

Industrial controls

SIRIUS 3SB2 pushbuttons and indicator lights

Configuration Manual

<u>Introduction</u>	1
<u>Safety instructions</u>	2
<u>Description</u>	3
<u>Mounting</u>	4
<u>Connecting</u>	5
<u>Technical specifications</u>	6
<u>Dimension drawings</u>	7
<u>Circuit diagrams</u>	8

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

 DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
 WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
 CAUTION
indicates that minor personal injury can result if proper precautions are not taken.
NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

 WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

1	Introduction	5
1.1	Purpose of this documentation	5
1.2	Target group	5
1.3	Required knowledge	5
1.4	Siemens Industry Online Support	6
1.5	Siemens Industry Online Support app	8
1.6	Support Request	8
2	Safety instructions	9
2.1	Important notes	9
2.2	Before commencing work: Isolating the equipment from the supply system and ensuring that it cannot be reconnected	9
2.3	Recycling and disposal	10
2.4	Security information	10
3	Description	11
3.1	Application areas	11
3.2	Overview of 3SB2 pushbuttons	12
3.3	Overview of 3SB2 indicator lights	13
3.4	Overview of 3SB2 key-operated switches, selector switches and EMERGENCY STOP mushroom pushbuttons	14
4	Mounting	15
4.1	Version with flat connector	15
4.2	Module mounting on a printed circuit board	16
4.3	Module mounting on a printed circuit board	18
4.4	Mounting the contact block on a front plate	19
4.5	Dismantling the contact block	20
4.6	Mounting a screw lens	20
4.7	Mounting a button	21
4.8	Mounting with EMERGENCY STOP	21
4.9	Variants	22
4.10	Lamp replacement	22

5	Connecting	23
5.1	Grounding	23
5.2	Conductor cross-sections	23
5.3	Connections	23
5.4	Solder pin connection	23
6	Technical specifications	25
6.1	Technical data in Siemens Industry Online Support.....	25
6.2	Overview tables.....	25
6.3	Technical specifications	26
7	Dimension drawings	29
7.1	Actuating elements	29
7.2	Contact blocks with flat connector	31
7.3	Contact blocks with solder pins for mounting on printed circuit boards.....	31
8	Circuit diagrams	33
8.1	Operating travel diagrams.....	33
	Index	35

Introduction

1.1 Purpose of this documentation

This manual describes the possible uses of SIRIUS command and signaling devices.

In order to provide users with the information they need to operate the system safely, this manual provides a general explanation of operating principles, selection and installation of pushbuttons and indicator lights.

1.2 Target group

This documentation contains information for the following target groups:

- Decision makers
- Technologists
- Project planning engineers
- Commissioning engineers

1.3 Required knowledge

A general knowledge of the following areas is needed in order to understand this documentation:

- Low-voltage controls
- Digital circuit logic
- Automation systems
- AS-Interface
- Safety and security systems

1.4 Siemens Industry Online Support

Information and service

At Siemens Industry Online Support you can obtain up-to-date information from our global support database:

- Product support
- Application examples
- Forum
- mySupport

Link: Siemens Industry Online Support (<https://support.industry.siemens.com/cs/de/en>)

Product support

You can find information and comprehensive know-how covering all aspects of your product here:

- **FAQs**
Answers to frequently asked questions
- **Manuals/operating instructions**
Read online or download, available as PDF or individually configurable.
- **Certificates**
Clearly sorted according to approving authority, type and country.
- **Characteristics**
For support in planning and configuring your system.
- **Product announcements**
The latest information and news concerning our products.
- **Downloads**
Here you will find updates, service packs, HSPs and much more for your product.
- **Application examples**
Function blocks, background and system descriptions, performance statements, demonstration systems, and application examples, clearly explained and represented.
- **Technical data**
Technical product data for support in planning and implementing your project

Link: Product support (<https://support.industry.siemens.com/cs/ww/en/ps>)

mySupport

The following functions are available in your personal work area "mySupport":

- **Support Request**
Search for request number, product or subject
- **My filters**
With filters, you limit the content of the online support to different focal points.
- **My favorites**
With favorites you bookmark articles and products that you need frequently.
- **My notifications**
Your personal mailbox for exchanging information and managing your contacts. You can compile your own individual newsletter in the "Notifications" section.
- **My products**
With product lists you can virtually map your control cabinet, your system or your entire automation project.
- **My documentation**
Configure your individual documentation from different manuals.
- **CAX data**
Easy access to CAX data, e.g. 3D models, 2D dimension drawings, EPLAN macros, device circuit diagrams
- **My IBase registrations**
Register your Siemens products, systems and software.

1.5 Siemens Industry Online Support app

Siemens Industry Online Support app

The Siemens Industry Online Support app provides you access to all the device-specific information available on the Siemens Industry Online Support portal for a particular article number, such as operating instructions, manuals, data sheets, FAQs etc.

The Siemens Industry Online Support app is available for Android and iOS:



Android



iOS

1.6 Support Request

Use the Support Request online form to send your question directly to Technical Support:

Support Request:	Internet (https://support.industry.siemens.com/My/ww/en/requests)
------------------	--

Safety instructions

2.1 Important notes

The products described here have been developed to perform safety-related functions as part of an overall system or machine. A complete safety-oriented system generally features sensors, evaluation units, signaling units, and reliable shutdown concepts. It is the responsibility of the manufacturer to ensure that a system or machine is functioning properly as a whole. Siemens AG, its regional offices, and associated companies (hereinafter referred to as "Siemens") cannot guarantee all the properties of an overall installation or machine that has not been designed by Siemens. Nor can Siemens assume liability for recommendations that appear or are implied in the following description. No new guarantee, warranty, or liability claims beyond the scope of the Siemens general terms of supply are to be derived or inferred from the following description.

2.2 Before commencing work: Isolating the equipment from the supply system and ensuring that it cannot be reconnected.

DANGER

Hazardous voltage Will cause death or serious injury.

- Disconnect the system and all devices from the power supply before starting work.
- Secure against switching on again.
- Verify that the equipment is not live.
- Ground and short-circuit.
- Erect barriers around or cover adjacent live parts.

DANGER

Hazardous voltage Will cause death or serious injury.

Qualified Personnel.

The equipment / system may only be commissioned and operated by qualified personnel. For the purpose of the safety information in these operating instructions, a "qualified person" is someone who is authorized to energize, ground, and tag equipment, systems, and circuits in accordance with established safety procedures.

2.3 Recycling and disposal

For environmentally friendly recycling and disposal of your old device, please contact a company certified for the disposal of old electrical and/or electronic devices and dispose of the device in accordance with the regulations in your country.

2.4 Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit

<https://www.siemens.com/industrialsecurity>.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under

<https://www.siemens.com/industrialsecurity>.

Description

3.1 Application areas

The 3SB2 pushbuttons and indicator lights are provided for front plate mounting and rear connection with flat connectors. Contact blocks and lampholders with solder pins are also available for use on PCBs. The 3SB2 series with a nominal diameter of 16 mm is ideal for use in confined operating areas.

Note

Lamps and LED modules are designed solely for use with SIRIUS command and signaling devices. They are not suitable for use in domestic lighting systems.

Pushbuttons and indicator lights

Pushbuttons and indicator lights are used for switching, controlling and signaling of electrical loads. Current operating states can be detected and switch positions can be indicated. Pushbuttons and indicator lights are available in round or square design.

Application areas for pushbuttons and indicator lights:

- Control of machines
- Elevators
- Industrial control panels
- Rail / marine applications
- Power plants
- Mills / presses

Key-operated switches

Key-operated switches are used for operations that deserve special protection, e.g., for prevention of improper operation.

Application areas for key-operated switches:

- Switching operations deserving special protection
- Reset of an EMERGENCY STOP
- Alarm systems
- Elevators
- Operation of dangerous machines (e.g., waste compactors)

3.2 Overview of 3SB2 pushbuttons

				
Pushbuttons and illuminated pushbuttons, round plastic version, 16 mm in diameter				
	Pushbutton with flat button	Illuminated pushbutton with flat button	Pushbutton with raised button	Illuminated pushbutton with raised button
	Article No.	Article No.	Article No.	Article No.
Black	3SB2000-0AB01 3SB2202-0AB01 3SB2203-0AB01	—	3SB2000-0LB01 3SB2202-0LB01	—
Red	3SB2000-0AC01 3SB2203-0AC01	3SB2001-0AC01 3SB2227-0AC01 3SB2207-0AC01	3SB2000-0LC01 3SB2203-0LC01	3SB2001-0LC01 3SB2227-0LC01 3SB2207-0LC01
Yellow	3SB2000-0AD01 3SB2202-0AD01	3SB2001-0AD01 3SB2226-0AD01 3SB2206-0AD01	3SB2000-0LD01 3SB2202-0LD01	3SB2001-0LD01 3SB2226-0LD01 3SB2206-0LD01
Green	3SB2000-0AE01 3SB2202-0AE01	3SB2001-0AE01 3SB2226-0AE01 3SB2206-0AE01	—	3SB2001-0LE01 3SB2226-0LE01 3SB2206-0LE01
Blue	3SB2000-0AF01 3SB2202-0AF01	3SB2001-0AF01 3SB2226-0AF01 3SB2206-0AF01	3SB2000-0LF01 3SB2202-0LF01	3SB2001-0LF01 3SB2226-0LF01 3SB2206-0LF01
White	3SB2000-0AG01 3SB2202-0AG01	—	3SB2000-0LG01	—
Clear	3SB2000-0AH01 3SB2202-0AH01	3SB2226-0AH01 3SB2206-0AH01	3SB2000-0LH01 3SB2202-0LH01	3SB2226-0LH01 3SB2206-0LH01

3.3 Overview of 3SB2 indicator lights

		
	Indicator light, round plastic version, 16 mm in diameter	
	With concentric rings	With smooth lens, for labeling with insert caps
	Article No.	Article No.
Black	—	—
Red	3SB2001-6BC06	3SB2001-6CC06
Yellow	3SB2001-6BD06	3SB2001-6CD06
Green	3SB2001-6BE06	3SB2001-6CE06
Blue	3SB2001-6BF06	3SB2001-6CF06
White	3SB2001-6BG06	—
Clear	3SB2001-6BH06	3SB2001-6CH06

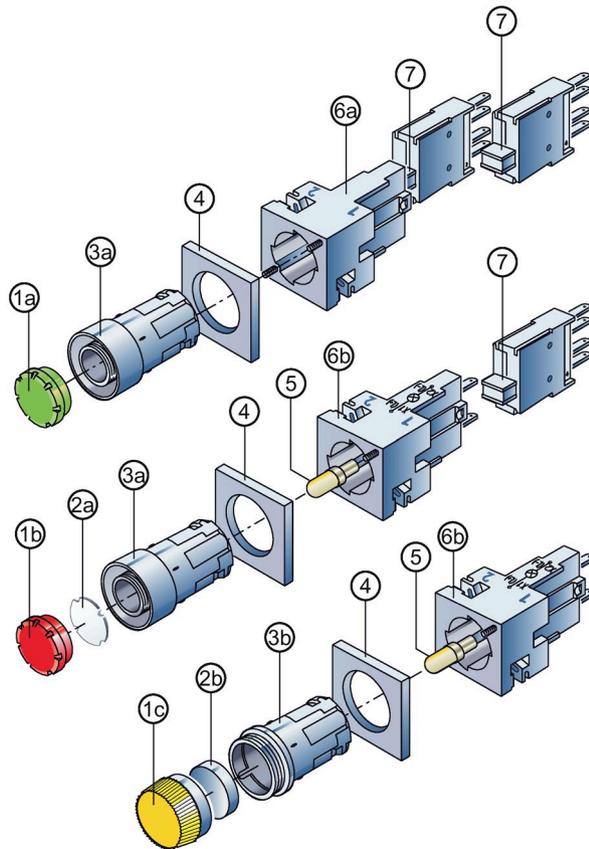
3.4 Overview of 3SB2 key-operated switches, selector switches and EMERGENCY STOP mushroom pushbuttons

				
Key-operated switch	Selector switch with holder			EMERGENCY STOP mushroom pushbutton
Diameter 16 mm, CES	Black, not illuminated		Illuminated	Diameter 16 mm
Article No.	Article No.		Article No.	Article No.
3SB2000-4LA01 ¹⁾ 3SB2000-4LB01 ¹⁾ 3SB2202-4LA01 ¹⁾ 3SB2202-4LB01 ¹⁾	3SB2000-2AB01 ¹⁾ 3SB2202-2AB01 ¹⁾ 3SB2000-2HB01 ¹⁾	Red	3SB2000-2AC01 ¹⁾ 3SB2202-2AC01 ¹⁾ 3SB2000-2HC01 ¹⁾ 3SB2000-2BC01 ²⁾ 3SB2210-2DC01 ³⁾ 3SB2000-2DC01 ³⁾ 3SB2000-2EC01 ⁴⁾ 3SB2210-2EC01 ⁴⁾	3SB2000-1AC01 3SB2203-1AC01
3SB2000-4MA01 ²⁾	3SB2000-2BB01 ²⁾	Green	3SB2000-2AE01 ¹⁾ 3SB2202-2AE01 ¹⁾ 3SB2000-2HE01 ¹⁾ 3SB2000-2BE01 ²⁾ 3SB2210-2DE01 ³⁾ 3SB2000-2DE01 ³⁾ 3SB2000-2EE01 ⁴⁾ 3SB2210-2EE01 ⁴⁾	
3SB2000-4PB01 ³⁾ 3SB2000-4PC01 ³⁾ 3SB2000-4PA01 ³⁾ 3SB2210-4PB01 ³⁾ 3SB2210-4PA01 ³⁾	3SB2210-2DB01 ³⁾ 3SB2000-2DB01 ³⁾ 3SB2000-2JB01 ³⁾			
3SB2000-4QA01 ⁴⁾ 3SB2210-4QA01 ⁴⁾	3SB2000-2EB01 ⁴⁾ 3SB2210-2EB01 ⁴⁾	White	3SB2000-2AG01 ¹⁾ 3SB2202-2AG01 ¹⁾ 3SB2000-2HG01 ¹⁾ 3SB2210-2DG01 ³⁾ 3SB2000-2DG01 ³⁾ 3SB2000-2EG01 ⁴⁾ 3SB2210-2EG01 ⁴⁾	

1)		2 switch positions, latching
2)		2 switch positions, momentary-contact
3)		3 switch positions, latching
4)		3 switch positions, momentary-contact

Mounting

4.1 Version with flat connector



- ①a Button, flat
- ①b Illuminated button, flat
- ①c Screw lens for indicator light
- ②a Insert label, for inscription
- ②b Insert cap, for inscription
- ③a Collar with extruded front ring
- ③b Collar for indicator light
- ④ Frame for square design
- ⑤ Wedge base lamp W2 x 4.6 d
- ⑥a Holder
- ⑥b Lamp socket with holder
- ⑦ Contact blocks (1 NO or 1 NC) for snapping onto holder or lamp socket

4.2 Module mounting on a printed circuit board

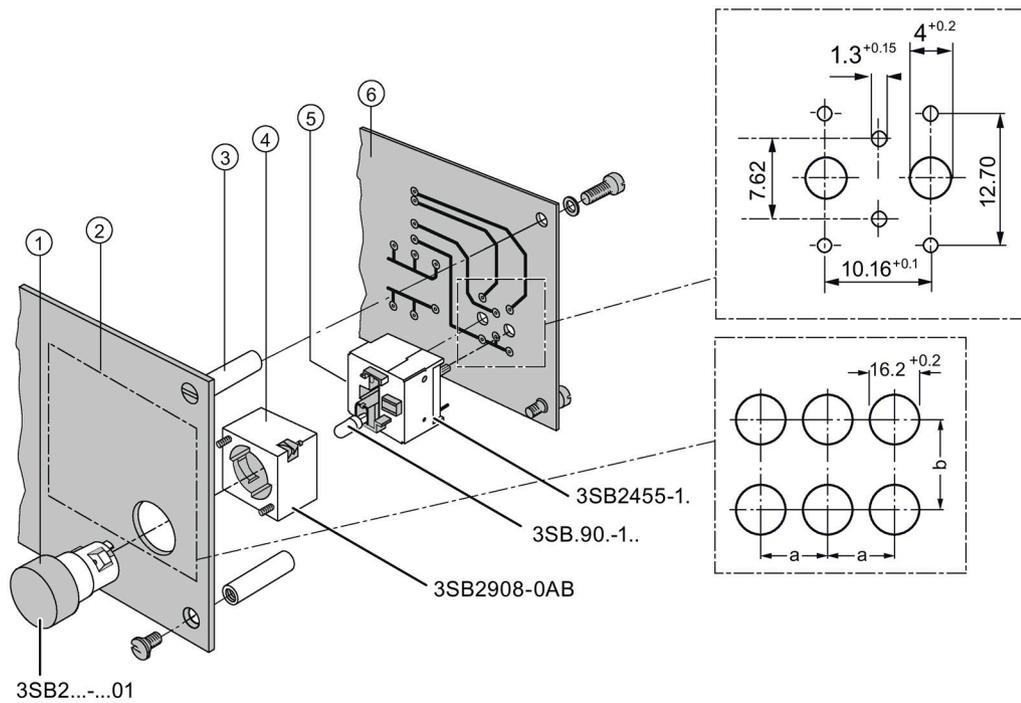
⚠ WARNING

Risk of serious injury.

No liability shall be accepted for any damage or injuries sustained as a result of improper use or incorrect dismantling of the equipment (i.e. opening of components other than those specifically designed to be opened by the user). Any improper handling of the equipment can result in very serious physical injury.

Note

For use on printed circuit boards, special contact blocks and lampholders for soldering into the printed circuit board are available. For this purpose, these contact blocks/lampholders are fitted with 0.8 mm x 0.8 mm solder pins of length 3.5 mm.



- ① Actuating element
- ② Front plate with minimum distances between actuators (see table below)
- ③ Spacing bolt
- ④ Holder
- ⑤ Lampholder or contact block
- ⑥ Printed circuit board

Minimum distances between actuators installed on front plate	a	b
Round version	19 mm	19 mm
Square version without labeling plate	21 mm	21 mm
Round and square version with labeling plate	21 mm	32 mm
For 2 selector switches with 3 switch positions, latching, side by side	21 mm	21 mm

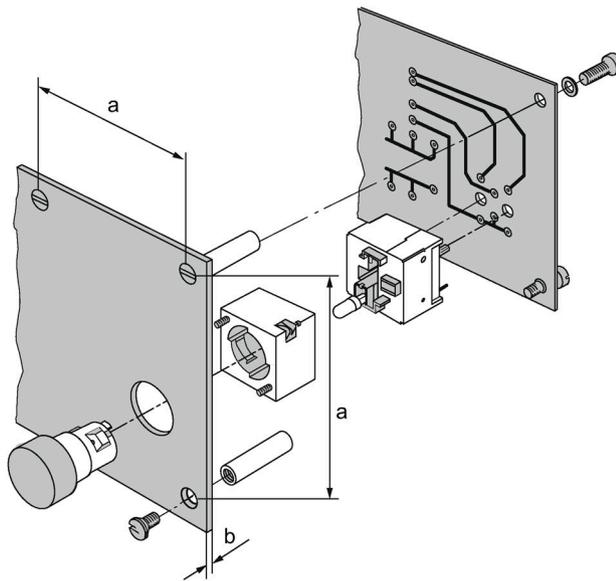
4.3 Module mounting on a printed circuit board

Distances between spacing bolts

NOTICE

Risk of material damage.

Make sure that the printed circuit board is supported by spacing bolts in such a way that it cannot sag or bend more than 0.1 mm when the command devices are actuated.



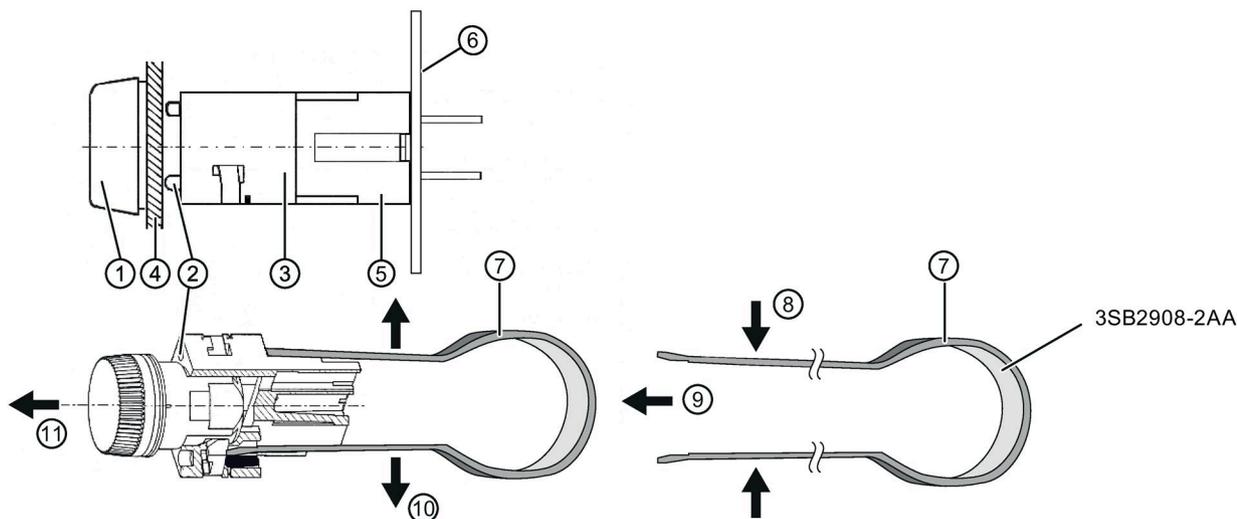
Printed circuit board thickness (b) (epoxy resin glass fiber mat)	Max. distance (a) between spacing bolts	Applies to
1.5 mm	80 mm	3SB2...
2.5 mm	150 mm	3SB2...
When using EMERGENCY STOP mushroom pushbuttons	50 mm	3SB2.0.-1AC01

Note

The EMERGENCY STOP 3SB2000-1AC... and 3SB2203-1AC... cannot be installed with labeling plate 3SB2900-0... or single frame 3SB2902-0...

4.4 Mounting the contact block on a front plate

Mounting the entire module



1. Insert the actuator ① from the front through the opening and latch it with the holder ③ (contact block holder).
2. Use the two clamping screws ② to securely fasten the holder ③ from the rear so that it cannot vibrate or twist. The maximum screw torque is 0.4 Nm. You can use front plates with a thickness of between 1 and 6 mm.
With a front plate thickness ④ of > 3 mm, unscrew the clamping screws ② before assembling the holder.
3. Insert the contact blocks ⑤ into the locating groove at the side and snap them into position. Any installation position is possible. One or two contact blocks can be mounted on the holder.
4. Place the printed circuit board onto the solder pins of the contact blocks and lampholder and solder it. After soldering, the devices must be flush with the board and perpendicular to it.

4.5 Dismantling the contact block

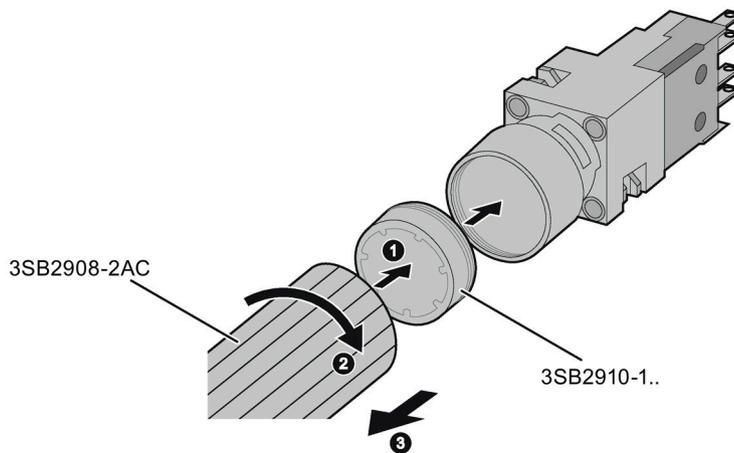
Dismantling the complete module

1. Unsolder the printed circuit board.
2. Release the snap-in hooks of the contact blocks.
3. Remove the clamping screws ② from the holder ③.
4. Press the two arms of the dismantling tool ⑦ (accessory 3SB2908-2AA) together ⑧ and insert it inside the leaf springs ⑨.
When the arms of the tool are released ⑩, the tool unlocks the latch so that the holder ③ can be removed ⑪.

Note

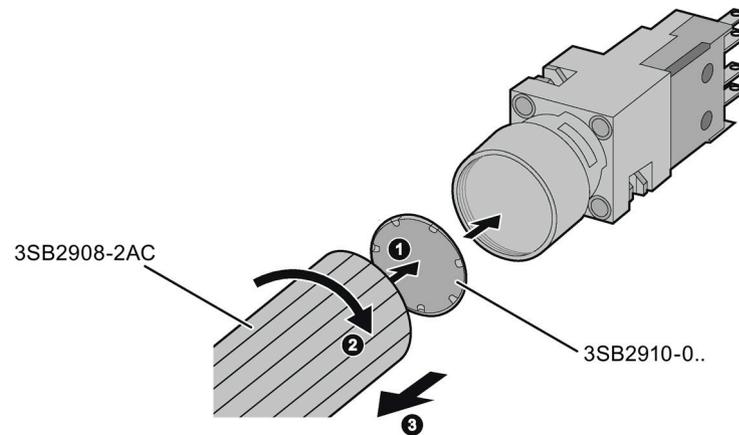
If a command point is fitted with an indicator light or illuminated pushbutton, a lamp socket with lampholder must be used instead of a holder. It is suitable for incandescent lamps or LEDs with bases of type W2 x 4.6d.

4.6 Mounting a screw lens



1. Place the screw lens 3SB2910-1.. on the holder.
2. Screw the lens into position using the assembly tool for buttons and lenses 3SB2908-2AC.
3. Dismantle by carrying out the above steps in reverse order.

4.7 Mounting a button



1. Place the button 3SB2910-0.. on the holder.
2. Screw the button into position using the assembly tool for buttons and lenses 3SB2908-2AC.
3. Dismantle by carrying out the above steps in reverse order.

4.8 Mounting with EMERGENCY STOP

EMERGENCY STOP mushroom pushbuttons

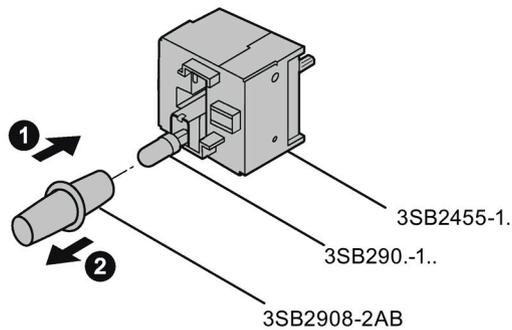
The 3SB2000-1AC01 and 3SB2203-1AC01 EMERGENCY-STOP mushroom pushbuttons **must not be** mounted with the 3SB2900-0... or the 3SB2902-0AA single frame.

4.9 Variants

Two device versions can be mounted:

- Round: The 3SB2 pushbuttons and indicator lights are assembled with the modules – actuator, holder, contact block and lampholder. Depending on the specific application, various versions can be assembled. Complete units are offered for the most commonly used applications.
- Square: With square, black frames (3SB2902-0AA) the round units can be given a square look. The frames are inserted underneath the round actuators. Further mounting is the same as for the round version.

4.10 Lamp replacement



1. Place the 3SB2908-2AB assembly tool over the lamp.
2. Use the tool to remove the lamp from its socket.

Connecting

5.1 Grounding

Note

Grounding is required for voltages higher than protective extra low voltage.

With voltages of > 50 V AC or 120 V DC, the device has to be grounded. Active parts must not be grounded or connected to higher voltage parts.

5.2 Conductor cross-sections

	3SB2
	2 x (0.5 ... 1.5) mm ²
	2 x (2.8 ... 0.8) mm

5.3 Connections

The contact blocks and lampholder are fitted with IEC 60760-compliant flat connectors which can also be used as solder connections.

All connectors are fitted with two tabs to allow loop-through.

5.4 Solder pin connection

The command point comprises the actuator (e.g. 3SB2 pushbutton, illuminated pushbutton or indicator light) which is mounted in the front plate, and a contact block and a lampholder which are soldered to the PCB.

Technical specifications

6.1 Technical data in Siemens Industry Online Support

Technical data sheet

You can also find the technical data of the product at Siemens Industry Online Support (<https://support.industry.siemens.com/cs/ww/en/ps/16444/td>).

1. Enter the full article number of the desired device in the "Product" field, and confirm with the Enter key.
2. Click the "Technical data" link.

The screenshot shows the Siemens Industry Online Support search interface. At the top, there is a search bar with the text "Enter keyword...". Below it, the "Product" field contains "3RV2011-4BA10" and the "Entry type" dropdown is set to "Technical data (1)". The search results show a product description: "3RV2011-4BA10 CIRCUIT BREAKER, SCREW TYPE, 20 A CIRCUIT BREAKER SIZE S2, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 14, 20A, N-RELEASE 20DA, SCREW TERMINAL, STANDARD BREAKING CAPACITY". The "Technical data" link is highlighted in red.

6.2 Overview tables

Overview tables technical data

You will find overview tables with technical data in the "Product information" tab in our online ordering system (<https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10143170?tree=CatalogTree#Technische Daten>).

6.3 Technical specifications

Type	3SB2	
Contact blocks and lampholders		
Standards	IEC 60947-5-1, EN 60947-5-1 IEC 60947-5-5, EN 60947-5-5	
Rated insulation voltage U_i	V	250
Conventional thermal current I_{th}	A	10
Rated operational currents I_e at rated operational voltage U_e		
Alternating current AC-12		
• At $U_e = 230$ V	A	10
Alternating current AC-15		
• At $U_e = 24$ V	A	4
• At $U_e = 60$ V	A	4
• At $U_e = 110$ V	A	4
• At $U_e = 230$ V	A	4
Direct current DC-12		
• At $U_e = 24$ V	A	6
• At $U_e = 60$ V	A	5
• At $U_e = 110$ V	A	2.5
• At $U_e = 230$ V	A	1
Direct current DC-13		
• At $U_e = 24$ V	A	3
• At $U_e = 60$ V	A	1.5
• At $U_e = 110$ V	A	0.7
• At $U_e = 230$ V	A	0.3
Contact stability		
• Test voltage	V	5
• Test current	mA	1
Lamps		
• Socket	Wedge base W2 x 4.6d	
Rated voltage	V	6, 12, 24, 30, 48, 60
Rated power, max.	W	1
Short-circuit protection weld-free according to IEC 60947-5-1		
• DIAZED fuse links, utilization category gL/gG	TDz 10 A, Dz 16 A	
• Miniature circuit breaker with C characteristic in accordance with IEC 60898 (VDE 0641)	A	10

Type	3SB2	
Mechanical endurance	10 x 10 ⁶ operating cycles	
Pushbutton	10 x 10 ⁶ operating cycles	
Actuators, rotary or latching	3 x 10 ⁵ operating cycles	
Illuminated pushbuttons	3 x 10 ⁶ operating cycles	
Degree of protection according to IEC 60529 (VDE 0470 Part 1)		
• Connection of contact blocks and lampholders behind the front plate	IP00	
• Contact chambers of the contact blocks behind the front plate	IP40	
Touch protection according to DIN EN 50274 and BGV A2 (VBG 4)	With voltages of > 50 V AC or 120 V DC, insulation sleeves must be fitted to the unassigned flat connectors.	
Connection		
Tab connection with flat connectors for push-on contacts according to IEC 60760	Flat connector 2 x 2.8/0.8 mm	
Data according to UL and CSA		
Rated voltage		
Contact blocks	V	AC 250
Indicator light (lamp with wedge base W2 x 4.6 d)	V	60, 1 W
Uninterrupted current	A	5
Switching capacity	B 300, R 300	
Climatic withstand capability	Climate-proof; suitable for marine applications	
Ambient temperature		
• During operation, non-illuminated devices and complete with LED	°C	-25 ... +70
• During operation, devices with incandescent lamp	°C	-25 ... +60
• During storage, transport	°C	-40 ... +80
Degree of protection according to IEC 60529 (VDE 0470 Part 1)		
Actuators and indicators	IP65	
Actuators and indicators with protective cap	IP67	
Protective measures		
• For mounting in metal front plates and enclosures	The actuators and lens assemblies must not be included in the protective measures.	
• For fitting into enclosures with total insulation	The protective measure "Total insulation" is retained.	
Shock resistance according to IEC 60068-2-27		
Shock amplitude	≤ 50g	
Shock duration	ms	11
Shock form	Half-sine	

Dimension drawings

7.1 Actuating elements

Note

All dimensions specified in mm.

Pushbutton or illuminated pushbutton

With flat button

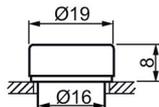


Figure 7-1 3SB20..-0A... / 3SB22..-0A...

Pushbutton or illuminated pushbutton

With raised button

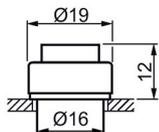


Figure 7-2 3SB20..-0L... / 3SB22..-0L...

Indicator light

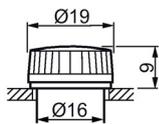


Figure 7-3 3SB2001-6..06

Selector switch

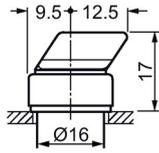


Figure 7-4 3SB2.0.-2..01

CES key-operated switch

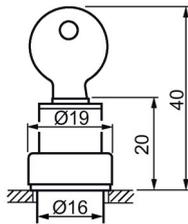


Figure 7-5 3SB2.0.-4..01

EMERGENCY STOP mushroom pushbutton

Acc. to ISO 13850

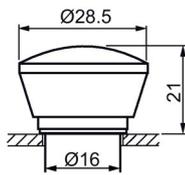
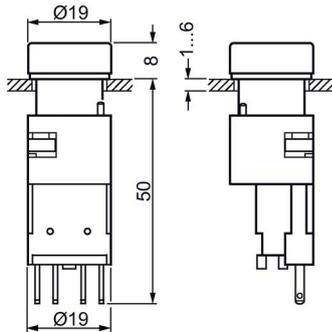


Figure 7-6 3SB2.0.-1AC01

7.2 Contact blocks with flat connector

Pushbutton and contact block

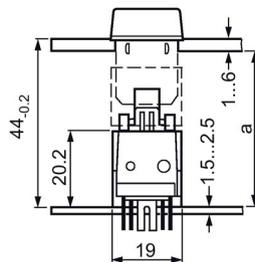
With holder for front plate mounting



7.3 Contact blocks with solder pins for mounting on printed circuit boards

Illuminated pushbutton switch

With contact block and lampholder with solder pins

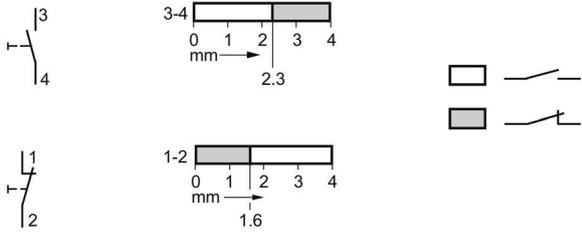


Length a of spacing bolts: $a = 44_{-0.2}$ minus thickness of front plate.

When backing plates are used, length a is reduced by 0.8 mm.

Circuit diagrams

8.1 Operating travel diagrams



Index

A

Application areas

- 3SB2 pushbuttons and indicator lights, 11
- Key-operated switches, 11

D

Dismantling

- Lamp, 22

Documentation

- Target group, 5

I

- Important notes, 9

L

- Lamp replacement, 22

M

Mounting

- Actuating element, 19
- Button, 21
- on printed circuit board, 16
- Screw lens, 20

O

Overview

- 3SB2 EMERGENCY STOP mushroom pushbuttons, 14
- 3SB2 illuminated pushbuttons, 12
- 3SB2 indicator lights, 13
- 3SB2 key-operated switches, 14
- 3SB2 pushbuttons, 12
- 3SB2 selector switches, 14

T

- Target group, 5

