

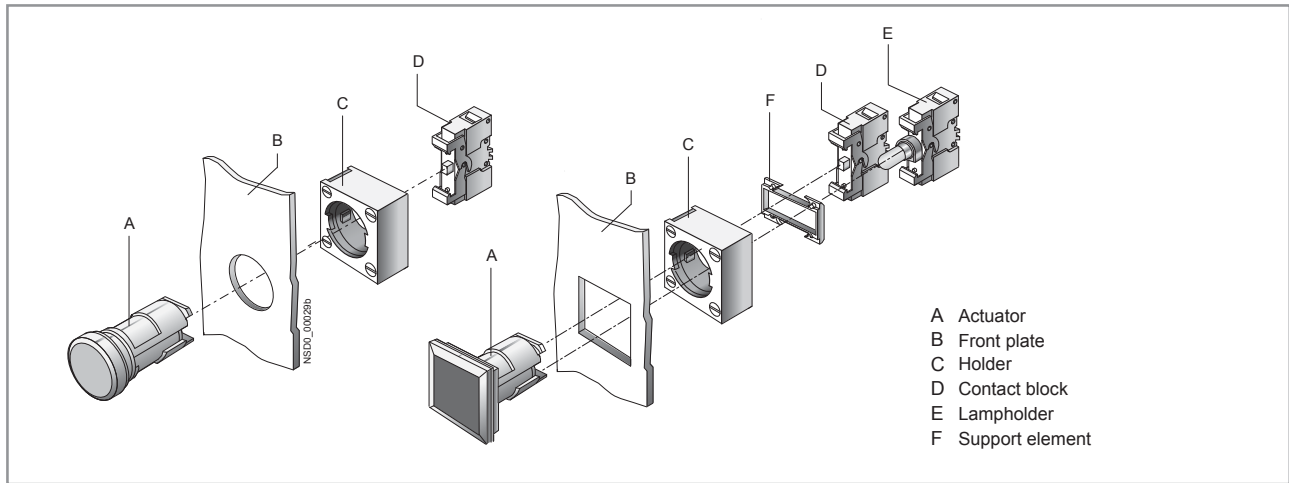
Push Button Units and Indicator Lights

3SB3 Push Buttons and Indicator Lights, 22 mm

General data

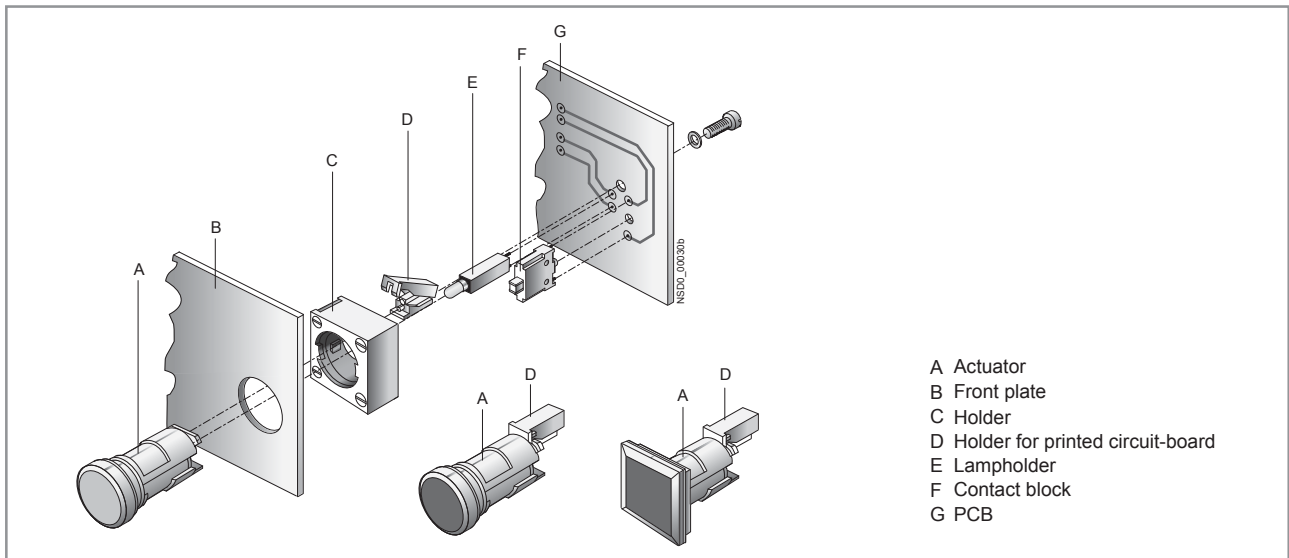
Overview

Front plate mounting



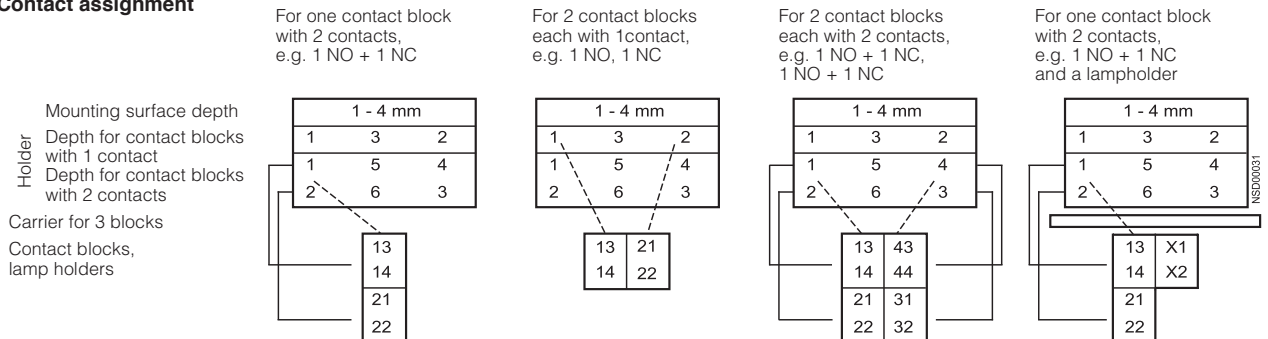
For actuators see page 10/26 to 10/64.
 For contact blocks and lamp holders see page 10/65 to 10/67.
 For holders see page 10/68.

Mounting on printed circuit boards



For contact blocks for use on printed circuit boards see page 10/68.

Contact assignment



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Design

The 3SB3 series is a modular range of commanding and signaling devices for front panel mounting and rear conductor connection. As an alternative, individual elements can also be supplied for use on printed circuit boards. Complete units are offered for the most commonly used applications.



Actuators and indicators and complete units

The 3SB3 series is available:

- Made of molded plastic in flat, round and square design
- Made of metal in round design.

The devices are of modern industrial design and can be mounted rapidly by a single person. The operating surfaces of the push buttons and illuminated push buttons are concave. The lenses of the indicator lights are convex.

The metal version with a high degree of protection according to IP67 and NEMA 4X is available for the world market.

One command point comprises:

- An actuator or lens assembly in front of the control panel
- A holder for mounting behind the control panel
- Up to 3 contact blocks and/or 1 lamp holder behind the control panel
- A comprehensive range of accessories for inscription

Two contact blocks can be snapped onto the actuator in the standard version.

When three contact blocks or illuminated actuators are required, an additional holder must be plugged onto the actuator from the rear.

- 3SB39 01-0AB holder for 3 contact blocks or for 2 contact blocks and 1 lamp holder
- 3SB39 01-0AC holder with pressure plates for actuating a central contact block when using a selector switch, key-operated switch and twin push button with 3 contact blocks.

For illuminated push buttons, illuminated switches and illuminated selector switches the holder is included in the scope of supply as standard.




The contact blocks are fitted with slow-action contacts with double operating contacts. These ensure a high switching reliability even with small voltages and currents, such as 5 V/1 mA. They are suitable for use in solid-state systems as well as conventional controls.

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1,
IEC 60947-5-5, EN 60947-5-5 for EMERGENCY-STOP mushroom push buttons.

Connection methods

The devices are available with screw terminals (box terminals), spring-type terminals or solder pins.

-  Screw terminals
-  Spring-type terminals
-  Solder pin connections

The terminals are indicated in the corresponding tables by the symbols shown on blue backgrounds.

Application

The devices are climate-proof (KTW 24) and suitable for standard industrial applications and operation in marine applications. For operation in oily atmospheres (organic oils/lubricants) we recommend actuators which are marked as "solvent-resistant".

AS-Interface solutions

The 3SB3 commanding and signaling devices can be connected to the AS-Interface communication system quickly and safely with the help of various solutions.

The following solutions are available:

- ASIsafe EMERGENCY-STOP mushroom push buttons (see page 10/97)
- AS-Interface enclosures with 1 to 6 command points (see page 10/96).
- AS-Interface front panel modules for 4 command points (see Catalog IK PI)

"Intrinsic safety" type of protection EEx i according to ATEX directive 94/9/EC


The push buttons and indicator lights in round design can also be used in hazardous areas. The 3SB34 ...0. contact blocks and the 3SB34 ...1A lamp holders (with 3SB39 01-1.A LED lamp) with screw terminals or spring-type terminals can be used.

See www.siemens.com/sirius/atex.

Safety EMERGENCY-STOP push buttons according to ISO 13850

For controls according to IEC 60204-1 or EN 60204-1, the mushroom push buttons of the 3SB3 series are suitable for use as safety EMERGENCY-STOP push buttons.

Safety circuits

IEC 60947-5-1 and EN 60947-5-1 require positive opening, i.e. for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to IEC 60947-5-1 with the symbol .

Category 4 according to EN 954-1 can be attained with the EMERGENCY-STOP mushroom push buttons if the corresponding failsafe evaluation units are selected and correctly installed, e.g. the 3TK28 safety relays or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

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Mounting and fixing

The 3SB3 devices can be easily and quickly mounted:

- Actuators or indicator lights are positioned in the opening of the front panel from the front
- Position the holder from the rear
- Tighten the screw on the holder
- Snap on the contact block or the lamp holder directly onto the actuator from the back

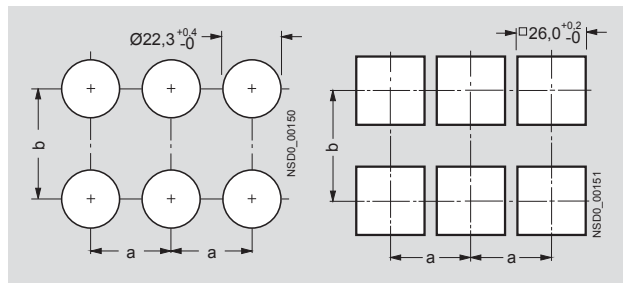
The holder for the round versions is set to a switchboard thickness of 1 to 4 mm when delivered and is placed in the direction of the arrow \uparrow 1–4 mm \uparrow on the actuator/indicator from the back. The fixing screw is located underneath, on the right.

For a switchboard thickness of 3 to 6 mm, the holder is reversed and mounted in the direction of the arrow at \uparrow 3–6 mm \uparrow and the fixing screw is located on the upper right. In this case, the fixing screw must be rotated anticlockwise to its limit before mounting the holder.

The control panel depth of 1 to 4 mm can be compensated with the holder for the square version.

When label holders, protective caps or similar accessories are used, the greatest permissible control panel thickness must be reduced by the wall thickness of the accessory part.

Mounting dimensions on front plates



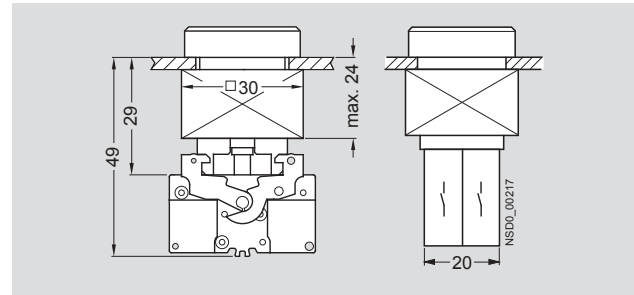
Minimum clearance

	a	b
Contact blocks (1 contact) and lamp holder		
• For front plate mounting, with screw terminals	30 ¹⁾	45
• For front plate mounting with spring-type terminals	30 ¹⁾	30 ¹⁾
• For use on PCB, with solder pin connections	30 ¹⁾	30 ¹⁾
Contact blocks with 2 contacts		
• for front plate mounting	30 ¹⁾	50
When using holders for inscription labels		
• 12.5 mm × 27 mm	30 ¹⁾	45 ²⁾
• 27.0 mm × 27 mm	30 ¹⁾	60

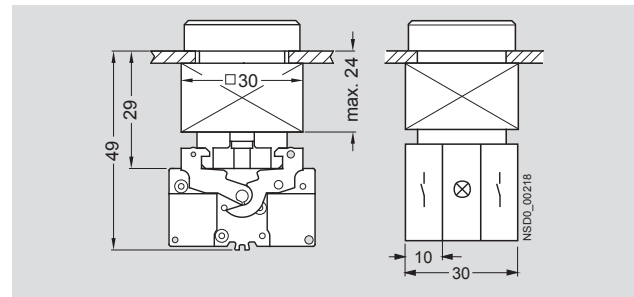
¹⁾ For mushroom push button, EMERGENCY-STOP and push-pull button: Note mushroom diameter $d = 40$ mm or 60 mm.

²⁾ 60 mm with contact blocks having two contacts.

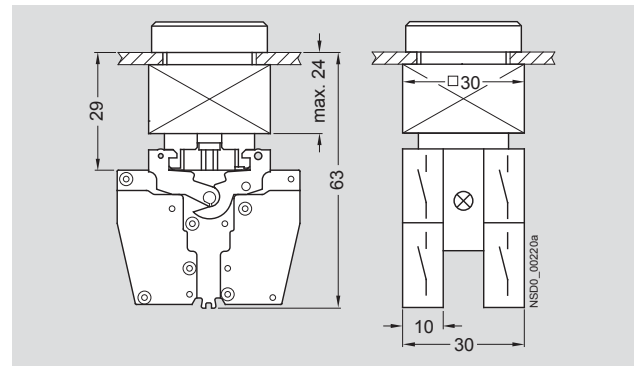
Mounting depth



Push button with two contact blocks

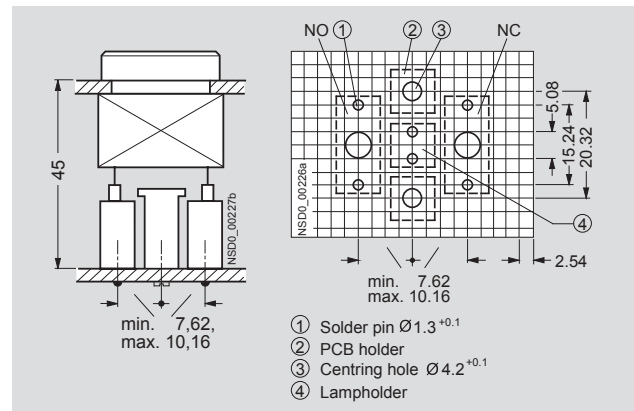


Illuminated push button with lamp holder and two contact blocks



Illuminated push button with lamp holder and two contact blocks with two contacts

Used on printed circuit boards



Illuminated push button with solder pins

- ① Solder pin $\varnothing 1.3^{+0.1}$
- ② PCB holder
- ③ Centring hole $\varnothing 4.2^{+0.1}$
- ④ Lampholder