

Series 31

16 mm IP40 5 A 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 31 is a high quality switch range that includes pushbuttons, indicators and buzzers. It is possible to choose up to 4NO/4NC snap-action switching elements per switch. Low level switching elements are also available.

Technical data see page 61

- IP40 Protection
- Switch Rating, 5A, 250VAC
- Raised Mounting into 16 mm cut out
- Illumination using midget-grooved T1¼ lamps or single chip LED's
- All standard lenses are transparent with translucent diffuser available in different colours
- Buzzers voltage from 10 to 75VDC

Indicator



Indicator bodies, raised in round, square and rectangular, black plastic, 16 mm mounting, solder terminals

Image	Part No.	Size
1	31-040.005	18x24 mm
2	31-050.005	18x18 mm
3	31-030.005	18 mm Ø

For complete switch also order **A**

Illuminated pushbutton



Illuminated pushbutton actuator, snap-action, raised, rectangular, black plastic, 16 mm mounting, solder terminals, gold contacts

Part No.	Function	Contact type	Size
31-121.0252	Momentary	1NO/1NC	18x24 mm
31-122.0252	Momentary	2NO/2NC	18x24 mm
31-261.0252	Maintained	1NO/1NC	18x24 mm
31-262.0252	Maintained	2NO/2NC	18x24 mm

For complete switch also order **A**

Illuminated pushbutton



Illuminated pushbutton actuator, snap-action, raised, square, black plastic, 16 mm mounting, solder terminals, gold over silver contacts

Part No.	Function	Contact type	Size
31-151.0252	Momentary	1NO/1NC	18x18 mm
31-152.0252	Momentary	2NO/2NC	18x18 mm
31-281.0252	Maintained	1NO/1NC	18x18 mm
31-282.0252	Maintained	2NO/2NC	18x18 mm

For complete switch also order **A**

Buzzer

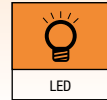


Buzzer, plastic bezel, raised, rectangular, 16 mm mounting, continuous or intermittent tone, 88 dB ±8 at a distance of 0.1 m

Image	Part No.	Voltage	Connection
1	31-810.005	10 - 55VAC/10 - 75VDC	Solder terminal
2	31-801.002	10 - 26VDC	Solder-/plug-in terminal

For complete switch also order **A**

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LED



LED, T1¼ MG, single chip, 12 Volt and 28 Volt.
Also available in 6 Volt, 24 Volt and 48 Volt

Colour	Part No.	Contact type
● Red	10-2J09.1062	12VAC/DC, 15 mA
● Yellow	10-2J09.1064	12VAC/DC, 15 mA
● Green	10-2J09.1065	12VAC/DC, 15 mA
● Blue	10-2J09.1066	12VAC/DC, 15 mA
○ White	10-2J09.1069	12VAC/DC, 15 mA
● Red	10-2J13.1062	28VAC/DC, 14 mA
● Yellow	10-2J13.1064	28VAC/DC, 14 mA
● Green	10-2J13.1065	28VAC/DC, 14 mA
● Blue	10-2J13.1066	28VAC/DC, 14 mA
○ White	10-2J13.1069	28VAC/DC, 14 mA

A Accessories



Lens, opaque for rectangular pushbutton bodies, not for illumination

Colour	Part No.	Size
● Black	31-901.0	18x24 mm



Lens, front transparent/rear translucent for rectangular indicator and pushbutton actuators

Colour	Part No.	Size
● Red	31-903.2	18x24 mm
● Yellow	31-903.4	18x24 mm
● Green	31-903.5	18x24 mm
● Blue	31-903.6	18x24 mm
○ Clear	31-903.7	18x24 mm

A Accessories



Lens, opaque for square pushbutton actuators, not for illumination

Colour	Part No.	Size
● Black	31-951.0	18x18 mm



Lens, front transparent/rear translucent for square indicator and pushbutton actuators

Colour	Part No.	Size
● Red	31-953.2	18x18 mm
● Yellow	31-953.4	18x18 mm
● Green	31-953.5	18x18 mm
● Blue	31-953.6	18x18 mm
○ Clear	31-953.7	18x18 mm



Lens, opaque for round pushbutton actuators, not for illumination

Colour	Part No.	Size
● Black	31-931.0	18 mm Ø

Series 31

16mm IP40 5A 250VAC



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



Lens, front transparent with white diffuser for round indicator and pushbutton actuators

Colour	Part No.	Size
● Red	31-933.2	18 mm Ø
● Yellow	31-933.4	18 mm Ø
● Green	31-933.5	18 mm Ø
● Blue	31-933.6	18 mm Ø
○ Clear	31-933.7	18 mm Ø



Flap guard, raised, square and rectangular

Image	Part No.	Size
1	31-925	18x24 mm
2	31-920	18x18 mm



Sprayproof cover, square and rectangular, IP65

Image	Part No.	Comment
1	31-924.2	PVC rear, silicon front
2	31-923	Both PVC

A Accessories



Blanking plate

Image	Part No.	Size
1	01-947.0	18x24 mm
2	01-948.0	18x18 mm
3	01-949.0	18 mm Ø



Mounting tool, lens and LED remover

Image	Part No.	Product description
1	01-907	Mounting tool
2	02-905	Lens remover
3	61-9740.0	LED remover

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

Axial plug-in-/soldering terminal 2.8 mm:

Diallylphthalate (DAP), Polyamide (PA66), Polysulfone,

heat-resistant and self-extinguishing

Soldering terminal: PA 6.6 Ultramide

Actuator housing

Polyetherimide, self-extinguishing

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 1 x 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 1 wire of 1.5 mm²

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

Actuating force

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

Actuating travel

3 mm

Rebound time

≤ 5 ms

Mechanical lifetime

Momentary action 2 million cycles of operation

Maintained action 1 million cycles of operation

Electrical characteristics

Standards

IEC 61058, EN 61058

Rated voltage

250 VAC/VDC

Rated current

5 A

Contact resistance

Starting value (initial) ≤ 50 mΩ

Conventional free air thermal current

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

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

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

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

Front as per:

IP40

IP65 with spray cover

Shock resistance

(Single impacts, semi-sinusoidal)

15 g for 11 ms, as per IEC 60512-4-3, IEC 60068-2-27

Vibration resistance

(sinusoidal)

10 g at 0-2000 Hz, amplitude 1.5 mm, as per IEC 60512-4-4,

IEC 60068-2-6

Climate resistance

Standard condition, as per IEC 60068-2-3 and 2-30

Changing condition, as per IEC 60068-2-14 and 2-33

Approvals

Approbations

CB (IEC 61058)

CSA

ENEC (EN 61058)

Germanischer Lloyd

UL

Declaration of conformity

CE

Buzzer Typ-Nr. 31-810.005

Switching system

Buzzer system

Electronic non-contacting buzzer
with IC oscillator

Material

Alarm buzzer case

Polyetherimide

Front bezel

Polyamide

Mechanical characteristics

Terminals

Soldering terminal

Electrical characteristics

Frequency (tone)

Approx. 2.8 kHz

Interval frequency

approx. 3 Hz

Sound pressure

88 dB (A) \pm 8 dB at a distance of 0.1 m

Volume variable with a 1 M Ω potentiometer or corresponding fixed resistor

Operation Voltage/Current

Typ. 10 VAC ... 55 VAC, 25 mA

Typ. 10 VDC ... 75 VDC, 15 mA

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Service temperature

-25 °C ... +55 °C

Protection degree

IP40

Approvals

Approbations

Germanischer Lloyd

Declaration of conformity

CE

Buzzer Typ-Nr. 31-801.002

Switching system

Buzzer system

Electronic non-contacting buzzer
with IC oscillator

Material

Alarm buzzer case

Polyetherimide

Front bezel

Polyamide

Mechanical characteristics

Terminals

Plug-in terminal 2.8x0.5 mm

Electrical characteristics

Frequency (tone)

ca. 2.0 kHz

Interval frequency

2 Hz

Sound pressure

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

Operation Voltage/Current

10 VDC ... 26 VDC, \leq 20 mA

Environmental conditions

Storage temperature

-40 °C ... +85 °C

Service temperature

-25 °C ... +55 °C

Protection degree

IP40

Approvals

Approbations

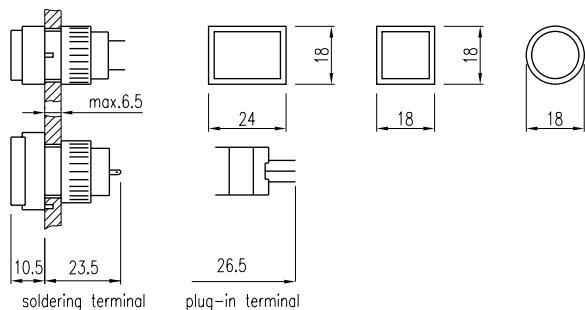
Germanischer Lloyd

Declaration of conformity

CE

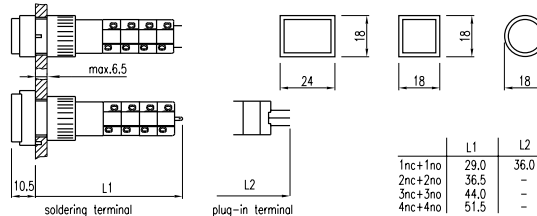
31 Indicator

Raised, Round, Square, Rectangular



31 Pushbutton

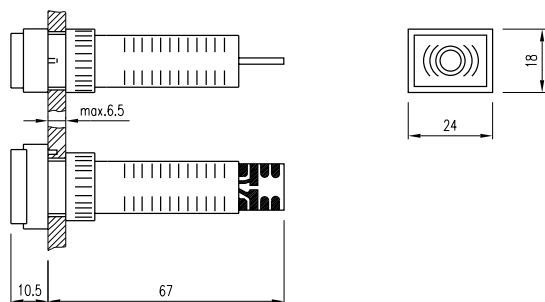
Illuminated, Raised, Round, Square, Rectangular



	L1	L2
1nc+1no	29.0	36.0
2nc+2no	36.5	-
3nc+3no	44.0	-
4nc+4no	51.5	-

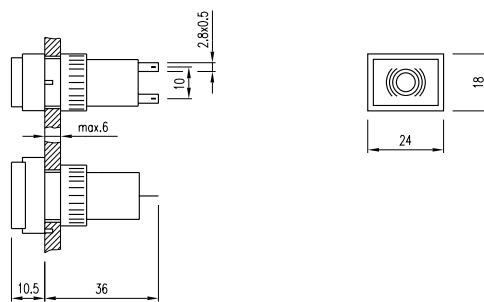
31 Buzzer

Raised



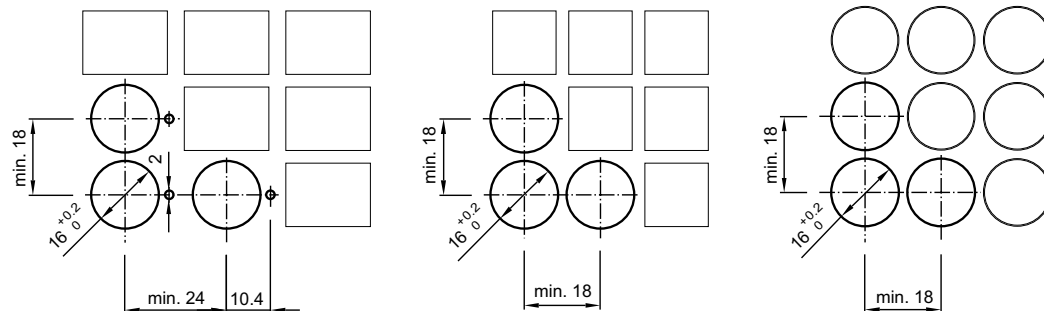
31 Buzzer

Raised, Solder-/plug-in terminal



31 Cut-outs

Raised, Round, Square, Rectangular



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