

# Series 14

22.5mm 30.5mm IP67 5A 250VAC



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

## Product Profile

The Series 14 is a high quality switch range that includes pushbuttons, indicators, mushroom headed switches, selector switches and 2 position key switches.

Options include self cleaning, snap-action or low level switching elements.

Technical data see page 41

- IP67 Protection
- Switch Rating:  
Maximum Voltage, 250VAC  
Maximum Thermal Current, I<sub>th</sub> = 5A  
24VDC/2A, 250VAC/2A
- Raised Mounting into 22.5 mm cut out
- Flush Mounting into 30.5 mm cut out
- Illumination using T5.5 Lamps or LED's
- All standard lenses are transparent with translucent diffuser
- Solder, plug-in or PCB connections

## Indicator



Indicator body round for raised full face, black plastic, 22.5 mm mounting

Part No.  
14-030.005



Indicator body for raised and flush mount, black plastic

Part No.  
14-040.005

For flush mount order bezel 704.955.1

For complete switch also order **A**

For complete switch also order **A**

## Illuminated pushbutton



Illuminated pushbutton actuator for raised and flush mount, black plastic, solder terminal, snap-action

Part No.	Function	Contact type
14-131.0252	Momentary	1NO/1NC
14-132.0252	Momentary	2NO/2NC
14-271.0252	Maintained	1NO/1NC
14-272.0252	Maintained	2NO/2NC

For flush mount order bezel 704.955.1

For complete switch also order **A**



Illuminated pushbutton actuator for raised and flush mount, black plastic, solder or plug-in terminal, snap-action

Part No.	Function	Contact type
14-131.022	Momentary	1NO/1NC
14-271.022	Maintained	1NO/1NC

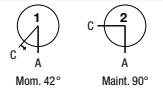
For flush mount order bezel 704.955.1

For complete switch also order **A**

## Keylock switch



Keylock switch, 2 position, raised

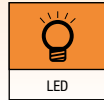


Graphic	Part No.	Function	Key out.
1	14-141.025K2	Momentary	A
2	14-235.025K2	Maintained	A

For flush mount order bezel 704.955.1

For complete switch also order **A**

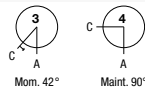
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**Selector switch** **Buzzer**



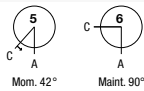
Selector switch short lever 2 position, raised, snap-action



Graphic	Part No.	Function	Contact type
3	14-501.0252	Momentary	1NC/1NO
4	14-506.0252	Maintained	1NC/1NO



Selector switch long lever 2 position, raised, snap-action



Graphic	Part No.	Function	Contact type
4	14-551.0252	Momentary	1NO/1NC
5	14-556.0252	Maintained	1NO/1NC



Buzzer, raised, 22.5 mm mounting, IP65, 24VDC, 95dB ±8 at a distance of 0.1m

Part No.	Front finish
14-810.002	Black plastic
14-810.902	Nickel-plated brass

For complete switch also order **A**

For complete switch also order **A**

**Buzzer** **LED**



Buzzer, flush mount, 30.5 mm mounting, IP40, 24VDC, 95dB ±8 at a distance of 0.1m

Part No.	Front finish
14-810.910	Black aluminium
14-810.918	Natur aluminium



LED, T5.5, single chip, 6 Volt and 12 Volt

Colour	Part No.	Voltage
Red	10-2106.3142	6VDC/15mA
Yellow	10-2106.3144	6VDC/15mA
Green	10-2106.3145	6VDC/15mA
Blue	10-2106.3146	6VDC/15mA
White	10-2106.3149	6VDC/15mA
Red	10-2109.1062	12VAC/DC, 7/14mA
Yellow	10-2109.1064	12VAC/DC, 7/14mA
Green	10-2109.1065	12VAC/DC, 7/14mA
Blue	10-2109.1066	12VAC/DC, 7/14mA
White	10-2109.1069	12VAC/DC, 7/14mA



LED, T5.5, single chip, 24 Volt and 28 Volt

Colour	Part No.	Voltage
Red	10-2112.1062	24VAC/DC, 7/14mA
Yellow	10-2112.1064	24VAC/DC, 7/14mA
Green	10-2112.1065	24VAC/DC, 7/14mA
Blue	10-2112.1066	24VAC/DC, 7/14mA
White	10-2112.1069	24VAC/DC, 7/14mA
Red	10-2113.1062	28VAC/DC, 7/14mA
Yellow	10-2113.1064	28VAC/DC, 7/14mA
Green	10-2113.1065	28VAC/DC, 7/14mA
Blue	10-2113.1066	28VAC/DC, 7/14mA
White	10-2113.1069	28VAC/DC, 7/14mA



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## LED



LED, T5.5, single chip, 48 Volt

Colour	Part No.	Voltage
● Red	10-2119.1042	48VAC/DC, 4/8mA
● Yellow	10-2119.1044	48VAC/DC, 4/8mA
● Green	10-2119.1045	48VAC/DC, 4/8mA
● Blue	10-2119.1046	48VAC/DC, 4/8mA
○ White	10-2119.1049	48VAC/DC, 4/8mA
For complete lens also order diffuser 704.608.9 (see page 39)		

## A Accessories



Lens, plastic for raised, round indicator body, full face

Colour	Part No.
● Red	704.603.2
● Yellow	704.603.4
● Green	704.603.5
● Blue	704.603.6
○ Clear	704.603.7
For complete lens also order diffuser 704.608.9 (see page 39)	



Lens cap, round, transparent, plastic for raised and flush indicators with bezel and pushbutton actuators

Colour	Part No.
● Red	704.602.2
● Yellow	704.602.4
● Green	704.602.5
● Blue	704.602.6
○ Clear	704.602.7
● Black	704.602.0
For complete lens also order diffuser 704.609.9 (see page 39)	

## A Accessories



Lens cap raised, transparent, plastic for raised and flush mount pushbutton actuators

Colour	Part No.
● Red	704.611.2
● Yellow	704.611.4
● Green	704.611.5
● Blue	704.611.6
○ Clear	704.611.7
For complete lens also order diffuser 704.610.9 (see page 39)	



Lens cap, aluminium anodised for raised and flush mount pushbutton actuators

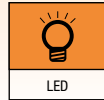
Colour	Part No.	Comment
● Red	704.601.2	
● Yellow	704.601.5	
● Blue	704.601.6	
○ Silver	704.601.8	
○ Silver	704.601.81	Illuminated central dot
● Black	704.601.0	
● Black	704.601.01	Illuminated central dot
	704.601.9	Stainless steel
For complete lens also order diffuser 704.610.9 (see page 39)		



Bezel, raised and flush mount

Image	Part No.	Product description
1	704.600.1	Aluminium natural, raised
2	704.600.0	Plastic black, raised
2	704.600.6	Plastic grey raised
3	704.955.0	Aluminium black flush
3	704.955.1	Aluminium natural flush
3	704.955.9	Stainless steel, flush

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**A Accessories**

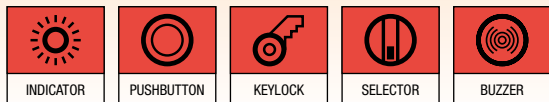
					
Protective cover, raised pushbutton		Protective front ring with silicon membrane for raised or flush mount pushbutton		Blanking plate	
Part No.	Image	Part No.	Size	Part No.	Size
704.925.0	1	704.600.3	29 mm Ø for raised pushbutton	704.960.7	22.5 mm Ø
	2	704.955.3	35 mm Ø for flush mount pushbutton	704.964.8	30.5 mm Ø

**A Accessories**

									
LED and lens remover			Diffuser for raised indicator, diffuser for flat lens indicator and pushbutton, diffuser for raised pushbutton			Marking plate selfadhesive, aluminium black, for raised and flush mount push buttons			
Image	Part No.	Product description	Image	Part No.	Product description	Image	Part No.	Size	Colour
1	61-9740.0	LED remover	1	704.608.9	Diffuser for raised indicator	1	704.968.2	22.5 mm Ø	Black
2	700.006.0	Lens remover	2	704.609.9	Diffuser for flat lens	2	704.968.3	30.5 mm Ø	Black
			3	704.610.9	Diffuser for raised illum. pushbutton				

# Series 14

22.5mm 30.5mm IP67 5A 250VAC



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## A Accessories



Engraving Label for Marking plate, selfadhesive, natural anodised or black aluminium

Image	Part No.	Size	Colour
1	704.968.0	23.5x14.5mm	Aluminium
2	704.968.1	23.5x14.5mm	Black

## Actuator with snap-action switching element

### Switching system

Self-cleaning, double-break, snap action switching system (with contact gap 2x0.5mm).

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 2.8mm 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 1.2mm

max. wire cross-section of stranded cable 1 x 1 mm<sup>2</sup>

Snap-action switching element with axial plug-in terminals, which can also be used as soldering terminals: Plug-in terminal 2.8x0.5mm

Soldering terminal:

Max. wire diameter 2 wires of 1mm

Max. wire cross-section of stranded cable 2x0.75mm<sup>2</sup> or 1x1.0mm<sup>2</sup>

#### Actuating torque

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

#### Actuating force

Maintain 5 ... 7.8N, depending on the number of switching elements  
Momentary 3.2 ... 6N, depending on the number of switching elements

#### Actuating travel

Illuminated pushbutton: 3mm

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

250VAC/DC as per EN IEC 61058-15

#### Contact resistance

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

#### Electrostatic discharge

Keylock switch 15kV

#### Rated current

5A

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

5A

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

#### Switch rating

250VAC, 5A (cosφ 1)

250VAC, 3A (cosφ 0.3)

Switch rating AC (cosφ 0.7)

Voltage	125VAC	250VAC
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Current	3A	2A
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Switch rating DC (inductive) L:R = 30ms

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

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

#### Isolation resistance

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

#### Protection class

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 IP67

#### Shock resistance

(semi-sinusoidal)

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

#### Vibration resistance

(sinusoidal)

max. 100m/s<sup>2</sup> at 10Hz ... 500Hz, 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

## Buzzer

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### 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 2.8x0.5mm

## Electrical characteristics

### Frequency (tone)

approx. 2.8kHz continuous tone only

### Sound pressure

95 db (A)  $\pm 8$  dB at a distance of 0.1 m

### Operation Voltage/Current

Operation Voltage	24VDC $\pm 10\%$
Operation Current	$\leq 25$ mA

## Environmental conditions

### Storage temperature

$-35^{\circ}\text{C} \dots +85^{\circ}\text{C}$

### Operating temperature

$-25^{\circ}\text{C} \dots +55^{\circ}\text{C}$

### Protection degree

as per EN IEC 60529, frontside

IP40, devices flush mounting

IP65, devices raised mounting

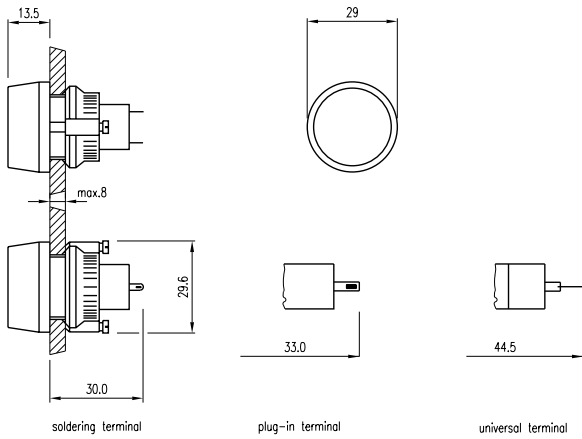
## Approvals

### Declaration of conformity

CE

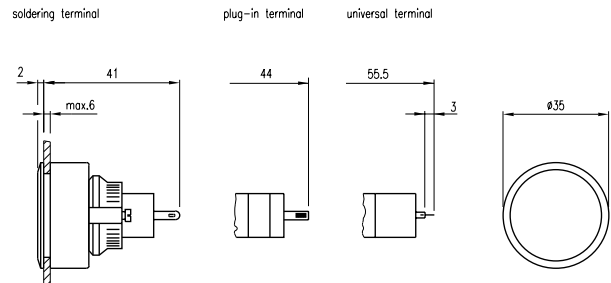
## 14 Indicator

Raised



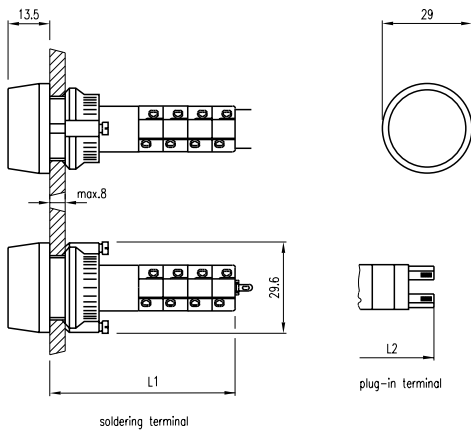
## 14 Indicator

Flush



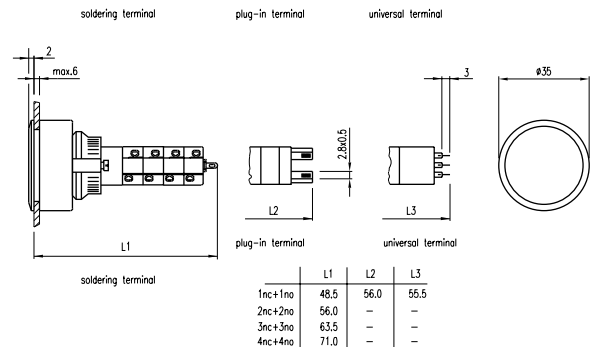
## 14 Illuminated pushbutton

Raised



## 14 Illuminated pushbutton

Flush Solder

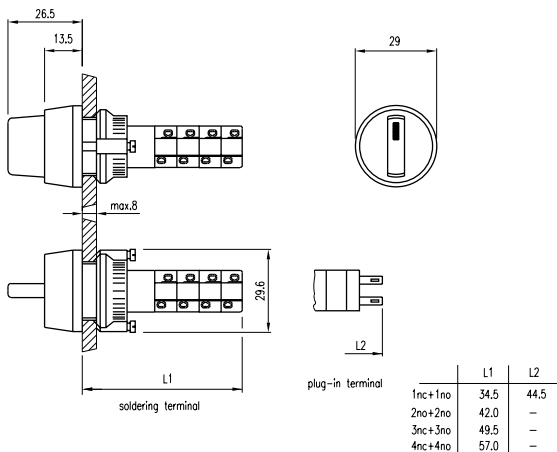


	L1	L2
1nc+1no	37.5	44.5
2nc+2no	45.0	-
3nc+3no	42.5	-
4nc+4no	60.0	-

	L1	L2	L3
1nc+1no	48.5	56.0	55.5
2nc+2no	56.0	-	-
3nc+3no	63.5	-	-
4nc+4no	71.0	-	-

## 14 Selector switch

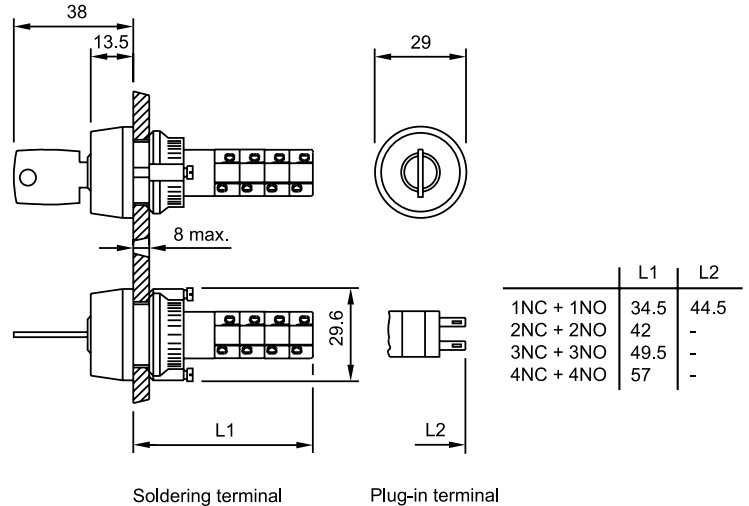
2-Position, Short Lever



	L1	L2
1nc+1no	34.5	44.5
2no+2no	42.0	-
3nc+3no	49.5	-
4nc+4no	57.0	-

## 14 Keylock switch

2-Position

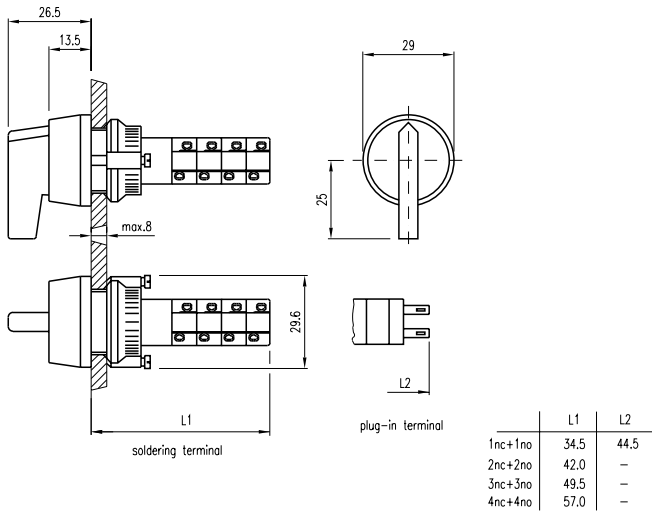


	L1	L2
1NC + 1NO	34.5	44.5
2NC + 2NO	42	-
3NC + 3NO	49.5	-
4NC + 4NO	57	-



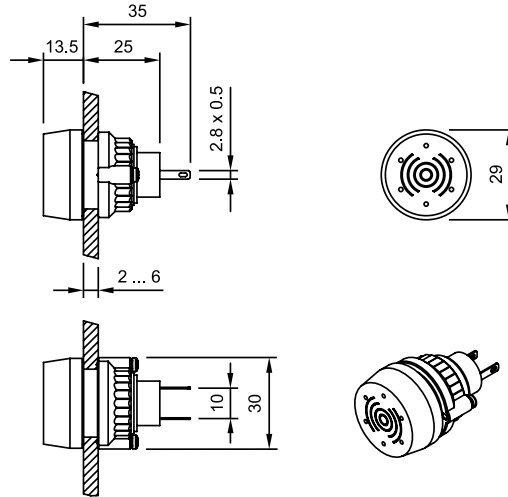
## 14 Selector switch

2-Position, Long Lever



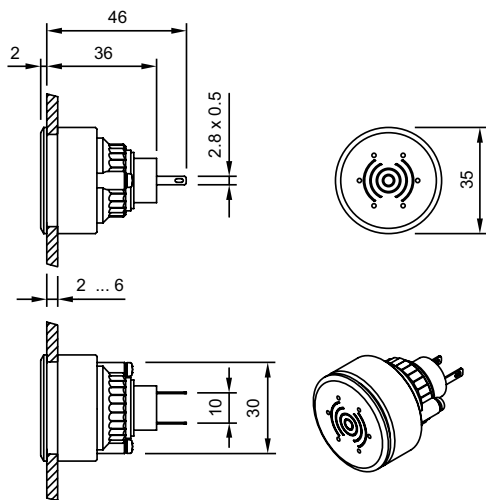
## 14 Buzzer

Raised



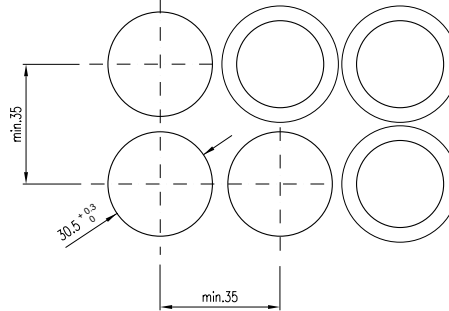
## 14 Buzzer

Flush



## 14 Cut-outs

Flush, Buzzer, Pushbutton, Indicator



## 14 Cut-outs

Raised, Pushbuttons, Indicators, Keylocks, Selector

for devices  
without anti-twist device

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

for devices  
Selector switch long lever

