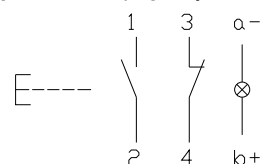
40 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



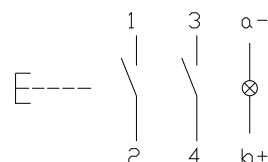
41 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



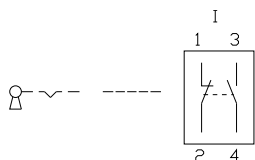
42 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



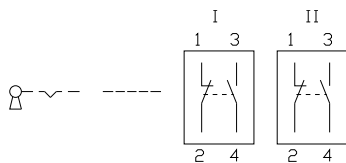
43 Illuminated actuator pushbutton page 7 | **Mushroom-head actuator pushbutton** page 8 | **Illuminated mushroom-head actuator pushbutton** page 9 | **Illuminated pushbutton actuator, flush mounting** page 13



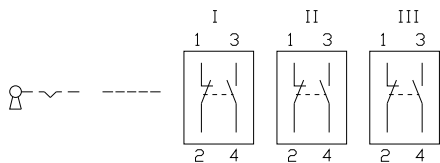
44 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



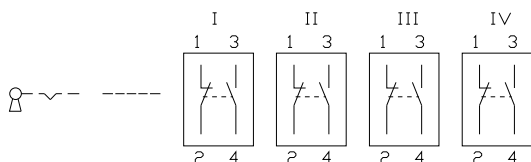
45 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



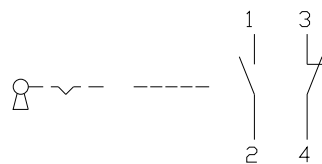
46 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



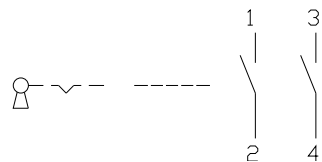
47 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



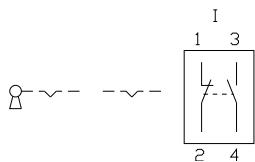
48 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



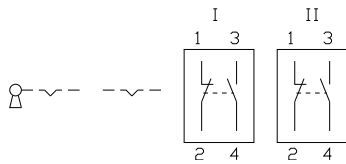
49 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



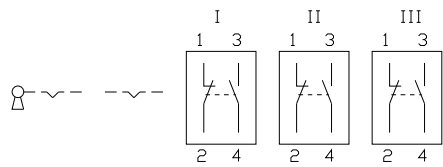
50 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



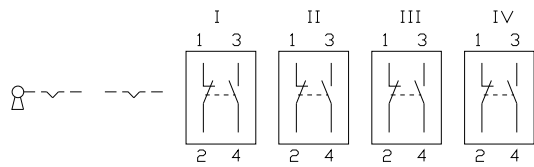
51 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



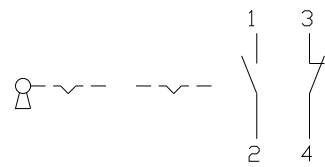
52 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



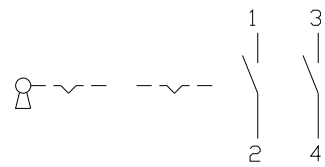
53 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



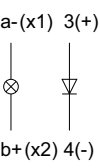
54 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



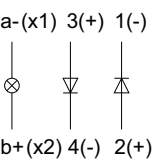
55 Keylock switch 2 positions page 10 | Keylock switch actuator 2 positions, flush mounting page 14



56 Indicator actuator full face illumination page 5



57 Indicator actuator full face illumination page 5



Index from Typ-Nr.

Typ-Nr.	Page	Typ-Nr.	Page	Typ-Nr.	Page
01-928	21	14-133.0252	7	14-337.025K2	10
01-929	21	14-133.0252	8	14-337.025K2	14
02-906	24	14-133.0252	9	14-338.025K2	10
02-912.1	23	14-134.0252	13	14-338.025K2	14
02-912.2	23	14-134.0252	7	14-411.036K	10
02-912.3	23	14-134.0252	8	14-411.036K	14
02-912.4	23	14-134.0252	9	14-412.036K	10
10-1106.1369	22	14-135.022K	10	14-412.036K	14
10-1109.1279	22	14-135.022K	14	14-414.036K	10
10-1109.1329	22	14-135.025K2	10	14-414.036K	14
10-1112.1199	22	14-135.025K2	14	14-415.036K	10
10-1112.1279	22	14-136.025K2	10	14-415.036K	14
10-1113.1249	22	14-136.025K2	14	14-417.036K	10
10-1114.1249	22	14-137.025K2	10	14-417.036K	14
10-1116.1229	22	14-137.025K2	14	14-418.036K	10
10-1119.1199	22	14-138.025K2	10	14-418.036K	14
10-2106.3142	22	14-138.025K2	14	14-431.036	13
10-2106.3144	22	14-141.022K	10	14-431.036	7
10-2106.3145	22	14-141.022K	14	14-431.036	8
10-2106.3146	22	14-141.025K2	10	14-431.036	9
10-2106.3149	22	14-141.025K2	14	14-432.036	13
10-2109.1062	22	14-142.025K2	10	14-432.036	7
10-2109.1064	22	14-142.025K2	14	14-432.036	8
10-2109.1065	22	14-143.025K2	10	14-432.036	9
10-2109.1066	22	14-143.025K2	14	14-433.036	13
10-2109.1069	22	14-144.025K2	10	14-433.036	7
10-2112.1062	22	14-144.025K2	14	14-433.036	8
10-2112.1064	22	14-235.022K	10	14-433.036	9
10-2112.1065	22	14-235.022K	14	14-435.036	13
10-2112.1066	22	14-235.025K2	10	14-435.036	7
10-2112.1069	22	14-235.025K2	14	14-435.036	8
10-2113.1062	22	14-236.025K2	10	14-435.036	9
10-2113.1064	22	14-236.025K2	14	14-436.036	13
10-2113.1065	22	14-237.025K2	10	14-436.036	7
10-2113.1066	22	14-237.025K2	14	14-436.036	8
10-2113.1069	22	14-238.025K2	10	14-436.036	9
10-2119.1042	22	14-238.025K2	14	14-437.036K	10
10-2119.1044	22	14-271.022	13	14-437.036K	14
10-2119.1045	22	14-271.022	7	14-438.036K	10
10-2119.1046	22	14-271.022	8	14-438.036K	14
10-2119.1049	22	14-271.022	9	14-471.036	13
14-030.002	5	14-271.0252	13	14-471.036	7
14-030.005	5	14-271.0252	7	14-471.036	8
14-031.006	5	14-271.0252	8	14-471.036	9
14-040.002	12	14-271.0252	9	14-472.036	13
14-040.002	5	14-272.0252	13	14-472.036	7
14-040.005	12	14-272.0252	7	14-472.036	8
14-040.005	5	14-272.0252	8	14-472.036	9
14-041.006	12	14-272.0252	9	14-473.036	13
14-041.006	5	14-273.0252	13	14-473.036	7
14-131.022	13	14-273.0252	7	14-473.036	8
14-131.022	7	14-273.0252	8	14-473.036	9
14-131.022	8	14-273.0252	9	14-475.036	13
14-131.022	9	14-274.0252	13	14-475.036	7
14-131.0252	13	14-274.0252	7	14-475.036	8
14-131.0252	7	14-274.0252	8	14-475.036	9
14-131.0252	8	14-274.0252	9	14-476.036	13
14-131.0252	9	14-335.022K	10	14-476.036	7
14-132.0252	13	14-335.022K	14	14-476.036	8
14-132.0252	7	14-335.025K2	10	14-476.036	9
14-132.0252	8	14-335.025K2	14	14-501.0220	11
14-132.0252	9	14-336.025K2	10	14-501.0220	15
14-133.0252	13	14-336.025K2	14	14-501.02502	11

Index from Typ-Nr.

Typ-Nr.	Page	Typ-Nr.	Page	Typ-Nr.	Page
14-501.02502	15	14-748.0292	7	704.609.7	17
14-502.02502	11	14-748.0292	9	704.609.9	17
14-502.02502	15	14-749.0292	13	704.609.9	17
14-503.02502	11	14-749.0292	7	704.610.7	18
14-503.02502	15	14-749.0292	9	704.610.9	18
14-504.02502	11	14-750.0292	13	704.611.2	16
14-504.02502	15	14-750.0292	7	704.611.4	16
14-506.0220	11	14-750.0292	9	704.611.5	16
14-506.0220	15	14-810.002	6	704.611.7	16
14-506.02502	11	14-810.902	6	704.614.2	17
14-506.02502	15	14-810.910	12	704.614.4	17
14-507.02502	11	14-810.918	12	704.614.5	17
14-507.02502	15	14-910	23	704.614.6	17
14-508.02502	11	14-987.1001	20	704.614.7	17
14-508.02502	15	31-928	21	704.925.0	19
14-509.02502	11	31-929	21	704.925.2	19
14-509.02502	15	31-940	21	704.925.3	19
14-515.0360	11	31-941	21	704.928.18	19
14-515.0360	15	31-942	21	704.928.28	19
14-516.0360	11	31-945	21	704.928.38	19
14-516.0360	15	31-946	21	704.945.1	24
14-517.0360	11	61-9481.6	24	704.945.2	24
14-517.0360	15	700.006.0	23	704.945.3	24
14-520.0360	11	704.600.0	18	704.945.4	24
14-520.0360	15	704.600.1	18	704.945.5	24
14-521.0360	11	704.600.1A	18	704.945.6	24
14-521.0360	15	704.600.2	20	704.953.0	20
14-522.0360	11	704.600.3	20	704.954.0	23
14-522.0360	15	704.600.5/A	20	704.955.0	18
14-551.0220	11	704.600.6	18	704.955.1	18
14-551.02502	11	704.600.9	18	704.955.3	20
14-552.02502	11	704.601.0	16	704.955.4	20
14-553.02502	11	704.601.01	16	704.955.9	18
14-554.02502	11	704.601.2	16	704.955.9E	20
14-556.0220	11	704.601.21	16	704.960.0	23
14-556.02502	11	704.601.4	16	704.960.4	20
14-557.02502	11	704.601.41	16	704.960.8	23
14-558.02502	11	704.601.5	16	704.964.8	20
14-559.02502	11	704.601.51	16	704.968.0	19
14-565.0360	11	704.601.6	16	704.968.1	19
14-566.0360	11	704.601.61	16	704.968.2	19
14-567.0360	11	704.601.8	16	704.968.3	19
14-570.0360	11	704.601.81	16		
14-571.0360	11	704.601.9	16		
14-572.0360	11	704.601.91	16		
14-741.006	5	704.602.0	16		
14-742.006	5	704.602.2	16		
14-743.0292	13	704.602.4	16		
14-743.0292	7	704.602.5	16		
14-743.0292	9	704.602.6	16		
14-744.0292	13	704.602.7	16		
14-744.0292	7	704.603.2	17		
14-744.0292	9	704.603.4	17		
14-745.0292	13	704.603.5	17		
14-745.0292	7	704.603.6	17		
14-745.0292	9	704.603.7	17		
14-746.0292	13	704.604.0	17		
14-746.0292	7	704.604.2	17		
14-746.0292	9	704.604.4	17		
14-747.0292	13	704.604.5	17		
14-747.0292	7	704.608.7	18		
14-747.0292	9	704.608.9	18		
14-748.0292	13	704.609.0	17		

	EAO AG Tannwaldstrasse 88 4601 Olten, Switzerland info@eao.com www.eao.com
E-mail	
Website	
	Austria
Phone	+49 201 85 87 0
Fax	+49 201 85 87 210
E-mail	sales.ede@eao.com
	Belgium
Phone	+32 3 777 82 36
Fax	+32 3 777 84 19
E-mail	sales.ebl@eao.com
	China
Phone	+852 27 86 91 41
Fax	+852 27 86 95 61
E-mail	sales.ehk@eao.com
	France
Phone	+33 1 64 43 37 37
Fax	+33 1 64 43 37 49
E-mail	sales.esa@eao.com
	Germany
Phone	+49 201 85 87 0
Fax	+49 201 85 87 210
E-mail	sales.ede@eao.com
	Italy
Phone	+39 035 481 0189
Fax	+39 035 481 3786
E-mail	sales.eit@eao.com
	Japan
Phone	+81 3 5401 0953
Fax	+81 3 5444 0345
E-mail	sales.esj@eao.com
	Netherlands
Phone	+31 78 653 17 00
Fax	+31 78 653 17 99
E-mail	sales.enl@eao.com
	Sweden
Phone	+46 8 683 86 60
Fax	+46 8 724 29 12
E-mail	sales.esw@eao.com
	Switzerland
Phone	+41 62 388 95 00
Fax	+41 62 388 95 55
E-mail	sales.ech@eao.com
	United Kingdom
Phone	+44 1444 236 000
Fax	+44 1444 236 641
E-mail	sales.euk@eao.com
	USA
Phone	+1 203 877 4577
Fax	+1 203 877 3694
E-mail	sales.eus@eao.com
	Other Countries
Phone	+41 62 286 92 10
Fax	+41 62 296 21 62
E-mail	info@eao.com