

Description

General Notes

The series contains indicators and illuminated pushbuttons with maintained and momentary action and one contact which may be normally closed or normally open (snap-action element for closing). The illuminated pushbuttons are fitted with snap-action or low-level switching systems.
For technical data see pages 2 and 3.
The front dimensions are 9 x 9 mm or 9 mm dia.

Mounting

Mounting from the front through the mounting hole is assured even when the wiring has already been attached (mounting dimensions and spacing see page 4.).
The units are equipped with soldering or plug-in terminals.

Lenses

The flat lenses, made of polycarbonate, are obtainable in various colours. The transparent lens is available with translucent or transparent support.

Marking

A limited amount of marking can be provided.

Illumination

Perfect illumination of the different coloured lenses is assured by filament lamps bipin T1 longlife (6-36 V) or LED bipin T1 (2,2 V) in the colours red, yellow and green.

Position Indication

When a switch with maintained action is actuated, the lens remains in the depressed position mechanically. The state of the switch is apparent at all times from the position of the lens.

How to order

19-XXX.0X5

└── Contact material
└── Switch variant

19-9XX.X

Lens

19-9XX.X

Other accessories

Example:

- Illuminated pushbutton; round, momentary action, gold-plated silver contact, soldering terminals
19-139.035
- Lens, round, red
19-931.2

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

Switching system

Single-break, snap-action switching system; 1 normally open contact

Contact material

- gold-plated silver
- silver, suitable for over 20 V

Travel

2,8 mm

Actuating force (measured at the lens)

1,6 N (160 g)

Switch rating

50 VAC/72 VDC, 1 A (silver-plated)
50 VAC/72 VDC, 100 mA (gold-plated)

Mechanical life

2 million operations

Electric strength

2500 VAC, 50 Hz, 1 min between all terminals and earth, as per IEC 512-2-11.

Terminals

Max. wire diameter: 2 wires of 0,8 mm each
Max. wire cross-section of stranded cable: 1 x 0,75 mm²

Ambient temperature

- 25 °C to +65 °C without lamp
- 25 °C to +45 °C with lamp
- 25 °C to +65 °C with LED

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

Storage temperature

-40 °C to +85 °C

Actuator case

Made of polyphenylene oxide, self-extinguishing
Colour, black

Degree of protection of front as per IEC 529

IP 40

Approvals

SEV

Switching system

This low-level switching system was designed for switching low powers in electronic circuits.

The switching system assures reliable switching of loads. Single-break momentary contact, as normally open or normally closed with 4 independent points of contact. Special features are the long life, extremely short rebound time and stable contact resistance.

Contact material

gold-plated

Travel

2,8 mm

Actuating force (measured at the lens)

1,8 N \pm 0,3 (180 g)

Switch rating

10 μ A/100 μ V to 100 mA at 42 VAC/VDC

Contact resistance

Value as new \leq 50 m Ω as per IEC 512-2, test 2b

Rebound time

typical < 100 μ s

Mechanical life

5 million operations

Electric strength

2500 VAC, 50 Hz, 1 min between all terminals and earth, as per IEC 512-2-11.

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.

Max. wire diameter: 2 wires of 0,8 mm each

Max. wire cross-section of stranded cable: 1 x 0,75 mm²

Plug-in terminal: 2,0 x 0,5 mm

Ambient temperature

-25 °C to +65 °C without lamp

-25 °C to +45 °C with lamp

-25 °C to +65 °C with LED

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

Storage temperature

-40 °C to +85 °C

Shockproof (single impact, semi-sinusoidal)

15 g for 11 ms as per IEC 68-2-27

Actuator case

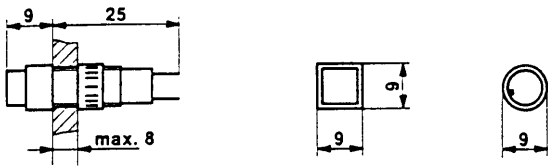
Made of polyphenylene oxide, self-extinguishing

Colour, black; grey can only be supplied on request.

Degree of protection of front as per IEC 529

IP 40

Dimensions refer to page 5

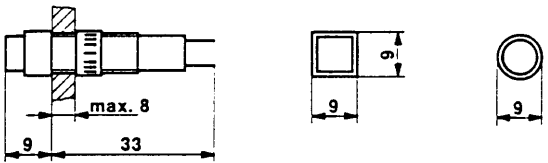


Indicators
reduced



Illuminated pushbuttons with
snap-action switching system

Dimensions refer to page 6

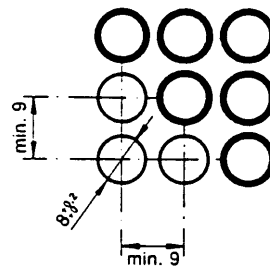
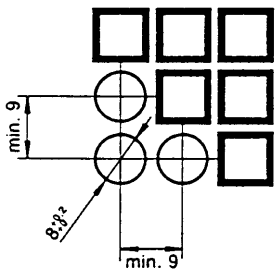


Indicators



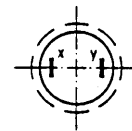
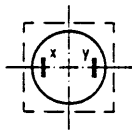
Illuminated pushbuttons with
low-level switching system

Mounting dimensions Indicators, illuminated pushbuttons

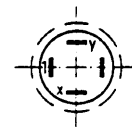
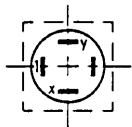


Terminals

Indicator



Illuminated pushbutton with
snap-action switching system and
low-level switching system

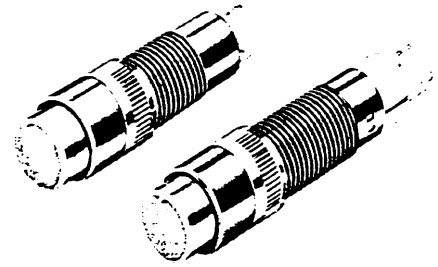


Indicator, Illuminated Pushbuttons with Snap-action Switching System



50 VAC/72 VDC, 1A

Dimensions see page 4



50 VAC/72 VDC, 1A

Order lenses separately
see page 7

□ 9 mm
○ 9 mm

| Description | Momentary action | Maintained action | | Type No. | Depth mm |
|---|------------------|-------------------|--|------------------------------|----------|
| Indicator reduced | - | - | | □ 19-050.005 ○ 19-030.005 | 25 |
| Illuminated pushbutton 1 normally open contact silver contact 50 VAC/72 VDC, 1 A | x | - | | □ 19-159.015 ○ 19-139.015 | 33 |
| Illuminated pushbutton 1 normally open contact silver contact 50 VAC/72 VDC, 1 A | - | x | | □ 19-289.015 ○ 19-279.015 | 33 |
| Illuminated pushbutton 1 normally open contact silver, gold-plated 50 VAC/72 VDC, 100 mA | x | - | | □ 19-159.035 ○ 19-139.035 | 33 |
| Illuminated pushbutton 1 normally open contact silver, gold-plated 50 VAC/72 VDC, 100 mA | - | x | | □ 19-289.035 ○ 19-279.035 | 33 |

Please note our new series 18 with very small depth and compact indicators for direct connection to 2.2, 12 or 24 VDC.

For lamps see page 8

Indicator, Illuminated Pushbuttons with Low-level Switching System

19 LL



42 VAC/VDC, 100 mA

Dimensions see page 4


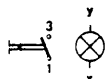
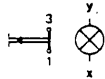
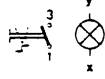
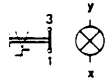


42 VAC/VDC, 100 mA

Order lenses separately
see page 7

□ 9 mm

○ 9 mm

| Description | | | Type No. | Depth mm |
|--|------------------|-------------------|---|----------|
| | Momentary action | Maintained action | | |
| Indicator (The total length is the same as that of the illuminated pushbutton) | - | - |  □ 19-051.005 ○ 19-031.005 | 33 |
| Illuminated pushbutton 1 normally open contact | x | - |  □ 19-451.035 ○ 19-431.035 | 33 |
| Illuminated pushbutton 1 normally closed contact | x | - |  □ 19-452.035 ○ 19-432.035 | 33 |
| Illuminated pushbutton 1 normally open contact | - | x |  □ 19-481.035 ○ 19-471.035 | 33 |
| Illuminated pushbutton 1 normally closed contact | - | x |  □ 19-482.035 ○ 19-472.035 | 33 |

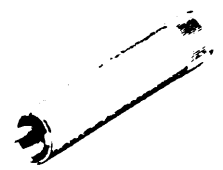


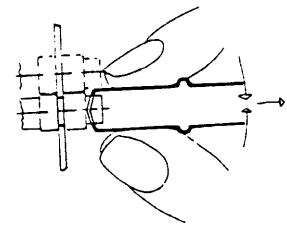
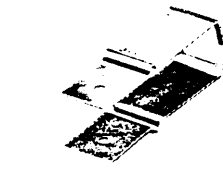

Please note our new series 18 with very small depth and compact indicators for direct connection to 2.2, 12 or 24 VDC.

For lamps see page 8

| Description | Colour |  7 x 7 mm |  7 mm | | | |
|---|---|---|---|---|----------|---|
| | ● opaque | Type No. | Type No. | | | |
| Flat, transparent lens with translucent support (for filament lamp and Multi-LED) | ● black | 19-951.0 | 19-931.0 |   | | |
| | red | 19-951.2 | 19-931.2 | | | |
| | yellow | 19-951.4 | 19-931.4 | | | |
| | green | 19-951.5 | 19-931.5 | | | |
| | blue | 19-951.6 | 19-931.6 | | | |
| | ● grey | 19-951.8 | 19-931.8 | | | |
| | white | 19-951.9 | 19-931.9 | | | |
| | Flat, transparent lens with transparent support (for film insert and LED) | red | 19-952.2 | | 19-932.2 |   |
| | | yellow | 19-952.4 | | 19-932.4 | |
| | | green | 19-952.5 | | 19-932.5 | |
| blue | | 19-952.6 | 19-932.6 | | | |
| clear | | 19-952.7 | 19-932.7 | | | |

| Description | Lamp voltage | Power consumption | Type No. | |
|---|---|---|--|---|
| Lamp bipin T1 To prevent the casing from being overheated we recommend underrunning the lamp by 20% | 6 V 12 V 18 V 24 V 28 V 36 V | 117 mA 58 mA 28 mA 25 mA 25 mA 19 mA | 19-903.0 19-903.1 19-903.2 19-903.3 19-903.4 19-903.5 |  |
| LED bipin T1, 2,2 V Pins 9 mm long | | red yellow green | 19-943.02 19-943.04 19-943.05 |  |
| Multi-LED bipin T1 with built-in series resistor | red orange yellow green | 28 V 20 mA 28 V 20 mA 28 V 15 mA 28 V 15 mA | 11-968.32 11-968.33 11-968.34 11-968.35 |  |
| Axial PCB plug-in base  | 19-940 |  | | |
| Right-angled PCB plug-in base  | 19-941 |  | | |
| Flat connector for plug-in terminals 2,0 mm Insulating sleeve for flat connector 31-945 | 31-945 31-928 |  | | |

Mounting Tools, Various

| Description | Type No. | Image | | |
|---|-----------------------|---|----------|---|
| Assembly wrench for tightening (or loosening) fixing nuts | 19-905 |  | | |
| Lamp remover | 11-906 | | | |
| Dressing tool used as aid to aligning buttons | 19-906 |  | | |
| Lens remover | 19-910 |  | | |
| Blind plug | square 9 x 9 mm | black | 19-948.0 |  |
| | circular 9 mm dia. | black | 19-949.0 |  |
| Fixing nut 9 mm dia. x 13 mm Only for sheet < 3 mm thick | 19-991 |  | | |



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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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