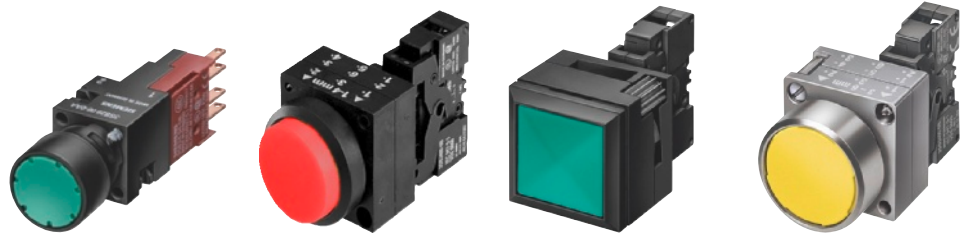


# Commanding and Signaling Devices

## Introduction

### Overview



	3SB2	3SB30, 3SB32	3SB31, 3SB33	3SB35, 3SB36
<b>Pushbuttons and indicator lights</b>				
<b>Designs</b>				
Nominal diameter	16 mm	22 mm	26 mm × 26 mm	22 mm
Version	Plastic, round	Plastic, round	Plastic, square	Metal, round
<b>Actuators</b>				
Pushbuttons and switches	✓ <sup>1)</sup>	✓	✓	✓
Illuminated pushbuttons and switches	✓ <sup>1)</sup>	✓	✓	✓
Mushroom pushbuttons	--	✓	--	✓
Push-pull buttons	--	✓	--	✓
EMERGENCY-STOP mushroom pushbuttons	✓	✓	✓	✓
Selector switches	✓	✓	✓	✓
Key-operated switches	✓	✓	✓	✓
<b>Special actuators</b>				
Coordinate switches	--	✓	--	--
Twin pushbuttons	--	✓	--	--
Potentiometer drives	--	✓	--	--
<b>Indicators</b>				
Indicator lights	✓	✓	✓	✓
Acoustic signaling devices	--	✓	--	--
<b>Contact blocks</b>				
Single-pole	✓	✓	✓	✓
Two-pole	✓	✓	✓	✓
<b>Lampholders</b>				
Wedge bases	✓	✓ (with solder connections)	✓ (with solder connections)	✓ (with solder connections)
BA 9s bases	--	✓	✓	✓
With integrated LED	--	✓	✓	✓
<b>Connections</b>				
Plug-in connection	✓	--	--	--
Screw terminals	--	✓	✓	✓
Spring-type terminals	--	✓	✓	✓
Solder pins	✓	✓	✓	✓
AS-Interface	--	✓	✓	✓

✓ Standard

-- Not available

□ Optional

<sup>1)</sup> Only pushbuttons, no pushbutton switches.

### AS-Interface solutions

Commanding and signaling devices of the SIRIUS 3SB3 series can be connected to the AS-Interface communication system quickly and easily with the help of various solutions.

For AS-Interface solutions [see catalog IK PI "SIMATIC NET Industrial Communication"](#).

#### AS-Interface EMERGENCY-STOP according to ISO 13850

Using a special F adapter, EMERGENCY-STOP control devices according to ISO 13850 can be directly connected through the standard AS-Interface with safety-related communication ([see page 13/69](#)).

#### AS-Interface enclosures

Enclosures with standard fittings are listed in this catalog. For customized enclosures, use the 3SB3/3SF5 configurator to select the elements for equipping ([see page 13/98](#)).

#### AS-Interface front panel modules

The front panel module has one 4I/4O slave for connection of four 3SB3 commanding or signaling devices ([see Catalog IK PI](#)).

#### Note:

Safety characteristics [see Chapter 16, "Appendix" → "Standards and Approvals" → "Overview"](#).

# 3SB3 Pushbuttons and Indicator Lights, 22 mm

## General data

### Design

The 3SB3 series is a modular range of commanding and signaling devices for front plate 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 pushbuttons and illuminated pushbuttons are concave. The lenses of the indicator lights are convex.

The metal version with a high degree of protection according to IP67 and NEMA 4 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 lampholder behind the control panel
- A comprehensive range of accessories for inscription

### Mounting of the contact blocks

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.

- 3SB3901-0AB holder for 3 contact blocks or for 2 contact blocks and 1 lampholder
- 3SB3901-0AC holder with pressure plates for actuating a central contact block when using a selector switch, key-operated switch and twin pushbutton with 3 contact blocks

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

### Contact blocks

The contact blocks are fitted with slow-action contacts (NO contact or NC contact) 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 electronic 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 pushbuttons

### 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 orange backgrounds.

### Support function

The 3SB3 pushbuttons and indicator lights can also be ordered via an online configurator.



Configurator available in the Industry Mall

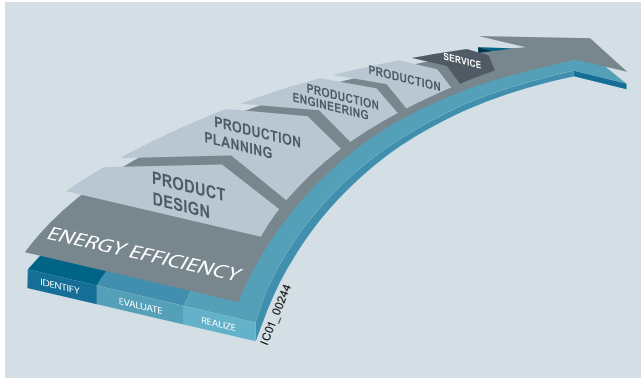
The online configurator is indicated in the corresponding tables by the symbol shown on an orange background.

# 3SB3 Pushbuttons and Indicator Lights, 22 mm

## General data

### Benefits

#### Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see [www.siemens.com/sirius/energysaving](http://www.siemens.com/sirius/energysaving)).

3SB3 pushbuttons and indicator lights contribute to energy efficiency throughout the plant as follows:

- Lower power consumption by means of LED technology
- Long service life

### Application

#### Environmental conditions

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 pushbuttons (see page 13/69)
- AS-Interface enclosures with 1 to 6 command points (see page 13/98)
- AS-Interface front panel modules for 4 command points (see Catalog IK PI, "SIMATIC NET Industrial Communication")


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

The pushbuttons and indicator lights in round design can also be used in hazardous areas. The 3SB34...-0. contact blocks and the 3SB34...-1A lampholders (with 3SB3901-1.A LED lamp) with screw terminals or spring-type terminals can be used.

#### Safety EMERGENCY-STOP pushbuttons according to ISO 13850

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

#### Safety circuits

The IEC 60947-5-1 and EN 60947-5-1 standards 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 ISO 13849-1 can be attained with the EMERGENCY-STOP mushroom pushbuttons if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK11 safety relays, the 3RK3 Modular Safety System (see Chapter 11, "Safety Technology") or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

# 3SB3 Pushbuttons and Indicator Lights, 22 mm

## General data

Type		3SB3400-0, 3SB3420-0	3SB3400-1, 3SB3420-1	3SB3403-0, 3SB3423-0	3SB3403-1, 3SB3423-1	3SB3411-0	3SB3411-1
<b>Data according to UL and CSA</b>							
<b>Rated operational voltage</b>	V AC	300	--	300	--	300	--
<b>Conventional thermal current (uninterrupted current)</b>	A	10	--	10	--	10	--
<b>Switching capacity</b>		A 300, R 300, A 600 same polarity					
<b>Rated voltage (lamps)</b>							
• Lamp with BA 9s base	V AC	--	125	--	125	--	--
• Lamp with wedge base	V AC	--	60	--	60	--	60
• Lampholders with integrated LED	V	--	24 AC/DC, 110 AC, 230 AC	--	24 AC/DC, 110 AC, 230 AC	--	--
<b>Rated power (lamps)</b>	W	--	2.5	--	2.5	--	1














Type		3SB30, 3SB32	3SB31, 3SB33	3SB35, 3SB36
<b>Actuators and indicators</b>				
<b>Enclosure material</b>		Plastic		Metal
<b>Design</b>		Round	Square	Round
<b>Terminal designation</b> acc. to EN 50013		Identification number on the holder, function digit on the contact block		
<b>Device identification</b>		Snap-on label		
<b>Tightening torques</b>				
• Screw on holder	Nm	Max. 1		
<b>Mechanical endurance</b>				
• Pushbuttons		10 x 10 <sup>6</sup> operating cycles		
• Illuminated pushbuttons		3 x 10 <sup>6</sup> operating cycles		
• Actuators, rotary or latching		3 x 10 <sup>5</sup> operating cycles		
• Key-operated switch with key monitoring		1 x 10 <sup>5</sup> operating cycles		
<b>Switching frequency</b>	1/h	1 000 operating cycles		
<b>Climatic withstand capability</b> acc. to EN ISO 6270-2		Climate-proof KTW24; suitable for marine applications		
<b>Ambient temperature</b>				
• During operation, non-illuminated and with LED	°C	-25 ... +70		
• During operation, devices with incandescent lamp	°C	-25 ... +60		
• During storage, transport	°C	-40 ... +80		
<b>Degree of protection</b> acc. to IEC 60529				
• Actuators and indicators, standard		IP66	IP65	IP67 and NEMA Type 4
- with protective caps		IP67	IP67	--
• Key-operated switch with key monitoring		IP54	--	--
• Twin pushbuttons (3SB31)		IP65	--	--
<b>Protective measures</b>		When mounted on metal front plates and enclosures, the actuators and lens assemblies are not to be included in the protective measures. When mounted in insulated enclosures, the "total insulation" protective measures are met.		Grounding with grounding screw is necessary for operation with protective extra-low voltage (PELV).
<b>Shock resistance</b> according to IEC 60068-2-27 For half-sine shock type, 11 ms shock duration				
• Devices without incandescent lamp		≤ 50 g		
• Devices with incandescent lamp		≤ 30 g		
<b>Vibration resistance</b> acc. to IEC 60068-2-6				
• Acceleration at frequency 20 ... 200 Hz		5 g		

Type		3SB38 0.-0, 3SB380.-1	--	3SB380.-2, 3SB380.-3
<b>Enclosures</b>				
<b>Enclosure material</b>		Plastic		Metal
<b>Actuators and indicators</b>		Plastic, round		Metal, round
<b>Degree of protection</b> acc. to IEC 60529		IP65		IP67 and NEMA Type 4
<b>Resistance to extreme climates</b> acc. to DIN 50017		KTW 24		KTW 24

# 3SB3 Pushbuttons and Indicator Lights, 22 mm

## Actuators and Indicators, Metal, Round, 22 mm

### Actuators and indicators

Version		Color of handle	DT	Configurator		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
<b>Mushroom pushbuttons with holder<sup>1)</sup></b>								
	<b>Mushroom pushbuttons, Ø 30 mm</b>	Black	B	3SB3500-1DA11		1	1 unit	41J
		Red	B	3SB3500-1DA21		1	1 unit	41J
		Yellow	B	3SB3500-1DA31		1	1 unit	41J
		Green	B	3SB3500-1DA41		1	1 unit	41J
	<b>Mushroom pushbuttons, Ø 40 mm</b>	Black	B	3SB3500-1GA11		1	1 unit	41J
		Red	B	3SB3500-1GA21		1	1 unit	41J
		Yellow	B	3SB3500-1GA31		1	1 unit	41J
		Green	B	3SB3500-1GA41		1	1 unit	41J
	<b>Mushroom pushbuttons, Ø 60 mm</b>	Black	B	3SB3500-1QA11		1	1 unit	41J
		Red	B	3SB3500-1QA21		1	1 unit	41J
		Yellow	B	3SB3500-1QA31		1	1 unit	41J
		Green	B	3SB3500-1QA41		1	1 unit	41J
	<b>Illuminated mushroom pushbuttons, Ø 30 mm</b> (incl. holder for 3 elements)	Amber	B	3SB3501-1DA01		1	1 unit	41J
		Yellow	B	3SB3501-1DA31		1	1 unit	41J
		Green	B	3SB3501-1DA41		1	1 unit	41J
		White	B	3SB3501-1DA61		1	1 unit	41J
	<b>Illuminated mushroom pushbuttons, Ø 40 mm</b> (incl. holder for 3 elements)	Amber	B	3SB3501-1GA01		1	1 unit	41J
		Yellow	B	3SB3501-1GA31		1	1 unit	41J
		Green	B	3SB3501-1GA41		1	1 unit	41J
		White	B	3SB3501-1GA61		1	1 unit	41J
	<b>Illuminated mushroom pushbuttons, Ø 60 mm</b> (incl. holder for 3 elements)	Amber	B	3SB3501-1QA01		1	1 unit	41J
		Yellow	B	3SB3501-1QA31		1	1 unit	41J
		Green	B	3SB3501-1QA41		1	1 unit	41J
		White	B	3SB3501-1QA61		1	1 unit	41J
	<b>Push-pull buttons, Ø 30 mm, latching, pull to unlatch</b>	Black	B	3SB3500-1EA11		1	1 unit	41J
		Red	B	3SB3500-1EA21		1	1 unit	41J
	<b>Push-pull buttons, Ø 40 mm, latching, pull to unlatch</b>	Black	B	3SB3500-1CA11		1	1 unit	41J
		Red	B	3SB3500-1CA21		1	1 unit	41J
		Yellow	B	3SB3500-1CA31		1	1 unit	41J
		Green	C	3SB3500-1CA41		1	1 unit	41J
	<b>Push-pull buttons, Ø 60 mm, latching, pull to unlatch</b>	Black	B	3SB3500-1RA11		1	1 unit	41J
		Red	B	3SB3500-1RA21		1	1 unit	41J
	<b>Push-pull buttons, Ø 30 mm, latching, pull to unlatch, can be illuminated, (incl. holder for 3 elements)</b>	Amber	B	3SB3501-1EA01		1	1 unit	41J
		Red	B	3SB3501-1EA21		1	1 unit	41J
		Yellow	B	3SB3501-1EA31		1	1 unit	41J
		Green	B	3SB3501-1EA41		1	1 unit	41J
		Blue	B	3SB3501-1EA51		1	1 unit	41J
		Clear	B	3SB3501-1EA71		1	1 unit	41J
	<b>Push-pull buttons, Ø 40 mm, latching, pull to unlatch, can be illuminated, (incl. holder for 3 elements)</b>	Amber	C	3SB3501-1CA01		1	1 unit	41J
		Red	B	3SB3501-1CA21		1	1 unit	41J
		Yellow	B	3SB3501-1CA31		1	1 unit	41J
		Green	B	3SB3501-1CA41		1	1 unit	41J
		Blue	B	3SB3501-1CA51		1	1 unit	41J
		Clear	B	3SB3501-1CA71		1	1 unit	41J
	<b>Push-pull buttons, Ø 60 mm, latching, pull to unlatch, can be illuminated, (incl. holder for 3 elements)</b>	Amber	C	3SB3501-1RA01		1	1 unit	41J
		Red	B	3SB3501-1RA21		1	1 unit	41J
		Yellow	B	3SB3501-1RA31		1	1 unit	41J
		Green	C	3SB3501-1RA41		1	1 unit	41J
		Blue	C	3SB3501-1RA51		1	1 unit	41J
		Clear	D	3SB3501-1RA71		1	1 unit	41J

For online configurator see [www.siemens.com/sirius/configurators](http://www.siemens.com/sirius/configurators)

<sup>1)</sup> Also available without holder. Supplement Article No. with "-Z" and quote order code "B01". Price reduction on request.