

Position and safety switches

Introduction

Overview



3SE523., 3SE521., 3SF12.4 3SE524., 3SF1244 3SE513., 3SE511., 3SF1114 3SE512., 3SF1124 3SE516. 3SE5413, 3SE5423 3SE5250

	Position switches					Compact design	Open-type
	Standard						
Enclosure							
Plastic	✓			--		--	✓
Metal	✓	--	✓			✓	--
Dimensions (W x H x D) in mm	31 x 68 x 33	50 x 53 x 33	40 x 78 x 38	56 x 78 x 38	56 x 100 x 38	30 x 50 x 16 40 x 50 x 16	30 x 48.5 x 20
Degree of protection	IP65, IP66/IP67	IP66/IP67				IP66/IP67	IP10 or IP20
Standards							
IEC 60947-5-1	Mounting and operating points according to EN 50047	Operating points according to EN 50047	Mounting and operating points according to EN 50041	Operating points according to EN 50041	Operating points according to EN 50041	--	Mounting and operating points according to EN 50047
Approvals	CE, TÜV, UL, CSA, CCC					CE, UL, CSA, CCC	CE, TÜV, UL, CSA, CCC
Contact blocks							
2 slow-action contacts	1 NO + 1 NC; 2 NC				2 x (1 NO + 1 NC)	--	1 NO + 1 NC
2 snap-action contacts	1 NO + 1 NC				2 x (1 NO + 1 NC)	1 NO + 1 NC	1 NO + 1 NC
• Short stroke	1 NO + 1 NC		✓		--	--	✓
• Contact distance 2 x 2 mm	1 NO + 1 NC		✓		--	--	✓
3 slow-action contacts	1 NO + 2 NC; 2 NO + 1 NC				--	--	1 NO + 2 NC; 2 NO + 1 NC
• With make-before-break	1 NO + 2 NC				2 x (1 NO + 2 NC)	--	1 NO + 2 NC
3 snap-action contacts	1 NO + 2 NC				--	--	1 NO + 2 NC
Special features							
LED status display	✓				--	--	--
Increased corrosion protection	✓				--	--	--
ASIsafe integrated	✓				--	--	--
Electrical specifications							
Insulation voltage U_i	400 V					400 V	400 V
Conventional thermal current I_{th}	6 A/10 A (3-/2-pole)					10 A	6 A
Connections							
Cable entry	1 x (M20 x 1.5)	2 x (M20 x 1.5)	1 x (M20 x 1.5)	3 x (M20 x 1.5)		--	--
M12 plug, 4-, 5- or 8-pole	✓					✓	--
Plug, 6-pole + PE	--		✓		--	--	--
Molded cables	--					✓	--
Actuators							
Rounded plungers and roller plungers	✓					--	--
Roller levers and angular roller levers	✓					--	--
Spring rod	✓				--	--	--
Twist levers and rod levers	✓					--	--
Fork lever	✓				--	--	--
Hinge switches	--					--	--
Plungers, twist levers	--				✓	✓	✓
Page							
Complete units	12/15, 12/31	12/27	12/22, 12/36	12/42	12/46	12/50	12/51
Modular system	12/19, 12/33	12/28	12/24, 12/39	12/44	12/47	--	--
Ambient temperature -40 °C	12/80, 12/85	12/85	12/85	12/88	12/89	--	--
ASIsafe	12/104, 12/106	12/104	12/108	12/108	--	--	--

✓ Available

-- Not available

3SE5232,
3SE5212,
3SF12.43SE5132,
3SE5112,
3SF11.43SE5232,
3SE5242,
3SF12.43SE2243,
3SE22573SE5112,
3SE5122,
3SF11.43SE5322,
3SE5312,
3SF13.4

	Safety hinge switches		Safety switches with separate actuator			Safety switches with tumbler
Enclosure						
Plastic	✓		✓		✓	✓
Metal	✓		✓	--	✓	✓
Dimensions (W x H x D) in mm	31 x 68 x 33	40 x 78 x 38	31 x 68 x 33, 50 x 53 x 33	52 x 90 x 30	40 x 78 x 38, 56 x 78 x 38	54 x 185 x 44
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP65, IP66/IP67		IP66/IP67	IP66/IP67, IP69
Standards						
IEC 60947-5-1	Mounting and operating points according to EN 50047	Mounting and operating points according to EN 50041	Mounting and operating points according to EN 50047	--	Mounting according to EN 50041	ISO 14119, IEC 62061/IEC 61508, ISO 13849-1
Approvals	CE, TÜV, UL, CSA, CCC		CE, TÜV, UL, CSA, CCC			CE, TÜV, UL, CSA, CCC
Contact blocks/outputs						
1 slow-action contact	--		--	1 NC	--	--
2 slow-action contacts	--		1 NO + 1 NC; 1 NO + 2 NC	1 NO + 2 NC	1 NO + 1 NC; 1 NO + 2 NC	--
2 snap-action contacts	1 NO + 1 NC		--			--
• Short stroke	--		--			--
• Contact distance 2 x 2 mm	--		--			--
3 slow-action contacts	--		1 NO + 2 NC	--	1 NO + 2 NC	2 x (1 NO + 2 NC)
• With make-before-break	--		--			--
3 snap-action contacts	1 NO + 2 NC		--			--
Electronic safety outputs	--		--			--
Special features						
LED status display	✓		✓	--	✓	✓
Increased corrosion protection	✓		✓	--	✓	✓
ASIsafe integrated	✓		✓	--	✓	✓
Electrical specifications						
Insulation voltage U_i	400 V		400 V	500 V	400 V	400 V
Conventional thermal current I_{th}	6 A/10 A (3-/2-pole)		6 A	10 A	6 A	6 A
Connections						
Cable entry	1 x (M20 x 1.5)		1 x (M20 x 1.5), 2 x (M20 x 1.5)	3 x (M20 x 1.5), 3 x (M16 x 1.5)	1 x (M20 x 1.5), 3 x (M20 x 1.5)	3 x (M20 x 1.5)
M12 plug, 4-, 5- or 8-pole	✓		✓	--	✓	✓
Molded cables	--		--	--	--	--
AS-Interface	--		✓	--	✓	✓
Actuators						
Plungers, twist levers	--		--			--
Separate actuators	--		✓			✓
Hinge switches	✓		--			--
Page						
Complete units	12/76	12/76, 12/78	12/59, 12/61	12/65	12/60, 12/62	12/70 ... 12/72
Modular system	--	--	--	--	--	--
Ambient temperature -40 °C	12/82	--	12/91	--	--	12/92
ASIsafe	12/119	12/120	12/112	--	12/113	12/117, 12/118

✓ Available

-- Not available

Note:

Safety characteristics, see page 16/9.

Position and safety switches

Introduction



	3SE66, 3SE67	3SE66, 3SE67	3SE63	3SE64
	Non-contact safety switches Magnetically operated switches		RFID safety switches ¹⁾	
		Supplementary range ¹⁾	Standard	with tumbler
Enclosure				
Plastic	✓		✓	
Metal	--		--	
Dimensions (W x H x D) in mm	M30; 25 x 88; 25 x 33	25 x 88; 26 x 36	25 x 91 x 22	87 x 120 x 34
Degree of protection	IP67		IP69	
Standards	IEC 60947-5-3		ISO 14119, IEC 60947-5-3, SIL 3 according to IEC 62061/IEC 61508, PL e according to ISO 13849-1	
Approvals	CE, TÜV, UL, CSA, CCC		CE, TÜV, UL, CSA	
Contact blocks/outputs				
Reed contacts	1 NO + 1 NC 2 NC 1 NO + 1 NC (+ 1 NC signaling contact)	1 NO + 1 NC (+ 1 NC signaling contact) 2 NC 2 NC (+ 1 NC signaling contact)	--	--
Special features				
LED status display	--	✓	✓	
Increased corrosion protection	--		✓	
ASIsafe integrated	--		--	
Electrical specifications				
Insulation voltage U_i	100 V AC/DC 24 V DC	75 V DC 50 V AC	--	
Conventional thermal current I_{th}	250 mA 400 mA	250 mA	--	
Connections				
M8 plug, 4-pole	✓		--	
∅ 8 mm, latching connection, plug, 6-pole	--	✓	--	
M12 plug, 4-pole	✓	--	--	
M12 plug, 8-pole	--		✓	
Molded cables	✓		--	
AS-Interface	--		--	
Actuators				
RFID	--		✓	
Switching solenoid	✓		--	
Page	12/121		12/128	12/132

✓ Available

-- Not available

1) CCC approval not required for voltages < 36 V.

Note:

Safety characteristics, see page 16/9.

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SE
 Configurator, see www.siemens.com/sirius/configurators
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5
 Conversion tool, see www.siemens.com/conversion-tool

Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>
 Brochure, see <https://support.industry.siemens.com/cs/ww/en/view/109811407>

Our SIRIUS 3SE5 position switches are modern, compact and modular in design and simple to connect. They save time and increase flexibility during installation of a whole range of switch versions. In principle it is possible to combine any enclosure with any actuator, paying due consideration to the EN 50041 and EN 50047 standards where necessary.

Complete units

Popular versions of the position switches in standard enclosures are available as complete units.



3SE5 position switches with plastic and metal enclosures

Modular system

The 3SE5 series is the modular system comprising different sizes of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch the user can select the right solution for his application from numerous versions and install it himself in a very short time.

Simple plug-in mounting enables fast replacement of the actuator heads.



Examples of selection options in the modular system

Service box for SIRIUS 3SE5 position switches



Service box with basic switches, actuator heads and accessories

For the most common applications for quick replacement as part of maintenance or for many first applications, a service box 3SX5110-0BK can be ordered for the SIRIUS 3SE5 position switches in the modular system.

This contains a selection of basic switches, actuator heads and accessories for various possible combinations.

213 tested combinations of 22 individual products are possible. The standard interface enables simple replacement of the actuator heads by plug-in mounting. The actuator heads can be rotated in increments of $16 \times 22.5^\circ$.

For more information, see [page 12/52](#).

Position and safety switches

SIRIUS 3SE5 mechanical position switches

General data

Design

All enclosure versions have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.

Enclosure sizes

The 3SE5 switches are available in five different enclosure sizes with 2 or 3 contacts and with the XL enclosure:

- Open-type position switch IP20 or IP10
- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries
- XL metal enclosures with 4 to 6 contacts, 56 mm wide, IP66/IP67, 3 cable entries

Enclosure versions

Various basic switches can be selected for the enclosures of the 3SE5 series:

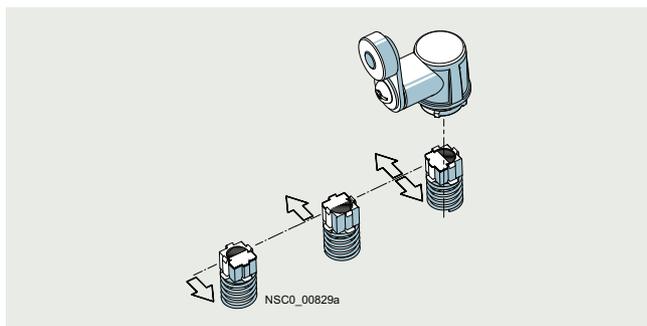
- With contact blocks with two or three contacts (screw terminals) designed as slow-action or snap-action contacts; the slow-action contacts also with make-before-break
- Optional LED status display
- With assembled M12 device plug, 4- or 5-pole (available as an accessory for customer assembly for the wide enclosure)
- With 6-pole device plug + PE on the metal enclosures
- Versions with increased corrosion protection
- Versions for operating temperatures down to -40 °C
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/101 onwards)

Actuator versions

All actuators can be rotated around the axis in increments of 16 x 22.5°. The following actuator versions are available:

- Plain, rounded and roller plungers
- Roller levers and angular roller levers
- Spring rod
- Twist levers and rod levers with twist actuator
- Fork levers with twist actuator

The actuator rollers are available with various materials and diameters.



Twist actuator for twist levers and rod levers, with setting of switching direction to right, left or right/left (standard for all twist actuators except fork levers)

Cover design

The mechanical position switches have a turquoise cover and the mechanical safety switches have a yellow cover.



Cover colors: position switch turquoise, safety switch yellow

On request the switches can be delivered ex works with a yellow cover. The cover has no effect on the mode of operation. Both versions can be used in safety applications (see also page 12/17).

Diverse contact types

Exchangeable 2-pole and 3-pole contact blocks for all enclosure sizes.



Contact block for position switches, 3 contacts

The 3-pole contact block with snap-action or slow-action contacts is regularly available for all enclosure forms. The same installation space is required as for a 2-pole block. The version with 1 NO + 2 NC offers, for example, more safety through redundant shutdowns (2 NC contacts) with simultaneous signaling (NO contact). The 3-pole blocks are also available with make-before-break and with 2 NO + 1 NC.

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents.

Positive opening ☺

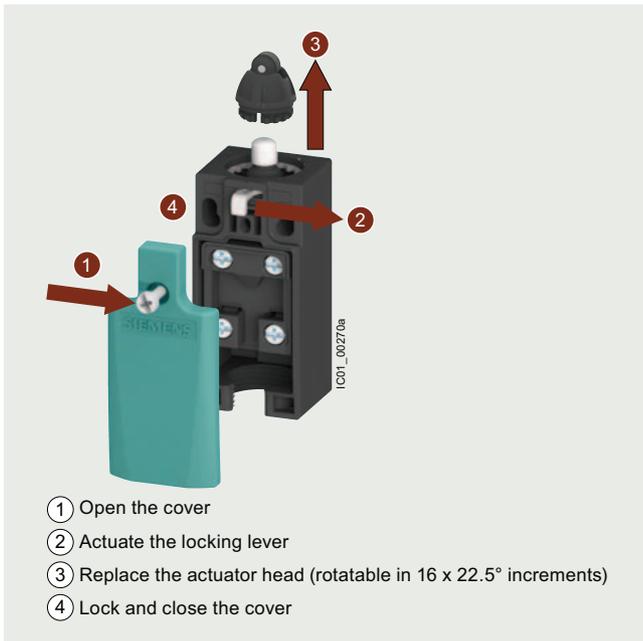
The NC contacts of the switch are forced open mechanically, positively driven and reliably by the plunger. This is referred to as "positive opening".

Optional LED displays

LED displays are available for all enclosure sizes except for XL. The enclosures are supplied with an LED signaling indicator (1 x green + 1 x yellow). This is the first time that optical signaling equipment is also available for small standard enclosures according to EN 50047. The LEDs are implemented in 24 V DC and 230 V AC.

Mounting

Easy plug-in method for fast replacement of the actuator heads



Replacement of the position switch actuator head in only four steps



Video: What makes the SIRIUS position switches so flexible?

Quick-connect technology

For plastic enclosures with a width of 31 mm



Quick-connect technology for plastic enclosures

These position switches can be wired quickly and easily as an added customer benefit. The connecting cable is first connected to the terminals of the contact block and then guided through a slit into the cable gland opening. The time saved through this new connection method is approx. 20 to 25%.

A cable gland with seal must be used with the quick-connect method.



Video: How easy is it to install the 3SE5232 position switch?

Article number scheme

Product versions		Article number									
SIRIUS position and safety switches		3SE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Series		5									
Standard	EN 50041 EN 50047 With tumbler	1 2 3									
Enclosure material and width	e.g. 1 = metal, narrow		<input type="checkbox"/>								
Connection	Cable entry Device plug			2 4/5							
LEDs	None 24 V DC 115 V AC 230 V AC							0 1 2 3			
Version of contacts	e.g. C = snap-action 1 NO + 1 NC								<input type="checkbox"/>		
Actuator version	e.g. C02 = rounded plunger								<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example		3SE	5	1	1	2	-	0	C	C	0 2

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

General data

Benefits

The 3SE5 position switches differ from the previous series through the following new characteristics:

- The modular design of the product range allows a number of versions with a smaller number of bearing types for enclosures and actuators.
- All actuators can be rotated around the axis in increments of 22.5° (see [Mounting, page 12/7](#)).
- Rounded and roller plungers according to EN 50041 with 3 mm overtravel (total travel 9 mm) for greater tolerance when switching.
- All enclosure sizes – now also including the small enclosure 31 mm wide – are optionally available with an LED signaling indicator (see [page 12/6](#)).
- All enclosure versions have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.
- All contact blocks are replaceable (see [page 12/54](#)).
- The 3-pole contact blocks are available for all enclosure sizes (see [Diverse contact types, page 12/6](#)).
- Contact blocks with 1 NO + 2 NC slow-action contacts with make-before-break and 2 NO + 1 NC
- The short-stroke contact block 1 NO + 1 NC improves the precision of the switching operation through a reduced actuation path.
- The contact block with 1 NO + 1 NC snap-action contacts with a contact distance of 2 x 2 mm is suitable for simultaneous shutdown and signaling, particularly in the elevator industry.
- XL metal enclosures for accommodating two 2- or 3-pole contact blocks
- Versions with plugs for safe and fast connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN or SIMATIC ET 200AL
- The plastic enclosure with width 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see [Quick-connect technology, page 12/7](#)).
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see [page 12/101 onwards](#)); an additional adapter is not required.

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of versions, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator versions are available to match the mechanical configuration of the moving machine parts. Dimensions, mounting points and characteristics are largely according to the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-5-1 (electromechanical control circuit devices).

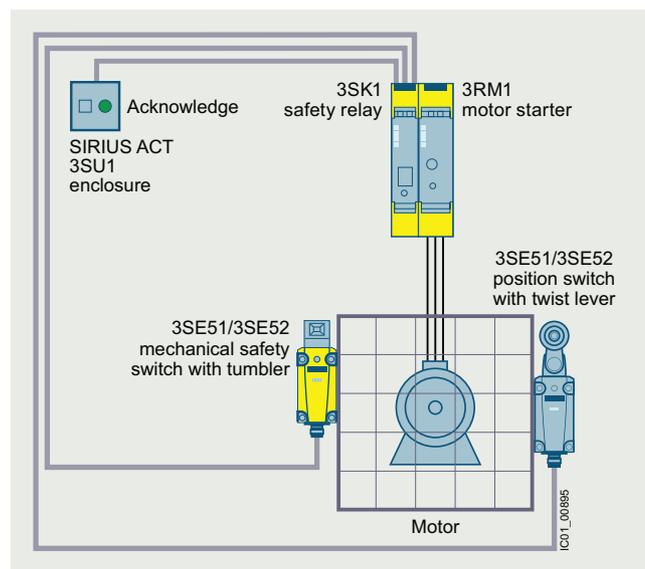
The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. They comply with ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, positively driven techniques must be employed on installation.

Application examples

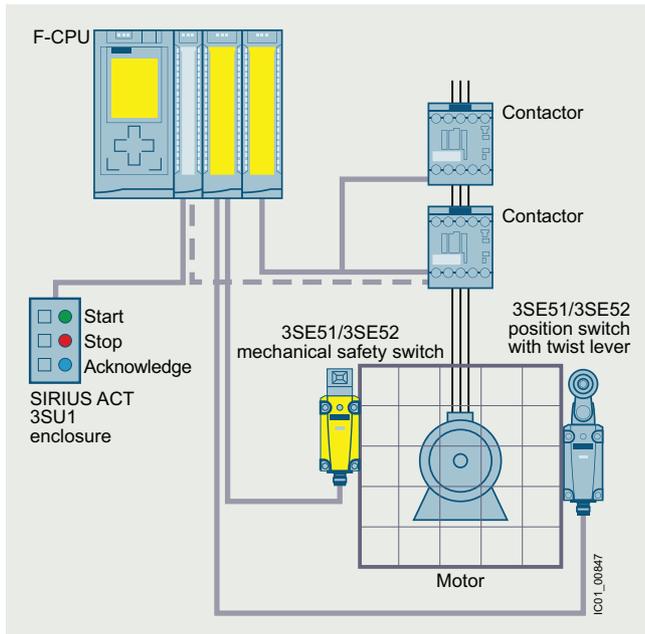
Example 1



Protective door monitoring up to SIL 3/PL e using two 3SE5 position switches with a 3RM1 fail-safe motor starter and a 3SK1 safety relay

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/88822953>.

Example 2



Protective door monitoring up to SIL 3/PL e with two 3SE5 position switches using a SIMATIC S7-1500 fail-safe controller

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/21331363>.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol \ominus .

SIL 1 according to IEC 62061/IEC 61508 or PL c according to ISO 13849-1 can be attained with the 3SE5 position switches with \ominus if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second position switch with \ominus is used, SIL 3/PL e can be attained.

In addition to positive opening, the actuators must also have a positively driven connection to the enclosure. The corresponding actuators are marked in the catalog with \ominus .

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Contacts for every application

- **Snap-action contacts:** NC and NO contacts switch simultaneously – regardless of the actuating speed ($v_{\min} = 0.01$ m/s) and contact erosion.
- **Slow-action contacts:** Difference in travel between "NC contact opens" and "NO contact closes"; the switching speed is the same as or proportional to the actuating speed ($v_{\min} = 0.4$ m/s).
- **Slow-action contacts with make-before-break:** e.g. suitable for adding a second function to a sequence control.

Actuators for every application

Plain, rounded and roller plungers

- Operation in direction of the plunger axis or in case of roller plunger with bar at right angles to the plunger axis.
- The roller plunger is recommended for lateral actuation and relatively long overtravel.

Roller levers and angular roller levers

- For actuators made of finely ground steel in the form of cams, bars (approach angle 30°) or cam disks.

Spring rod

- Can be used for undefined actuations and changing approach conditions
- Approach from any direction is possible

Twist levers and rod levers

- For high approach velocities ($v = 1.5$ m/s)
- Variety of approach options
- Insensitive to oil, grinding dust, dirt and coarse-grained material
- Adjustment of the lever in increments of 10°
- Can be adjusted with left or right switching

Fork lever

- Switchable in two directions
- Latching actuator
- For reciprocating movements

Position and safety switches

SIRIUS 3SE5 mechanical position switches

General data

Safety functions

Machine safety/interlockings

Movable guards must be equipped with an interlocking or an interlocking with tumbler (guard locking device). These are two different functions in machine safety:

- The interlocking is a safety switch that shuts down the machine as soon as the protective cover to which it is attached is opened, making it a safety function.
- The tumbler (guard locking device) does not have to be a safety function. It holds the protective hood closed until the dangerous movement has come to a standstill. It can be mounted in addition to the interlocking.

Tumbler (guard locking device) types

- Tumbler (guard locking device) for process protection
Process guard locking device, often implemented with a high locking force of the switch, protects automatic operation of the machine. In the event of a power failure, the process guard locking device opens.
- Tumbler (guard locking device) for personal protection
A safety guard locking device can only be opened when the machine has come to a complete stop. In the event of a power failure, the safety guard locking device remains closed.

Monitoring with safe evaluation units from the 3SK series

Safe evaluation units	Maximum achievable safety level according to type of switch								
	Compact	Standard	Hinge	Separate actuator	Tumbler				
 <p>3SK1 3SK1 3SK2</p>	 <p>3SE54</p>	 <p>3SE51/3SE52</p>	 <p>3SE51/3SE52</p>	 <p>3SE51/3SE52</p>	 <p>3SE53</p>				
Use of only one position/safety switch Monitoring with 1 contact: 1 x NC contact	SIL 1/PL c								
Monitoring with 2 contacts: 2 x NC contact or 1 x NC contact + 1 x NO contact	SIL 1/PL c		SIL 2/PL d						
Use of a second position/safety switch	SIL 3/PL e								
Standard switch						3SE51/3SE52/3SE54			
Safety switch/hinge switch						3SE51/3SE52			
Safety switch with separate actuator						3SE51/3SE52			
Safety switch with tumbler	3SE53								

Notes:

Taking account of certain fault exclusions (e.g. actuator breakage), use of just one hinge switch or a switch with separate actuator with or without tumbler up to SIL 2/PL d is possible as described in the table.

Since the machine manufacturer must provide proof of fault exclusion, the component manufacturer is unable to carry out a definitive assessment of the measures taken. For more information, see <https://support.industry.siemens.com/cs/ww/en/view/35443942>.

The maximum achievable SIL or PL level always depends on other assumptions as well. Factors to be taken into account include the DC (declaration), the CCF, and the number of actuations.

More information

- Safety technology or safe evaluation units of the 3SK series, see page 11/1 onwards.
- Selection aid with 3SE6 non-contact safety switches and 3SE5 mechanical safety switches without and with tumbler, see page 11/6.

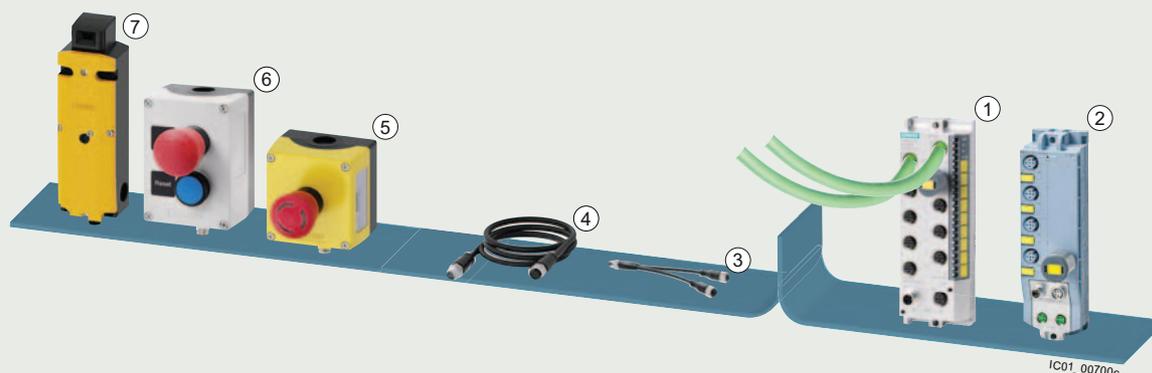
Safety cabling in the field with IP67

More information

Fail-safe I/O device for

- SIMATIC ET 200eco PN, see <https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10370455?tree=CatalogTree>
- SIMATIC ET 200AL, see <https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10414335?tree=CatalogTree>

Configurator, see www.siemens.com/SIMATIC-ET200-safety-sensor-configurator



- | | | |
|--|---|--|
| ① SIMATIC ET 200eco PN field module, fail-safe, 6ES7146-6FF00-0BA0 | ④ Connecting cable, 8-pole, 3SX5601-3SV18 | ⑥ SIRIUS ACT enclosure, EMERGENCY STOP and pushbutton, with M12 plug, 8-pole, 3SU1802-0NE00-4SB1 |
| ② SIMATIC ET 200AL field module, fail-safe, 6ES7146-5FF00-0BA0 | ⑤ SIRIUS ACT enclosure, EMERGENCY STOP illuminated, with M12 plug, 8-pole, 3SU1801-0NV00-4SA2 | ⑦ Safety switch with tumbler, with M12 plug, 8-pole, 3SE5324 |
| ③ Y-cable, 8-pole to 2 x 5-pole, 6ES7194-6KC00-0XA0 | | |

Excerpt from the Safety field system composed of SIRIUS sensors and SIMATIC ET 200 with the M12 connection method

The new system comprising SIRIUS sensors and fail-safe SIMATIC ET 200 provides a safe M12 connection method for industry.

The SIRIUS sensors can be connected in the field via the fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL.

The signals are forwarded to the superimposed control via PROFINET/PROFIsafe either by means of a direct connection of the SIMATIC ET 200eco PN or, in the case of SIMATIC ET 200AL, via an interface module.

For more information and examples, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

General data

Technical specifications

Type	3SE51.. ¹⁾ , 3SE52.. ¹⁾		3SE541., 3SE542.	
General data				
Standards	IEC 60947-5-1, ISO 14119			
Rated insulation voltage U_i	V	400 ²⁾	400	
Degree of pollution according to IEC 60664-1	Class 3			
Rated impulse withstand voltage U_{imp}	kV	6	4	
Rated operational voltage U_e	V	400 AC; over 300 V AC same potential only ³⁾		300 AC
Conventional thermal current I_{th}	A	10		
Rated operational current I_e				
• With alternating current 50/60 Hz	$I_e/AC-15$			
- At 24 V	A	6		
- At 120 V	A	6		
- At 240 V	A	6	3	
- At 400 V	A	4		--
• With direct current	$I_e/DC-13$			
- At 24 V	A	3		
- At 125 V	A	0.55		
- At 250 V	A	0.27		
- At 400 V	A	0.12		--
Short-circuit protection⁴⁾				
• With DIAZED fuse links, operational class gG	A	6		10
• With miniature circuit breaker, C characteristic ($I_{K<400A}$)	A	1		3
Mechanical endurance				
• Basic switch		15 x 10 ⁶ operating cycles		10 x 10 ⁶ operating cycles
• With spring rod, 3SE5...-R..		10 x 10 ⁶ operating cycles		--
• With fork lever, 3SE51...-T..		1 x 10 ⁶ operating cycles		--
Electrical endurance				
• For utilization category AC-15 when switching off $I_e/AC-15$ at 240 V		100 000 operating cycles		
• For utilization category DC-12/DC-13		With direct current depending on the loading of the switch		
Switching accuracy				
• For repeated switching, measured at the plunger of the contact block	mm	0.05		
• With twist actuators		1°		
Rated data according to \mathcal{E}, \mathcal{Q} and \mathcal{N}				
• Rated voltage	V	300		
• Uninterrupted current	A	6		10
• Switching capacity		Heavy duty, A 300/B 300/Q 300		A 300/Q 300

¹⁾ For special versions, see technical product data sheet.

²⁾ For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: 250 V.

³⁾ For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: Over 250 V AC same potential only.

⁴⁾ Without any welds according to IEC 60947-5-1.

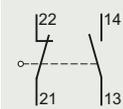
Type	3SE523.	3SE513.	3SE524.	3SE521.	3SE511.	3SE512., 3SE516.	3SE54..	3SE525.	
Enclosure									
Enclosure									
• Material	Plastic P66				Zinc die-casting		Zn/Al	--	
• Width	mm	31	40	50	31	40	56	30	
Degree of protection on the front according to IEC 60529	IP65	IP66/IP67;				IP65/IP67 for actuator heads with spring rods and rod levers		IP67	IP20 ¹⁾ , IP10
Ambient temperature									
• During operation	°C	-25 ... +85; -40 ... +85 for 3SE51..-1AJ0 and 3SE52..-1AJ0, -1AY0					-25 ... +85		
• During operation, switch with LEDs	°C	-25 ... +60					--		
• Storage, transport	°C	-40 ... +90							
Mounting position	Any								
Connection									
Cable entry	1 x (M20 x 1.5)	2 x (M20 x 1.5)		1 x (M20 x 1.5)		3 x (M20 x 1.5)		--	
Conductor cross-sections									
• Solid	mm ²	1 x (0.5 ... 1.5), 2 x (0.5 ... 0.75)							
• Finely stranded with end sleeve	mm ²	1 x (0.5 ... 1.5), 2 x (0.5 ... 0.75)							
• AWG cables, solid or stranded	AWG	1 x (20 ... 16), 2 x (20 ... 18)							
Tightening torque , contact block	Nm	0.8 ... 1.0							
Protective conductor connection inside enclosure	--				M3.5		--		

¹⁾ With the conductor connected and the terminal screw tightened.

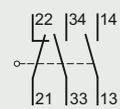
Circuit diagrams

Enclosure widths 31, 40, 50 and 56 mm

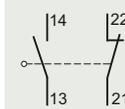
Slow-action contacts
1 NO + 1 NC
3SE5...-B..., -R...



Slow-action contacts
2 NO + 1 NC
3SE5...-P...



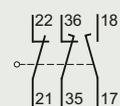
Snap-action contacts
1 NO + 1 NC
3SE5...-C..., -F..., -G..., -H..., -N...



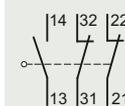
Slow-action contacts
1 NO + 2 NC
3SE5...-K..., -Q...



Slow-action contacts
1 NO + 2 NC with make-before-break
3SE5...-M...

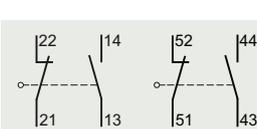


Snap-action contacts
1 NO + 2 NC
3SE5...-L...

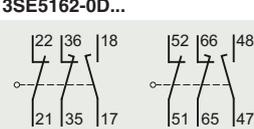


XL enclosures, width 56 mm

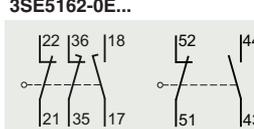
Slow-action contacts
2 x (1 NO + 1 NC)
3SE5162-0B...



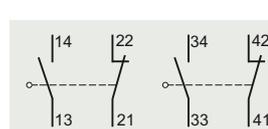
Slow-action contacts
2 x (1 NO + 2 NC) with make-before-break
3SE5162-0D...



Slow-action contacts
1 NO + 2 NC with make-before-break,
1 NO + 1 NC
3SE5162-0E...

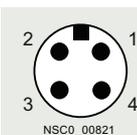


Snap-action contacts
2 x (1 NO + 1 NC)
3SE5162-0C...

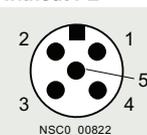


3SE5 pin assignment

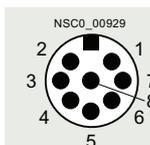
M12 device plug, 4-pole
3SY3127



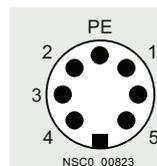
M12 device plug, 5-pole
3SY3128, 3SX5100-1SS51,
PE on pin 3, 3SX5100-1SS05
without PE



M12 device plug, 8-pole
3SX5100-1SS08



Device plug, 6-pole + PE
3SY3131



Type	Device plugs Type	Contacts Version	LEDs Version	Connections								
				Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	PE
M12 device plugs, 4-, 5- or 8-pole												
3SE5..4-0.....-1AC4, 3SE5..4-0.....-1AJ1 ¹⁾	3SY3127	1 NO + 1 NC	--	21	22	13	14	--	--	--	--	--
3SE5..4-0.....-1AL0, 3SE5..4-0.....-1AJ2 ¹⁾	3SY3128	1 NO + 1 NC	--	21	22	13	14	PE	--	--	--	--
3SE5..4-0.....-1AE0	3SY3127	2 NC	--	21	22	31	32	--	--	--	--	--
3SE5..4-0.....-1AE1, 3SE5..4-0.....-1AJ4 ¹⁾	3SY3128	2 NC	--	21	22	31	32	PE	--	--	--	--
3SE5..4-0.....-1AE2	3SX5100-1SS51	2 NC	--	21	31	--	22	32	--	--	--	--
3SE5..4-0.....-1AE3	3SX5100-1SS51	2 NC	--	21	31	PE	22	32	--	--	--	--
3SE5..4-1B...-1AF3	3SX5100-1SS05	1 NO + 1 NC slow-action	2 LEDs	21	22	14/ LED gn	13/ LED ye	Ground LED	--	--	--	--
3SE5..4-1C...-1AF3	3SX5100-1SS05	1 NO + 1 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	Ground LED	--	--	--	--
3SE5..4-1C...-1AF5	3SX5100-1SS05	1 NO + 1 NC snap-action	2 LEDs	21 21/13 jumper	22	13/ Ground LED	14/ LED ye	PE	--	--	--	--
3SE5..4-1L...-1AD5	--	1 NO + 2 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	31	32	Ground LED	PE	--
Device plug, 6-pole + PE												
3SE5..5-0.....-1AD0	3SY3131	1 NO + 1 NC	--	21	22	13	14	--	--	--	--	✓
3SE5..5-0.....-1AD1	3SY3131	1 NO + 2 NC	--	21	22	13	14	31	32	--	--	✓

Legend:

gn = green, ye = yellow

✓ Connected

-- Not available

¹⁾ Version for ambient temperatures down to -40 °C.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

General data

Options

On the following pages you will find selection tables for complete units as well as components of the modular system.

Complete units

Modular system

The differences between the units are indicated in the selection and ordering data by the symbols shown on orange backgrounds.

Using the modular system you can assemble switch versions which are not available as complete units. Each complete unit can also be supplied as a module.

A basic switch for the modular system comprises an enclosure with a contact block and a cover. Among the basic switches the following versions, for example, can be selected:

- Basic enclosure with rounded plunger
- Version with increased corrosion protection
- Version with M12 device plug and/or with 2 LEDs
- Version with M12 device plug or 6-pole + PE

Support functions

The 3SE5/3SF1 position and safety switches can also be ordered using an online configurator.

This also enables a complete documentation to be prepared:

- Product data sheets
- Dimensional drawings
- Operating travel diagrams
- CAD data in 2D and 3D model images
- Ordering data
- Product photos

For online configurator, see www.siemens.com/sirius/configurators.

Complete units

Ordering example

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered:

Version	Complete units <input type="checkbox"/>
Article No.	

Complete units - Enclosure width 31 mm



Angular roller levers

With metal lever and plastic roller 13 mm

- Slow-action contacts 1 NO + 1 NC

3SE5232-0BF10

Modular system

Ordering example 1

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered separately:

Version	Modular system <input checked="" type="checkbox"/>
Article No.	

Basic switches - Enclosure width 31 mm



Rounded plunger

- Slow-action contacts 1 NO + 1 NC

3SE5232-0BC05

+

Actuators



Angular roller lever

- Metal lever Plastic roller

3SE5000-0AF10

Ordering example 2

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Twist levers, high-grade steel lever and plastic roller

To be ordered separately:

Version	Modular system <input checked="" type="checkbox"/>
Article No.	

Basic switches - Enclosure width 31 mm



Rounded plunger

- Slow-action contacts 1 NO + 1 NC

3SE5232-0BC05

+

Twist actuators



Twist actuator

3SE5000-0AK00



Twist lever

- High-grade steel lever Plastic roller

3SE5000-0AA31

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units for installation in control cabinets

2 contacts · Degree of protection IP40 · Cable entry by means of a self-sealing grommet with Ø 6 mm

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 31 mm according to EN 50047

Image	Description	Contacts	LEDs	Article No.	PU	PS*	PG
	Control cabinet type, rounded plungers, type B, according to EN 50047 With flat cover • Snap-action contacts, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5232-0HC05-1AB1	1	1 unit	41K
3SE5232-0HC05-1AB1							
	With mounting plate and screws for attachment profile • Snap-action contacts, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5232-0HC05-1AB2	1	1 unit	41K
3SE5232-0HC05-1AB2							
	With standard cover • Snap-action contacts, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5232-0HC05-1AB3	1	1 unit	41K
3SE5232-0HC05-1AB3							
	With mounting plate and screws for attachment profile • Snap-action contacts, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5232-0HC05-1AB4	1	1 unit	41K
3SE5232-0HC05-1AB4							

Accessories

	Mounting plate Including two torx-slotted screws (only suitable for 3SE523 and 3SE521, position switches with a width of 31 mm)	--	--	3SX5100-1A	1	1 unit	41K
3SX5100-1A							

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ The control cabinet types are not basic switches for the modular system.

²⁾ Subsequent replacement of contact blocks is not possible.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units²⁾ · Enclosure width 31 mm

Rounded plungers, type B, according to EN 50047



3SE5232-0HC05

- Slow-action contacts
 - 1 NO + 1 NC -- ⤴
 - 1 NO + 2 NC -- ⤴
 - 2 NO + 1 NC -- ⤴
 - With make-before-break 1 NO + 2 NC -- ⤴
- Snap-action contacts
 - 1 NO + 1 NC -- ⤴
 - 1 NO + 2 NC -- ⤴
 - Integrated³⁾ 1 NO + 1 NC -- ⤴
 - Short stroke, integrated³⁾ 1 NO + 1 NC -- ⤴
 - Contact distance 2 x 2 mm 1 NO + 1 NC -- ⤴

With 2 LEDs, yellow/green

- Slow-action contacts
 - 1 NO + 2 NC 24 V DC ⤴
 - 1 NO + 2 NC 230 V AC ⤴
- Snap-action contacts
 - 1 NO + 2 NC 24 V DC ⤴
 - 1 NO + 2 NC 230 V AC ⤴



3SE5232-1KC05

With increased corrosion protection⁴⁾

- Slow-action contacts
 - 1 NO + 1 NC -- ⤴
 - 1 NO + 2 NC -- ⤴
 - 2 NO + 1 NC -- ⤴
 - With make-before-break 1 NO + 2 NC -- ⤴
- Snap-action contacts
 - 1 NO + 1 NC -- ⤴
 - 1 NO + 2 NC -- ⤴



3SE5232-0BC05-1CA0

With M12 device plug, 4-pole (250 V, 4 A)⁵⁾

- Slow-action contacts
 - 1 NO + 1 NC -- ⤴
 - 2 NC -- ⤴
- Snap-action contacts
 - 2 NC -- ⤴
 - Integrated³⁾ 1 NO + 1 NC -- ⤴

With M12 device plug, 5-pole (125 V, 4 A)⁵⁾

With 2 LEDs, yellow/green

- Slow-action contacts 1 NO + 1 NC 24 V DC ⤴
- Snap-action contacts 1 NO + 1 NC 24 V DC ⤴



3SE5234-1BC05-1AF3

With M12 device plug, 8-pole (125 V, 4 A)⁵⁾

With 2 LEDs, yellow/green

- Snap-action contacts 1 NO + 2 NC 24 V DC ⤴

With pin assignment as for SIMATIC ET 200⁶⁾

- Snap-action contacts 2 NC -- ⤴



3SE5234-0LC05-1AE2

⤴ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) A cable gland with seal must be used with the quick-connect method.

2) Popular versions.

3) Subsequent replacement of contact blocks is not possible.

4) Use corresponding high-grade steel lever.

5) For pin assignments, see page 12/13.

6) The 3SE5234-.....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.
For more information, see page 12/93 onwards.

3SE5232-0BC05	1	1 unit	41K
3SE5232-0KC05	1	1 unit	41K
3SE5232-0PC05	1	1 unit	41K
3SE5232-0MC05	1	1 unit	41K
3SE5232-0CC05	1	1 unit	41K
3SE5232-0LC05	1	1 unit	41K
3SE5232-0HC05	1	1 unit	41K
3SE5232-0FC05	1	1 unit	41K
3SE5232-0GC05	1	1 unit	41K
3SE5232-1KC05	1	1 unit	41K
3SE5232-3KC05	1	1 unit	41K
3SE5232-1LC05	1	1 unit	41K
3SE5232-3LC05	1	1 unit	41K
3SE5232-0BC05-1CA0	1	1 unit	41K
3SE5232-0KC05-1CA0	1	1 unit	41K
3SE5232-0PC05-1CA0	1	1 unit	41K
3SE5232-0MC05-1CA0	1	1 unit	41K
3SE5232-0CC05-1CA0	1	1 unit	41K
3SE5232-0LC05-1CA0	1	1 unit	41K
3SE5234-0BC05-1AC4	1	1 unit	41K
3SE5234-0KC05-1AE0	1	1 unit	41K
3SE5234-0LC05-1AE0	1	1 unit	41K
3SE5234-0HC05-1AC4	1	1 unit	41K
3SE5234-1BC05-1AF3	1	1 unit	41K
3SE5234-1CC05-1AF3	1	1 unit	41K
3SE5234-1LC05-1AD5	1	1 unit	41K
3SE5234-0LC05-1AE2	1	1 unit	41K

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

 2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

Version	Contacts	LEDs	Complete units		PU (UNIT, SET, M)	PS*	PG
			☐				
			Article No.	Price per PU			

Complete units²⁾ · Enclosure width 31 mm

 3SE5232-0BD03  3SE5232-0LD03-1AG0	Roller plungers, type C, according to EN 50047						
	With plastic roller 10 mm						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BD03	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0KD03	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5232-0LD03	1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HD03	1	1 unit	41K
	- Short stroke, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0FD03	1	1 unit	41K
	- Actuator head rotated 90°	1 NO + 2 NC --	⊕	3SE5232-0LD03-1AH0	1	1 unit	41K
	- With yellow cover	1 NO + 2 NC --	⊕	3SE5232-0LD03-1AG0	1	1 unit	41K
	<u>With M12 device plug, 4-pole (250 V, 4 A)⁴⁾</u>						
• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5234-0HD03-1AC4	1	1 unit	41K	
<u>With M12 device plug, 5-pole (125 V, 4 A)⁴⁾</u>							
<u>With pin assignment as for SIMATIC ET 200⁵⁾</u>							
• Snap-action contacts	2 NC --	⊕	3SE5234-0LD03-1AE2	1	1 unit	41K	

 3SE5232-0HD10	Roller plungers with central fixing, according to EN 50047					
	With plastic roller 10 mm					
	• Slow-action contacts	1 NO + 2 NC --	⊕	3SE5232-0KD10	1	1 unit
• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HD10	1	1 unit	41K

 3SE5232-0HE10	Roller levers, type E, according to EN 50047						
	With metal lever and plastic roller 13 mm						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BE10	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0KE10	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5232-0LE10	1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HE10	1	1 unit	41K
	<u>With M12 device plug, 4-pole (250 V, 4 A)⁴⁾</u>						
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5234-0HE10-1AC4	1	1 unit	41K
	With metal lever and high-grade steel roller 13 mm						
	<u>With M12 device plug, 5-pole (125 V, 4 A)⁴⁾</u>						
<u>With pin assignment as for SIMATIC ET 200⁵⁾</u>							
• Snap-action contacts	2 NC --	⊕	3SE5234-0LE11-1AE2	1	1 unit	41K	
With high-grade steel lever and plastic roller 13 mm							
• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5232-0LE12	1	1 unit	41K	
<u>With increased corrosion protection⁶⁾</u>							
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5232-0CE12-1CA0	1	1 unit	41K	

 3SE5232-0BF10	Angular roller levers, according to EN 50047						
	With metal lever and plastic roller 13 mm						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BF10	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0KF10	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5232-0LF10	1	1 unit	41K
- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HF10	1	1 unit	41K	

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) A cable gland with seal must be used with the quick-connect method.

2) Popular versions.

3) Subsequent replacement of contact blocks is not possible.

4) For pin assignments, see page 12/13.

5) The 3SE5234-...-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

6) Use corresponding high-grade steel lever.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units²⁾ · Enclosure width 31 mm

	Spring rods, according to EN 50047					
	Length 142.5 mm, with plastic plunger 50 mm					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5232-0HR01	1	1 unit 41K
	With M12 device plug, 4-pole (250 V, 4 A) ⁴⁾					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5234-0HR01-1AC4	1	1 unit 41K
	Twist levers, type A, according to EN 50047					
	With metal lever 21 mm and plastic roller 19 mm					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BK21	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5232-0KK21	1	1 unit 41K
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5232-0LK21	1	1 unit 41K
	- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HK21	1	1 unit 41K
	With M12 device plug, 4-pole (250 V, 4 A) ⁴⁾					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5234-0HK21-1AC4	1	1 unit 41K
	Twist levers, adjustable length, according to EN 50047					
	With metal lever 100 mm, with grid holes and plastic roller 19 mm					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HK60	1	1 unit 41K
	With metal lever 100 mm and plastic roller 19 mm					
	• Slow-action contacts	1 NO + 1 NC --		3SE5232-0BK50	1	1 unit 41K
	• Snap-action contacts	1 NO + 2 NC --		3SE5232-0LK50	1	1 unit 41K
	- Integrated ³⁾	1 NO + 1 NC --		3SE5232-0HK50	1	1 unit 41K
		With M12 device plug, 4-pole (250 V, 4 A) ⁴⁾				
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5234-0HK50-1AC4	1	1 unit 41K
	Rod levers, according to EN 50047					
	With aluminum rod 200 mm					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5232-0HK80	1	1 unit 41K
	With plastic rod 200 mm					
• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5232-0HK82	1	1 unit 41K	
	With M12 device plug, 4-pole (250 V, 4 A) ⁴⁾					
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC --		3SE5234-0HK82-1AC4	1	1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) A cable gland with seal must be used with the quick-connect method.

2) Popular versions.

3) Subsequent replacement of contact blocks is not possible.

4) For pin assignments, see page 12/13.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/19 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Modular system2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			☒			
			Article No.	Price per PU		

Basic switches²⁾ · Enclosure width 31 mm**Rounded plungers, type B, according to EN 50047**

 3SE5232-0BC05	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0KC05	1	1 unit	41K
	- With make-before-break	2 NO + 1 NC --	⊕	3SE5232-0PC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0MC05	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5232-0CC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0LC05	1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0HC05	1	1 unit	41K
		- Short stroke, integrated ³⁾	1 NO + 1 NC --	⊕	3SE5232-0FC05	1	1 unit
	- Contact distance 2 x 2 mm	1 NO + 1 NC --	⊕	3SE5232-0GC05	1	1 unit	41K
	With increased corrosion protection ⁴⁾						
 3SE5232-0BC05-1CA0	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0BC05-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0KC05-1CA0	1	1 unit	41K
	- With make-before-break	2 NO + 1 NC --	⊕	3SE5232-0PC05-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5232-0MC05-1CA0	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5232-0CC05-1CA0	1	1 unit	41K
1 NO + 2 NC --	⊕	3SE5232-0LC05-1CA0	1	1 unit	41K		
With 2 LEDs, yellow/green							
 3SE5232-1KC05	• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5232-1KC05	1	1 unit	41K
		1 NO + 2 NC 230 V AC	⊕	3SE5232-3KC05	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5232-1LC05	1	1 unit	41K
		1 NO + 2 NC 230 V AC	⊕	3SE5232-3LC05	1	1 unit	41K
With M12 device plug, 4-pole (250 V, 4 A) ⁵⁾							
 3SE5234-0HC05-1AC4	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5234-0BC05-1AC4	1	1 unit	41K
		2 NC --	⊕	3SE5234-0KC05-1AE0	1	1 unit	41K
	• Snap-action contacts	2 NC --	⊕	3SE5234-0LC05-1AE0	1	1 unit	41K
		- Integrated ³⁾	1 NO + 1 NC --	⊕	3SE5234-0HC05-1AC4	1	1 unit
With M12 device plug, 5-pole (125 V, 4 A) ⁵⁾							
 3SE5234-1BC05-1AF3	With 2 LEDs, yellow/green						
	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5234-1BC05-1AF3	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5234-1CC05-1AF3	1	1 unit	41K
	With pin assignment as for SIMATIC ET 200 ⁶⁾						
• Snap-action contacts	2 NC --	⊕	3SE5234-0LC05-1AE2	1	1 unit	41K	

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) A cable gland with seal must be used with the quick-connect method.

2) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

3) Subsequent replacement of contact blocks is not possible.

4) Use corresponding high-grade steel lever.

5) For pin assignments, see page 12/13.

6) The 3SE5234-.....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Actuators					
 3SE5000-0AB01	Plain plunger • High-grade steel plunger	8.5	↻	3SE5000-0AB01	1 1 unit 41K
 3SE5000-0AD03	Roller plungers, type C, according to EN 50047 • Plastic roller • High-grade steel roller	10 10	↻ ↻	3SE5000-0AD03 3SE5000-0AD04	1 1 unit 41K 1 1 unit 41K
 3SE5000-0AD10	Roller plungers with central fixing • Plastic roller • High-grade steel roller	10 10	↻ ↻	3SE5000-0AD10 3SE5000-0AD11	1 1 unit 41K 1 1 unit 41K
 3SE5000-0AE10	Roller levers, type E, according to EN 50047 • Metal lever Plastic roller High-grade steel roller • High-grade steel lever Plastic roller High-grade steel roller	13 13 13 13	↻ ↻ ↻ ↻	3SE5000-0AE10 3SE5000-0AE11 3SE5000-0AE12 3SE5000-0AE13	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K
 3SE5000-0AF10	Angular roller levers • Metal lever Plastic roller High-grade steel roller • High-grade steel lever Plastic roller High-grade steel roller	13 13 13 13	↻ ↻ ↻ ↻	3SE5000-0AF10 3SE5000-0AF11 3SE5000-0AF12 3SE5000-0AF13	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K
 3SE5000-0AR01 3SE5000-0AR03	Spring rods (for switches with snap-action contacts only) • Plunger made of plastic, spring of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm) - Length 76 mm (spring 23.5 mm, plunger 10 mm) - Length 242.5 mm (spring 150 mm, plunger 50 mm) • Plunger and spring made of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm)			3SE5000-0AR01 3SE5000-0AR03 3SE5000-0AR04 3SE5000-0AR02	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K

↻ Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Version	Diame- ter		Modular system	PU (UNIT, SET, M)	PS*	PG
	mm		Article No.	Price per PU		
Twist actuators						
	Twist actuators, for 31/40/50 mm, according to EN 50047					
3SE5000-0AK00	• For twist levers and rod levers, switching right and/or left, adjustable	--	⊕	3SE5000-0AK00	1	1 unit 41K
	• For fork levers, latching	--	⊕	3SE5000-0AT10	1	1 unit 41K
Levers						
	Twist levers 21 mm, straight, type A, according to EN 50047					
3SE5000-0AA21	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA21	1 1 unit 41K
			30	⊕	3SE5000-0AA25	1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA22	1 1 unit 41K
		- With ball bearing	19	⊕	3SE5000-0AA23	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA31	1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA32	1 1 unit 41K
	Twist levers 30 mm, straight¹⁾					
3SE5000-0AA24	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA24	1 1 unit 41K
			30	⊕	3SE5000-0AA26	1 1 unit 41K
	Twist levers 100 mm, adjustable length, with grid hole					
3SE5000-0AA60	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA60	1 1 unit 41K
			50	⊕	3SE5000-0AA67	1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA61	1 1 unit 41K
		Rubber roller	50	⊕	3SE5000-0AA68	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA62	1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA63	1 1 unit 41K
	Twist levers 100 mm, adjustable length					
3SE5000-0AA50	• Metal lever	Plastic roller	19		3SE5000-0AA50	1 1 unit 41K
			30		3SE5000-0AA55	1 1 unit 41K
			50		3SE5000-0AA57	1 1 unit 41K
		High-grade steel roller	19		3SE5000-0AA51	1 1 unit 41K
		Rubber roller	50		3SE5000-0AA58	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19		3SE5000-0AA52	1 1 unit 41K
		High-grade steel roller	19		3SE5000-0AA53	1 1 unit 41K
	Fork levers (for switches with snap-action contacts only)					
3SE5000-0AT01	• 2 metal levers	2 plastic rollers	19	⊕	3SE5000-0AT01	1 1 unit 41K
		2 high-grade steel rollers	19	⊕	3SE5000-0AT02	1 1 unit 41K
	• 2 high-grade steel levers	2 plastic rollers	19	⊕	3SE5000-0AT03	1 1 unit 41K
		2 high-grade steel rollers	19	⊕	3SE5000-0AT04	1 1 unit 41K
	Rod levers					
3SE5000-0AA80	• Aluminum rod	Length 200 mm	6		3SE5000-0AA80	1 1 unit 41K
	• Spring rod	Length 200 mm	6		3SE5000-0AA81	1 1 unit 41K
	• Plastic rod	Length 200 mm	6		3SE5000-0AA82	1 1 unit 41K
		Length 330 mm	6		3SE5000-0AA83	1 1 unit 41K

⊕ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Complete units¹⁾ · Enclosure width 40 mm						
Plain plungers, according to EN 50041						
With high-grade steel plunger 8.5 mm						
 3SE5132-0BB01	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BB01	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0KB01	1	1 unit 41K
		2 NO + 1 NC --	⊕	3SE5132-0PB01	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CB01	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LB01	1	1 unit 41K
	Rounded plungers, type B, according to EN 50041					
With plastic plunger 10 mm						
 3SE5132-0BC03	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BC03	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0KC03	1	1 unit 41K
		2 NO + 1 NC --	⊕	3SE5132-0PC03	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CC03	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LC03	1	1 unit 41K
	Roller plungers, type C, according to EN 50041					
With plastic roller 13 mm						
 3SE5132-0BD05	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BD05	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0KD05	1	1 unit 41K
		2 NO + 1 NC --	⊕	3SE5132-0PD05	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CD05	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LD05	1	1 unit 41K
	Roller levers, according to EN 50041					
With metal lever and plastic roller 22 mm						
 3SE5132-0BE05	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BE05	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0KE05	1	1 unit 41K
		2 NO + 1 NC --	⊕	3SE5132-0PE05	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CE05	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LE05	1	1 unit 41K
	Angular roller levers, according to EN 50041					
With metal lever and plastic roller 22 mm						
 3SE5132-0BF05	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BF05	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CF05	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LF05	1	1 unit 41K
	Spring rods²⁾, according to EN 50041					
Length 142.5 mm, with plastic plunger 50 mm						
 3SE5132-0CR01	• Snap-action contacts	1 NO + 1 NC --		3SE5132-0CR01	1	1 unit 41K
		1 NO + 2 NC --		3SE5132-0LR01	1	1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Degree of protection IP65/IP67.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 40 mm

 3SE5132-0BJ01	Twist levers, type A, according to EN 50041 With metal lever 27 mm and plastic roller 19 mm					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5132-0BJ01	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0KJ01	1	1 unit 41K
		2 NO + 1 NC --	⊕	3SE5132-0PJ01	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CJ01	1	1 unit 41K
	1 NO + 2 NC --	⊕	3SE5132-0LJ01	1	1 unit 41K	
 3SE5132-0CJ60	Twist levers, adjustable length, according to EN 50041 With metal lever 100 mm, with grid holes and plastic roller 19 mm					
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5132-0CJ60	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5132-0LJ60	1	1 unit 41K
 3SE5132-0CJ50	With metal lever 100 mm and plastic roller 19 mm					
	• Snap-action contacts	1 NO + 1 NC --		3SE5132-0CJ50	1	1 unit 41K
		1 NO + 2 NC --		3SE5132-0LJ50	1	1 unit 41K
 3SE5132-0CJ80	Rod levers²⁾, type D, according to EN 50041 With aluminum rod 200 mm					
	• Snap-action contacts	1 NO + 1 NC --		3SE5132-0CJ80	1	1 unit 41K
	With plastic rod 200 mm					
	• Snap-action contacts	1 NO + 1 NC --		3SE5132-0CJ82	1	1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Degree of protection IP65/IP67.

Note:

 If the device you require is not available as a complete unit, see [Modular system, page 12/24 onwards](#).

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input checked="" type="checkbox"/>			
			Article No.	Price per PU		

Basic switches · Enclosure width 40 mm

Rounded plungers, according to EN 50041



3SE5132-0BA00

- Slow-action contacts
 - 1 NO + 1 NC --
 - 1 NO + 2 NC --
 - 2 NO + 1 NC --
- With make-before-break
 - 1 NO + 2 NC --
- Snap-action contacts
 - 1 NO + 1 NC --
 - 1 NO + 2 NC --
 - 1 NO + 1 NC --

3SE5132-0BA00	1	1 unit	41K
3SE5132-0KA00	1	1 unit	41K
3SE5132-0PA00	1	1 unit	41K
3SE5132-0MA00	1	1 unit	41K
3SE5132-0CA00	1	1 unit	41K
3SE5132-0LA00	1	1 unit	41K
3SE5132-0CA00-1AC1	1	1 unit	41K

With increased corrosion protection¹⁾



3SE5132-0BA00-1CA0

- Slow-action contacts
 - 1 NO + 1 NC --
 - 1 NO + 2 NC --
 - 2 NO + 1 NC --
- With make-before-break
 - 1 NO + 2 NC --
- Snap-action contacts
 - 1 NO + 1 NC --
 - 1 NO + 2 NC --

3SE5132-0BA00-1CA0	1	1 unit	41K
3SE5132-0KA00-1CA0	1	1 unit	41K
3SE5132-0PA00-1CA0	1	1 unit	41K
3SE5132-0MA00-1CA0	1	1 unit	41K
3SE5132-0CA00-1CA0	1	1 unit	41K
3SE5132-0LA00-1CA0	1	1 unit	41K

With 2 LEDs, yellow/green



3SE5132-1KA00

- Slow-action contacts
 - 1 NO + 2 NC 24 V DC
 - 1 NO + 2 NC 230 V AC
- Snap-action contacts
 - 1 NO + 2 NC 24 V DC
 - 1 NO + 2 NC 230 V AC

3SE5132-1KA00	1	1 unit	41K
3SE5132-3KA00	1	1 unit	41K
3SE5132-1LA00	1	1 unit	41K
3SE5132-3LA00	1	1 unit	41K

With M12 device plug, 4-pole (250 V, 4 A)²⁾



3SE5134-0BA00-1AC4

- Slow-action contacts
 - 1 NO + 1 NC --
 - 2 NC --
- Snap-action contacts
 - 1 NO + 1 NC --
 - 2 NC --

3SE5134-0BA00-1AC4	1	1 unit	41K
3SE5134-0KA00-1AE0	1	1 unit	41K
3SE5134-0CA00-1AC4	1	1 unit	41K
3SE5134-0LA00-1AE0	1	1 unit	41K

Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Use corresponding high-grade steel lever.

²⁾ For pin assignments, see page 12/13.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Actuators					
 3SE5000-0AB01	Plain plunger • High-grade steel plunger	8.5	⊕	3SE5000-0AB01	1 1 unit 41K
 3SE5000-0AC03	Rounded plunger, type B, according to EN 50041 • Plastic plunger	10	⊕	3SE5000-0AC03	1 1 unit 41K
 3SE5000-0AD05	Roller plungers, type C, according to EN 50041 • Plastic plunger Plastic roller 13 ⊕ High-grade steel roller 13 ⊕			3SE5000-0AD05 3SE5000-0AD06	1 1 unit 41K 1 1 unit 41K
 3SE5000-0AE05	Roller lever • Metal lever Plastic roller 22 ⊕			3SE5000-0AE05	1 1 unit 41K
 3SE5000-0AF05	Angular roller lever • Metal lever Plastic roller 22 ⊕			3SE5000-0AF05	1 1 unit 41K
 3SE5000-0AR01 3SE5000-0AR02	Spring rods (for switches with snap-action contacts only) • Plunger made of plastic, spring of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm) - Length 76 mm (spring 23.5 mm, plunger 10 mm) - Length 242.5 mm (spring 150 mm, plunger 50 mm) • Plunger and spring made of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm)			3SE5000-0AR01 3SE5000-0AR03 3SE5000-0AR04 3SE5000-0AR02	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K

⊕ Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG	
	mm	Article No.	Price per PU			
Twist actuators						
	Twist actuators, for 30/40/50 mm, according to EN 50041					
3SE5000-0AH00	• For twist levers and rod levers, switching right and/or left, adjustable	--	↻	3SE5000-0AH00	1 1 unit 41K	
	• For fork levers, latching	--	↻	3SE5000-0AT10	1 1 unit 41K	
Levers						
Twist levers 27 mm, offset, type A, according to EN 50041						
	• Metal lever	Plastic roller	19	↻	3SE5000-0AA01	1 1 unit 41K
3SE5000-0AA01			30	↻	3SE5000-0AA05	1 1 unit 41K
			50	↻	3SE5000-0AA07	1 1 unit 41K
		2 plastic rollers	19	↻	3SE5000-0AA04	1 1 unit 41K
3SE5000-0AA04		High-grade steel roller	19	↻	3SE5000-0AA02	1 1 unit 41K
		- With ball bearing	19	↻	3SE5000-0AA03	1 1 unit 41K
		Rubber roller	50	↻	3SE5000-0AA08	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA11	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA12	1 1 unit 41K
Twist levers 35 mm, offset, type A, according to EN 50041						
	• Metal lever	Plastic roller	19	↻	3SE5000-0AA15	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA16	1 1 unit 41K
Twist levers 30 mm, straight¹⁾, type A, according to EN 50041						
	• Metal lever	Plastic roller	19	↻	3SE5000-0AA24	1 1 unit 41K
3SE5000-0AA24			30	↻	3SE5000-0AA26	1 1 unit 41K
Twist levers 100 mm, adjustable length, with grid hole						
	• Metal lever	Plastic roller	19	↻	3SE5000-0AA60	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA61	1 1 unit 41K
		Rubber roller	50	↻	3SE5000-0AA68	1 1 unit 41K
3SE5000-0AA60	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA62	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA63	1 1 unit 41K
Twist levers 100 mm, adjustable length						
	• Metal lever	Plastic roller	19	↻	3SE5000-0AA50	1 1 unit 41K
			30	↻	3SE5000-0AA55	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA51	1 1 unit 41K
		Rubber roller	50	↻	3SE5000-0AA58	1 1 unit 41K
3SE5000-0AA50	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA52	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA53	1 1 unit 41K
Fork levers						
(for switches with snap-action contacts only)						
	• 2 metal levers	2 plastic rollers	19	↻	3SE5000-0AT01	1 1 unit 41K
3SE5000-0AT01		2 high-grade steel rollers	19	↻	3SE5000-0AT02	1 1 unit 41K
	• 2 high-grade steel levers	2 plastic rollers	19	↻	3SE5000-0AT03	1 1 unit 41K
		2 high-grade steel rollers	19	↻	3SE5000-0AT04	1 1 unit 41K
Rod levers, type D, according to EN 50041						
	• Aluminum rod	Length 200 mm	6		3SE5000-0AA80	1 1 unit 41K
3SE5000-0AA80	• Spring rod	Length 200 mm	6		3SE5000-0AA81	1 1 unit 41K
	• Plastic rod	Length 200 mm	6		3SE5000-0AA82	1 1 unit 41K
		Length 330 mm	6		3SE5000-0AA83	1 1 unit 41K

↻ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 2 x (M20 x 1.5) · Operating points according to EN 50047

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 50 mm

Image	Model	Contacts	LEDs	Complete units	PU	PS*	PG		
	Rounded plungers	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BC05	1	1 unit 41K		
			1 NO + 2 NC --	⊕	3SE5242-0KC05	1	1 unit 41K		
			2 NO + 1 NC --	⊕	3SE5242-0PC05	1	1 unit 41K		
		- With make-before-break	1 NO + 2 NC --	⊕	3SE5242-0MC05	1	1 unit 41K		
		• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5242-0CC05	1	1 unit 41K		
			1 NO + 2 NC --	⊕	3SE5242-0LC05	1	1 unit 41K		
		- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HC05	1	1 unit 41K		
		- Short stroke, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0FC05	1	1 unit 41K		
		- Contact distance 2 x 2 mm	1 NO + 1 NC --	⊕	3SE5242-0GC05	1	1 unit 41K		
		With increased corrosion protection ³⁾							
			• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BC05-1CA0	1	1 unit 41K	
				1 NO + 2 NC --	⊕	3SE5242-0KC05-1CA0	1	1 unit 41K	
		2 NO + 1 NC --	⊕	3SE5242-0PC05-1CA0	1	1 unit 41K			
- With make-before-break	1 NO + 2 NC --	⊕	3SE5242-0MC05-1CA0	1	1 unit 41K				
• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5242-0LC05-1CA0	1	1 unit 41K				
- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HC05-1CA0	1	1 unit 41K				
With 2 LEDs, yellow/green									
	• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5242-1KC05	1	1 unit 41K			
		1 NO + 2 NC 230 V AC	⊕	3SE5242-3KC05	1	1 unit 41K			
• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5242-1LC05	1	1 unit 41K				
		1 NO + 2 NC 230 V AC	⊕	3SE5242-3LC05	1	1 unit 41K			
Roller plungers									
With plastic roller 10 mm									
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BD03	1	1 unit 41K			
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5242-0LD03	1	1 unit 41K			
- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HD03	1	1 unit 41K				
Roller levers									
With metal lever and plastic roller 13 mm									
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BE10	1	1 unit 41K			
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5242-0LE10	1	1 unit 41K			
- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HE10	1	1 unit 41K				
With M12 device plug, 4-pole right (250 V, 4 A) ⁴⁾									
	• Snap-action contacts	2 NC --	⊕	3SE5244-0LE10-1AE0	1	1 unit 41K			
Twist levers									
With metal lever 21 mm and plastic roller 19 mm									
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BK21	1	1 unit 41K			
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5242-0LK21	1	1 unit 41K			
- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HK21	1	1 unit 41K				
Twist lever, adjustable length									
With metal lever 100 mm and plastic roller 19 mm									
	• Snap-action contacts, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HK50	1	1 unit 41K			

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Subsequent replacement of contact blocks is not possible.

3) Use corresponding high-grade steel lever.

4) For pin assignments, see page 12/13.

Note:

If the device you require is not available as a complete unit, see [Modular system, page 12/28 onwards](#).

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 50 mm

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 2 x (M20 x 1.5) · Operating points according to EN 50047

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input type="checkbox"/>			
			Article No.	Price per PU		

Basic switches · Enclosure width 50 mm

 3SE5242-0BC05	Rounded plungers¹⁾							
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BC05	1	1 unit	41K	
		1 NO + 2 NC --	⊕	3SE5242-0KC05	1	1 unit	41K	
		2 NO + 1 NC --	⊕	3SE5242-0PC05	1	1 unit	41K	
	- With make-before-break	1 NO + 2 NC --	⊕	3SE5242-0MC05	1	1 unit	41K	
		• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5242-0CC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5242-0LC05	1	1 unit	41K	
	- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HC05	1	1 unit	41K	
		- Short stroke, integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0FC05	1	1 unit	41K
		- Contact distance 2 x 2 mm	1 NO + 1 NC --	⊕	3SE5242-0GC05	1	1 unit	41K
	 3SE5242-0BC05-1CA0	With increased corrosion protection ³⁾						
		• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5242-0BC05-1CA0	1	1 unit	41K
1 NO + 2 NC --			⊕	3SE5242-0KC05-1CA0	1	1 unit	41K	
2 NO + 1 NC --			⊕	3SE5242-0PC05-1CA0	1	1 unit	41K	
- With make-before-break		1 NO + 2 NC --	⊕	3SE5242-0MC05-1CA0	1	1 unit	41K	
		• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5242-0LC05-1CA0	1	1 unit	41K
		- Integrated ²⁾	1 NO + 1 NC --	⊕	3SE5242-0HC05-1CA0	1	1 unit	41K
 3SE5242-1KC05		With 2 LEDs, yellow/green						
		• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5242-1KC05	1	1 unit	41K
			1 NO + 2 NC 230 V AC	⊕	3SE5242-3KC05	1	1 unit	41K
		• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5242-1LC05	1	1 unit	41K
			1 NO + 2 NC 230 V AC	⊕	3SE5242-3LC05	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) For enclosures with widths of 50 mm, the basic switch is a complete unit with rounded plungers.

2) Subsequent replacement of contact blocks is not possible.

3) Use corresponding high-grade steel lever.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, plastic enclosures

Enclosure width 50 mm

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Actuators					
 3SE5000-0AB01	Plain plunger • High-grade steel plunger	8.5 	3SE5000-0AB01	1	1 unit 41K
 3SE5000-0AD03	Roller plungers, type C, according to EN 50047 • Plastic roller • High-grade steel roller	10  10 	3SE5000-0AD03 3SE5000-0AD04	1 1	1 unit 41K 1 unit 41K
 3SE5000-0AD10	Roller plungers with central fixing • Plastic roller • High-grade steel roller	10  10 	3SE5000-0AD10 3SE5000-0AD11	1 1	1 unit 41K 1 unit 41K
 3SE5000-0AE10	Roller levers, type E, according to EN 50047 • Metal lever Plastic roller High-grade steel roller • High-grade steel lever Plastic roller High-grade steel roller	13  13  13  13 	3SE5000-0AE10 3SE5000-0AE11 3SE5000-0AE12 3SE5000-0AE13	1 1 1 1	1 unit 41K 1 unit 41K 1 unit 41K 1 unit 41K
 3SE5000-0AF10	Angular roller levers • Metal lever Plastic roller High-grade steel roller • High-grade steel lever Plastic roller High-grade steel roller	13  13  13  13 	3SE5000-0AF10 3SE5000-0AF11 3SE5000-0AF12 3SE5000-0AF13	1 1 1 1	1 unit 41K 1 unit 41K 1 unit 41K 1 unit 41K
 3SE5000-0AR01 3SE5000-0AR03	Spring rods (for switches with snap-action contacts only) • Plunger made of plastic, spring of high-grade steel: - Length 142.5 mm (spring 50 mm, plunger 50 mm) - Length 76 mm (spring 23.5 mm, plunger 10 mm) - Length 242.5 mm (spring 150 mm, plunger 50 mm) • Plunger and spring made of high-grade steel: - Length 142.5 mm (spring 50 mm, plunger 50 mm)		3SE5000-0AR01 3SE5000-0AR03 3SE5000-0AR04 3SE5000-0AR02	1 1 1 1	1 unit 41K 1 unit 41K 1 unit 41K 1 unit 41K

 Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, plastic enclosures

Enclosure width 50 mm

Version			Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
			mm	Article No.	Price per PU		
Twist actuators							
	Twist actuators, for 31/40/50 mm, according to EN 50047						
3SE5000-0AK00	• For twist levers and rod levers, switching right and/or left, adjustable		--	⊕	3SE5000-0AK00	1	1 unit 41K
	• For fork levers, latching		--	⊕	3SE5000-0AT10	1	1 unit 41K
Levers							
Twist levers 21 mm, straight, type A, according to EN 50047							
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA21	1	1 unit 41K
			30	⊕	3SE5000-0AA25	1	1 unit 41K
3SE5000-0AA21		High-grade steel roller	19	⊕	3SE5000-0AA22	1	1 unit 41K
		- With ball bearing	19	⊕	3SE5000-0AA23	1	1 unit 41K
	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA31	1	1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA32	1	1 unit 41K
Twist levers 30 mm, straight¹⁾							
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA24	1	1 unit 41K
			30	⊕	3SE5000-0AA26	1	1 unit 41K
3SE5000-0AA24							
Twist levers 100 mm, adjustable length, with grid hole							
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA60	1	1 unit 41K
			50	⊕	3SE5000-0AA67	1	1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA61	1	1 unit 41K
		Rubber roller	50	⊕	3SE5000-0AA68	1	1 unit 41K
	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA62	1	1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA63	1	1 unit 41K
3SE5000-0AA60							
Twist levers 100 mm, adjustable length							
	• Metal lever	Plastic roller	19		3SE5000-0AA50	1	1 unit 41K
			30		3SE5000-0AA55	1	1 unit 41K
			50		3SE5000-0AA57	1	1 unit 41K
		High-grade steel roller	19		3SE5000-0AA51	1	1 unit 41K
		Rubber roller	50		3SE5000-0AA58	1	1 unit 41K
	• High-grade steel lever	Plastic roller	19		3SE5000-0AA52	1	1 unit 41K
		High-grade steel roller	19		3SE5000-0AA53	1	1 unit 41K
3SE5000-0AA50							
Fork levers (for switches with snap-action contacts only)							
	• 2 metal levers	2 plastic rollers	19	⊕	3SE5000-0AT01	1	1 unit 41K
		2 high-grade steel rollers	19	⊕	3SE5000-0AT02	1	1 unit 41K
3SE5000-0AT01	• 2 high-grade steel levers	2 plastic rollers	19	⊕	3SE5000-0AT03	1	1 unit 41K
		2 high-grade steel rollers	19	⊕	3SE5000-0AT04	1	1 unit 41K
Rod levers							
	• Aluminum rod	Length 200 mm	6		3SE5000-0AA80	1	1 unit 41K
	• Spring rod	Length 200 mm	6		3SE5000-0AA81	1	1 unit 41K
	• Plastic rod	Length 200 mm	6		3SE5000-0AA82	1	1 unit 41K
		Length 330 mm	6		3SE5000-0AA83	1	1 unit 41K
3SE5000-0AA80							

⊕ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 31 mm

Rounded plungers, type B, according to EN 50047

 3SE5212-0BC05	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5212-0KC05	1	1 unit	41K
		2 NO + 1 NC --	⊕	3SE5212-0PC05	1	1 unit	41K
	- With make-before-break	1 NO + 2 NC --	⊕	3SE5212-0MC05	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CC05	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0LC05	1	1 unit	41K	
With increased corrosion protection ²⁾							
 3SE5212-0BC05-1CA0	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BC05-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5212-0KC05-1CA0	1	1 unit	41K
		2 NO + 1 NC --	⊕	3SE5212-0PC05-1CA0	1	1 unit	41K
	- With make-before-break	1 NO + 2 NC --	⊕	3SE5212-0MC05-1CA0	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CC05-1CA0	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0LC05-1CA0	1	1 unit	41K	
With 2 LEDs, yellow/green							
 3SE5212-1KC05	• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5212-1KC05	1	1 unit	41K
		1 NO + 2 NC 230 V AC	⊕	3SE5212-3KC05	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5212-1LC05	1	1 unit	41K
		1 NO + 2 NC 230 V AC	⊕	3SE5212-3LC05	1	1 unit	41K
	With M12 device plug, 5-pole (125 V, 4 A) ³⁾						
 3SE5212-0BB01	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5214-0BC05-1AC5	1	1 unit	41K
		2 NC --	⊕	3SE5214-0KC05-1AE1	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5214-0CC05-1AC5	1	1 unit	41K
		2 NC --	⊕	3SE5214-0LC05-1AE1	1	1 unit	41K
With 2 LEDs, yellow/green							
 3SE5212-1KC05	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5214-1BC05-1AF3	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5214-1CC05-1AF3	1	1 unit	41K

Plain plungers, according to EN 50047

With high-grade steel plunger 8.5 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0KB01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0LB01	1	1 unit	41K

Roller plungers, type C, according to EN 50047

With plastic roller 10 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BD03	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0KD03	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CD03	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5212-0LD03	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Use corresponding high-grade steel lever.

3) For pin assignments, see page 12/13.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Complete units¹⁾ · Enclosure width 31 mm						
	Roller plunger with central fixing, according to EN 50047 With plastic roller 10 mm					
	• Slow-action contacts	1 NO + 2 NC --	⊕	3SE5212-0KD10	1	1 unit 41K
3SE5212-0KD10						
	Roller levers, type E, according to EN 50047 With metal lever and plastic roller 13 mm					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BE10	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0KE10	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CE10	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0LE10	1	1 unit 41K
3SE5212-0BE10						
	Angular roller levers, according to EN 50047 With metal lever and plastic roller 13 mm					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BF10	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0KF10	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CF10	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0LF10	1	1 unit 41K
3SE5212-0BF10						
	Twist levers, type A, according to EN 50047 With metal lever 21 mm and plastic roller 19 mm					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BK21	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0KK21	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CK21	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0LK21	1	1 unit 41K
3SE5212-0BK21						
	Twist levers, adjustable length, according to EN 50047 With metal lever 100 mm, with grid holes and plastic roller 19 mm					
	• Slow-action contacts	1 NO + 2 NC --	⊕	3SE5212-0KK60	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CK60	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5212-0LK60	1	1 unit 41K
	• Slow-action contacts	1 NO + 1 NC --		3SE5212-0BK50	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC --		3SE5212-0CK50	1	1 unit 41K
		1 NO + 2 NC --		3SE5212-0LK50	1	1 unit 41K
3SE5212-0CK60						

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/33 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5)

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input checked="" type="checkbox"/>			
			Article No.	Price per PU		

Basic switches · Enclosure width 31 mm**Rounded plungers¹⁾, type B, according to EN 50047**

	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BC05	1	1 unit	41K	
		1 NO + 2 NC --	⊕	3SE5212-0KC05	1	1 unit	41K	
		2 NO + 1 NC --	⊕	3SE5212-0PC05	1	1 unit	41K	
		- With make-before-break	1 NO + 2 NC --	⊕	3SE5212-0MC05	1	1 unit	41K
		• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CC05	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5212-0LC05	1	1 unit	41K	
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5212-0BC05-1CA0	1	1 unit	41K	
		1 NO + 2 NC --	⊕	3SE5212-0KC05-1CA0	1	1 unit	41K	
		2 NO + 1 NC --	⊕	3SE5212-0PC05-1CA0	1	1 unit	41K	
		- With make-before-break	1 NO + 2 NC --	⊕	3SE5212-0MC05-1CA0	1	1 unit	41K
		• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5212-0CC05-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5212-0LC05-1CA0	1	1 unit	41K	
	• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5212-1KC05	1	1 unit	41K	
		1 NO + 2 NC 230 V AC	⊕	3SE5212-3KC05	1	1 unit	41K	
	• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5212-1LC05	1	1 unit	41K	
		1 NO + 2 NC 230 V AC	⊕	3SE5212-3LC05	1	1 unit	41K	
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5214-0BC05-1AC5	1	1 unit	41K	
		2 NC --	⊕	3SE5214-0KC05-1AE1	1	1 unit	41K	
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5214-0CC05-1AC5	1	1 unit	41K	
		2 NC --	⊕	3SE5214-0LC05-1AE1	1	1 unit	41K	
	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5214-1BC05-1AF3	1	1 unit	41K	
		1 NO + 1 NC 24 V DC	⊕	3SE5214-1CC05-1AF3	1	1 unit	41K	
	• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕					

With increased corrosion protection²⁾

With 2 LEDs, yellow/green

With M12 device plug, 5-pole (125 V, 4 A)³⁾

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

2) Use corresponding high-grade steel lever.

3) For pin assignments, see page 12/13.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Actuators					
 3SE5000-0AB01	Plain plunger • High-grade steel plunger	8.5	⊕	3SE5000-0AB01	1 1 unit 41K
 3SE5000-0AD03	Roller plungers, type C, according to EN 50047 • Plastic roller • High-grade steel roller	10 10	⊕ ⊕	3SE5000-0AD03 3SE5000-0AD04	1 1 unit 41K 1 1 unit 41K
 3SE5000-0AD10	Roller plungers with central fixing • Plastic roller • High-grade steel roller	10 10	⊕ ⊕	3SE5000-0AD10 3SE5000-0AD11	1 1 unit 41K 1 1 unit 41K
 3SE5000-0AE10	Roller levers, type E, according to EN 50047 • Metal lever • High-grade steel lever	Plastic roller High-grade steel roller 13 13	⊕ ⊕ ⊕ ⊕	3SE5000-0AE10 3SE5000-0AE11 3SE5000-0AE12 3SE5000-0AE13	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K
 3SE5000-0AF10	Angular roller levers • Metal lever • High-grade steel lever	Plastic roller High-grade steel roller 13 13	⊕ ⊕ ⊕ ⊕	3SE5000-0AF10 3SE5000-0AF11 3SE5000-0AF12 3SE5000-0AF13	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K
 3SE5000-0AR01 3SE5000-0AR03	Spring rods (for switches with snap-action contacts only) • Plunger made of plastic, spring of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm) - Length 76 mm (spring 23.5 mm, plunger 10 mm) - Length 242.5 mm (spring 150 mm, plunger 50 mm) • Plunger and spring made of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm)			3SE5000-0AR01 3SE5000-0AR03 3SE5000-0AR04 3SE5000-0AR02	1 1 unit 41K 1 1 unit 41K 1 1 unit 41K 1 1 unit 41K

⊕ Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
		mm			
Twist actuators					
	Twist actuators, for 31/40/56/56 XL mm, according to EN 50047				
3SE5000-0AK00	• For twist levers and rod levers, switching right and/or left, adjustable	--	⊕	3SE5000-0AK00	1 1 unit 41K
	• For fork levers, latching	--	⊕	3SE5000-0AT10	1 1 unit 41K
Levers					
Twist levers 21 mm, straight, type A, according to EN 50047					
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA21
			30	⊕	3SE5000-0AA25
3SE5000-0AA21		High-grade steel roller	19	⊕	3SE5000-0AA22
		- With ball bearing	19	⊕	3SE5000-0AA23
	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA31
		High-grade steel roller	19	⊕	3SE5000-0AA32
Twist levers 30 mm, straight¹⁾					
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA24
			30	⊕	3SE5000-0AA26
3SE5000-0AA24					
Twist levers 100 mm, adjustable length, with grid hole					
	• Metal lever	Plastic roller	19	⊕	3SE5000-0AA60
			50	⊕	3SE5000-0AA67
		High-grade steel roller	19	⊕	3SE5000-0AA61
		Rubber roller	50	⊕	3SE5000-0AA68
3SE5000-0AA60	• High-grade steel lever	Plastic roller	19	⊕	3SE5000-0AA62
		High-grade steel roller	19	⊕	3SE5000-0AA63
Twist levers 100 mm, adjustable length					
	• Metal lever	Plastic roller	19		3SE5000-0AA50
			30		3SE5000-0AA55
			50		3SE5000-0AA57
		High-grade steel roller	19		3SE5000-0AA51
		Rubber roller	50		3SE5000-0AA58
3SE5000-0AA50	• High-grade steel lever	Plastic roller	19		3SE5000-0AA52
		High-grade steel roller	19		3SE5000-0AA53
Fork levers					
(for switches with snap-action contacts only)					
	• 2 metal levers	2 plastic rollers	19	⊕	3SE5000-0AT01
		2 high-grade steel rollers	19	⊕	3SE5000-0AT02
3SE5000-0AT01	• 2 high-grade steel levers	2 plastic rollers	19	⊕	3SE5000-0AT03
		2 high-grade steel rollers	19	⊕	3SE5000-0AT04
Rod levers					
	• Aluminum rod	Length 200 mm	6		3SE5000-0AA80
	• Spring rod	Length 200 mm	6		3SE5000-0AA81
	• Plastic rod	Length 200 mm	6		3SE5000-0AA82
		Length 330 mm	6		3SE5000-0AA83
3SE5000-0AA80					

⊕ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 40 mm



3SE5112-0BB01

Plain plungers, according to EN 50041

With high-grade steel plunger 8.5 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0KB01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LB01	1	1 unit	41K
With M12 device plug, 5-pole (125 V, 4 A) ²⁾						
With pin assignment as for SIMATIC ET 200 ³⁾						
• Snap-action contacts	2 NC --	⊕	3SE5114-0LB01-1AE3	1	1 unit	41K



3SE5112-0BC02

Rounded plungers, type B, according to EN 50041

With high-grade steel plunger 10 mm, with 3 mm overtravel

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BC02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0KC02	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CC02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LC02	1	1 unit	41K
- Increased operation/restoring force ⁴⁾	1 NO + 1 NC --	⊕	3SE5112-0CC02-1AA7	1	1 unit	41K
With M12 device plug, 4-pole (125 V, 4 A) ²⁾						
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5114-0CC02-1AC4	1	1 unit	41K



3SE5112-0BD02

Roller plungers, type C, according to EN 50041

With high-grade steel roller 13 mm, with 3 mm overtravel

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BD02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0KD02	1	1 unit	41K
- Increased operation/restoring force ⁴⁾	2 NO + 1 NC --	⊕	3SE5112-0PD02-1AA7	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CD02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LD02	1	1 unit	41K
- Increased operation/restoring force ⁴⁾	1 NO + 1 NC --	⊕	3SE5112-0CD02-1AA7	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LD02-1AA7	1	1 unit	41K
With M12 device plug, 5-pole (125 V, 4 A) ²⁾						
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5114-0CD02-1AC5	1	1 unit	41K
- Increased operation/restoring force ⁴⁾	1 NO + 1 NC --	⊕	3SE5114-0CD02-1AL0	1	1 unit	41K
With 2 LEDs, yellow/green						
• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5114-1CD02-1AF3	1	1 unit	41K
	1 NO + 1 NC 24 V DC	⊕	3SE5114-1CD02-1AF5	1	1 unit	41K
With pin assignment as for SIMATIC ET 200 ³⁾						
• Snap-action contacts	2 NC --	⊕	3SE5114-0LD02-1AE3	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) For pin assignments, see page 12/13.

3) The 3SE5114-...-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

4) Increased operation or restoring force 30 N; only available as complete unit, no modular design.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 40 mm

3SE5112-0BE01

Roller levers, according to EN 50041**With metal lever and plastic roller 22 mm**

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BE01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0KE01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CE01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LE01	1	1 unit	41K



3SE5112-0BF01

Angular roller levers, according to EN 50041**With metal lever and plastic roller 22 mm**

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BF01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CF01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LF01	1	1 unit	41K



3SE5112-0CR01

Spring rod²⁾, according to EN 50041**Length 142.5 mm, with plastic plunger 50 mm**

• Snap-action contacts	1 NO + 1 NC --		3SE5112-0CR01	1	1 unit	41K
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3SE5112-0BH01

Twist levers, type A, according to EN 50041**With metal lever 27 mm and plastic roller 19 mm**

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BH01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0KH01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CH01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5112-0LH01	1	1 unit	41K

With M12 device plug, 5-pole (125 V, 4 A)³⁾

• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5114-0CH01-1AC5	1	1 unit	41K
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With 2 LEDs, yellow/green

• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5114-1CH01-1AF3	1	1 unit	41K
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With pin assignment as for SIMATIC ET 200⁴⁾

• Snap-action contacts	2 NC --	⊕	3SE5114-0LH01-1AE3	1	1 unit	41K
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With metal lever 27 mm and high-grade steel roller 19 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BH02	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CH02	1	1 unit	41K

With M12 device plug, 5-pole (125 V, 4 A)³⁾

With 2 LEDs, yellow/green

• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5114-1CH02-1AF3	1	1 unit	41K
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With metal lever 30 mm and plastic roller 19 mm

• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CH24	1	1 unit	41K
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3SE5114-1CH02-1AF3

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Degree of protection IP65/IP67.

3) For pin assignments, see page 12/13.

4) The 3SE5114-.....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Basic switches · Enclosure width 40 mm**Rounded plungers, according to EN 50041**

 3SE5112-0BA00	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BA00	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5112-0KA00	1	1 unit	41K
		2 NO + 1 NC --	⊕	3SE5112-0PA00	1	1 unit	41K
	- With make-before-break	1 NO + 2 NC --	⊕	3SE5112-0MA00	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CA00	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5112-0LA00	1	1 unit	41K
 3SE5112-0BA00-1CA0	- Gold-plated contacts		⊕	3SE5112-0CA00-1AC1	1	1 unit	41K
	With increased corrosion protection ¹⁾						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5112-0BA00-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5112-0KA00-1CA0	1	1 unit	41K
		2 NO + 1 NC --	⊕	3SE5112-0PA00-1CA0	1	1 unit	41K
	- With make-before-break	1 NO + 2 NC --	⊕	3SE5112-0MA00-1CA0	1	1 unit	41K
 3SE5112-1KA00	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5112-0CA00-1CA0	1	1 unit	41K
		1 NO + 2 NC --	⊕	3SE5112-0LA00-1CA0	1	1 unit	41K
	With 2 LEDs, yellow/green						
	• Slow-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5112-1KA00	1	1 unit	41K
		1 NO + 2 NC 230 V AC	⊕	3SE5112-3KA00	1	1 unit	41K
	• Snap-action contacts	1 NO + 2 NC 24 V DC	⊕	3SE5112-1LA00	1	1 unit	41K
 3SE5114-0BA00-1AC5		1 NO + 2 NC 230 V AC	⊕	3SE5112-3LA00	1	1 unit	41K
	With M12 device plug, 5-pole (125 V, 4 A) ²⁾						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5114-0BA00-1AC5	1	1 unit	41K
		2 NC --	⊕	3SE5114-0KA00-1AE1	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5114-0CA00-1AC5	1	1 unit	41K
		2 NC --	⊕	3SE5114-0LA00-1AE1	1	1 unit	41K
 3SE5115-0KA00-1AD1	With 2 LEDs, yellow/green						
	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5114-1BA00-1AF3	1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5114-1CA00-1AF3	1	1 unit	41K
	With pin assignment as for SIMATIC ET 200 ³⁾						
	• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5114-0LA00-1AE3	1	1 unit	41K
	With device plug, 6-pole + PE (250 V, 10 A) ²⁾						
• Slow-action contacts	1 NO + 2 NC --	⊕	3SE5115-0KA00-1AD1	1	1 unit	41K	
• Snap-action contacts	1 NO + 2 NC --	⊕	3SE5115-0LA00-1AD1	1	1 unit	41K	
With quick-release device							
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5115-0CA00-1AD0	1	1 unit	41K	

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Use corresponding high-grade steel lever.

2) For pin assignments, see page 12/13.

3) The 3SE5114-.....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG	
	mm	Article No.	Price per PU			
Actuators						
	Plain plunger					
3SE5000-0AB01	<ul style="list-style-type: none"> High-grade steel plunger 	8.5	⊕	3SE5000-0AB01	1 1 unit 41K	
	Rounded plunger, type B, according to EN 50041					
3SE5000-0AC02	<ul style="list-style-type: none"> High-grade steel plunger, with 3 mm overtravel 	10	⊕	3SE5000-0AC02	1 1 unit 41K	
	Roller plunger, type C, according to EN 50041					
3SE5000-0AD02	<ul style="list-style-type: none"> High-grade steel roller, with 3 mm overtravel 	13	⊕	3SE5000-0AD02	1 1 unit 41K	
	Roller levers					
3SE5000-0AE01	<ul style="list-style-type: none"> High-grade steel lever 	Plastic roller	22	⊕	3SE5000-0AE01	1 1 unit 41K
		High-grade steel roller	22	⊕	3SE5000-0AE02	1 1 unit 41K
		Plastic roller	22	⊕	3SE5000-0AE03	1 1 unit 41K
		High-grade steel roller	22	⊕	3SE5000-0AE04	1 1 unit 41K
	Angular roller levers					
3SE5000-0AF01	<ul style="list-style-type: none"> High-grade steel lever 	Plastic roller	22	⊕	3SE5000-0AF01	1 1 unit 41K
		High-grade steel roller	22	⊕	3SE5000-0AF02	1 1 unit 41K
		Plastic roller	22	⊕	3SE5000-0AF03	1 1 unit 41K
		High-grade steel roller	22	⊕	3SE5000-0AF04	1 1 unit 41K
	Spring rods (for switches with snap-action contacts only)					
3SE5000-0AR01	<ul style="list-style-type: none"> Plunger made of plastic, spring of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm) - Length 76 mm (spring 23.5 mm, plunger 10 mm) - Length 242.5 mm (spring 150 mm, plunger 50 mm) 			3SE5000-0AR01	1 1 unit 41K	
				3SE5000-0AR03	1 1 unit 41K	
				3SE5000-0AR04	1 1 unit 41K	
				3SE5000-0AR02	1 1 unit 41K	
3SE5000-0AR02	<ul style="list-style-type: none"> Plunger and spring made of high-grade steel: 7 - Length 142.5 mm (spring 50 mm, plunger 50 mm) 			3SE5000-0AR02	1 1 unit 41K	

⊕ Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Twist actuators					
	Twist actuators, for 31/40/56/56 mm, XL, according to EN 50041				
3SE5000-0AH00		• For twist levers and rod levers, switching right and/or left, adjustable			
	--	→	3SE5000-0AH00	1	1 unit 41K
		• For fork levers, latching			
	--	→	3SE5000-0AT10	1	1 unit 41K
Levers					
Twist levers 27 mm, offset, type A, according to EN 50041					
		• Metal lever	Plastic roller	19	→
3SE5000-0AA01				30	→
				50	→
			2 plastic rollers	19	→
			High-grade steel roller	19	→
			- With ball bearing	19	→
			Rubber roller	50	→
		• High-grade steel lever	Plastic roller	19	→
3SE5000-0AA24			High-grade steel roller	19	→
Twist levers 35 mm, offset, type A, according to EN 50041					
		• Metal lever	Plastic roller	19	→
		• High-grade steel lever	Plastic roller	19	→
Twist levers 30 mm, straight¹⁾, type A, according to EN 50041					
		• Metal lever	Plastic roller	19	→
				30	→
Twist levers 100 mm, adjustable length, with grid hole					
		• Metal lever	Plastic roller	19	→
3SE5000-0AA60				50	→
			High-grade steel roller	19	→
			Rubber roller	50	→
		• High-grade steel lever	Plastic roller	19	→
			High-grade steel roller	19	→
Twist levers 100 mm, adjustable length					
		• Metal lever	Plastic roller	19	→
				30	→
			High-grade steel roller	19	→
			Rubber roller	50	→
		• High-grade steel lever	Plastic roller	19	→
3SE5000-0AA50			High-grade steel roller	19	→
Twist lever bent 150 mm, adjustable length					
		• Metal lever	Plastic roller	22	→
3SE5000-0AA56					
Fork levers					
(for switches with snap-action contacts only)					
		• 2 metal levers	2 plastic rollers	19	→
3SE5000-0AT01			2 high-grade steel rollers	19	→
		• 2 high-grade steel levers	2 plastic rollers	19	→
			2 high-grade steel rollers	19	→
Rod levers, type D, according to EN 50041					
		• Aluminum rod	Length 200 mm	6	→
		• Spring rod	Length 200 mm	6	→
		• Plastic rod	Length 200 mm	6	→
			Length 330 mm	6	→
3SE5000-0AA80					

→ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 56 mm

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 56 mm



3SE5122-0BB01

Plain plungers

With high-grade steel plunger 8.5 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5122-0BB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0KB01	1	1 unit	41K
	2 NO + 1 NC --	⊕	3SE5122-0PB01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CB01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0LB01	1	1 unit	41K



3SE5122-0BC02

Rounded plungers

With high-grade steel plunger 10 mm, with 3 mm overtravel

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5122-0BC02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0KC02	1	1 unit	41K
	2 NO + 1 NC --	⊕	3SE5122-0PC02	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CC02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0LC02	1	1 unit	41K
- Increased operation/restoring force ²⁾	1 NO + 1 NC --	⊕	3SE5122-0CC02-1AA7	1	1 unit	41K



3SE5122-0BD02

Roller plungers

With high-grade steel roller 13 mm, with 3 mm overtravel

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5122-0BD02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0KD02	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CD02	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0LD02	1	1 unit	41K
- Increased operation/restoring force ²⁾	1 NO + 1 NC --	⊕	3SE5122-0CD02-1AA7	1	1 unit	41K



3SE5122-0BE01

Roller levers

With metal lever and plastic roller 22 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5122-0BE01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0KE01	1	1 unit	41K
	2 NO + 1 NC --	⊕	3SE5122-0PE01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CE01	1	1 unit	41K
	1 NO + 2 NC --	⊕	3SE5122-0LE01	1	1 unit	41K

With metal lever and high-grade steel roller 22 mm

• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CE02	1	1 unit	41K
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3SE5122-0BF01

Angular roller levers

With metal lever and plastic roller 22 mm

• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5122-0BF01	1	1 unit	41K
	2 NO + 1 NC --	⊕	3SE5122-0PF01	1	1 unit	41K
• Snap-action contacts	1 NO + 1 NC --	⊕	3SE5122-0CF01	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ Increased operation or restoring force 30 N; only available as complete unit, no modular design.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 56 mm

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG	
			Article No.	Price per PU			
Complete units¹⁾ · Enclosure width 56 mm							
	Spring rod²⁾ Length 142.5 mm, with plastic plunger 50 mm						
3SE5122-OCR01	• Snap-action contacts	1 NO + 1 NC --	3SE5122-OCR01	1	1 unit	41K	
	Twist levers With metal lever 27 mm and plastic roller 19 mm						
3SE5122-OBH01	• Slow-action contacts	1 NO + 1 NC --	3SE5122-OBH01	1	1 unit	41K	
		1 NO + 2 NC --	3SE5122-OKH01	1	1 unit	41K	
		2 NO + 1 NC --	3SE5122-OPH01	1	1 unit	41K	
	• Snap-action contacts	1 NO + 1 NC --	3SE5122-0CH01	1	1 unit	41K	
		1 NO + 2 NC --	3SE5122-0LH01	1	1 unit	41K	
	Twist levers, adjustable length With metal lever 100 mm, with grid holes and plastic roller 19 mm						
3SE5122-OBH60	• Slow-action contacts	1 NO + 1 NC --	3SE5122-OBH60	1	1 unit	41K	
		• Snap-action contacts	1 NO + 1 NC --	3SE5122-0CH60	1	1 unit	41K
		1 NO + 2 NC --	3SE5122-0LH60	1	1 unit	41K	
3SE5122-OBH50	• Slow-action contacts	1 NO + 1 NC --	3SE5122-OBH50	1	1 unit	41K	
		• Snap-action contacts	1 NO + 1 NC --	3SE5122-0CH50	1	1 unit	41K
		1 NO + 2 NC --	3SE5122-0LH50	1	1 unit	41K	
	Fork lever, latching With metal lever and 2 plastic rollers 19 mm						
3SE5122-OCT11	• Snap-action contacts	1 NO + 1 NC --	3SE5122-OCT11	1	1 unit	41K	
	Rod levers²⁾ With aluminum rod 200 mm						
3SE5122-0CH80	• Snap-action contacts	1 NO + 1 NC --	3SE5122-0CH80	1	1 unit	41K	
		With plastic rod 200 mm					
	• Snap-action contacts	1 NO + 1 NC --	3SE5122-0CH82	1	1 unit	41K	

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Degree of protection IP65/IP67.

Note:

If the device you require is not available as a complete unit, see [Modular system, page 12/44 onwards](#).

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 56 mm

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Basic switches · Enclosure width 56 mm



3SE5122-0BA00

Rounded plungers

- Slow-action contacts

1 NO + 1 NC --	⊕
1 NO + 2 NC --	⊕
2 NO + 1 NC --	⊕
- With make-before-break

1 NO + 2 NC --	⊕
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- Snap-action contacts

1 NO + 1 NC --	⊕
1 NO + 2 NC --	⊕

3SE5122-0BA00	1	1 unit	41K
3SE5122-0KA00	1	1 unit	41K
3SE5122-0PA00	1	1 unit	41K
3SE5122-0MA00	1	1 unit	41K
3SE5122-0CA00	1	1 unit	41K
3SE5122-0LA00	1	1 unit	41K



3SE5122-0BA00-1CA00

With increased corrosion protection¹⁾

- Slow-action contacts

1 NO + 1 NC --	⊕
1 NO + 2 NC --	⊕
2 NO + 1 NC --	⊕
- With make-before-break

1 NO + 2 NC --	⊕
----------------	---
- Snap-action contacts

1 NO + 1 NC --	⊕
1 NO + 2 NC --	⊕

3SE5122-0BA00-1CA00	1	1 unit	41K
3SE5122-0KA00-1CA00	1	1 unit	41K
3SE5122-0PA00-1CA00	1	1 unit	41K
3SE5122-0MA00-1CA00	1	1 unit	41K
3SE5122-0CA00-1CA00	1	1 unit	41K
3SE5122-0LA00-1CA00	1	1 unit	41K



3SE5122-1KA00

With 2 LEDs, yellow/green

- Slow-action contacts

1 NO + 2 NC 24 V DC	⊕
1 NO + 2 NC 230 V AC	⊕
- Snap-action contacts

1 NO + 2 NC 24 V DC	⊕
1 NO + 2 NC 230 V AC	⊕

3SE5122-1KA00	1	1 unit	41K
3SE5122-3KA00	1	1 unit	41K
3SE5122-1LA00	1	1 unit	41K
3SE5122-3LA00	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Use corresponding high-grade steel lever.

Note:

For the selection aid, see page 12/14.

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		

Actuators



3SE5000-0AB01

Plain plunger

- High-grade steel plunger 8.5 ⊕

3SE5000-0AB01	1	1 unit	41K
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3SE5000-0AC02

Rounded plunger, type B, according to EN 50041

- High-grade steel plunger, with 3 mm overtravel 10 ⊕

3SE5000-0AC02	1	1 unit	41K
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3SE5000-0AD02

Roller plunger, type C, according to EN 50041

- High-grade steel roller, with 3 mm overtravel 13 ⊕

3SE5000-0AD02	1	1 unit	41K
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3SE5000-0AE01

Roller levers

- Metal lever

Plastic roller 22	⊕
High-grade steel roller 22	⊕
- High-grade steel lever

Plastic roller 22	⊕
High-grade steel roller 22	⊕

3SE5000-0AE01	1	1 unit	41K
3SE5000-0AE02	1	1 unit	41K
3SE5000-0AE03	1	1 unit	41K
3SE5000-0AE04	1	1 unit	41K



3SE5000-0AF01

Angular roller levers

- Metal lever

Plastic roller 22	⊕
High-grade steel roller 22	⊕
- High-grade steel lever

Plastic roller 22	⊕
High-grade steel roller 22	⊕

3SE5000-0AF01	1	1 unit	41K
3SE5000-0AF02	1	1 unit	41K
3SE5000-0AF03	1	1 unit	41K
3SE5000-0AF04	1	1 unit	41K



3SE5000-0AR01

Spring rods

(for switches with snap-action contacts only)

- Plunger made of plastic, spring of high-grade steel: 7
 - Length 142.5 mm (spring 50 mm, plunger 50 mm)
 - Length 76 mm (spring 23.5 mm, plunger 10 mm)
 - Length 242.5 mm (spring 150 mm, plunger 50 mm)
- Plunger and spring made of high-grade steel: 7
 - Length 142.5 mm (spring 50 mm, plunger 50 mm)

3SE5000-0AR01	1	1 unit	41K
3SE5000-0AR03	1	1 unit	41K
3SE5000-0AR04	1	1 unit	41K
3SE5000-0AR02	1	1 unit	41K

⊕ Positively driven actuator, necessary in safety circuits.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 56 mm

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Twist actuators					
	Twist actuators, for 40/56/56 mm, XL, according to EN 50041				
3SE5000-0AH00		• For twist levers and rod levers, switching right and/or left, adjustable	--	⊕	3SE5000-0AH00 1 1 unit 41K
		• For fork levers, latching	--	⊕	3SE5000-0AT10 1 1 unit 41K
Levers					
Twist levers 27 mm, offset, type A, according to EN 50041					
		• Metal lever Plastic roller	19	⊕	3SE5000-0AA01 1 1 unit 41K
3SE5000-0AA01			30	⊕	3SE5000-0AA05 1 1 unit 41K
			50	⊕	3SE5000-0AA07 1 1 unit 41K
		2 plastic rollers	19	⊕	3SE5000-0AA04 1 1 unit 41K
3SE5000-0AA24		High-grade steel roller	19	⊕	3SE5000-0AA02 1 1 unit 41K
		- With ball bearing	19	⊕	3SE5000-0AA03 1 1 unit 41K
		Rubber roller	50	⊕	3SE5000-0AA08 1 1 unit 41K
		• High-grade steel lever Plastic roller	19	⊕	3SE5000-0AA11 1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA12 1 1 unit 41K
Twist levers 35 mm, offset, type A, according to EN 50041					
		• Metal lever Plastic roller	19	⊕	3SE5000-0AA15 1 1 unit 41K
		• High-grade steel lever Plastic roller	19	⊕	3SE5000-0AA16 1 1 unit 41K
Twist levers 30 mm, straight¹⁾, type A, according to EN 50041					
		• Metal lever Plastic roller	19	⊕	3SE5000-0AA24 1 1 unit 41K
3SE5000-0AA60			30	⊕	3SE5000-0AA26 1 1 unit 41K
Twist levers 100 mm, adjustable length, with grid hole					
		• Metal lever Plastic roller	19	⊕	3SE5000-0AA60 1 1 unit 41K
3SE5000-0AA60			50	⊕	3SE5000-0AA67 1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA61 1 1 unit 41K
		Rubber roller	50	⊕	3SE5000-0AA68 1 1 unit 41K
		• High-grade steel lever Plastic roller	19	⊕	3SE5000-0AA62 1 1 unit 41K
3SE5000-0AA50		High-grade steel roller	19	⊕	3SE5000-0AA63 1 1 unit 41K
		Twist levers 100 mm, adjustable length			
		• Metal lever Plastic roller	19	⊕	3SE5000-0AA50 1 1 unit 41K
		High-grade steel roller	19	⊕	3SE5000-0AA51 1 1 unit 41K
		Plastic roller	30	⊕	3SE5000-0AA55 1 1 unit 41K
			50	⊕	3SE5000-0AA57 1 1 unit 41K
		Rubber roller	50	⊕	3SE5000-0AA58 1 1 unit 41K
		• High-grade steel lever Plastic roller	19	⊕	3SE5000-0AA52 1 1 unit 41K
3SE5000-0AA56		High-grade steel roller	19	⊕	3SE5000-0AA53 1 1 unit 41K
		Twist lever bent 150 mm, adjustable length			
		• Metal lever Plastic roller	22	⊕	3SE5000-0AA56 1 1 unit 41K
Fork levers					
(for switches with snap-action contacts only)					
		• 2 metal levers 2 plastic rollers	19	⊕	3SE5000-0AT01 1 1 unit 41K
3SE5000-0AT01		2 high-grade steel rollers	19	⊕	3SE5000-0AT02 1 1 unit 41K
		• 2 high-grade steel levers 2 plastic rollers	19	⊕	3SE5000-0AT03 1 1 unit 41K
		2 high-grade steel rollers	19	⊕	3SE5000-0AT04 1 1 unit 41K
Rod levers					
		• Aluminum rod Length 200 mm	6	⊕	3SE5000-0AA80 1 1 unit 41K
3SE5000-0AA80		Spring rod Length 200 mm	6	⊕	3SE5000-0AA81 1 1 unit 41K
		• Plastic rod Length 200 mm	6	⊕	3SE5000-0AA82 1 1 unit 41K
		Length 330 mm	6	⊕	3SE5000-0AA83 1 1 unit 41K

⊕ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 56 mm, XL

Selection and ordering data

Complete units

4 or 5 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

Version	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 56 mm, XL

	Plain plunger					
	With high-grade steel plunger 8.5 mm					
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CB01	1	1 unit 41K
3SE5162-0CB01						
	Rounded plunger					
	With high-grade steel plunger 10 mm, with 3 mm overtravel					
	• Slow-action contacts and Slow-action contacts with make-before-break, 2 mm travel difference	1 NO + 1 NC --	⊕	3SE5162-0EC02	1	1 unit 41K
3SE5162-0EC02		1 NO + 2 NC				
	Roller plungers					
	With high-grade steel roller 13 mm, with 3 mm overtravel					
	• Slow-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0BD02	1	1 unit 41K
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CD02	1	1 unit 41K
3SE5162-0BD02						
	Roller levers					
	With metal lever and plastic roller 22 mm					
	• Slow-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0BE01	1	1 unit 41K
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CE01	1	1 unit 41K
	With metal lever and high-grade steel roller 22 mm					
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CE02	1	1 unit 41K
3SE5162-0BE01						
	Angular roller lever					
	With metal lever and plastic roller 22 mm					
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CF01	1	1 unit 41K
3SE5162-0CF01						
	Twist levers					
	With metal lever 27 mm and plastic roller 19 mm					
	• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CH01	1	1 unit 41K
	With high-grade steel lever 27 mm and high-grade steel roller 19 mm					
	With increased corrosion protection ²⁾					
	• Snap-action contacts (gold contacts)	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CH12-1CC1	1	1 unit 41K
	Twist lever, adjustable length					
	With high-grade steel lever 100 mm, with grid hole and high-grade steel roller 19 mm					
	With increased corrosion protection ²⁾ , 3SX5100-3B adapter included					
	• Snap-action contacts (gold contacts)	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CH63-1AN4	1	1 unit 41K
3SE5162-0CH01						

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Use corresponding high-grade steel lever.

Note:

If the device you require is not available as a complete unit, see [Modular system, page 12/47 onwards](#).

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, metal enclosures

Enclosure width 56 mm, XL

Modular system

4 or 6 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input checked="" type="checkbox"/>			
			Article No.	Price per PU		

Basic switches - Enclosure width 56 mm, XL

3SE5162-0BA00

Rounded plungers

• Slow-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0BA00	1	1 unit	41K
- With make-before-break	2 x (1 NO + 2 NC) --	⊕	3SE5162-0DA00	1	1 unit	41K
• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CA00	1	1 unit	41K
With increased corrosion protection ¹⁾						
• Slow-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0BA00-1CA0	1	1 unit	41K
- With make-before-break	2 x (1 NO + 2 NC) --	⊕	3SE5162-0DA00-1CA0	1	1 unit	41K
• Snap-action contacts	2 x (1 NO + 1 NC) --	⊕	3SE5162-0CA00-1CA0	1	1 unit	41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Use corresponding high-grade steel lever.

Note:

For the selection aid, see page 12/14.

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
		Article No.	Price per PU		

Actuators

3SE5000-0AB01

Plain plunger

• High-grade steel plunger	8.5	⊕	3SE5000-0AB01	1	1 unit	41K
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3SE5000-0AC02

Rounded plunger, type B, according to EN 50041

• High-grade steel plunger, with 3 mm overtravel	10	⊕	3SE5000-0AC02	1	1 unit	41K
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3SE5000-0AD02

Roller plunger, type C, according to EN 50041

• High-grade steel roller, with 3 mm overtravel	13	⊕	3SE5000-0AD02	1	1 unit	41K
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3SE5000-0AE01

Roller levers

• Metal lever	Plastic roller	22	⊕	3SE5000-0AE01	1	1 unit	41K
	High-grade steel roller	22	⊕	3SE5000-0AE02	1	1 unit	41K
• High-grade steel lever	Plastic roller	22	⊕	3SE5000-0AE03	1	1 unit	41K
	High-grade steel roller	22	⊕	3SE5000-0AE04	1	1 unit	41K



3SE5000-0AF01

Angular roller levers

• Metal lever	Plastic roller	22	⊕	3SE5000-0AF01	1	1 unit	41K
	High-grade steel roller	22	⊕	3SE5000-0AF02	1	1 unit	41K
• High-grade steel lever	Plastic roller	22	⊕	3SE5000-0AF03	1	1 unit	41K
	High-grade steel roller	22	⊕	3SE5000-0AF04	1	1 unit	41K



3SE5000-0AR01

Spring rods

(for switches with snap-action contacts only)

• Plunger made of plastic, spring of high-grade steel:	7					
- Length 142.5 mm (spring 50 mm, plunger 50 mm)			3SE5000-0AR01	1	1 unit	41K
- Length 76 mm (spring 23.5 mm, plunger 10 mm)			3SE5000-0AR03	1	1 unit	41K
- Length 242.5 mm (spring 150 mm, plunger 50 mm)			3SE5000-0AR04	1	1 unit	41K
• Plunger and spring made of high-grade steel:	7					
- Length 142.5 mm (spring 50 mm, plunger 50 mm)			3SE5000-0AR02	1	1 unit	41K

⊕ Positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Enclosure width 56 mm, XL

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Twist actuators					
	Twist actuators, for 40/56/56 mm, XL, according to EN 50041				
3SE5000-0AH00	• For twist levers and rod levers, switching right and/or left, adjustable	3SE5000-0AH00	1	1 unit	41K
	• For fork levers, latching	3SE5000-0AT10	1	1 unit	41K
Levers					
	Twist levers 27 mm, offset, type A, according to EN 50041				
3SE5000-0AA01	• Metal lever Plastic roller 19	3SE5000-0AA01	1	1 unit	41K
	30	3SE5000-0AA05	1	1 unit	41K
	50	3SE5000-0AA07	1	1 unit	41K
	2 plastic rollers 19	3SE5000-0AA04	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA02	1	1 unit	41K
	- With ball bearing 19	3SE5000-0AA03	1	1 unit	41K
	Rubber roller 50	3SE5000-0AA08	1	1 unit	41K
	• High-grade steel lever Plastic roller 19	3SE5000-0AA11	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA12	1	1 unit	41K
	Twist levers 35 mm, offset, type A, according to EN 50041				
3SE5000-0AA24	• Metal lever Plastic roller 19	3SE5000-0AA15	1	1 unit	41K
	• High-grade steel lever Plastic roller 19	3SE5000-0AA16	1	1 unit	41K
	Twist levers 30 mm, straight¹⁾, type A, according to EN 50041				
3SE5000-0AA60	• Metal lever Plastic roller 19	3SE5000-0AA24	1	1 unit	41K
	30	3SE5000-0AA26	1	1 unit	41K
	Twist levers 100 mm, adjustable length, with grid hole				
3SE5000-0AA60	• Metal lever Plastic roller 19	3SE5000-0AA60	1	1 unit	41K
	50	3SE5000-0AA67	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA61	1	1 unit	41K
	Rubber roller 50	3SE5000-0AA68	1	1 unit	41K
	• High-grade steel lever Plastic roller 19	3SE5000-0AA62	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA63	1	1 unit	41K
	Twist levers 100 mm, adjustable length				
3SE5000-0AA50	• Metal lever Plastic roller 19	3SE5000-0AA50	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA51	1	1 unit	41K
	Plastic roller 30	3SE5000-0AA55	1	1 unit	41K
	50	3SE5000-0AA57	1	1 unit	41K
	Rubber roller 50	3SE5000-0AA58	1	1 unit	41K
	• High-grade steel lever Plastic roller 19	3SE5000-0AA52	1	1 unit	41K
	High-grade steel roller 19	3SE5000-0AA53	1	1 unit	41K
	Fork levers (for switches with snap-action contacts only)				
3SE5000-0AT01	• 2 metal levers 2 plastic rollers 19	3SE5000-0AT01	1	1 unit	41K
	2 high-grade steel rollers 19	3SE5000-0AT02	1	1 unit	41K
	• 2 high-grade steel levers 2 plastic rollers 19	3SE5000-0AT03	1	1 unit	41K
	2 high-grade steel rollers 19	3SE5000-0AT04	1	1 unit	41K
	Rod levers, type D, according to EN 50041				
3SE5000-0AA80	• Aluminum rod Length 200 mm 6	3SE5000-0AA80	1	1 unit	41K
	• Spring rod Length 200 mm 6	3SE5000-0AA81	1	1 unit	41K
	• Plastic rod Length 200 mm 6	3SE5000-0AA82	1	1 unit	41K
	Length 330 mm 6	3SE5000-0AA83	1	1 unit	41K

➔ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Overview



Compact design in width 30 mm

Particularly in harsh environments or on equipment with limited space, the small 3SE54 position switches in compact design with a depth of 16 mm and a weight of only 80 g (without cable) are ideal. Above all the versions with molded cable can be mounted in the most confined spaces.

3SE54 compact position switches are available in two different widths as complete units:

- The 3SE5413 series complies with the EU standard and features a 30 mm wide enclosure with drilled holes at a spacing of 20 mm.
- The 3SE5423 series meets the requirements of the US market and features a 40 mm wide enclosure with drilled holes at a spacing of 25 mm.

Both the enclosure and the actuator head are made of metal and comply with the high degree of protection IP67.

The following actuators are available:

- Rounded plungers
- Rounded plungers with central fixing
- Rounded plungers with external seal
- Roller plungers
- Roller plungers with central fixing
- Twist levers
- Twist levers with a smaller mounting depth and lower height
- Twist levers, adjustable length

The contact block is designed with snap-action contacts 1 NO + 1 NC. The NC contact complies with the requirements for positive opening according to IEC 60947-5-1.

Connection:

- With molded cable, length 2 m or 5 m
- With M12 device plug and connecting cable, M12 socket, 5-pole, with open end, length 5 m

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol \ominus .

SIL 1 according to IEC 62061/IEC 61508 or PL c according to ISO 13849-1 can be attained with the 3SE5 position switches with \ominus if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 position switch with \ominus is used, SIL 3/PL e can be attained.

Benefits

- Very compact yet with the same rating as the 3SE51 standard switches, for notable space savings in confined installation conditions
- Various actuator versions available
- Roller plungers can be rotated 90°
- Twist levers can be rotated 180°; twist levers can be adjusted in 15° increments
- Time is saved when mounting the fully assembled unit
- With metal enclosure of degree of protection IP67, ideal for use in rough industrial environments
- Insensitive to electromagnetic interference

Position and safety switches

SIRIUS 3SE5 mechanical position switches
3SE5, metal enclosures

Compact design

Selection and ordering data

2 snap-action contacts 1 NO + 1 NC · Degree of protection IP67 · With connecting cable or M12 device plug

Actuator	Enclosure width		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm						
Complete units · Enclosure width 30 or 40 mm							
 3SE5413-0CC20-1EA2	Rounded plungers						
	Standard mounting						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CC20-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CC20-1EA2		1	1 unit 41K
	• With connecting cable, 5 m	30	⊕	3SE5413-0CC20-1EA5		1	1 unit 41K
	• With M12 device plug, 5-pole	30	⊕	3SE5413-0CC20-1EB1		1	1 unit 41K
	40	⊕	3SE5423-0CC20-1EB1		1	1 unit 41K	
 3SE5413-0CC21-1EA2	With central fixing M12 x 1						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CC21-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CC21-1EA2		1	1 unit 41K
 3SE5413-0CC22-1EA2	With external seal						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CC22-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CC22-1EA2		1	1 unit 41K
 3SE5413-0CD20-1EA2	Roller plungers						
	Standard mounting						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CD20-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CD20-1EA2		1	1 unit 41K
	- Actuator head rotated 90°	30	⊕	3SE5413-0CD23-1EA2		1	1 unit 41K
	• With connecting cable, 5 m	30	⊕	3SE5413-0CD20-1EA5		1	1 unit 41K
	• With M12 device plug, 5-pole	30	⊕	3SE5413-0CD20-1EB1		1	1 unit 41K
		40	⊕	3SE5423-0CD20-1EB1		1	1 unit 41K
 3SE5413-0CD23-1EA2	With central fixing M12 x 1						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CD23-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CD23-1EA2		1	1 unit 41K
 3SE5413-0CN20-1EA2	Twist levers						
	Standard mounting						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CN20-1EA2		1	1 unit 41K
		40	⊕	3SE5423-0CN20-1EA2		1	1 unit 41K
	• With connecting cable, 5 m	30	⊕	3SE5413-0CN20-1EA5		1	1 unit 41K
	• With M12 device plug, 5-pole	30	⊕	3SE5413-0CN20-1EB1		1	1 unit 41K
		40	⊕	3SE5423-0CN20-1EB1		1	1 unit 41K
	Twist lever with a smaller mounting depth and lower height						
	• With connecting cable, 2 m	30	⊕	3SE5413-0CP20-1EA2		1	1 unit 41K
	Twist lever, adjustable length						
• With connecting cable, 2 m	30	⊕	3SE5413-0CQ20-1EA2		1	1 unit 41K	
Connecting cables							
 3SX5601-3SB55	Connecting cable						
	With M12 socket, 5-pole, open end, length 5 m	--		3SX5601-3SB55		1	1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

3SE5, open-type design

Enclosure width 30 mm

Overview



Open-type design

Their compact design makes these switches particularly suitable for use in confined conditions. The mountings and operating points comply with EN 50047.

The switches are equipped with two or three contacts in snap-action, slow-action or slow-action with make-before-break versions. The stroke is 6 mm.

The empty enclosure can be equipped with all contact block versions (see page 12/54).

Improved version

The switches have a robust metal plunger with increased abrasion resistance (instead of the rounded plunger). This enables the switch to be approached from a 30° angle.

Selection and ordering data

2 or 3 contacts · Degree of protection IP20¹⁾ (2 contacts), IP10 (3 contacts) · Mounting and operating points according to EN 50047

Version	Contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Plastic enclosures · Enclosure width 30 mm							
 3SE5250-0BC05	With metal plungers						
	• Slow-action contacts	1 NO + 1 NC ↻	3SE5250-0BC05		1	1 unit	41K
		1 NO + 2 NC ↻	3SE5250-0KC05		1	1 unit	41K
		2 NO + 1 NC ↻	3SE5250-0PC05		1	1 unit	41K
	- With make-before-break	1 NO + 2 NC ↻	3SE5250-0MC05		1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC ↻	3SE5250-0CC05		1	1 unit	41K
	1 NO + 2 NC ↻	3SE5250-0LC05		1	1 unit	41K	
 3SE5250-0KC05							
	• Empty enclosures without contact block	-- ↻	3SE5250-0AC05		1	1 unit	41K
 3SE5250-0AC05							
 3SE5050-0BA00	Contact blocks with 2 contacts For open-type design ²⁾						
	• Slow-action contacts	1 NO + 1 NC ↻	3SE5050-0BA00		1	1 unit	41K
	• Snap-action contacts	1 NO + 1 NC ↻	3SE5050-0CA00		1	1 unit	41K
	- Standard	↻	3SE5050-0GA00		1	1 unit	41K
	- Contact distance 2 x 2 mm	↻	3SE5050-0NA00		1	1 unit	41K
- Short stroke	↻						

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ With the conductor connected and the terminal screw tightened.

²⁾ Contact blocks with 3 contacts, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

Accessories and spare parts

Accessories

Selection and ordering data

The quick-release devices and plug-in connections are used for fast installation and replacement of position switches.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Service box for position switches					
 <p>3SX5110-0BK</p>	<p>Contents:</p> <ul style="list-style-type: none"> • Three basic switches with rounded plunger in plastic version in enclosure widths 31, 40, 50 mm • Various actuator heads: <ul style="list-style-type: none"> - Plain plunger - Roller plunger - Roller lever - Angular roller lever - Spring rod - Twist actuators with various lever versions • Accessories: M12 device plug, cover yellow, protective cap, two contact blocks • SIRIUS 3SE brochure in German and English <p>For more information, see flyer.</p>	3SX5110-0BK	1	1 unit	41K
Quick-release devices for enclosure width 40 mm					
 <p>3SY3110</p>	<p>Intermediate plate with screws</p>	3SY3110	1	1 unit	41K
 <p>3SY3027</p>	<p>Base plate with locking lever</p>	3SY3027	1	1 unit	41K
Plug-in connections for M20 x 1.5 connection threads					
 <p>3SY3131</p>	<p>Device plug (6-pole + PE), for M20 x 1.5 For max. 250 V, 10 A, With connecting cable 0.75 mm², plastic, degree of protection IP65, ambient temperature -40 to +90 °C</p>	3SY3131	1	1 unit	41K
 <p>3SX5100-1SS05</p>	<p>M12 device plugs, plastic, for M20 x 1.5</p> <ul style="list-style-type: none"> • 4-pole, for max. 250 V, 4 A, $U_{imp} = 2\,500\text{ V}$ • 5-pole, for max. 125 V, 4 A, $U_{imp} = 1\,500\text{ V}$ <ul style="list-style-type: none"> - Yellow/green cable for PE on pin 5 - Gray cable on pin 5, without PE • 5-pole¹⁾, for max. 60 V, 1.5 A, $U_{imp} = 800\text{ V}$ • 8-pole, for max. 30 V, 1.5 A, $U_{imp} = 800\text{ V}$ 	3SY3127	1	1 unit	41K
 <p>3SX5100-1SS51</p>		3SY3128	1	1 unit	41K
 <p>3SX5100-1SS08</p>		3SX5100-1SS05	1	1 unit	41K
		3SX5100-1SS51	1	1 unit	41K
		3SX5100-1SS08	1	1 unit	41K
 <p>3SX5601-2GA03</p>	<p>Connecting cables</p> <ul style="list-style-type: none"> • With M12 socket, 8-pole, straight, open end, rated voltage 30 V, rated current 2 A <ul style="list-style-type: none"> - Length 3 m - Length 5 m - Length 10 m - Length 15 m • With M12 socket, open end, length 5 m <ul style="list-style-type: none"> - 4-pole - 5-pole 	3SX5601-2GA03	1	1 unit	41K
		3SX5601-2GA05	1	1 unit	41K
		3SX5601-2GA10	1	1 unit	41K
		3SX5601-2GA15	1	1 unit	41K
 <p>3SX5601-3SB54</p>	<p>3SX5601-3SB54</p> <p>3SX5601-3SB55</p>	3SX5601-3SB54	1	1 unit	41K
		3SX5601-3SB55	1	1 unit	41K
 <p>3SX5601-3SV15</p>	<p>Connecting cable With M12 socket, 5-pole and M12 plug, 5-pole, length 1 m</p>	3SX5601-3SV15	1	1 unit	41K
 <p>6ES7194-6KB00-0XA0</p>	<p>ET 200 Y-cable¹⁾ for connecting 2 x 1-channel sensors With M12 plug, 5-pole on 2 x M12 sockets, 5-pole, length 200 mm</p>	6ES7194-6KB00-0XA0	1	1 unit	250

¹⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

Accessories and spare parts

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Plug-in connections for M20 x 1.5 connection threads					
 3RK1902-4CA00-4AA0	Cable box M12 Angled, 4-pole, max. 4 A with cable compartment, max. 0.75 mm ²	3RK1902-4CA00-4AA0	1	1 unit	42D
 3RK1902-4BA00-5AA0	M12 plugs, 5-pole <ul style="list-style-type: none"> • Straight, separate item • Angled, separate item 	3RK1902-4BA00-5AA0 3RK1902-4DA00-5AA0	1	1 unit	42D
Adapters and cable glands for M20 x 1.5 connection threads					
 3SX9917	Transition sockets according to ,  and  For cable entry from M20 x 1.5 to NPT 1/2 <ul style="list-style-type: none"> • Metal 	3SX9917	1	1 unit	41K
 3SX9918	<ul style="list-style-type: none"> • Plastic 	3SX9918	1	1 unit	41K
 3SX9926	Cable glands M20 x 1.5 Plastic <ul style="list-style-type: none"> • Degree of protection IP67 	3SX9926	1	1 unit	41K
 3SX5601-1A	<ul style="list-style-type: none"> • High degree of protection IP69, IEC 60529 	3SX5601-1A	1	1 unit	41K

Position and safety switches

SIRIUS 3SE5 mechanical position switches

Accessories and spare parts

Optional accessories and spare parts

Selection and ordering data

Version	Color/ contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessories for 3SE51, 3SE52						
 3SE5000-0AC30	Protective cap For rounded plunger according to EN 50047, 3SE5...C05 and 3SF1...C05-1BA1	Black	3SE5000-0AC30	1	1 unit	41K
 3SX5100-3B	Adapter with screw¹⁾ For an increase in the mounting depth on the 3SE5000-0AH00 twist actuator, in combination with twist lever with adjustable length or rod lever	--	3SX5100-3B	1	1 unit	41K
 3SX5100-1A	Mounting plate Suitable for 3SE523. and 3SE521. position switches with a width of 31 mm (in particular for control cabinet types)	--	3SX5100-1A	1	1 unit	41K
Spare parts for 3SE50						
 3SE5000-0AA71	Clamps made of steel For adjustable length twist and rod lever (1 pack = 5 units)	--	3SE5000-0AA71	1	5 units	41K
Spare parts for 3SE51, 3SE52						
 3SE5232-0AC05	Empty enclosures, plastic • Enclosure width 31 mm - With increased corrosion protection ²⁾ • Enclosure width 40 mm • Enclosure width 50 mm - With increased corrosion protection ²⁾	Turquoise	3SE5232-0AC05	1	1 unit	41K
			3SE5232-0AC05-1CA0	1	1 unit	41K
			3SE5132-0AA00	1	1 unit	41K
			3SE5242-0AC05	1	1 unit	41K
			3SE5242-0AC05-1CA0	1	1 unit	41K
 3SE5212-0AC05	Empty enclosures, metal • Enclosure width 31 mm - With increased corrosion protection ²⁾ • Enclosure width 40 mm - With increased corrosion protection ²⁾ • Enclosure width 56 mm - With increased corrosion protection ²⁾ • Enclosure width 56 mm, XL ³⁾	Turquoise	3SE5212-0AC05	1	1 unit	41K
			3SE5212-0AC05-1CA0	1	1 unit	41K
			3SE5112-0AA00	1	1 unit	41K
			3SE5112-0AA00-1CA0	1	1 unit	41K
			3SE5122-0AA00	1	1 unit	41K
3SE5122-0AA00-1CA0	1	1 unit	41K			
3SE5162-0AA00	1	1 unit	41K			
 3SE5000-0BA00	Contact blocks with 2 contacts⁴⁾ • Slow-action contacts • Snap-action contacts - Standard - Gold-plated contacts - Contact distance 2 x 2 mm - Short stroke	1 NO + 1 NC →	3SE5000-0BA00	1	1 unit	41K
		1 NO + 1 NC →	3SE5000-0CA00	1	1 unit	41K
		→	3SE5000-0CA00-1AC1	1	1 unit	41K
		→	3SE5000-0GA00	1	1 unit	41K
		→	3SE5000-0NA00	1	1 unit	41K
 3SE5000-0KA00	Contact blocks with 3 contacts • Slow-action contacts - With make-before-break • Snap-action contacts	1 NO + 2 NC →	3SE5000-0KA00	1	1 unit	41K
		2 NO + 1 NC →	3SE5000-0PA00	1	1 unit	41K
		1 NO + 2 NC →	3SE5000-0MA00	1	1 unit	41K
		1 NO + 2 NC →	3SE5000-0LA00	1	1 unit	41K
 3SE5060-0BA00	Contact blocks for XL enclosure³⁾ • Slow-action contacts - With make-before-break • Snap-action contacts	1 NO + 1 NC →	3SE5060-0BA00	1	1 unit	41K
		1 NO + 2 NC →	3SE5060-0MA00	1	1 unit	41K
		1 NO + 1 NC →	3SE5060-0CA00	1	1 unit	41K

→ Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ Possibly required for the conversion from 3SE21 to 3SE51.

²⁾ Use corresponding high-grade steel lever.

³⁾ XL enclosures may only be equipped with combinations of contact elements, see pages 12/13, 12/46 and 12/47.

⁴⁾ Unsuitable for open-type position switches, see page 12/51.

Position and safety switches

SIRIUS 3SE5 mechanical position switches

Accessories and spare parts

Optional accessories and spare parts

Version	Rated voltage LEDs	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
V							
Spare parts for 3SE51, 3SE52							
 3SE5230-1AA00	Covers for plastic enclosures, width 31 mm						
	• Turquoise with LED	24 DC	3SE5230-1AA00		1	1 unit	41K
		230 AC	3SE5230-3AA00		1	1 unit	41K
	• Yellow	--	3SE5230-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5230-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5230-3AA00-1AG0		1	1 unit	41K	
 3SE5130-1AA00-1AG0	Covers for plastic enclosures, width 40 mm						
	• Turquoise with LED	24 DC	3SE5130-1AA00		1	1 unit	41K
		230 AC	3SE5130-3AA00		1	1 unit	41K
	• Yellow	--	3SE5130-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5130-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5130-3AA00-1AG0		1	1 unit	41K	
 3SE5240-1AA00	Covers for plastic enclosures, width 50 mm						
	• Turquoise with LED	24 DC	3SE5240-1AA00		1	1 unit	41K
		230 AC	3SE5240-3AA00		1	1 unit	41K
	• Yellow	--	3SE5240-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5240-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5240-3AA00-1AG0		1	1 unit	41K	
 3SE5210-1AA00	Covers for metal enclosures, width 31 mm						
	• Turquoise with LED	24 DC	3SE5210-1AA00		1	1 unit	41K
		230 AC	3SE5210-3AA00		1	1 unit	41K
	• Yellow	--	3SE5210-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5210-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5210-3AA00-1AG0		1	1 unit	41K	
 3SE5110-1AA00	Covers for metal enclosures, width 40 mm						
	• Turquoise with LED	24 DC	3SE5110-1AA00		1	1 unit	41K
		230 AC	3SE5110-3AA00		1	1 unit	41K
	• Yellow	--	3SE5110-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5110-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5110-3AA00-1AG0		1	1 unit	41K	
 3SE5120-0AA00-1AG0	Covers for metal enclosures, width 56 mm						
	• Turquoise with LED	24 DC	3SE5120-1AA00		1	1 unit	41K
		230 AC	3SE5120-3AA00		1	1 unit	41K
	• Yellow	--	3SE5120-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5120-1AA00-1AG0		1	1 unit	41K
	230 AC	3SE5120-3AA00-1AG0		1	1 unit	41K	
 3SE5160-0AA00-1AG0	Cover for XL metal enclosures, width 56 mm						
	• Yellow	--	3SE5160-0AA00-1AG0		1	1 unit	41K

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SE
 Configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5
 Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

3SE5 safety switches with separate actuator have the same enclosures as the 3SE5 position switches (modular system).



3SE5 safety switches with head for separate actuator

Design

Enclosure sizes

The 3SE5 safety switches are available in four different enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries

Also available are safety switches in the 3SE2 series which have been developed in this form according to general market requirements:

- Molded-plastic enclosures outside of the standards, enclosure width 52 mm, IP67

Enclosure versions

Various basic versions can be selected for the enclosures of the 3SE5 series:

- Available with 2- or 3-pole contact blocks designed as slow-action contacts
- Optional LED status display
- With mounted 4- or 5-pole M12 device plug, also for connection to field modules, such as SIMATIC ET 200 (available for the wide enclosures as an accessory for customer assembly)
- With 6-pole device plug + PE on the metal enclosures
- Similarly with a combination of plug and LED displays
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/110)

For a description of the basic switches, see page 12/5.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^\circ$. The switches can also be approached from above.

The actuator heads of the 3SE2243 and 3SE2257 switches with special enclosures cannot be changed. The switches can be approached from the two broad sides and from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/63).

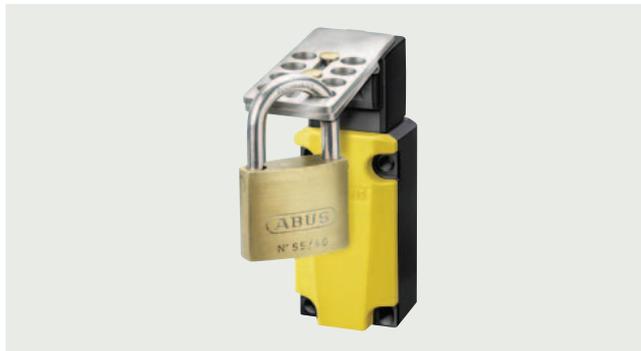
The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable operating key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/64).



Blocking insert with padlock

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/64).

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents.

Positive opening

The NC contacts of the switch are forced open mechanically, positively driven and reliably by the plunger. This is referred to as "positive opening".

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

General data

Benefits

The 3SE5 safety switches with separate actuator differ from the previous series through the following new properties:

- All enclosure sizes with increased corrosion protection are optionally available with an LED signaling indicator.
- The 3-pole contact block 1 NO + 2 NC is available for all enclosure sizes.

- The plastic enclosure has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting.
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/110); an additional adapter is not required.

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

For more information about protective door monitoring applications, see flyer.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. The high-grade steel actuator is suitable for extreme ambient conditions down to -40 °C. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and mounting points of the enclosure are according to EN 50041 or EN 50047 standards. The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. These comply with ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, positively driven techniques must be employed on installation.

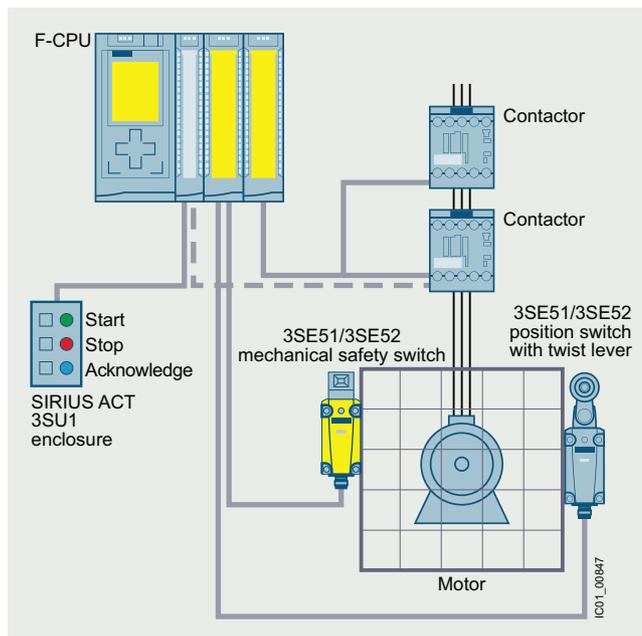
Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol .

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a safety switch with a separate actuator with  if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 safety switch with  is used, SIL 3/PL e can be attained.

Application example



Protective door monitoring up to SIL 3/PL e with two 3SE5 position switches using a SIMATIC S7-1500 fail-safe controller

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/21331363>.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

General data

Technical specifications

Type	3SE51...V..., 3SE52...V..	3SE51...V..-1AA7, 3SE52...V..-1AA1	3SE2243-0XX40, 3SE2257-6XX40,	3SE2243-0XX, 3SE2243-0XX18, 3SE2257-6XX
General data				
Standards	IEC 60947-5-1, ISO 14119			
Rated insulation voltage U_i	V	400	500	
Degree of pollution according to IEC 60664-1		Class 3		
Rated impulse withstand voltage U_{imp}	kV	6		
Rated operational voltage U_e	V	400 AC; over 300 V AC same potential only	500 AC; over 380 V AC same potential only	
Conventional thermal current I_{th}	A	6		
Rated operational current I_e			1-pole	3-pole
• With alternating current 50/60 Hz		$I_e/AC-15$	$I_e/AC-12$	$I_e/AC-15$
- At 24 V	A	6	10	10
- At 120 V	A	6	10	10
- At 240 V	A	4	6	10
- At 400 V	A	4	4	10
- At 500 V	A	--	10	3
• With direct current		$I_e/DC-13$	$I_e/DC-12$	$I_e/DC-13$
- At 24 V	A	3	10	10
- At 125 V	A	0.55	--	--
- At 250 V	A	0.27	--	--
- At 110 V	A	--	4	1
- At 220 V	A	--	1	0.4
- At 400 V	A	0.12	--	--
- At 440 V	A	--	0.5	0.2
Short-circuit protection				
• With DIAZED fuse links, operational class gG	A	6		
• With fuse links, quick-response	A	--	10	
• With miniature circuit breaker, C characteristic ($I_{K<400A}$)	A	1	--	
Mechanical endurance		1 x 10 ⁶ operating cycles		
Electrical endurance				
• For utilization category AC-15 when switching off $I_e/AC-15$ at 240 V		100 000 operating cycles	500 000 operating cycles	
Minimum actuating force	N	20	30	5
				30

Position and safety switches

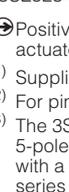
SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP65 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version ¹⁾	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Enclosure width 31 mm according to EN 50047						
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5232-0RV40	1	1 unit 41K
		1 NO + 2 NC --	⊕	3SE5232-0QV40	1	1 unit 41K
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5232-1RV40	1	1 unit 41K
		1 NO + 1 NC 230 V AC	⊕	3SE5232-3RV40	1	1 unit 41K
	With increased minimum actuating force 30 N					
	• Slow-action contacts	1 NO + 2 NC --	⊕	3SE5232-0QV40-1AA1	1	1 unit 41K
	With M12 device plug, 4-pole (250 V, 4 A)²⁾					
	• Slow-action contacts	1 NO + 1 NC --	⊕	3SE5234-0RV40-1AC4	1	1 unit 41K
		2 NC --	⊕	3SE5234-0QV40-1AE0	1	1 unit 41K
	With M12 device plug, 5-pole (125 V, 4 A)²⁾					
	With pin assignment as for SIMATIC ET 200 ³⁾					
	• Slow-action contacts	2 NC --	⊕	3SE5234-0QV40-1AE2	1	1 unit 41K
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 1 NC 24 V DC	⊕	3SE5234-1RV40-1AF3	1	1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/63).

²⁾ For pin assignments, see page 12/13.

³⁾ The 3SE5234-.....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

3SE5, plastic enclosures > Enclosure width 40 mm according to EN 50041/50 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · With increased corrosion protection

Version ¹⁾	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Enclosure width 40 mm according to EN 50041 · Cable entry 1 x (M20 x 1.5)						
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5132-0QV20	1	1 unit 41K
3SE5132-0QV20	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 2 NC 24 V DC	↻	3SE5132-1QV20	1	1 unit 41K
		1 NO + 2 NC 230 V AC	↻	3SE5132-3QV20	1	1 unit 41K
3SE5132-1QV20						
Enclosure width 50 mm · Cable entry 2 x (M20 x 1.5)						
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5242-0QV40	1	1 unit 41K
	With increased minimum actuating force 30 N					
	• Slow-action contacts	1 NO + 1 NC --	↻	3SE5242-0RV40-1AA1	1	1 unit 41K
3SE5242-0QV40						
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 2 NC 24 V DC	↻	3SE5242-1QV40	1	1 unit 41K
		1 NO + 2 NC 230 V AC	↻	3SE5242-3QV40	1	1 unit 41K
3SE5242-1QV40						

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/63).

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

3SE5, metal enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version ¹⁾	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			<input type="checkbox"/>			
			Article No.	Price per PU		

Enclosure width 31 mm according to EN 50047



• Slow-action contacts	1 NO + 1 NC --	↻	3SE5212-0RV40	1	1 unit	41K
	1 NO + 2 NC --	↻	3SE5212-0QV40	1	1 unit	41K
With 2 LEDs, yellow/green						
• Slow-action contacts	1 NO + 1 NC 24 V DC	↻	3SE5212-1RV40	1	1 unit	41K
	1 NO + 1 NC 230 V AC	↻	3SE5212-3RV40	1	1 unit	41K

3SE5212-1RV40

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately ([see page 12/63](#)).

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

3SE5, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · With increased corrosion protection

Version ¹⁾	Contacts	LEDs	Complete units	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		
Enclosure width 40 mm according to EN 50041 · Cable entry 1 x (M20 x 1.5)						
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5112-0QV10	1	1 unit 41K
	With increased minimum actuating force 30 N					
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5112-0QV10-1AA7	1	1 unit 41K
3SE5112-0QV10						
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 2 NC 24 V DC	↻	3SE5112-1QV10	1	1 unit 41K
		1 NO + 2 NC 230 V AC	↻	3SE5112-3QV10	1	1 unit 41K
3SE5112-1QV10						
With M12 device plug, 5-pole (125 V, 4 A)²⁾						
	• Slow-action contacts	1 NO + 1 NC --	↻	3SE5114-0RV10-1AC5	1	1 unit 41K
		2 NC --	↻	3SE5114-0QV10-1AE1	1	1 unit 41K
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 1 NC 24 V DC	↻	3SE5114-1RV10-1AF3	1	1 unit 41K
	With pin assignment as for SIMATIC ET 200 ³⁾					
	• Slow-action contacts	2 NC --	↻	3SE5114-0QV10-1AE3	1	1 unit 41K
3SE5114-0RV10-1AC5						
With device plug, 6-pole + PE (250 V, 10 A)²⁾						
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5115-0QV10-1AD1	1	1 unit 41K
Enclosure width 56 mm · Cable entry 3 x (M20 x 1.5)						
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5122-0QV10	1	1 unit 41K
	With increased minimum actuating force 30 N					
	• Slow-action contacts	1 NO + 2 NC --	↻	3SE5122-0QV10-1AA7	1	1 unit 41K
3SE5122-0QV10						
	With 2 LEDs, yellow/green					
	• Slow-action contacts	1 NO + 2 NC 24 V DC	↻	3SE5122-1QV10	1	1 unit 41K
		1 NO + 2 NC 230 V AC	↻	3SE5122-3QV10	1	1 unit 41K
3SE5122-1QV10						

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/63).

²⁾ For pin assignments, see page 12/13.

³⁾ The 3SE5114-.....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

For more information, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

Accessories

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuators with degree of protection IP66/IP67 for 3SE5					
Standard actuators					
 3SE5000-0AV01	• Length 75.6 mm 3SE5000-0AV01		1	1 unit	41K
 3SE5000-0AV02	• With vertical fixing, length 53 mm 3SE5000-0AV02		1	1 unit	41K
 3SE5000-0AV03	• With transverse fixing - Length 47 mm 3SE5000-0AV03		1	1 unit	41K
 3SE5000-0AW11	- Length 40 mm, plastic ¹⁾ 3SE5000-0AW11		1	1 unit	41K
High-grade steel actuators²⁾					
 3SE5000-0AW51	• Length 75.6 mm 3SE5000-0AW51		1	1 unit	41K
 3SE5000-0AW52	• With vertical fixing, length 53 mm 3SE5000-0AW52		1	1 unit	41K
 3SE5000-0AW53	• With transverse fixing, length 47 mm 3SE5000-0AW53		1	1 unit	41K
Radius actuators					
 3SE5000-0AV06	• Length 51 mm - Direction of approach from the left - Direction of approach from the right 3SE5000-0AV04 3SE5000-0AV06		1 1	1 unit 1 unit	41K 41K
Universal radius actuators					
 3SE5000-0AV05-1AA6	• Length 77 mm - Tab rotated 90° 3SE5000-0AV05 3SE5000-0AV05-1AA6		1 1	1 unit 1 unit	41K 41K
Universal radius actuators, heavy duty					
 3SE5000-0AV07-1AK2	• Length 67 mm 3SE5000-0AV07-1AK2		1	1 unit	41K
 3SE5000-0AV07	• Length 77 mm 3SE5000-0AV07		1	1 unit	41K
 3SE5000-0AW57	- High-grade steel actuators ²⁾ 3SE5000-0AW57		1	1 unit	41K

¹⁾ Not suitable for safety switches with tumbler.

²⁾ Suitable for extreme environmental conditions such as -40 °C.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessories for 3SE5					
 3SE5000-0AV08-1AA2	Protective cap Made of black rubber, for actuator head, to protect the actuator openings from contamination (Only for enclosure width 40 mm or 56 mm)	3SE5000-0AV08-1AA2	1	1 unit	41K
 3SE5000-0AV08-1AA3	Blocking insert Made of high-grade steel, for actuator head, for up to eight padlocks	3SE5000-0AV08-1AA3	1	1 unit	41K
Connections for 3SE5, 3SE2					
 3SY3127	Device plugs, M12, fixed, for M20 x 1.5 With connecting cable 0.25 mm ² , plastic, degree of protection IP67 <ul style="list-style-type: none"> • 4-pole, for max. 250 V, 4 A • 5-pole, for max. 125 V, 4 A • 5-pole¹⁾, for max. 60 V, 4 A 	3SY3127 3SY3128 3SX5100-1SS51	1	1 unit	41K
 3SX9926	Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15	1	1 unit	41K
	Cable gland M20 x 1.5 Plastic	3SX9926	1	1 unit	41K
Spare parts for 3SE51, 3SE52					
 3SE5000-0BA00	Contact block with 2 contacts²⁾ <ul style="list-style-type: none"> • Slow-action contacts 1 NO + 1 NC ☺ 	3SE5000-0BA00	1	1 unit	41K
 3SE5000-0KA00	Contact block with 3 contacts Slow-action contacts 1 NO + 2 NC ☺	3SE5000-0KA00	1	1 unit	41K

☺ Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/93 onwards.

²⁾ Unsuitable for open-type position switches, see page 12/51.

For more accessories, see page 12/74.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With separate actuator

3SE2, plastic enclosures > Special width 52 mm

Selection and ordering data

1 or 3 contacts · 3 directions of approach · Degree of protection IP67

Version	Operation	Complete units	PU (UNIT, SET, M)	PS*	PG		
		Article No.	Price per PU				
Plastic enclosures in special width of 52 mm							
Lateral and front-end actuation¹⁾							
 3SE2243	<ul style="list-style-type: none"> • Cable entry 3 x (M20 x 1.5) - Slow-action contacts 1 NO + 2 NC 	6 mm stroke					
		Minimum actuating force 5 N	⊕	3SE2243-0XX40	1	1 unit	41K
		Minimum actuating force 30 N	⊕	3SE2243-0XX	1	1 unit	41K
		With automatic ejection	⊕	3SE2243-0XX30	1	1 unit	41K
 3SE2257	<ul style="list-style-type: none"> - Slow-action contacts 1 NC 	Minimum actuating force 5 N	⊕	3SE2257-6XX40	1	1 unit	41K
		Minimum actuating force 30 N	⊕	3SE2257-6XX	1	1 unit	41K
	<ul style="list-style-type: none"> • Cable entry 3 x (M16 x 1.5) - Slow-action contacts 1 NO + 2 NC 	Minimum actuating force 30 N	⊕	3SE2243-0XX18	1	1 unit	41K
Accessories							
 3SX3218	<ul style="list-style-type: none"> • Standard actuator ($r_{min} = 150$ mm), length 28 mm 			3SX3218	1	1 unit	41K
	 3SX3228	<ul style="list-style-type: none"> • Universal radius actuator ($r_{min} = 45$ mm), length 34 mm 			3SX3228	1	1 unit
 3SX3256		<ul style="list-style-type: none"> • Radius actuator, adjustable radius, length 34 mm 			3SX3256	1	1 unit
	 3SX3217	<ul style="list-style-type: none"> • Ball locating, actuating force adjustable up to max. 100 N by two adjustable screws, length 28 mm 			3SX3217	1	1 unit
 3SX3234		<ul style="list-style-type: none"> • Actuator, length 34 mm, with dust protection and slit cover 			3SX3234	1	1 unit
	 3SX3233	<ul style="list-style-type: none"> • Slit covers (spare part) (1 set = 3 units) for sealing unused operating slots for 3SE22 devices 			3SX3233	1	3 units

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches
With tumbler

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
SiePortal, see www.siemens.com/product_catalog_siep?3SE
Configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5
Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. overtravel movement of the switched-off machine).



3SE5 safety switch with tumbler

The safety switches with tumbler are comprised of a switch part with electromechanical tumbler and a mechanical actuator which has to be ordered separately.

They are rugged protective devices that enable the greatest possible safety for man and machine.

The safety switches with tumbler are offered in plastic or metal enclosures.

Dimensions (W x H x D): 54 mm x 185 mm x 43.5 mm

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^\circ$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/73).

Actuation data:

- Maximum actuating speed $v_{\max} = 1.5 \text{ m/s}$
- Minimum actuating speed $v_{\min} = 0.4 \text{ mm/s}$
- Minimum force in the direction of actuation $F_{\min} = 30 \text{ N}$

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable operating key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/64).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/64).

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

The spring-actuated lock switch is equipped with an auxiliary release for emergency situations or setup mode.

Available as options:

- Escape release or
- Emergency release

Contact blocks

The safety switches with tumbler have one switching block each for:

- Monitoring the actuator or the position of the protective door
- Monitoring the position of the solenoid

The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Optical signaling equipment

The safety switches with tumbler are available with an optional optical signaling device.

The signaling device indicates the switch position of the interlock and the protective device optically by means of two LEDs on the front.

Protective device	Tumbler	Display	Meaning
Closed	Released	 	Actuator able to be pulled
Closed	Locked		Actuator locked
Open	Released		Actuator pulled

Internal wiring:

- The yellow LED is pre-wired to the solenoid monitoring NO contact.
- The green LED is pre-wired to the actuator monitoring NC contact.
- LED ground is pre-wired to the ground of the solenoid.

Notes:

- The operational voltage must be connected to the corresponding contacts by the customer.
- This voltage for the LEDs must match the operational voltage of the solenoid (same potential).

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With tumbler

General data

Benefits

The 3SE53 safety switches provide:

- More safety through higher locking forces:
 - 1 300 N with plastic enclosure
 - 2 600 N with metal enclosure
- Various release mechanisms: lock release, escape release and emergency release
- Two contact blocks each with three contacts as standard equipment, hence fewer versions needed

- Same dimensions for all enclosure versions: plastic, metal or with integrated ASIsafe
- An extensive range of actuators
- An optional LED status display 24 V DC, 115 V or 230 V AC for all switch versions
- Devices with ASIsafe electronics integrated in the enclosure/ wired to 8-pole M12 device plug (see page 12/115)
- 3SE5322-1S.21-1AG4 series with high degree of protection IP69 according to IEC 60529, cover with foamed seal

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. overtravel movement of the switched-off machine).

The safety switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- Position monitoring of the protective device and tumbler

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

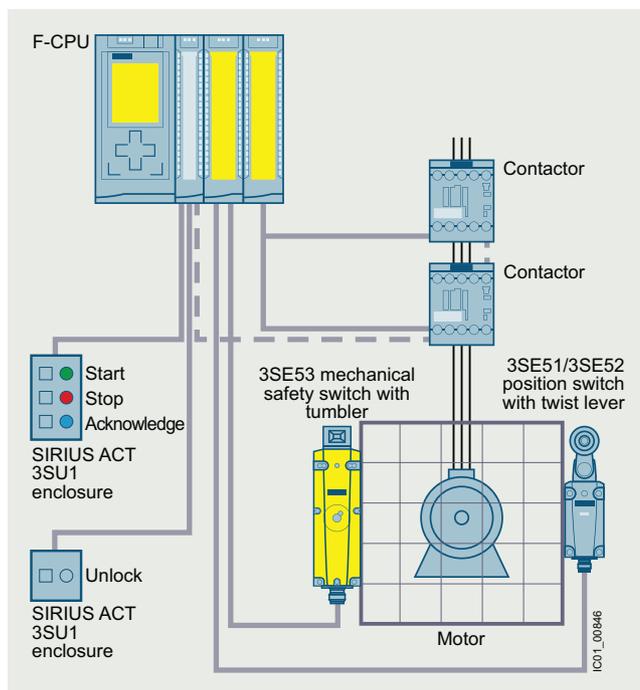
The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

The switches are approved for use with locking devices according to ISO 14119 and EN 292, Parts 1 and 2.

These switches are approved according to UL 508, UL 50 and UL 746-C.

Application example



Protective door monitoring up to SIL 3/PL e with a 3SE53 safety switch with tumbler, a 3SE5 position switch and a fail-safe SIMATIC S7-1500 controller

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/21063946>.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol .

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a safety switch with a tumbler with  if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 safety switch with  is used, SIL 3/PL e can be attained.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches
With tumbler

General data

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Tumbler

The separate actuator works like a key using coding and protects against manipulation. It transmits the locking force to the protective device and helps to monitor its position.

There are two versions of locking:

Spring-actuated lock (closed-circuit principle)

- In the standard version, the safety switch locks by means of spring force and releases by means of electromagnetic force. In the case of power failure, it reliably prevents the protective device from opening when machine parts are still moving.
- The switch is equipped with an auxiliary release for emergency situations or setup mode.
- An auxiliary release which can be secured with a lock to prevent misuse is available as a version.

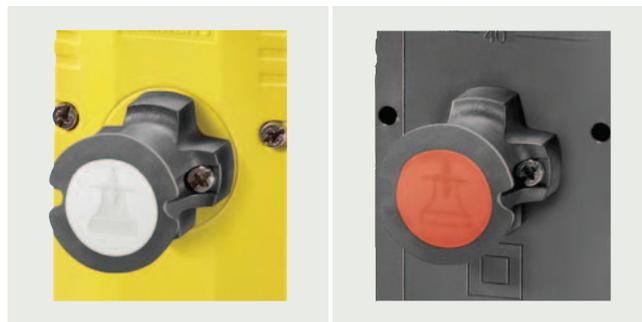


Auxiliary release

Auxiliary release with lock

The 3SE53 safety switches are also available with an escape release or emergency release.

- Personnel working inside the hazard zone can use the escape release feature to manually release the tumbler without tools from the escape side (hazardous area side) so that they can exit the hazard area. An intentional act (in this case pulling the gray actuator) is required to release the locking mechanism and restore the normal operating state.
- The emergency release enables someone in an emergency situation to manually release the tumbler without tools from the access side (outside the hazardous area). Releasing the lock and restoring the normal operating state must require effort which is comparable to repair activity: in this case disassembly of the red actuator and resetting of the mechanical lock.



Escape release from the front

Emergency release from the back

Solenoid-locked (open-circuit principle)

- The second version offers locking by means of electromagnetic force and release by means of spring force. This version has an advantage when it is necessary to quickly access the machine after a power failure occurs, or in the case of very short coasting times.

Examples of door interlocking



X-Lock door interlocking from Axelent



Door interlocking from Brühl

For more information on door interlock manufacturers, see

- AXELENT GmbH
Internet: www.axelent.de
- Brühl Safety GmbH
Internet: www.bruehl-safety.com/en/manufacture/siemens

Technical specifications

Type		3SE5322	3SE5312
General data			
Standards		IEC 60947-5-1, ISO 14119, IEC 62061/IEC 61508	
Rated insulation voltage U_i	V	250	
Degree of pollution according to IEC 60664-1		Class 3	
Rated impulse withstand voltage U_{imp}	kV	4	
Rated operational voltage U_e			
• DC	V	24	
• 50/60 Hz AC	V	230	
Conventional thermal current I_{th}	A	6	
Rated operational current I_e			
• With alternating current 50/60 Hz		$I_e/AC-15$ or B300	
- At 24 V	A	6	
- At 120 V	A	6	
- At 240 V	A	3	
• With direct current		$I_e/DC-13$ or Q300	
- At 24 V	A	3	
- At 125 V	A	0.55	
- At 250 V	A	0.27	
Solenoid			
• Locking force, max.	N	1 300	2 600
• Locking force according to ISO 14119	N	1 000	2 000
• Power consumption at U_c	W	3.5	
Short-circuit protection¹⁾			
• With DIAZED fuse links, operational class gG	A	6	
• With miniature circuit breaker, characteristic C	A	0.5	
Mechanical endurance	Operating cycles	1×10^6	
Electrical endurance			
• For utilization category AC-15 when switching off $I_e/AC-15$ at 230 V	Operating cycles	100 000	
• For utilization category DC-12/DC-13		With direct current depending on the loading of the switch	
Shock resistance according to IEC 60068-2-27	g/ms	30/11	

¹⁾ Without any welds according to IEC 60947-5-1.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With tumbler

3SE5, plastic enclosures with locking force greater than 1 000 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	PU (UNIT, SET, M)	PS*	PG
		V		Article No.	Price per PU		

Locking force 1 000 N according to ISO 14119 · Enclosure width 54 mm

Spring-actuated locks

	• With auxiliary release	--	24 DC	⊕	3SE5322-0SD21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SD22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SD23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SD21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SD22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SD23	1	1 unit	41K	
3SE5322-0SD21	- With M12 plug, 8-pole ²⁾ , monitoring: 1 x door, 1 x interlocking 2 x door	--	24 DC	⊕	3SE5324-0SD21-1AE4	1	1 unit	41K	
		--	24 DC	⊕	3SE5324-0SD21-1AE5	1	1 unit	41K	
	• With auxiliary release with lock	--	24 DC	⊕	3SE5322-0SE21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SE22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SE23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SE21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SE22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SE23	1	1 unit	41K	
3SE5322-0SE21									
	• With escape release from the front	--	24 DC	⊕	3SE5322-0SF21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SF22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SF23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SF21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SF22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SF23	1	1 unit	41K	
3SE5322-0SF21									
	• With escape release from the front and emergency release from the back	--	24 DC	⊕	3SE5322-0SL21	1	1 unit	41K	
	• With escape release from the back and auxiliary release from the front	--	24 DC	⊕	3SE5322-0SG21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SG22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SG23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SG21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SG22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SG23	1	1 unit	41K	
3SE5322-0SG21									
	• With escape release from the back and auxiliary release with lock from the front	--	24 DC	⊕	3SE5322-0SH21	1	1 unit	41K	
		--	24 DC	⊕	3SE5324-0SH21-1AE4	1	1 unit	41K	
3SE5324-0SH21-1AE4									
	• With emergency release from the back and auxiliary release from the front	--	24 DC	⊕	3SE5322-0SJ21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SJ22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SJ23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SJ21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SJ22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SJ23	1	1 unit	41K	
3SE5324-0SH21-1AE4									
	• Solenoid-locked	--	24 DC	⊕	3SE5322-0SB21	1	1 unit	41K	
		--	115 AC	⊕	3SE5322-0SB22	1	1 unit	41K	
		--	230 AC	⊕	3SE5322-0SB23	1	1 unit	41K	
		Yellow/green	24 DC	⊕	3SE5322-1SB21	1	1 unit	41K	
		Yellow/green	115 AC	⊕	3SE5322-2SB22	1	1 unit	41K	
		Yellow/green	230 AC	⊕	3SE5322-3SB23	1	1 unit	41K	
3SE5322-1SB21									
3SE5322-1SB21	• With M12 plug, 8-pole - Head rotated clockwise by 90°	--	24 DC	⊕	3SE5324-0SB21-1AC8	1	1 unit	41K	
		--	24 DC	⊕	3SE5324-0SB21-1AP0	1	1 unit	41K	

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/73).

²⁾ Suitable for connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN and the SIMATIC ET 200AL with connection accessories 3SX5601-3SV18 and Y-cable 6ES7194-6KC00-0XA0, see page 12/74. For more information, see page 12/93 onwards.

Position and safety switches
SIRIUS 3SE5, 3SE2 mechanical safety switches
With tumbler

3SE5, plastic enclosures with locking force greater than 1 000 N

6 slow-action contacts · 5 directions of approach · Degree of protection IP69 · Cable entry 3 x (M20 x 1.5) · With foamed seal and special cover · ISO 14119

Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage	Complete units	PU (UNIT, SET, M)	PS*	PG
			Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	<input type="checkbox"/>		
		V	Article No.	Price per PU		

Locking force 1 000 N according to ISO 14119 · Enclosure width 54 mm · Degree of protection IP69

Spring-actuated locks

	• With auxiliary release	Yellow/green	24 DC	⊕	3SE5322-1SD21-1AG4	1	1 unit	41K
3SE5322-1SD21-1AG4								
	• With auxiliary release with lock	Yellow/green	24 DC	⊕	3SE5322-1SE21-1AG4	1	1 unit	41K
3SE5322-1SE21-1AG4								
	• With escape release from the front	Yellow/green	24 DC	⊕	3SE5322-1SF21-1AG4	1	1 unit	41K
3SE5322-1SF21-1AG4								
	• With escape release from the back and auxiliary release from the front	Yellow/green	24 DC	⊕	3SE5322-1SG21-1AG4	1	1 unit	41K
3SE5322-1SG21-1AG4								

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/73).

For cable gland for degree of protection IP69 and more accessories, see page 12/74.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With tumbler

3SE5, metal enclosures with locking force greater than 2 000 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	PU (UNIT, SET, M)	PS*	PG
		V		Article No.	Price per PU		

Locking force 2 000 N according to ISO 14119 · Enclosure width 54 mm

Spring-actuated locks



- With auxiliary release

--	24 DC	⊕	3SE5312-0SD11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SD12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SD13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SD11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SD12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SD13	1	1 unit	41K

3SE5312-0SD11



- With auxiliary release with lock

--	24 DC	⊕	3SE5312-0SE11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SE12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SE13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SE11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SE12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SE13	1	1 unit	41K

3SE5312-0SE11



- With escape release from the front

--	24 DC	⊕	3SE5312-0SF11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SF12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SF13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SF11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SF12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SF13	1	1 unit	41K

3SE5312-0SF11



- With escape release from the back and auxiliary release from the front

--	24 DC	⊕	3SE5312-0SG11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SG12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SG13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SG11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SG12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SG13	1	1 unit	41K

3SE5312-0SG11



- With escape release from the back and auxiliary release with lock from the front

--	24 DC	⊕	3SE5312-0SH11	1	1 unit	41K
----	-------	---	----------------------	---	--------	-----

3SE5312-0SH11



- With emergency release from the back and auxiliary release from the front

--	24 DC	⊕	3SE5312-0SJ11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SJ12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SJ13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SJ11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SJ12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SJ13	1	1 unit	41K

3SE5312-0SJ11

Solenoid-locked



--	24 DC	⊕	3SE5312-0SB11	1	1 unit	41K
--	115 AC	⊕	3SE5312-0SB12	1	1 unit	41K
--	230 AC	⊕	3SE5312-0SB13	1	1 unit	41K
Yellow/green	24 DC	⊕	3SE5312-1SB11	1	1 unit	41K
Yellow/green	115 AC	⊕	3SE5312-2SB12	1	1 unit	41K
Yellow/green	230 AC	⊕	3SE5312-3SB13	1	1 unit	41K

3SE5312-0SB11

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/73).

²⁾ Suitable for connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN and the SIMATIC ET 200AL with connection accessories 3SX5601-3SV18 and Y-cable 6ES7194-6KC00-0XA0, see page 12/74. For more information, see page 12/93 onwards.

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuators with degree of protection IP66/IP67 for 3SE5					
Standard actuators					
 3SE5000-0AV01	<ul style="list-style-type: none"> Length 75.6 mm 	3SE5000-0AV01	1	1 unit	41K
 3SE5000-0AV02	<ul style="list-style-type: none"> With vertical fixing, length 53 mm 	3SE5000-0AV02	1	1 unit	41K
 3SE5000-0AV03	<ul style="list-style-type: none"> With transverse fixing, length 47 mm 	3SE5000-0AV03	1	1 unit	41K
High-grade steel actuators¹⁾					
 3SE5000-0AW51	<ul style="list-style-type: none"> Length 75.6 mm 	3SE5000-0AW51	1	1 unit	41K
 3SE5000-0AW52	<ul style="list-style-type: none"> With vertical fixing, length 53 mm 	3SE5000-0AW52	1	1 unit	41K
 3SE5000-0AW53	<ul style="list-style-type: none"> With transverse fixing, length 47 mm 	3SE5000-0AW53	1	1 unit	41K
Radius actuators					
 3SE5000-0AV06	<ul style="list-style-type: none"> Length 51 mm - Direction of approach from the left - Direction of approach from the right 	3SE5000-0AV04	1	1 unit	41K
		3SE5000-0AV06	1	1 unit	41K
Universal radius actuators					
 3SE5000-0AV05-1AA6	<ul style="list-style-type: none"> Length 77 mm - Tab rotated 90° 	3SE5000-0AV05	1	1 unit	41K
		3SE5000-0AV05-1AA6	1	1 unit	41K
Universal radius actuators, heavy duty					
 3SE5000-0AV07-1AK2	<ul style="list-style-type: none"> Length 67 mm 	3SE5000-0AV07-1AK2	1	1 unit	41K
 3SE5000-0AV07	<ul style="list-style-type: none"> Length 77 mm 	3SE5000-0AV07	1	1 unit	41K
 3SE5000-0AW57	<ul style="list-style-type: none"> - High-grade steel actuators¹⁾ 	3SE5000-0AW57	1	1 unit	41K

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

For further plug versions, see page 12/52.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety switches

With tumbler

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessories for 3SE5					
 3SE5000-0AV08-1AA2 Protective cap Made of black rubber, for actuator head, to protect the actuator openings from contamination	3SE5000-0AV08-1AA2		1	1 unit	41K
 3SE5000-0AV08-1AA3 Blocking insert Made of high-grade steel, for actuator head, for up to eight padlocks	3SE5000-0AV08-1AA3		1	1 unit	41K
Spare parts for 3SE5					
 3SE5000-0KA00 Spare key for key type RONIS SH115 Contact block with 3 contacts Slow-action contacts 1 NO + 2 NC ↻	3SX5100-1F		1	1 unit	41K
	3SE5000-0KA00		1	1 unit	41K
Connection accessories for 3SE5					
 3SX5100-1SS51 M12 device plugs, plastic, for M20 x 1.5 <ul style="list-style-type: none"> • 4-pole, for max. 250 V, 4 A, $U_{imp} = 2\,500\text{ V}$ • 5-pole, for max. 125 V, 4 A, $U_{imp} = 1\,500\text{ V}$ • 5-pole¹⁾, for max. 60 V, 4 A, $U_{imp} = 800\text{ V}$ • 8-pole¹⁾, for max. 30 V, 1.5 A, $U_{imp} = 800\text{ V}$ 	3SY3127 3SY3128 3SX5100-1SS51 3SX5100-1SS08		1	1 unit	41K
			1	1 unit	41K
			1	1 unit	41K
			1	1 unit	41K
 3SX9926 Cable gland M20 x 1.5 Plastic <ul style="list-style-type: none"> • Degree of protection IP67 	3SX9926		1	1 unit	41K
 3SX5601-1A <ul style="list-style-type: none"> • High degree of protection IP69, IEC 60529 	3SX5601-1A		1	1 unit	41K
 3SX5601-3SB55 Connecting cables With M12 socket, open end, length 5 m <ul style="list-style-type: none"> • 4-pole • 5-pole 	3SX5601-3SB54 3SX5601-3SB55		1	1 unit	41K
			1	1 unit	41K
 3SX5601-3SV18 Connecting cable With M12 socket, 8-pole and M12 plug, 8-pole, length 1 m	3SX5601-3SV18		1	1 unit	41K
 3SX5601-2GA03 Connecting cables With M12 socket, 8-pole, straight, open end, rated voltage 30 V, rated current 2 A <ul style="list-style-type: none"> • Length 3 m • Length 5 m • Length 10 m • Length 15 m 	3SX5601-2GA03 3SX5601-2GA05 3SX5601-2GA10 3SX5601-2GA15		1	1 unit	41K
			1	1 unit	41K
			1	1 unit	41K
			1	1 unit	41K
 6GT2090-0BE00 M12 plug, 8-pole Straight	6GT2090-0BE00		1	5 units	572
 6ES7194-6KC00-0XA0 ET 200 Y-cable¹⁾ For connecting 1 x 2-channel sensor With M12 socket, 8-pole on 2 x M12 plugs, 5-pole, length 200 mm	6ES7194-6KC00-0XA0		1	1 unit	250

↻ Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/93 onwards.

For further plug versions, see page 12/52.

* You can order this quantity or a multiple thereof. Illustrations are approximate

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

General data

Overview

3SE5 hinge switches have the same enclosures as the 3SE5 position switches (modular system).



Hinge switches

Design

Enclosure sizes

The 3SE5 switches are available as complete units in two enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry

Enclosure versions

Various basic versions can be selected for the enclosures:

- With 2- or 3-pole contact blocks, designed as snap-action contacts
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/119)

For a description of the basic switches, see page 12/5.

Actuator

The hinge switches are provided for mounting on hinges. The actuator head is included in the scope of supply.

There are two versions:

- Actuator with hollow shaft, inner diameter 8 mm, outer 12 mm
- Actuator with solid shaft, diameter 10 mm

3SE2283 hinge switches

3SE2283 hinge switches with integrated hinge can be ordered as a special design. They are particularly suitable for use in machine doors and flaps.

Benefits

The 3SE5 hinge switches differ from the previous series through the following new characteristics:

- All actuators can be rotated around the axis in increments of 22.5° (see [Mounting, page 12/7](#)).
- The new 3-pole contact block 1 NO + 2 NC is available for all enclosure sizes (see [Diverse contact types, page 12/6](#)).

- The plastic enclosure with a width of 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see [Quick-connect technology, page 12/7](#)).
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/101); an additional adapter is not required.

Application

The hinge switches are used in those areas where the position of swiveling protective devices such as doors or flaps must be monitored. With these switches, the position of the doors and flaps is converted into electric signals. The switches allow shutdown and signaling without delay in the event of a small opening angle through the snap-action contacts with an actuating angle of 10°.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and mounting points of the enclosures are according to EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. To secure position switches against changes in their position, positively driven techniques must be employed on installation.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 .

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a 3SE5 safety hinge switch with  if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 position switch with  is used, SIL 3/PL e can be attained.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Technical specifications

The technical specifications are the same as for the standard switches (see page 12/12).

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (40 mm) · Cable entry 1 x (M20 x 1.5)

Version	Snap-action contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Enclosure width 31 mm according to EN 50047					
	With hollow shaft				
	• Actuating angle 10°	1 NO + 1 NC ¹⁾ → 1 NO + 2 NC →	3SE5232-0HU21 3SE5232-0LU21	1 1	1 unit 1 unit
	With solid shaft				
	• Actuating angle 10°	1 NO + 1 NC ¹⁾ → 1 NO + 2 NC →	3SE5232-0HU22 3SE5232-0LU22	1 1	1 unit 1 unit
Enclosure width 40 mm according to EN 50041					
	With hollow shaft				
	• Actuating angle 10°	1 NO + 2 NC →	3SE5132-0LU21	1	1 unit
	With solid shaft				
	• Actuating angle 10°	1 NO + 2 NC →	3SE5132-0LU22	1	1 unit

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Contact blocks permanently integrated, replacement not available.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041**Spare parts**

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuator heads					
 3SE5000-0AU21	With hollow shaft • Actuating angle 10°	↻	3SE5000-0AU21	1	1 unit 41K
 3SE5000-0AU22	With solid shaft • Actuating angle 10°	↻	3SE5000-0AU22	1	1 unit 41K

↻ Positively driven actuator, necessary in safety circuits.

Note:

The respective actuator heads are included in the scope of supply for the complete units.

Position and safety switches

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041

Selection and ordering data

Complete units

3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

Version	Snap-action contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Enclosure width 31 mm according to EN 50047					
	With hollow shaft • Actuating angle 10°	1 NO + 2 NC →	3SE5212-0LU21	1	1 unit 41K
3SE5212-0LU21					
	With solid shaft • Actuating angle 10°	1 NO + 2 NC →	3SE5212-0LU22	1	1 unit 41K
3SE5212-0LU22					
Enclosure width 40 mm according to EN 50041					
	With hollow shaft • Actuating angle 10°	1 NO + 2 NC →	3SE5112-0LU21	1	1 unit 41K
3SE5112-0LU21					
	With solid shaft • Actuating angle 10°	1 NO + 2 NC →	3SE5112-0LU22	1	1 unit 41K
3SE5112-0LU22					

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Spare parts

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuator heads					
	With hollow shaft • Actuating angle 10°	→	3SE5000-0AU21	1	1 unit 41K
3SE5000-0AU21					
	With solid shaft • Actuating angle 10°	→	3SE5000-0AU22	1	1 unit 41K
3SE5000-0AU22					

→ Positively driven actuator, necessary in safety circuits.

Note:

The respective actuator heads are included in the scope of supply for the complete units.

Overview

The 3SE2283 hinge switches with integrated hinge are particularly suitable for use in doors and flaps of machines that must be closed to ensure the safety of operating personnel.

Their thin profile and the compact design allow them to be directly mounted on a hinged protective cover and the stable frame.

Benefits

- Easy mounting through use of versions with integrated hinge
- Versions with small actuating angle of 4° or 8°
- Protection against personal injury provided by positively driven NC contacts according to IEC 60947-5-1
- Simultaneous shutdown and signaling by 1 NO + 2 NC contacts

Selection and ordering data

3 contacts · Degree of protection IP65 · Cable entry 2 x (M20 x 1.5)

Version	Slow-action contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

With integrated hinge



3SE2283

Scope of supply includes additional hinge and fixing accessories

- Aluminum hinge

- 4° actuating angle 1 NO + 2 NC ↻

3 NC ↻

- 8° actuating angle 1 NO + 2 NC ↻

3 NC ↻

- High-grade steel hinge

- 4° actuating angle 1 NO + 2 NC ↻

3SE2283-0GA43	1	1 unit	41K
3SE2283-6GA43	1	1 unit	41K
3SE2283-0GA53	1	1 unit	41K
3SE2283-6GA53	1	1 unit	41K
3SE2283-0GA44	1	1 unit	41K

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories



3SX3225

Additional hinge

(Scope of supply includes additional hinge and fixing accessories)

- Made of aluminum

3SX3225	1	1 unit	41K
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Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

Complete units¹⁾ · Enclosure width 31 mm



3SE5232-0LK21-1AY0

Twist lever, 21 mm long, type A, according to EN 50047

With plastic roller 19 mm

- Snap-action contacts

1 NO + 2 NC ↻

3SE5232-0LK21-1AY0

1

1 unit

41K



3SE5232-0LE10-1AY0

Roller lever, type E, according to EN 50047

With plastic roller 13 mm

- Snap-action contacts

1 NO + 2 NC ↻

3SE5232-0LE10-1AY0

1

1 unit

41K



3SE5232-0HK82-1AY0

Rod lever, according to EN 50047

With plastic rod, length 200 mm

- Snap-action contacts

1 NO + 1 NC

3SE5232-0HK82-1AY0

1

1 unit

41K



3SE5232-0HR01-1AY0

Spring rod²⁾, according to EN 50047

Length 142.5 mm, with plastic plunger 50 mm

- Snap-action contacts

1 NO + 1 NC

3SE5232-0HR01-1AY0

1

1 unit

41K

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) Degree of protection IP65/IP67.

Selection and ordering data

Enclosure width 54 mm

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

Tumbler ¹⁾	Solenoid, rated operational voltage	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	<input type="checkbox"/>	PU (UNIT, SET, M)	PS*	PG
v		Article No.	Price per PU			

Locking force 1 000 N according to ISO 14119 · Enclosure width 54 mm

Spring-actuated lock

- With auxiliary release from the front 24 DC



3SE5322-0SD21-1AY0	1	1 unit	41K
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3SE5322-0SD21-1AY0

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Supplied without actuator. Please order separately.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories



3SE5000-0AV01

Standard actuator

- Length 75.6 mm

3SE5000-0AV01	1	1 unit	41K
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3SE5000-0AW51

High-grade steel actuators, standard¹⁾

- Length 75.6 mm

3SE5000-0AW51	1	1 unit	41K
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3SE5000-0AW52

- With vertical fixing, length 53 mm

3SE5000-0AW52	1	1 unit	41K
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3SE5000-0AW53

- With transverse fixing, length 47 mm

3SE5000-0AW53	1	1 unit	41K
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3SE5000-0AW57

Universal radius actuator, heavy duty

- High-grade steel actuator¹⁾, length 77 mm

3SE5000-0AW57	1	1 unit	41K
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1) Suitable for extreme environmental conditions such as -40 °C.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test

SIRIUS 3SE5 mechanical safety hinge switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

2 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5) · With increased corrosion protection

Version	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

Complete units · Enclosure width 31 mm



Hinge switch, according to EN 50047

With hollow shaft D = 8 mm, actuating angle 10°

- Snap-action contacts

1 NO + 1 NC ↻

3SE5232-0HU21-1AY0

1 1 unit 41K

3SE5232-0HU21-1AY0

↻ Positive opening according to IEC 60947-5-1, Annex K.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C
Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047/50 mm

Complete units

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · With increased corrosion protection

Version	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Complete units¹⁾ · Enclosure width 31 mm · Cable entry 1 x (M20 x 1.5)					
	Roller plunger, type C, according to EN 50047 With plastic roller 10 mm With M12 device plug, 4-pole (250 V, 4 A) ²⁾ • Snap-action contacts	1 NO + 1 NC →	3SE5234-0CD03-1AJ1	1	1 unit 41K
3SE5234-0CD03-1AJ1					
	Roller plunger with central fixing according to EN 50047 • Snap-action contacts	1 NO + 1 NC →	3SE5232-0CD10-1AJ0	1	1 unit 41K
3SE5232-0CD10-1AJ0					
	Twist lever, type A, according to EN 50047 With high-grade steel lever 21 mm and plastic roller 19 mm • Snap-action contacts	1 NO + 1 NC →	3SE5232-0CK31-1AJ0	1	1 unit 41K
3SE5232-0CK31-1AJ0					
	Twist levers, adjustable length, according to EN 50047 With high-grade steel lever 100 mm, with grid hole and plastic roller 19 mm • Snap-action contacts	1 NO + 1 NC → 1 NO + 2 NC →	3SE5232-0CK62-1AJ0 3SE5232-0LK62-1AJ0	1 1	1 unit 41K 1 unit 41K
3SE5232-0CK62-1AJ0					
Complete units¹⁾ · Enclosure width 50 mm · Cable entry 2 x (M20 x 1.5) · Operating points according to EN 50047					
	Twist lever With metal lever 21 mm and plastic roller 19 mm • Snap-action contacts, integrated ³⁾	1 NO + 1 NC →	3SE5242-0HK21-1AJ0	1	1 unit 41K
3SE5242-0HK21-1AJ0					
	Twist lever, adjustable length With high-grade steel lever 100 mm, with grid hole and plastic roller 19 mm • Snap-action contacts, integrated ³⁾	1 NO + 1 NC →	3SE5242-0HK62-1AJ0	1	1 unit 41K
3SE5242-0HK62-1AJ0					

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) Popular versions.

2) For pin assignments, see page 12/13.

3) Subsequent replacement of contact blocks is not possible.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/84 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Modular system

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · With increased corrosion protection

Version	Contacts	Modular system	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Basic switches - Enclosure width 31 mm · Cable entry 1 x (M20 x 1.5)					
Rounded plungers¹⁾, type B, according to EN 50047					
	• Slow-action contacts	1 NO + 2 NC →	3SE5232-0KC05-1AJ0	1	1 unit 41K
	• Snap-action contacts	1 NO + 1 NC →	3SE5232-0CC05-1AJ0	1	1 unit 41K
		1 NO + 2 NC →	3SE5232-0LC05-1AJ0	1	1 unit 41K
3SE5232-0CC05-1AJ0					

Basic switches - Enclosure width 50 mm · Cable entry 2 x (M20 x 1.5)					
Rounded plungers¹⁾, according to EN 50047					
	• Slow-action contacts	1 NO + 1 NC →	3SE5242-0BC05-1AJ0	1	1 unit 41K
	• Snap-action contacts, integrated ²⁾	1 NO + 1 NC →	3SE5242-0HC05-1AJ0	1	1 unit 41K
3SE5242-0BC05-1AJ0					

→ Positively opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

1) For enclosures with widths of 31 and 50 mm, the basic switch is a complete unit with rounded plungers.

2) Subsequent replacement of contact blocks is not possible.

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
		mm			
Actuators					
Roller plunger, type C, according to EN 50047					
	• Plastic roller	10 →	3SE5000-0AD03-1AJ0	1	1 unit 41K
3SE5000-0AD03-1AJ0					
Roller levers, type E, according to EN 50047					
	• Metal lever	Plastic roller 13 →	3SE5000-0AE10-1AJ0	1	1 unit 41K
	• High-grade steel lever	Plastic roller 13 →	3SE5000-0AE12-1AJ0	1	1 unit 41K
		High-grade steel roller 13 →	3SE5000-0AE13-1AJ0	1	1 unit 41K
Angular roller levers					
	• Metal lever	Plastic roller 13 →	3SE5000-0AF10-1AJ0	1	1 unit 41K
	• High-grade steel lever	Plastic roller 13 →	3SE5000-0AF12-1AJ0	1	1 unit 41K
3SE5000-0AF10-1AJ0					

Twist actuators					
Twist actuator, for 31/50 mm, according to EN 50047					
	• Switching right and/or left, adjustable	-- →	3SE5000-0AK00-1AJ0	1	1 unit 41K
3SE5000-0AK00-1AJ0					

Levers					
Twist levers 21 mm, straight, type A, according to EN 50047					
	• Metal lever	Plastic roller 19 →	3SE5000-0AA21-1AJ0	1	1 unit 41K
	• High-grade steel lever	Plastic roller 19 →	3SE5000-0AA31-1AJ0	1	1 unit 41K
		High-grade steel roller 19 →	3SE5000-0AA32-1AJ0	1	1 unit 41K
3SE5000-0AA21-1AJ0					
Twist levers 100 mm, adjustable length, with grid hole					
	• Metal lever	Plastic roller 19 →	3SE5000-0AA60-1AJ0	1	1 unit 41K
	• High-grade steel lever	Plastic roller 19 →	3SE5000-0AA62-1AJ0	1	1 unit 41K
3SE5000-0AA60-1AJ0					

→ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C
Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version	Contacts	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
		Article No.	Price per PU		

Basic switches · Enclosure width 40 mm



Rounded plungers, according to EN 50041

- Slow-action contacts 1 NO + 2 NC →
- Snap-action contacts 1 NO + 1 NC →
- 1 NO + 2 NC →

3SE5132-0KA00-1AJ0	1	1 unit	41K
3SE5132-0CA00-1AJ0	1	1 unit	41K
3SE5132-0LA00-1AJ0	1	1 unit	41K

3SE5132-0CA00-1AJ0

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
	mm	Article No.	Price per PU		

Actuators



Rounded plunger, type B, according to EN 50041

- Plastic plunger, with 3 mm overtravel 10 →

3SE5000-0AC03-1AJ0	1	1 unit	41K
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3SE5000-0AC03-1AJ0



Roller plunger, type C, according to EN 50041

- Plastic plunger Plastic roller 13 →

3SE5000-0AD05-1AJ0	1	1 unit	41K
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3SE5000-0AD05-1AJ0



Roller lever

- Metal lever with plastic base Plastic roller 22 →

3SE5000-0AE05-1AJ0	1	1 unit	41K
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3SE5000-0AE05-1AJ0

Twist actuators



Twist actuator, for 40/56/56 mm, XL, according to EN 50041

- Switching right and/or left, adjustable -- →

3SE5000-0AH00-1AJ0	1	1 unit	41K
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3SE5000-0AH00-1AJ0

Levers

Twist levers 27 mm, offset, type A, according to EN 50041

- Metal lever Plastic roller 19 →
- High-grade steel lever Plastic roller 19 →

3SE5000-0AA01-1AJ0	1	1 unit	41K
3SE5000-0AA11-1AJ0	1	1 unit	41K

3SE5000-0AA01-1AJ0

Twist levers 100 mm, adjustable length, with grid hole

- Metal lever Plastic roller 19 →
- High-grade steel lever Plastic roller 19 →

3SE5000-0AA60-1AJ0	1	1 unit	41K
3SE5000-0AA62-1AJ0	1	1 unit	41K

3SE5000-0AA60-1AJ0

→ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version	Contacts	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
		Article No.	Price per PU		

Complete units · Enclosure width 31 mm



3SE5212-0CC05-1AJ0

Rounded plungers, type B, according to EN 50047

- Slow-action contacts 1 NO + 2 NC
- Snap-action contacts 1 NO + 1 NC
- 1 NO + 2 NC

3SE5212-0KC05-1AJ0	1	1 unit	41K
3SE5212-0CC05-1AJ0	1	1 unit	41K
3SE5212-0LC05-1AJ0	1	1 unit	41K



3SE5214-0CC05-1AJ2

With M12 device plug, 5-pole (250 V, 4 A)¹⁾

- Snap-action contacts 1 NO + 1 NC

3SE5214-0CC05-1AJ2	1	1 unit	41K
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3SE5212-0CH22-1AJ0

Twist lever, type A, according to EN 50047

With metal lever 21 mm and high-grade steel roller 19 mm, with twist actuator with enclosure width 40 mm

- Snap-action contacts 1 NO + 1 NC

3SE5212-0CH22-1AJ0	1	1 unit	41K
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Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ For pin assignments, see page 12/13.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/87 onwards.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C
Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version	Contacts	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
		Article No.	Price per PU		

Basic switches · Enclosure width 31 mm

**Rounded plungers¹⁾, according to EN 50047**

- Slow-action contacts 1 NO + 2 NC
- Snap-action contacts 1 NO + 1 NC
- 1 NO + 2 NC

3SE5212-0KC05-1AJ0	1	1 unit	41K
3SE5212-0CC05-1AJ0	1	1 unit	41K
3SE5212-0LC05-1AJ0	1	1 unit	41K

3SE5212-0CC05-1AJ0

Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

¹⁾ For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG
		<input checked="" type="checkbox"/>			
	mm	Article No.	Price per PU		

Actuators

**Roller plunger, type C, according to EN 50047**

- Plastic roller 10

3SE5000-0AD03-1AJ0	1	1 unit	41K
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3SE5000-0AD03-1AJ0

**Roller levers, type E, according to EN 50047**

- Metal lever Plastic roller 13
- High-grade steel Plastic roller 13
- lever High-grade steel roller 13

3SE5000-0AE10-1AJ0	1	1 unit	41K
3SE5000-0AE12-1AJ0	1	1 unit	41K
3SE5000-0AE13-1AJ0	1	1 unit	41K

3SE5000-0AE10-1AJ0

**Angular roller levers**

- Metal lever Plastic roller 13
- High-grade steel Plastic roller 13
- lever

3SE5000-0AF10-1AJ0	1	1 unit	41K
3SE5000-0AF12-1AJ0	1	1 unit	41K

3SE5000-0AF10-1AJ0

Twist actuators

**Twist actuator, for 31/50 mm, according to EN 50047**

- Switching right and/or left, adjustable --

3SE5000-0AK00-1AJ0	1	1 unit	41K
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3SE5000-0AK00-1AJ0

Levers**Twist levers 21 mm, straight, type A, according to EN 50047**

- Metal lever Plastic roller 19
- High-grade steel Plastic roller 19
- lever

3SE5000-0AA21-1AJ0	1	1 unit	41K
3SE5000-0AA31-1AJ0	1	1 unit	41K

3SE5000-0AA21-1AJ0

**Twist levers 100 mm, adjustable length, with grid hole**

- Metal lever Plastic roller 19
- High-grade steel Plastic roller 19
- lever

3SE5000-0AA60-1AJ0	1	1 unit	41K
3SE5000-0AA62-1AJ0	1	1 unit	41K

3SE5000-0AA60-1AJ0

Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041/56 mm, XL

Complete units

2, 3 or 4 contacts · Degree of protection IP66/IP67 · With increased corrosion protection

Version	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Complete units · Enclosure width 40 mm · Cable entry 1 x (M20 x 1.5)					
	Rounded plunger, type B, according to EN 50041 With high-grade steel plunger 10 mm, with 3 mm overtravel • Snap-action contacts	1 NO + 1 NC	⊕	3SE5112-0CC02-1AJ0	1 1 unit 41K
3SE5112-0CC02-1AJ0					
	Roller plunger, type C, according to EN 50041 With high-grade steel plunger 13 mm, with 3 mm overtravel • Snap-action contacts	1 NO + 2 NC	⊕	3SE5112-0LD02-1AJ0	1 1 unit 41K
3SE5112-0LD02-1AJ0					
	Twist lever, type A, according to EN 50041 With high-grade steel lever 27 mm and plastic roller 19 mm • Snap-action contacts	1 NO + 2 NC	⊕	3SE5112-0LH11-1AJ0	1 1 unit 41K
3SE5112-0LH11-1AJ0					
	Twist lever, adjustable length, according to EN 50041 With high-grade steel lever 100 mm, with grid hole and plastic roller 19 mm • Snap-action contacts	1 NO + 1 NC	⊕	3SE5112-0CH62-1AJ0	1 1 unit 41K
3SE5112-0CH62-1AJ0					
Complete units · Enclosure width 56 mm, XL · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041					
	Twist lever With high-grade steel lever 27 mm and high-grade steel roller 19 mm • Snap-action contacts	2 x (1 NO + 1 NC)	⊕	3SE5162-0CH12-1AN5	1 1 unit 41K
3SE5162-0CH12-1AN5					
	Twist levers, adjustable length With metal lever 100 mm, with grid holes and plastic roller 19 mm • Snap-action contacts	2 x (1 NO + 1 NC)	⊕	3SE5162-0CH60-1AJ0	1 1 unit 41K
3SE5162-0CH60-1AJ0					
	With high-grade steel lever 100 mm and high-grade steel roller 19 mm • Snap-action contacts	2 x (1 NO + 1 NC)	⊕	3SE5162-0CH63-1AN6	1 1 unit 41K

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/89 onwards.

* You can order this quantity or a multiple thereof. Illustrations are approximate

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C
Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041/56 mm/56 mm, XL

Modular system

2, 3 or 4 contacts · Degree of protection IP66/IP67 · With increased corrosion protection

Version	Contacts	Modular system	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Basic switches · Enclosure width 40 mm · Cable entry 1 x (M20 x 1.5)					
	Rounded plungers, according to EN 50041				
	• Slow-action contacts	1 NO + 2 NC	↻	3SE5112-0KA00-1AJ0	1 1 unit 41K
	• Snap-action contacts	1 NO + 1 NC	↻	3SE5112-0CA00-1AJ0	1 1 unit 41K
		1 NO + 2 NC	↻	3SE5112-0LA00-1AJ0	1 1 unit 41K
3SE5112-0CA00-1AJ0					
Basic switches · Enclosure width 56 mm · Cable entry 3 x (M20 x 1.5)					
	Rounded plungers, operating points according to EN 50041				
	• Slow-action contacts	1 NO + 2 NC	↻	3SE5122-0KA00-1AJ0	1 1 unit 41K
	• Snap-action contacts	1 NO + 1 NC	↻	3SE5122-0CA00-1AJ0	1 1 unit 41K
		1 NO + 2 NC	↻	3SE5122-0LA00-1AJ0	1 1 unit 41K
3SE5122-0CA00-1AJ0					
Basic switches · Enclosure width 56 mm, XL · Cable entry 3 x (M20 x 1.5)					
	Rounded plungers, operating points according to EN 50041				
	• Slow-action contacts	2 × (1 NO + 1 NC)	↻	3SE5162-0BA00-1AJ0	1 1 unit 41K
	• Snap-action contacts	2 × (1 NO + 1 NC)	↻	3SE5162-0CA00-1AJ0	1 1 unit 41K
3SE5162-0BA00-1AJ0					

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Version	Diame- ter	Modular system	PU (UNIT, SET, M)	PS*	PG
	mm	Article No.	Price per PU		
Actuators					
	Rounded plunger, type B, according to EN 50041				
3SE5000-0AC02-1AJ0	<ul style="list-style-type: none"> High-grade steel plunger, with 3 mm overtravel 10 	3SE5000-0AC02-1AJ0	1	1 unit	41K
	Roller plunger, type C, according to EN 50041				
3SE5000-0AD02-1AJ0	<ul style="list-style-type: none"> High-grade steel roller, with 3 mm overtravel 13 	3SE5000-0AD02-1AJ0	1	1 unit	41K
	Roller levers				
3SE5000-0AE01-1AJ0	<ul style="list-style-type: none"> Metal lever Plastic roller 22 High-grade steel lever Plastic roller 22 	3SE5000-0AE01-1AJ0	1	1 unit	41K
		3SE5000-0AE03-1AJ0	1	1 unit	41K
	Angular roller levers				
3SE5000-0AF01-1AJ0	<ul style="list-style-type: none"> Metal lever Plastic roller 22 High-grade steel lever Plastic roller 22 	3SE5000-0AF01-1AJ0	1	1 unit	41K
		3SE5000-0AF03-1AJ0	1	1 unit	41K
Twist actuators					
	Twist actuator, for 40/56/56 mm, XL, according to EN 50041				
3SE5000-0AH00-1AJ0	<ul style="list-style-type: none"> Switching right and/or left, adjustable -- 	3SE5000-0AH00-1AJ0	1	1 unit	41K
Levers					
	Twist levers 27 mm, offset, type A, according to EN 50041				
3SE5000-0AA01-1AJ0	<ul style="list-style-type: none"> Metal lever Plastic roller 19 High-grade steel lever Plastic roller 19 	3SE5000-0AA01-1AJ0	1	1 unit	41K
		3SE5000-0AA11-1AJ0	1	1 unit	41K
	Twist levers 100 mm, adjustable length, with grid hole				
3SE5000-0AA60-1AJ0	<ul style="list-style-type: none"> Metal lever Plastic roller 19 High-grade steel lever Plastic roller 19 	3SE5000-0AA60-1AJ0	1	1 unit	41K
		3SE5000-0AA62-1AJ0	1	1 unit	41K

☞ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C
Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical safety switches with separate actuator > 3SE5, plastic enclosures/metal enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 contacts · 5 directions of approach · Degree of protection IP65 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

Version	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

Plastic enclosures · Enclosure width 31 mm according to EN 50047

	• Slow-action contacts	1 NO + 1 NC ↻	3SE5232-0RV40-1AJ0	1	1 unit	41K
3SE5232-0RV40-1AJ0						

Metal enclosures · Enclosure width 40 mm according to EN 50041

	With M12 device plug, 5-pole (125 V, 4 A)¹⁾ • Slow-action contacts	2 NC ↻	3SE5114-0QV10-1AJ4	1	1 unit	41K
3SE5114-0QV10-1AJ4						

↻ Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ For pin assignments, see page 12/13.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories

	Standard actuator • With transverse fixing, plastic, length 40 mm	3SE5000-0AW11	1	1 unit	41K
3SE5000-0AW11					
	High-grade steel actuators¹⁾ • Length 75.6 mm	3SE5000-0AW51	1	1 unit	41K
3SE5000-0AW51					
	• With vertical fixing, length 53 mm	3SE5000-0AW52	1	1 unit	41K
3SE5000-0AW52					
	• With transverse fixing, length 47 mm	3SE5000-0AW53	1	1 unit	41K
3SE5000-0AW53					
	Universal radius actuator, heavy duty • High-grade steel actuator ¹⁾ , length 77 mm	3SE5000-0AW57	1	1 unit	41K
3SE5000-0AW57					

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

Position and safety switches

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C

Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical safety switches with tumbler > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 54 mm

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

Tumbler ¹⁾	Solenoid, rated operational voltage	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	□	PU (UNIT, SET, M)	PS*	PG
	V	Article No.	Price per PU			

Locking force 1 000 N according to ISO 14119 · Enclosure width 54 mm



3SE5322-OSL21-1AJ0

Spring-actuated locks

- With escape release from the front and emergency release from the back
- With auxiliary release
- With escape release from the back and auxiliary release from the front, head rotated 180°

24 DC



3SE5322-OSL21-1AJ0

1

1 unit

41K



3SE5322-OSD21-1AJ0

1

1 unit

41K



3SE5322-OSG21-1AM5

1

1 unit

41K

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories



3SE5000-0AV01

Standard actuator

- Length 75.6 mm

3SE5000-0AV01

1

1 unit

41K



3SE5000-0AW51

High-grade steel actuators¹⁾

- Length 75.6 mm

3SE5000-0AW51

1

1 unit

41K



3SE5000-0AW52

- With vertical fixing, length 53 mm

3SE5000-0AW52

1

1 unit

41K



3SE5000-0AW53

- With transverse fixing, length 47 mm

3SE5000-0AW53

1

1 unit

41K



3SE5000-0AW57

Universal radius actuator, heavy duty

- High-grade steel actuator¹⁾, length 77 mm

3SE5000-0AW57

1

1 unit

41K

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

Overview

SIRIUS sensors and SIMATIC ET 200

SIRIUS sensors are connected in the field using the M12 connection method via the fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL. The signals are forwarded to the higher-level controller via PROFINET/PROFIsafe.

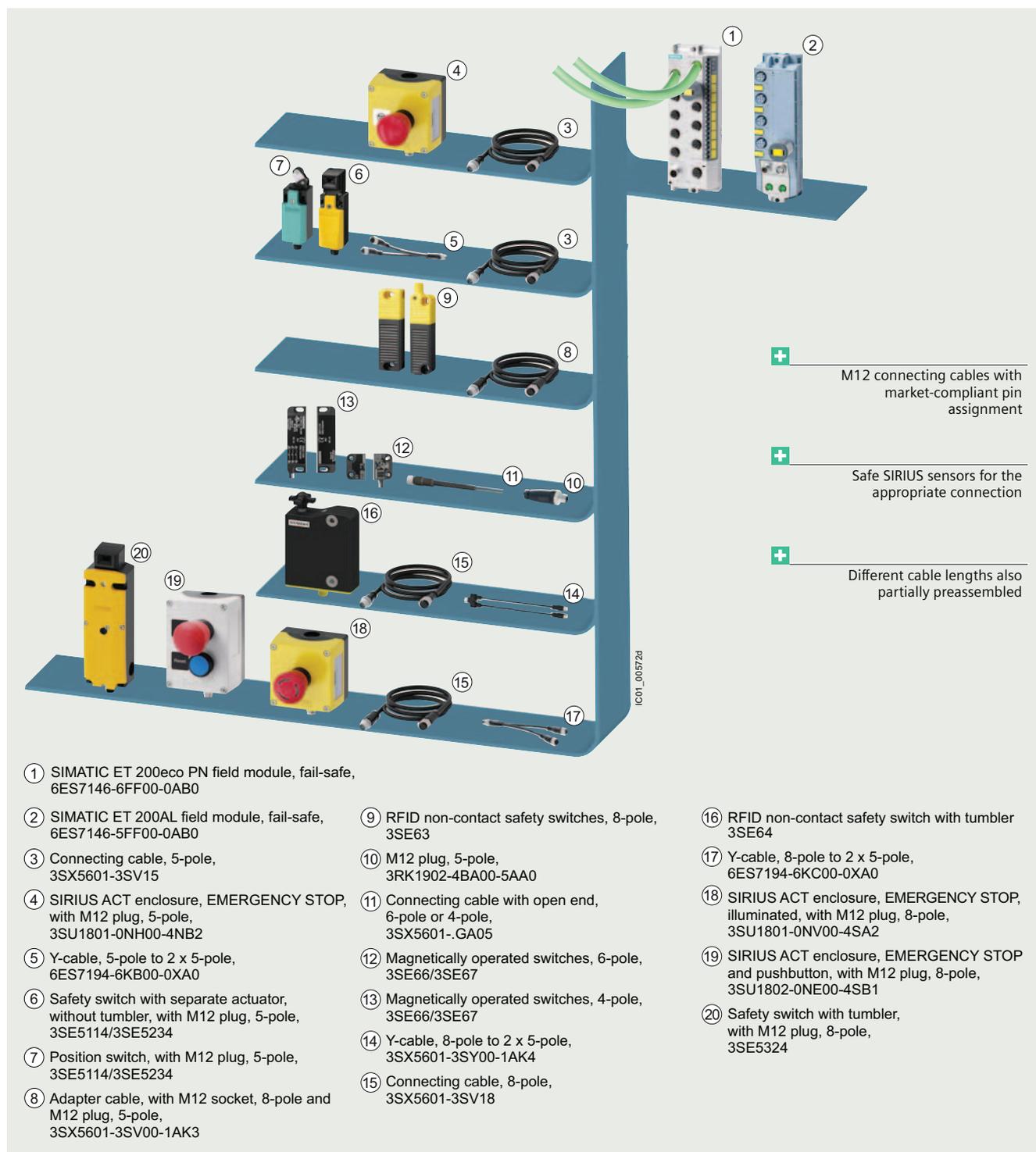
For more information, see also page 12/11.

Advantages

- Identical pin assignment on the modules, connecting cables and sensors enables simple and fast connection and prevents connection errors and their consequences.
- Safe system technology in the field from the sensor to the field module

Configurator, see

www.siemens.com/SIMATIC-ET200-safety-sensor-configurator.



① SIMATIC ET 200eco PN field module, fail-safe, 6ES7146-6FF00-0AB0

② SIMATIC ET 200AL field module, fail-safe, 6ES7146-5FF00-0AB0

③ Connecting cable, 5-pole, 3SX5601-3SV15

④ SIRIUS ACT enclosure, EMERGENCY STOP, with M12 plug, 5-pole, 3SU1801-0NH00-4NB2

⑤ Y-cable, 5-pole to 2 x 5-pole, 6ES7194-6KB00-0XA0

⑥ Safety switch with separate actuator, without tumbler, with M12 plug, 5-pole, 3SE5114/3SE5234

⑦ Position switch, with M12 plug, 5-pole, 3SE5114/3SE5234

⑧ Adapter cable, with M12 socket, 8-pole and M12 plug, 5-pole, 3SX5601-3SV00-1AK3

⑨ RFID non-contact safety switches, 8-pole, 3SE63

⑩ M12 plug, 5-pole, 3RK1902-4BA00-5AA0

⑪ Connecting cable with open end, 6-pole or 4-pole, 3SX5601-.GA05

⑫ Magnetically operated switches, 6-pole, 3SE66/3SE67

⑬ Magnetically operated switches, 4-pole, 3SE66/3SE67

⑭ Y-cable, 8-pole to 2 x 5-pole, 3SX5601-3SY00-1AK4

⑮ Connecting cable, 8-pole, 3SX5601-3SV18

⑯ RFID non-contact safety switch with tumbler 3SE64

⑰ Y-cable, 8-pole to 2 x 5-pole, 6ES7194-6KC00-0XA0

⑱ SIRIUS ACT enclosure, EMERGENCY STOP, illuminated, with M12 plug, 8-pole, 3SU1801-0NV00-4SA2

⑲ SIRIUS ACT enclosure, EMERGENCY STOP and pushbutton, with M12 plug, 8-pole, 3SU1802-0NE00-4SB1

⑳ Safety switch with tumbler, with M12 plug, 8-pole, 3SE5324

Safety field system composed of SIRIUS sensors and SIMATIC ET 200 with the M12 connection method

Position and safety switches

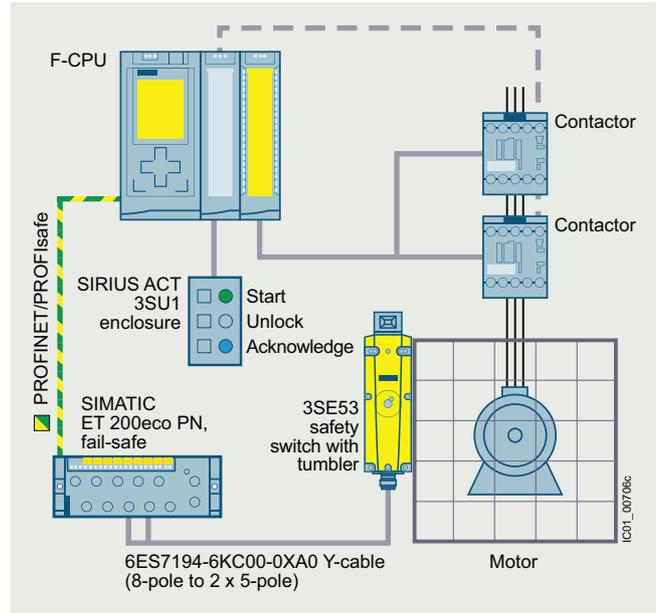
SIRIUS 3SE safety switches and 3SU1 EMERGENCY-STOP enclosures for PROFINET connection

Safety cabling in the field with IP67

Application examples

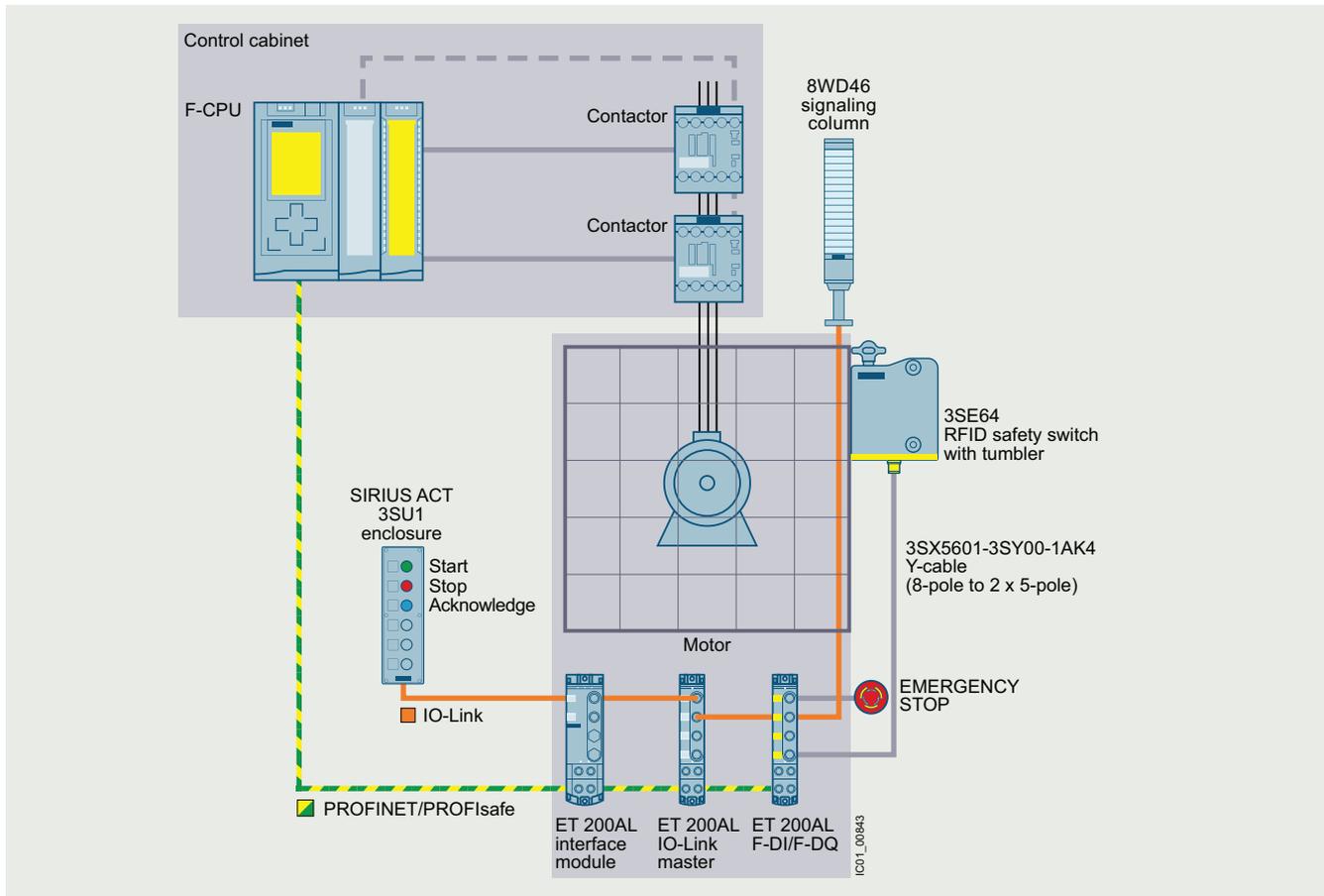
Example 1

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109778289>.



Protective door monitoring with a 3SE53 safety switch with tumbler on the fail-safe field module of the SIMATIC ET 200eco PN with Y-cable

Example 2



Protective door monitoring with a 3SE64 RFID safety switch with tumbler on the fail-safe field module of the SIMATIC ET 200AL with Y-cable

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109818115>.

Examples of SIRIUS sensors and fail-safe SIMATIC ET 200

Fail-safe field modules	Type	SIL
 SIMATIC ET 200eco PN fail-safe F-DI 8x24 V/F-DQ 3x24 V 2A, M12, PROFI-safe, up to PL e (ISO 13849-1), up to SIL 3 (IEC 61508), degree of protection IP65/IP67	6ES7 146-6FF00-0AB0	3
 SIMATIC ET 200AL fail-safe F-DI 4+F-DQ 2x24 V DC/2 A, 4 x M12, PROFI-safe, up to PL e (ISO 13849-1), up to SIL 3 (IEC 61508), degree of protection IP67	6ES7 146-5FF00-0BA0	3

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length	
SIRIUS ACT enclosure, EMERGENCY STOP						
	Enclosure plastic, yellow, with 1 command point, A = EMERGENCY-STOP mushroom pushbutton, red, M12 plug (5-pole)	3SU1801-0NH00-4NB2 3 (see page 13/107)		Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/52)	1 m
			or			
				Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/52)	5 m
			and			
				M12 plug 5-pole, straight, separate item	3RK 1902-4BA00-5AA0 (see page 12/53)	--

Position and safety switches

SIRIUS 3SE safety switches and 3SU1 EMERGENCY-STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length
Mechanical safety switches					
Plastic 31 mm					
	Basic switch with rounded plunger for modular design with M12 plug, 5-pole + actuator head (order separately), e.g. roller lever 3SE5000-0AE10	3SE5234-OLC05-1AE2	1		
	Position switch, roller plunger with M12 plug, 5-pole	3SE5234-OLD03-1AE2	1		
	Position switch, roller lever with M12 plug, 5-pole	3SE5234-OLE11-1AE2	2		
	Safety switch with separate actuator, without tumbler with M12 plug, 5-pole + actuators (order separately), e.g. standard 3SE5000-0AV01	3SE5234-0QV40-1AE2	2	 Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/52) 1 m
		Actuators (see page 12/63)		or	
				 Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/52) 5 m
				and	
			 M12 plug 5-pole, straight, separate item	3RK 1902-4BA00-5AA0 (see page 12/53)	--
Metal, 40 mm					
	Basic switch for modular design with M12 plug, 5-pole + actuator head (order separately), e.g. roller plunger 3SE5000-0AD02	3SE5114-0LA00-1AE3	1		
	Position switch, roller plunger with M12 plug, 5-pole	3SE5114-OLD02-1AE3	1		
	Position switch, twist lever with M12 plug, 5-pole	3SE5114-OLH01-1AE3	1		
	Position switch, plain plunger with M12 plug, 5-pole	3SE5114-0LB01-1AE3	1		
	Safety switch with separate actuator, without tumbler with M12 plug, 5-pole + actuators (order separately), e.g. standard 3SE5000-0AV01	3SE5114-0QV10-1AE3	2		
		Actuators (see page 12/63)			
Combinations (examples)					
	Position switch + safety switch with separate actuator, without tumbler Actuators (order separately), e.g. standard 3SE5000-0AV01	3SE5114-OLH01-1AE3 (see page 12/37)+ 3SE5234-0QV40-1AE2 (see page 12/59)	3	 ET 200 Y-cable for connecting 2 x 1-channel sensors with M12 plug, 5-pole on 2 x M12 sockets, 5-pole	6ES7194-6KB00-0XA0 (see page 12/52) 0.2 m
	2 x safety switches with separate actuator, without tumbler Actuators (order separately), e.g. standard 3SE5000-0AV01	3SE5234-0QV40-1AE2, 3SE5234-0QV40-1AE2 (see page 12/59)	3	 Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/52) 1 m
		Actuators (see page 12/63)		or	
				 Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/52) 5 m
				and	
	2 x position switches	3SE5114-OLH01-1AE3 (see page 12/37) 3SE5234-OLE11-1AE2 (see page 12/17)	3	 M12 plug 5-pole, straight, separate item	3RK 1902-4BA00-5AA0 (see page 12/53) --

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length	
Non-contact safety switches (examples)						
	RFID safety switch family-coded + actuator	3SE6315-0BB01-1AP0 (see page 12/131) 3SE6310-0BC01 (see page 12/131)	3			
	RFID safety switch individually coded, programmable several times + actuator	3SE6315-0BB02-1AP0 (see page 12/131) 3SE6310-0BC01 (see page 12/131)	3	 Adapter cable with M12 socket, 8-pole on M12 plug, 5-pole	3SX5601-3SV00-1AK3 (see page 12/131)	0.5 m
	RFID safety switch individually coded, programmable once + actuator	3SE6315-0BB03-1AP0 (see page 12/131) 3SE6310-0BC01 (see page 12/131)	3	 Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	Extend if necessary with 3SX5601-3SV15 (see page 12/52)	1 m
	Magnetically operated switch (cable 3 m) + switching solenoid (25 x 88 mm), coded	3SE6605-2BA (see page 12/125) 3SE6704-2BA (see page 12/125)	3	 M12 plug 5-pole, straight, separate item or  M12 plug 5-pole, angled, separate item	3RK 1902-4BA00-5AA0 (see page 12/53) 3RK 1902-4DA00-5AA0 (see page 12/53)	--
		Magnetically operated switch (25 x 88 mm), M8 plug, 4-pole + LED, door hinge left , 2 NC + switching solenoid (25 x 88 mm), coded	3SE6614-4CA01 (see page 12/125) 3SE6714-2CA (see page 12/125)	3	 Connecting cable with M8 socket, 4-pole, open end and  M12 plug 5-pole, straight, separate item	3SX5601-3GA05 (see page 12/52) 3RK 1902-4BA00-5AA0 (see page 12/53)
Magnetically operated switch (25 x 88 mm), M8 plug, 4-pole + LED, door hinge right , 2 NC + switching solenoid (25 x 88 mm), coded		3SE6624-4CA01 (see page 12/126) 3SE6714-2CA (see page 12/125)	3	or  M12 plug 5-pole, angled, separate item	3RK 1902-4DA00-5AA0 (see page 12/53)	--
	Magnetically operated switch (25 x 88 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge left , 2 NC + 1 NC signaling contact + switching solenoid (25 x 88 mm), coded	3SE6617-2CA01 (see page 12/125) 3SE6714-2CA (see page 12/125)	3			
	Magnetically operated switch (25 x 88 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge right , 2 NC + 1 NC signaling contact + switching solenoid (25 x 88 mm), coded	3SE6627-2CA01 (see page 12/126) 3SE6714-2CA (see page 12/125)	3	 Connecting cable with socket 8 mm, latching connection, 6-pole, open end and  M12 plug 5-pole, straight, separate item	3SX5601-4GA05 (see page 12/52) 3RK 1902-4BA00-5AA0 (see page 12/53)	5 m --
	Magnetically operated switch (26 x 36 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge left , 2 NC + 1 NC signaling contact + switching solenoid (26 x 36 mm), coded	3SE6617-3CA01 (see page 12/125) 3SE6714-3CA (see page 12/125)	3	or  M12 plug 5-pole, angled, separate item	3RK 1902-4DA00-5AA0 (see page 12/53)	--
	Magnetically operated switch (26 x 36 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge right , 2 NC + 1 NC signaling contact + switching solenoid (26 x 36 mm), coded	3SE6627-3CA01 (see page 12/126) 3SE6714-3CA (see page 12/125)	3			

Position and safety switches

SIRIUS 3SE safety switches and 3SU1 EMERGENCY-STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length
Mechanical safety switches with tumbler					
 <p>Safety switch with tumbler, with solenoid monitoring, with auxiliary release M12 plug, 8-pole, monitoring 1 x door + 1 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSD21-1AE4 (see page 12/70)	2	 <p>Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole</p>	3SX5601-3SV18 (see page 12/74)	1 m
			 <p>ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole</p>	6ES7194-6KC00-0XA0 (see page 12/74)	0.2 m
 <p>Safety switch with tumbler, with solenoid monitoring, with escape release from the back and auxiliary release with lock from the front M12 plug, 8-pole, monitoring 1 x door + 1 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSH21-1AE4 (see page 12/70)	2	 <p>Connecting cables with M12 socket, 8-pole, straight, open end</p>	3SX5601-2GA03 (see page 12/74)	3 m
			 <p>M12 plug 8-pole, straight</p>	3SX5601-2GA05 (see page 12/74)	5 m
 <p>Safety switch with tumbler, without solenoid monitoring, with auxiliary release M12 plug, 8-pole, monitoring 2 x door + 0 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSD21-1AE5 (see page 12/70)	2	 <p>ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole</p>	3SX5601-2GA10 (see page 12/74)	10 m
			 <p>2 x M12 plug 5-pole, straight, separate item</p>	3SX5601-2GA15 (see page 12/74)	15 m
 <p>Safety switch with tumbler, without solenoid monitoring, with auxiliary release M12 plug, 8-pole, monitoring 2 x door + 0 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSD21-1AE5 (see page 12/70)	2	 <p>2 x M12 plug 5-pole, angled, separate item</p>	3SX5601-2GA03 (see page 12/74)	3 m
			 <p>2 x M12 plug 5-pole, straight, separate item</p>	3SX5601-2GA05 (see page 12/74)	5 m
 <p>Safety switch with tumbler, without solenoid monitoring, with auxiliary release M12 plug, 8-pole, monitoring 2 x door + 0 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSD21-1AE5 (see page 12/70)	2	 <p>2 x M12 plug 5-pole, straight, separate item</p>	3SX5601-2GA10 (see page 12/74)	10 m
			 <p>2 x M12 plug 5-pole, angled, separate item</p>	3SX5601-2GA15 (see page 12/74)	15 m
 <p>Safety switch with tumbler, without solenoid monitoring, with auxiliary release M12 plug, 8-pole, monitoring 2 x door + 0 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable + actuators (order separately), e.g. standard 3SE5000-0AV01, high-grade steel 3SE5000-0AW51</p>	3SE5324-OSD21-1AE5 (see page 12/70)	2	 <p>2 x M12 plug 5-pole, straight, separate item</p>	3RK1902-4BA00-5AA0 (see page 12/53)	--
			 <p>2 x M12 plug 5-pole, angled, separate item</p>	3RK1902-4DA00-5AA0 (see page 12/53)	--

Position and safety switches

SIRIUS 3SE safety switches and 3SU1 EMERGENCY-STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length						
RFID non-contact safety switches with tumbler											
<i>Only suitable for process protection, see Note on page 12/135</i>											
	RFID safety switches with tumbler, M12 plug, 8-pole, connection to an F-DI input and an F-DQ output via a Y-cable	2		Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole	3SX5601-3SV18 (see page 12/139)	1 m					
					and		ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	3SX5601-3SY00-1AK4 (see page 12/139)	0.2 m		
					or			Connecting cables with M12 socket, 8-pole, straight, open end	3SX5601-2GA03 (see page 12/139)	3 m	
								3SX5601-2GA05 (see page 12/139)	5 m		
								3SX5601-2GA10 (see page 12/139)	10 m		
								3SX5601-2GA15 (see page 12/139)	15 m		
							and		M12 plug 8-pole, straight	6GT2090-0BE00 (see page 12/139)	--
							and			ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	3SX5601-3SY00-1AK4 (see page 12/139)
							or			Connecting cables with M12 socket, 8-pole, straight, open end	3SX5601-2GA03 (see page 12/139)
							3SX5601-2GA05 (see page 12/139)		5 m		
	3SX5601-2GA10 (see page 12/139)	10 m									
	3SX5601-2GA15 (see page 12/139)	15 m									
		and		2 x M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/139)	--					
	or			2 x M12 plug 5-pole, angled, separate item	3RK1902-4DA00-5AA0 (see page 12/139)	--					
	+ RFID actuator (order separately)		2								

Position and safety switches

SIRIUS 3SE safety switches and 3SU1 EMERGENCY-STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Sensors with M12 plugs	Type	SIL	Connection accessories M12 method, A-coded	Type	Cable length		
SIRIUS ACT enclosures							
 <p>Enclosure plastic, yellow, with 1 command point, A=EMERGENCY-STOP mushroom pushbutton, red, M12 plug (8-pole), connection to an F-DI input and an F-DQ output via a Y-cable</p>	3SU1801-0NV00-4SA2	3	 <p>Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole</p>	3SX5601-3SV18 (see page 12/74)	1 m		
			 <p>ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole</p>	6ES7194-6KC00-0XA0 (see page 12/74)	0.2 m		
			or		 <p>Connecting cables with M12 socket, 8-pole, straight, open end</p>	3SX5601-2GA03 (see page 12/74)	3 m
						3SX5601-2GA05 (see page 12/74)	5 m
 <p>Enclosure plastic, gray, with 2 command points, B = EMERGENCY-STOP mushroom pushbutton, red, A = pushbutton, blue, M12 plug (8-pole), two connections to two F-DI inputs via a Y-cable</p>	3SU1802-0NE00-4SB1	3		3SX5601-2GA10 (see page 12/74)	10 m		
				3SX5601-2GA15 (see page 12/74)	15 m		
			and		 <p>M12 plug 8-pole, straight</p>	6GT2090-0BE00 (see page 12/74)	--
			and		 <p>ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole</p>	6ES7194-6KC00-0XA0 (see page 12/74)	0.2 m

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches

SiePortal, see www.siemens.com/product_catalog_siep?3SF

Configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5

Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>

The 3SF1 position switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 position switches the ASIsafe electronics are integrated in the switch enclosure.



Examples of selection options in the modular system

Modular system

The position switches of the 3SF11.4 and 3SF12.4 series are designed as a modular system comprising different versions of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch, end users can select the right solution from numerous versions. The complete unit can be assembled within a very short time.

Design

The 3SF1 switches are available in four different enclosure sizes:

- Plastic and metal enclosures according to EN 50047, 31 mm wide, with M12 device plug
- Metal enclosures according to EN 50041, 40 mm wide, with M12 device plug
- Plastic enclosures, 50 mm wide, with M12 device plug and M12 socket
- Metal enclosures, 56 mm wide, with M12 device plug and M12 socket

Display

The switches have a status display with three LEDs:

- LED 1 (yellow): F-IN1
- LED 2 (yellow): F-IN2
- LED 3 (green/red): AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second position switch. In this way, SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 is reached.

Benefits

The 3SF1 safety switches provide:

- ASIsafe electronics integrated in the enclosure, with low power consumption < 60 mA
- An extensive range of actuators
- Status display with three LEDs
- Can be integrated easily via TIA Portal

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

General data

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of versions, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator versions are available to match the mechanical configuration of the moving machine parts. Dimensions, mounting points and characteristics are largely according to the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

AS-Interface according to IEC 62026-2

The 3SF1 position switches are approved according to UL 508, UL 50 and UL 746-C.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol .

With a 3SF1 safety switch with , SIL 2 according to IEC 62061/ IEC 61508 or PL c according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with  is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

General data

Technical specifications

Type	3SF11.., 3SF12..		
General data			
Standards	IEC 60947-5-1, ISO 14119		
According to AS-Interface specification	0/B		
<ul style="list-style-type: none"> I/O configuration/ID configuration ID1 code/ID2 code (hex) Power consumption, overall 	mA	F/F	≤ 60
Inputs	<ul style="list-style-type: none"> Low signal range High signal range 		
		Contact open Contact closed, I_n dynamic ($I_{peak} \geq 5$ mA)	
Status display	Green/red dual LED		
Rated impulse withstand voltage U_{imp}	kV	0.6	
EMC strength			
<ul style="list-style-type: none"> IEC 61000-1-2 IEC 61000-4-3 IEC 61000-4-4 (A/B) 	kV V/m kV	4 10 1/2	
Mechanical endurance			
<ul style="list-style-type: none"> Basic switch With separate actuator, 3SF1...-..V.. 	Operating cycles Operating cycles	15 x 10 ⁶ 1 x 10 ⁶	
PFH value	Probability of failure upon request of the safety function, with 1 actuation per hour and B10 = 5 x 10 ⁶		
<ul style="list-style-type: none"> Basic switch With separate actuator, 3SF1...-..V.. Hinge switch, 3SF1...-..U.. 	1/h 1/h 1/h	4 x 10 ⁻⁹ 2 x 10 ⁻⁹ 2 x 10 ⁻⁹	
Shock resistance according to IEC 60068-2-27	g/ms	30/11	

Type	3SF1234	3SF1134	3SF1244	3SF1214	3SF1114	3SF1124
Enclosures						
Enclosure						
<ul style="list-style-type: none"> Material Width Dimensions according to EN 	mm	Ultramid A3X2G7 31 EN 50047	40 EN 50041	50 --	Zinc die-casting GD-ZnAl4Cu1 31 EN 50047	40 EN 50041
Degree of protection according to IEC 60529	IP65		IP66/IP67			
Ambient temperature						
<ul style="list-style-type: none"> During operation Storage, transport 	°C °C	-25 ... +60 -40 ... +80				
Mounting position	Any					

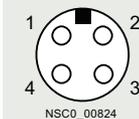
Pin assignments

M12 device plug, 4-pole



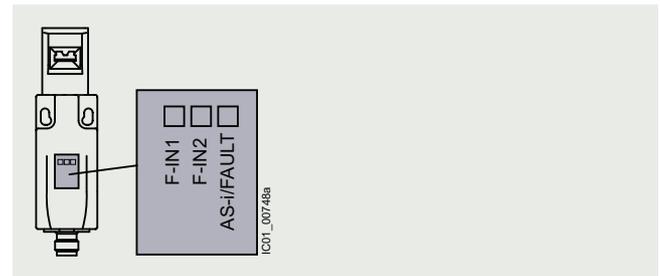
- 1 ASi +
- 2 Not assigned
- 3 ASi -
- 4 Not assigned

M12 socket, 4-pole



- 1 Channel 2
- 2 Channel 2
- 3 Not assigned
- 4 Not assigned

LED displays



3SF1 safety switches with AS-i and LED status displays

Status display (operating state)

LED	No voltage on AS-Interface chip	Communication OK	Communication failed	Slave has address "0"
AS-i/Fault (GN/RD/YE)				

Safe inputs

LED	Not actuated	Actuated		
F-IN1 (YE)			--	--
F-IN2 (YE)			--	--

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
						
			Article No.	Price per PU		

Basic switches · Enclosure width 31 mm according to EN 50047 · Degree of protection IP65



Rounded plungers¹⁾

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on NC contact

- Slow-action contacts 2 NC 24 V DC 
- Snap-action contacts 2 NC 24 V DC 

3SF1234-1KC05-1BA1

3SF1234-1KC05-1BA1	1	1 unit	42A
3SF1234-1LC05-1BA1	1	1 unit	42A

Basic switches · Enclosure width 50 mm · Degree of protection IP66/IP67 · Operating points according to EN 50047



Rounded plungers¹⁾

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on M12 socket, right

- Slow-action contacts 1 NC 24 V DC 
- Snap-action contacts 1 NC 24 V DC 

3SF1244-1KC05-1BA2

3SF1244-1KC05-1BA2	1	1 unit	42A
3SF1244-1LC05-1BA2	1	1 unit	42A

 Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

¹⁾ For enclosures with widths of 31 mm and 50 mm, the basic switch is a complete unit with rounded plungers.

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG
mm		Article No.	Price per PU		
Actuators					
	Plain plunger				
3SE5000-0AB01	• High-grade steel plunger	8.5	↔	3SE5000-0AB01	1 1 unit 41K
	Roller plungers, type C, according to EN 50047				
3SE5000-0AD03	• Plastic roller	10	↔	3SE5000-0AD03	1 1 unit 41K
	• High-grade steel roller	10	↔	3SE5000-0AD04	1 1 unit 41K
	Roller plungers with central fixing				
3SE5000-0AD10	• Plastic roller	10	↔	3SE5000-0AD10	1 1 unit 41K
	• High-grade steel roller	10	↔	3SE5000-0AD11	1 1 unit 41K
	Roller levers, type E, according to EN 50047				
3SE5000-0AE10	• Metal lever Plastic roller	13	↔	3SE5000-0AE10	1 1 unit 41K
	High-grade steel roller	13	↔	3SE5000-0AE11	1 1 unit 41K
	• High-grade steel lever Plastic roller	13	↔	3SE5000-0AE12	1 1 unit 41K
	High-grade steel roller	13	↔	3SE5000-0AE13	1 1 unit 41K
	Angular roller levers				
3SE5000-0AF10	• Metal lever Plastic roller	13	↔	3SE5000-0AF10	1 1 unit 41K
	High-grade steel roller	13	↔	3SE5000-0AF11	1 1 unit 41K
	• High-grade steel lever Plastic roller	13	↔	3SE5000-0AF12	1 1 unit 41K
	High-grade steel roller	13	↔	3SE5000-0AF13	1 1 unit 41K
Twist actuators					
	Twist actuator, for 31/50 mm, according to EN 50047				
3SE5000-0AK00	• Switching right or left, adjustable	--	↔	3SE5000-0AK00	1 1 unit 41K
	Levers				
3SE5000-0AA21	Twist levers, type A, according to EN 50047				
	• Metal lever Plastic roller	19	↔	3SE5000-0AA21	1 1 unit 41K
		30	↔	3SE5000-0AA25	1 1 unit 41K
	High-grade steel roller	19	↔	3SE5000-0AA22	1 1 unit 41K
	- With ball bearing	19	↔	3SE5000-0AA23	1 1 unit 41K
	• High-grade steel lever Plastic roller	19	↔	3SE5000-0AA31	1 1 unit 41K
	High-grade steel roller	19	↔	3SE5000-0AA32	1 1 unit 41K
	Twist levers 30 mm, straight¹⁾				
	• Metal lever Plastic roller	19	↔	3SE5000-0AA24	1 1 unit 41K
		30	↔	3SE5000-0AA26	1 1 unit 41K
	Twist levers 100 mm, adjustable length, with grid hole				
3SE5000-0AA60	• Metal lever Plastic roller	19	↔	3SE5000-0AA60	1 1 unit 41K
		50	↔	3SE5000-0AA67	1 1 unit 41K
	High-grade steel roller	19	↔	3SE5000-0AA61	1 1 unit 41K
	Rubber roller	50	↔	3SE5000-0AA68	1 1 unit 41K
	• High-grade steel lever Plastic roller	19	↔	3SE5000-0AA62	1 1 unit 41K
	High-grade steel roller	19	↔	3SE5000-0AA63	1 1 unit 41K
	Rubber roller	50	↔	3SE5000-0AA68	1 1 unit 41K

↔ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input type="checkbox"/>			
			Article No.	Price per PU		

Basic switches · Enclosure width 31 mm according to EN 50047



Rounded plungers¹⁾

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on NC contact

- Slow-action contacts 2 NC 24 V DC Ⓢ
- Snap-action contacts 2 NC 24 V DC Ⓢ

3SF1214-1KC05-1BA1

Ⓢ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

3SF1214-1KC05-1BA1	1	1 unit	42A
3SF1214-1LC05-1BA1	1	1 unit	42A

Note:

For the selection aid, see page 12/14.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG	
	mm	Article No.	Price per PU			
Actuators						
	Plain plunger					
3SE5000-0AB01	• High-grade steel plunger	8.5	↔	3SE5000-0AB01	1 1 unit 41K	
Roller plungers, type C, according to EN 50047						
	• Plastic roller	10	↔	3SE5000-0AD03	1 1 unit 41K	
3SE5000-0AD03	• High-grade steel roller	10	↔	3SE5000-0AD04	1 1 unit 41K	
Roller plungers with central fixing						
	• Plastic roller	10	↔	3SE5000-0AD10	1 1 unit 41K	
3SE5000-0AD10	• High-grade steel roller	10	↔	3SE5000-0AD11	1 1 unit 41K	
Roller levers, type E, according to EN 50047						
	• Metal lever	13	↔	3SE5000-0AE10	1 1 unit 41K	
3SE5000-0AE10	Plastic roller	13	↔	3SE5000-0AE11	1 1 unit 41K	
	High-grade steel roller	13	↔	3SE5000-0AE12	1 1 unit 41K	
	• High-grade steel lever	13	↔	3SE5000-0AE13	1 1 unit 41K	
	High-grade steel roller	13	↔	3SE5000-0AE13	1 1 unit 41K	
Angular roller levers						
	• Metal lever	13	↔	3SE5000-0AF10	1 1 unit 41K	
3SE5000-0AF10	Plastic roller	13	↔	3SE5000-0AF11	1 1 unit 41K	
	High-grade steel roller	13	↔	3SE5000-0AF12	1 1 unit 41K	
	• High-grade steel lever	13	↔	3SE5000-0AF12	1 1 unit 41K	
	High-grade steel roller	13	↔	3SE5000-0AF13	1 1 unit 41K	
Twist actuators						
	Twist actuator, for 31/50 mm, according to EN 50047					
3SE5000-0AK00	Switching right or left, adjustable	--	↔	3SE5000-0AK00	1 1 unit 41K	
Levers						
Twist levers, type A, according to EN 50047						
	• Metal lever	19	↔	3SE5000-0AA21	1 1 unit 41K	
3SE5000-0AA21	Plastic roller	30	↔	3SE5000-0AA25	1 1 unit 41K	
	High-grade steel roller	19	↔	3SE5000-0AA22	1 1 unit 41K	
	- With ball bearing	19	↔	3SE5000-0AA23	1 1 unit 41K	
	• High-grade steel lever	19	↔	3SE5000-0AA31	1 1 unit 41K	
	Plastic roller	19	↔	3SE5000-0AA32	1 1 unit 41K	
	High-grade steel roller	19	↔	3SE5000-0AA32	1 1 unit 41K	
Twist levers 30 mm, straight¹⁾						
	• Metal lever	19	↔	3SE5000-0AA24	1 1 unit 41K	
	Plastic roller	30	↔	3SE5000-0AA26	1 1 unit 41K	
Twist levers 100 mm, adjustable length, with grid hole						
	• Metal lever	19	↔	3SE5000-0AA60	1 1 unit 41K	
3SE5000-0AA60	Plastic roller	50	↔	3SE5000-0AA67	1 1 unit 41K	
	High-grade steel roller	19	↔	3SE5000-0AA61	1 1 unit 41K	
	Rubber roller	50	↔	3SE5000-0AA68	1 1 unit 41K	
	• High-grade steel lever	19	↔	3SE5000-0AA62	1 1 unit 41K	
	Plastic roller	19	↔	3SE5000-0AA62	1 1 unit 41K	
	High-grade steel roller	19	↔	3SE5000-0AA63	1 1 unit 41K	

↔ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input type="checkbox"/>			
			Article No.	Price per PU		

Basic switches · Enclosure width 40 mm according to EN 50041



Rounded plungers

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on NC contact

- Slow-action contacts
- Snap-action contacts

2 NC	24 V DC	⊕
2 NC	24 V DC	⊕

3SF1114-1KA00-1BA1	1	1 unit	42A
3SF1114-1LA00-1BA1	1	1 unit	42A

3SF1114-1KA00-1BA1

Basic switches · Enclosure width 56 mm · Operating points according to EN 50041



Rounded plungers

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on M12 socket, right

- Slow-action contacts
- Snap-action contacts

1 NC	24 V DC	⊕
1 NC	24 V DC	⊕

3SF1124-1KA00-1BA2	1	1 unit	42A
3SF1124-1LA00-1BA2	1	1 unit	42A

3SF1124-1KA00-1BA2

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, [see page 12/14](#).

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

Version	Diameter	Modular system	PU (UNIT, SET, M)	PS*	PG	
mm		Article No.	Price per PU			
Actuators						
	Plain plunger					
3SE5000-0AB01	• High-grade steel plunger	8.5	↻	3SE5000-0AB01	1 1 unit 41K	
	Rounded plunger, type B, according to EN 50041					
3SE5000-0AC02	• High-grade steel plunger, with 3 mm overtravel	10	↻	3SE5000-0AC02	1 1 unit 41K	
	Roller plunger, type C, according to EN 50041					
3SE5000-0AD02	• High-grade steel roller, with 3 mm overtravel	13	↻	3SE5000-0AD02	1 1 unit 41K	
	Roller levers					
3SE5000-0AE01	• Metal lever	Plastic roller	22	↻	3SE5000-0AE01	1 1 unit 41K
		High-grade steel roller	22	↻	3SE5000-0AE02	1 1 unit 41K
	• High-grade steel lever	Plastic roller	22	↻	3SE5000-0AE03	1 1 unit 41K
		High-grade steel roller	22	↻	3SE5000-0AE04	1 1 unit 41K
	Angular roller levers					
3SE5000-0AF01	• Metal lever	Plastic roller	22	↻	3SE5000-0AF01	1 1 unit 41K
		High-grade steel roller	22	↻	3SE5000-0AF02	1 1 unit 41K
	• High-grade steel lever	Plastic roller	22	↻	3SE5000-0AF03	1 1 unit 41K
		High-grade steel roller	22	↻	3SE5000-0AF04	1 1 unit 41K
Twist actuators						
	Twist actuators, for 40/56/56 mm, XL, according to EN 50041					
3SE5000-0AH00	• For twist levers, switching right and/or left, adjustable, only for enclosure widths 40 and 56 mm	--	↻	3SE5000-0AH00	1 1 unit 41K	
	• For fork levers, latching	--	↻	3SE5000-0AT10	1 1 unit 41K	
Levers						
	Twist levers 27 mm, offset, type A, according to EN 50041					
3SE5000-0AA01	• Metal lever	Plastic roller	19	↻	3SE5000-0AA01	1 1 unit 41K
			30	↻	3SE5000-0AA05	1 1 unit 41K
			50	↻	3SE5000-0AA07	1 1 unit 41K
		2 plastic rollers	19	↻	3SE5000-0AA04	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA02	1 1 unit 41K
		- With ball bearing	19	↻	3SE5000-0AA03	1 1 unit 41K
		Rubber roller	50	↻	3SE5000-0AA08	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA11	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA12	1 1 unit 41K
		Twist levers 35 mm, offset, type A, according to EN 50041				
3SE5000-0AA15	• Metal lever	Plastic roller	19	↻	3SE5000-0AA15	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA16	1 1 unit 41K
	Twist levers 30 mm, straight¹⁾, type A, according to EN 50041					
3SE5000-0AA15	• Metal lever	Plastic roller	19	↻	3SE5000-0AA24	1 1 unit 41K
			30	↻	3SE5000-0AA26	1 1 unit 41K
	Twist levers 100 mm, adjustable length, with grid hole					
3SE5000-0AA60	• Metal lever	Plastic roller	19	↻	3SE5000-0AA60	1 1 unit 41K
			50	↻	3SE5000-0AA67	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA61	1 1 unit 41K
		Rubber roller	50	↻	3SE5000-0AA68	1 1 unit 41K
	• High-grade steel lever	Plastic roller	19	↻	3SE5000-0AA62	1 1 unit 41K
		High-grade steel roller	19	↻	3SE5000-0AA63	1 1 unit 41K
		Fork levers (for switches with snap-action contacts only)				
	3SE5000-0AT01	• 2 metal levers	2 plastic rollers	19	↻	3SE5000-0AT01
		2 high-grade steel rollers	19	↻	3SE5000-0AT02	1 1 unit 41K
• 2 high-grade steel levers		2 plastic rollers	19	↻	3SE5000-0AT03	1 1 unit 41K
		2 high-grade steel rollers	19	↻	3SE5000-0AT04	1 1 unit 41K

↻ Positively driven actuator, necessary in safety circuits.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/54.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With separate actuator

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SF
 Configurator, see www.siemens.com/sirius/configurators
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5
 Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switches with head for separate actuator and with integrated ASIsafe electronics

3SF1 safety switches with separate actuator have the same enclosures as the 3SF1 position switches.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^\circ$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/114).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/114).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/114).

Display

The switches have a status display with three LEDs:

- LED 1 (yellow): F-IN1
- LED 2 (yellow): F-IN2
- LED 3 (green/red): AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second safety switch. In this way, SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 is reached.

Benefits

The 3SF1 safety switches with separate actuator provide:

- ASIsafe electronics integrated in the enclosure, with low power consumption $< 60 \text{ mA}$
- An extensive range of actuators
- Status display with three LEDs

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and mounting points of the enclosure are according to EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

AS-Interface according to IEC 62026-2

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol .

With a 3SF1 safety switch with , SIL 2 according to IEC 62061/ IEC 61508 or PL d according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with  is used, SIL 3/PL e can be attained.

Evaluation of safety functionsSafety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With separate actuator

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with three LEDs 24 V DC:
 - LED 1: F-IN1
 - LED 2: F-IN2
 - LED 3: AS-i/FAULT
- Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm)
- 5 directions of approach
- M12 device plugs

Selection and ordering data

Version ¹⁾	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Enclosure width 31 mm according to EN 50047					
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact • Slow-action contacts	2 NC →	3SF1234-1QV40-1BA1	1	1 unit 42A
Enclosure width 50 mm					
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on M12 socket, right • Slow-action contacts	1 NC →	3SF1244-1QV40-1BA2	1	1 unit 42A

3SF1234-1QV40-1BA1

3SF1244-1QV40-1BA2

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/114).

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041/56 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with three LEDs 24 V DC:
 - LED 1: F-IN1
 - LED 2: F-IN2
 - LED 3: AS-i/FAULT
- Degree of protection IP66/IP67
- 5 directions of approach
- M12 device plugs

Selection and ordering data

Version ¹⁾	Contacts	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		
Enclosure width 31 mm according to EN 50047					
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact • Slow-action contacts	2 NC →	3SF1214-1QV40-1BA1	1	1 unit 42A
3SF1214-1QV40-1BA1					
Enclosure width 40 mm according to EN 50041					
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact • Slow-action contacts	2 NC →	3SF1114-1QV10-1BA1	1	1 unit 42A
3SF1114-1QV10-1BA1					
Enclosure width 56 mm					
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on M12 socket, right • Slow-action contacts	1 NC →	3SF1124-1QV10-1BA2	1	1 unit 42A
3SF1124-1QV10-1BA2					

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/114).

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With separate actuator

Accessories

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuators					
Standard actuators					
 3SE5000-0AV01	• Length 75.6 mm	3SE5000-0AV01	1	1 unit	41K
 3SE5000-0AV02	• With vertical fixing, length 53 mm	3SE5000-0AV02	1	1 unit	41K
 3SE5000-0AV03	• With transverse fixing - Length 47 mm	3SE5000-0AV03	1	1 unit	41K
 3SE5000-0AW11	- Length 40 mm, plastic ¹⁾	3SE5000-0AW11	1	1 unit	41K
Radius actuators					
 3SE5000-0AV04	• Length 51 mm - Direction of approach from the left	3SE5000-0AV04	1	1 unit	41K
 3SE5000-0AV06	- Direction of approach from the right	3SE5000-0AV06	1	1 unit	41K
Universal radius actuators					
 3SE5000-0AV05-1AA6	• Length 77 mm - Tab rotated 90°	3SE5000-0AV05 3SE5000-0AV05-1AA6	1 1	1 unit 1 unit	41K 41K
Universal radius actuators, heavy duty					
 3SE5000-0AV07-1AK2	• Length 67 mm	3SE5000-0AV07-1AK2	1	1 unit	41K
 3SE5000-0AV07	• Length 77 mm	3SE5000-0AV07	1	1 unit	41K
Optional accessories					
 3SE5000-0AV08-1AA2	Protective cap Made of black rubber, for actuator head, to protect the actuator openings from contamination (Only for enclosure width 40 mm or 56 mm)	3SE5000-0AV08-1AA2	1	1 unit	41K
 3SE5000-0AV08-1AA3	Blocking insert Made of high-grade steel, for actuator head, for up to eight padlocks	3SE5000-0AV08-1AA3	1	1 unit	41K

¹⁾ Not suitable for safety switches with tumbler.

Further versions for high-grade steel, [see page 12/73](#).

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SF
 Configurator, see www.siemens.com/sirius/configurators
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3SE5
 Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/43920150>

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switch with tumbler and with integrated ASIsafe electronics

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^\circ$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/114).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/114).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/114).

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

For more explanations, see page 12/68.

Display

The switches have a status display with four LEDs:

- LED 1 (green): AS-i
- LED 2 (red): FAULT
- LED 3 (yellow): F-IN1
- LED 4 (yellow): F-IN2

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable (no additional supply of auxiliary power is required thanks to the low current consumption of the solenoid of max. 170 mA).

Benefits

The 3SF13 safety switches with tumbler provide:

- More safety through higher locking forces:
 - 1 300 N for the plastic version
 - 2 600 N for the metal version
- Various release mechanisms: lock release, escape release and emergency release
- ASIsafe electronics integrated in the enclosure; connected through 4-pole M12 device plug
- Current consumption of the solenoid no more than 170 mA

- Two contact blocks as standard equipment, hence fewer versions needed
- Same dimensions for all enclosure versions: plastic, metal
- An extensive range of actuators
- Status display with four LEDs
- 3SF1324-1S.21-1BK4 series with high degree of protection IP69 according to IEC 60529, cover with foamed seal

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With tumbler

General data

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. overtravel movement of the switched-off machine).

The safety switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- Position monitoring of the protective device and tumbler

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

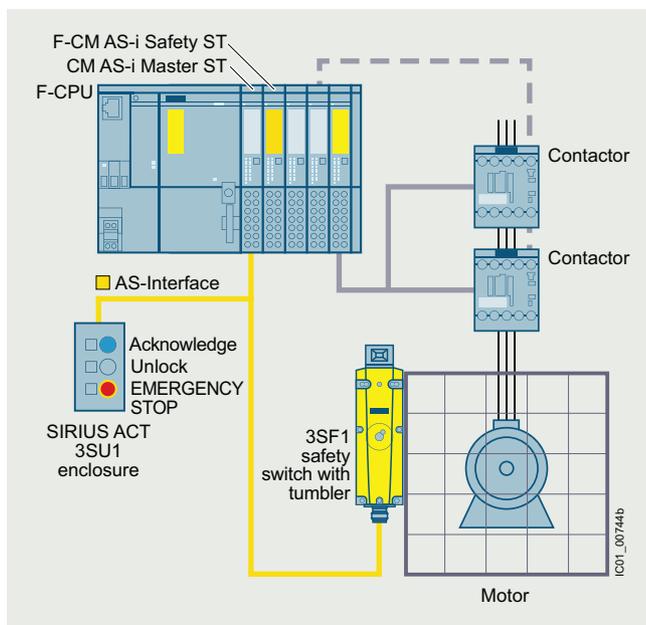
AS-Interface according to IEC 62026-2

The switches are approved for use with locking devices according to ISO 14119 and ISO 12100.

3SF13 safety switches with tumbler have a VDE test mark.

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

Application example



EMERGENCY-STOP shutdown and protective door monitoring with a 3SF1 safety switch with tumbler and AS-Interface in the SIMATIC ET 200SP

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109769506>.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, 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 in accordance with the standard IEC 60947-5-1 with the symbol

With a 3SF13 safety switch with , SIL 2 according to IEC 62061/ IEC 61508 or PL d according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Overview

Versions

- 1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid
- 1BA3: ASIsafe channel 1 on the first NC contact from the actuator and channel 2 on the second NC contact from the actuator
- 1BA4: ASIsafe channel 1 on 2 NC contacts (2-channel) from the actuator, and channel 2 on 1 NC contact from the solenoid. The position switch transfers the information of actuators to a transfer channel because the discrepancy of the two actuator contacts is already evaluated in the switch.

The 3SF1324-1S.21-1BA4 safety switches are also recommended where there are several protective door tumblers and reliable diagnostics and quick restart capability of equipment is required.

- A response is received from the solenoid.
- No opening of the doors required after the solenoid is unlocked.

In connection with an ET 200SP module F-CM AS-i Safety ST, it is possible to achieve SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1. They comply with the standard ISO 14119. A TÜV certificate is available.

Features

- Slow-action contacts
- 5 directions of approach
- Solenoid: Rated operational voltage 24 V DC
- 1 300 N locking force
- Degree of protection IP66/IP67, IP69
- Status display with four LEDs 24 V DC:
 - LED 1: AS-i
 - LED 2: FAULT
 - LED 3: F-IN1
 - LED 4: F-IN2
- M12 device plugs

Comparison of versions

Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid (depending on the type of evaluation)
Type	Actuator/solenoid		Feedback from the solenoid	
3SF1324-1S.21-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does <u>not</u> have to be opened
	1 NC/1 NC	SIL 2/PL d	✓	Door must be opened
3SF1324-1S.21-1BA3	2 NC/--	SIL 2/PL d	--	Door does <u>not</u> have to be opened
3SF1324-1S.21-1BA4	2 NC/1 NC	SIL 2/PL d	✓	Door does <u>not</u> have to be opened
3SF1324-1S.21-1BK4 (IP69)	2 NC/1 NC	SIL 2/PL d	✓	Door does <u>not</u> have to be opened

✓ Available -- Not available

Selection and ordering data

Tumbler ¹⁾	Contacts Actuator/solenoid	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

Locking force 1 000 N according to ISO 14119 · Enclosure width 54 mm

Spring-actuated locks

With M12 device plug, 4-pole

	• With auxiliary release	1 NC/1 NC	⊕	3SF1324-1SD21-1BA1	1	1 unit	42A
		2 NC/--	⊕	3SF1324-1SD21-1BA3	1	1 unit	42A
		2 NC/1 NC	⊕	3SF1324-1SD21-1BA4	1	1 unit	42A
	- Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050)	2 NC/1 NC	⊕	3SF1324-1SD21-1BK4	1	1 unit	42A
	• With auxiliary release with lock	1 NC/1 NC	⊕	3SF1324-1SE21-1BA1	1	1 unit	42A
	• With escape release from the front	1 NC/1 NC	⊕	3SF1324-1SF21-1BA1	1	1 unit	42A
		2 NC/1 NC	⊕	3SF1324-1SF21-1BA4	1	1 unit	42A
	- Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050)	2 NC/1 NC	⊕	3SF1324-1SF21-1BK4	1	1 unit	42A
	• With escape release from the back and auxiliary release from the front	1 NC/1 NC	⊕	3SF1324-1SG21-1BA1	1	1 unit	42A
		2 NC/1 NC	⊕	3SF1324-1SG21-1BA4	1	1 unit	42A
	- Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050)	2 NC/1 NC	⊕	3SF1324-1SG21-1BK4	1	1 unit	42A
	• With emergency release from the back and auxiliary release from the front	1 NC/1 NC	⊕	3SF1324-1SJ21-1BA1	1	1 unit	42A

Solenoid-locked

With M12 device plug, 4-pole

	1 NC/1 NC	⊕	3SF1324-1SB21-1BA1	1	1 unit	42A
	2 NC/--	⊕	3SF1324-1SB21-1BA3	1	1 unit	42A

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately. For actuators and optional accessories, see page 12/73 onwards.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With tumbler

3SF1, metal enclosures with locking force greater than 2 000 N

Overview

Version

1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid

Features

- Slow-action contacts
- Solenoid: Rated operational voltage 24 V DC
- 2 600 N locking force
- Degree of protection IP66/IP67
- Status display with four LEDs 24 V DC:
 - LED 1: AS-i
 - LED 2: FAULT
 - LED 3: F-IN1
 - LED 4: F-IN2
- M12 device plugs

Comparison of versions

Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid (depending on the type of evaluation)
Type	Actuator/solenoid		Feedback from the solenoid	
3SF1314-1S.11-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does <u>not</u> have to be opened
	1 NC/1 NC	SIL 2/PL d	✓	Door must be opened

✓ Available

Selection and ordering data

Tumbler ¹⁾	Contacts Actuator/solenoid	Complete units	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU		

Locking force 2 000 N according to ISO 14119 · Enclosure width 54 mm

Spring-actuated locks					
With M12 device plug, 4-pole					
	• With auxiliary release	1 NC/1 NC	⊕	3SF1314-1SD11-1BA1	1 1 unit 42A
	• With auxiliary release with lock	1 NC/1 NC	⊕	3SF1314-1SE11-1BA1	1 1 unit 42A
	• With escape release from the front	1 NC/1 NC	⊕	3SF1314-1SF11-1BA1	1 1 unit 42A
	• With escape release from the back and auxiliary release from the front	1 NC/1 NC	⊕	3SF1314-1SG11-1BA1	1 1 unit 42A
	• With escape release from the back and auxiliary release with lock from the front	1 NC/1 NC	⊕	3SF1314-1SH11-1BA1	1 1 unit 42A
	• With emergency release from the back and auxiliary release from the front	1 NC/1 NC	⊕	3SF1314-1SJ11-1BA1	1 1 unit 42A
3SF1314-1SD11-1BA1					
3SF1314-1SF11-1BA1					
Solenoid-locked					
With M12 device plug, 4-pole					
		1 NC/1 NC	⊕	3SF1314-1SB11-1BA1	1 1 unit 42A
3SF1314-1SB11-1BA1					

⊕ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately.
For actuators and optional accessories, see page 12/73 onwards.

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator versions here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/101).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU		

Basic switches · Enclosure width 31 mm according to EN 50047

**Rounded plunger****With M12 device plug, 4-pole**

Channel 1 on NC contact,
channel 2 on NC contact

- Snap-action contacts

2 NC 24 V DC ↻

3SF1234-1LC05-1BA1

1 1 unit 42A

3SF1234-1LC05-1BA1

Basic switches · Enclosure width 50 mm · Operating points according to EN 50047

**Rounded plunger****With M12 device plug, 4-pole**

Channel 1 on NC contact,
channel 2 on M12 socket, right

- Snap-action contacts

1 NC 24 V DC ↻

3SF1244-1LC05-1BA2

1 1 unit 42A

3SF1244-1LC05-1BA2

Actuator heads



3SE5000-0AU21

With hollow shaft

- Actuating angle 10°

-- -- ↻

3SE5000-0AU21

1 1 unit 41K



3SE5000-0AU22

With solid shaft

- Actuating angle 10°

-- -- ↻

3SE5000-0AU22

1 1 unit 41K

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SF1 mechanical safety switches for AS-Interface
Safety hinge switches

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041/56 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator versions here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/101).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

Version	Contacts	LEDs	Modular system	PU (UNIT, SET, M)	PS*	PG
			<input checked="" type="checkbox"/>			
Article No.			Price per PU			

Basic switches - Enclosure width 31 mm according to EN 50047



Rounded plunger

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on NC contact

- Snap-action contacts

2 NC 24 V DC ↻

3SF1214-1LC05-1BA1

1 1 unit 42A

3SF1214-1LC05-1BA1

Basic switches - Enclosure width 40 mm according to EN 50041



Rounded plunger

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on NC contact

- Snap-action contacts

2 NC 24 V DC ↻

3SF1114-1LA00-1BA1

1 1 unit 42A

3SF1114-1LA00-1BA1

Basic switches - Enclosure width 56 mm



Rounded plunger

With M12 device plug, 4-pole

Channel 1 on NC contact,
channel 2 on M12 socket, right

- Snap-action contacts

1 NC 24 V DC ↻

3SF1124-1LA00-1BA2

1 1 unit 42A

3SF1124-1LA00-1BA2

Actuator heads



Hollow shaft

- Actuating angle 10°

-- -- ↻

3SE5000-0AU21

1 1 unit 41K

3SE5000-0AU21



Solid shaft

- Actuating angle 10°

-- -- ↻

3SE5000-0AU22

1 1 unit 41K

3SE5000-0AU22

↻ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SE

Configuration Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/43920150>



3SE66 contact blocks and 3SE67 switching solenoids



3SE66 contact blocks and 3SE67 switching solenoids, supplementary range in new design

A magnetically operated switch comprises a coded switching solenoid and a contact block (sensor unit). The switch must be connected to a safety relay, e.g. SIRIUS 3SK1, or a bus system, e.g. SIMATIC ET 200SP, for evaluation. The switches use reed contacts as mechanical contacts. The status of the contacts is monitored using an evaluation unit.

Safety relays

3SK safety relays can be used worldwide since they possess all the required certification. Since they satisfy the most exacting safety requirements, they are suitable for all kinds of safety applications.

The following can be selected:

- 3SK1 Standard basic units:
Simple and compact to satisfy all the essential requirements of safety sensor monitoring systems
- 3SK1 Advanced basic units:
Multifunctional series with relay enabling circuits, semiconductor outputs or time-delayed outputs
- 3SK2 basic units:
Multifunctional series whose functionality is parameterized using software. The basic units have semiconductor outputs. Relay outputs from the 3SK1 portfolio can also be connected via device connectors.
- Expansion units for inputs and outputs

Benefits

Standard range

- Non-contact round, rectangular, small (25 mm x 33 mm) and larger (25 mm x 88 mm) versions
- Small, compact, safe
- Simple mounting with alignment of sensor and actuator, and concealed installation also easy
- Suitable for restricted spaces

Supplementary range

- Modern design for rectangular shape
- More functionality
- Greater operating distances and a larger horizontal or vertical displacement
- Various mounting positions possible (e.g. at 90° offset)
- SIL 3 and PL e diagnostics possible because there are two safety contacts and one signaling contact
- LED version
- Fast connection possible using plug-in versions

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Application

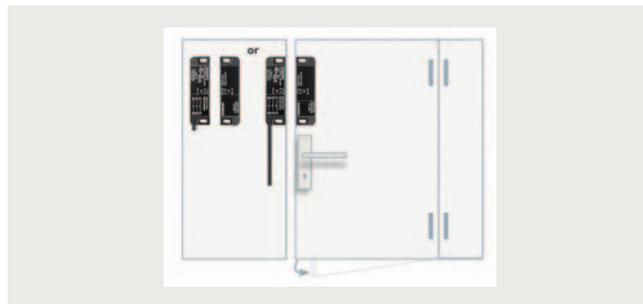
SIRIUS 3SE6 magnetically operated switches are designed for mounting on movable protective guards (hoods, hinged flaps, doors, etc.). Evaluation can be performed by means of a safety relay or through connection to a bus system.

For more information on protective door monitoring applications, [see flyer](#).

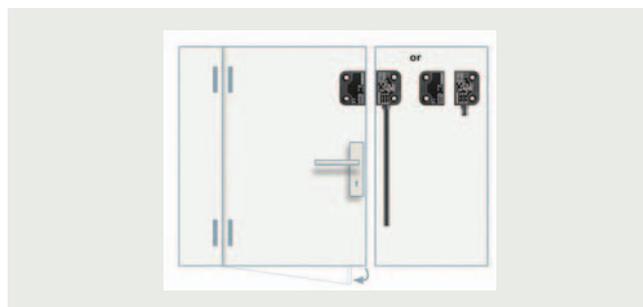
The 3SE66 non-contact, magnetically operated safety switches stand out due to their enclosed design with high degree of protection IP67. Since they are coded, they do not have to be concealed when installed. They are particularly suitable therefore for areas exposed to contamination, cleaning or disinfecting.

A solenoid monitoring system comprises one or more magnetically operated switches and an evaluation unit, e.g. a safety relay.

When contact blocks 1 NO + 1 NC (+ 1 NC signaling contact) or 2 NC (+ 1 NC signaling contact) are used, the 3SK safety relay, for example, provides a high degree of protection against manipulation and can be installed in safety circuits up to SIL 3 according to IEC 62061/IEC 61508 and PL e according to ISO 13849-1.



Non-contact safety magnetically operated switches (with plug or cable) for right-hinged door



Non-contact safety magnetically operated switches (with plug or cable) for left-hinged door

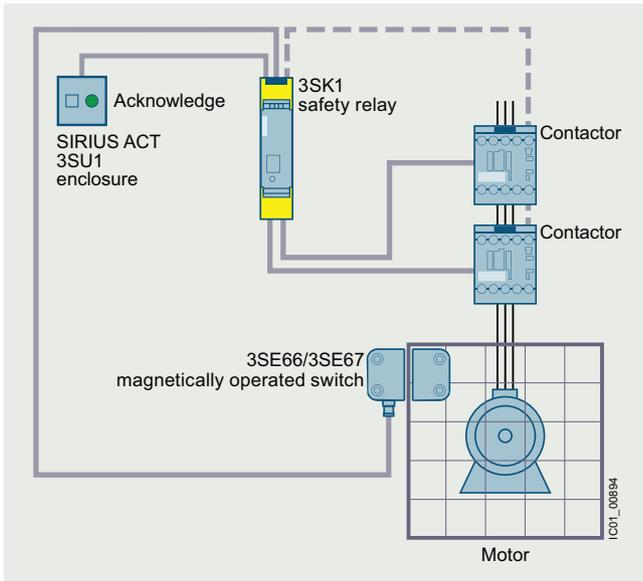
Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

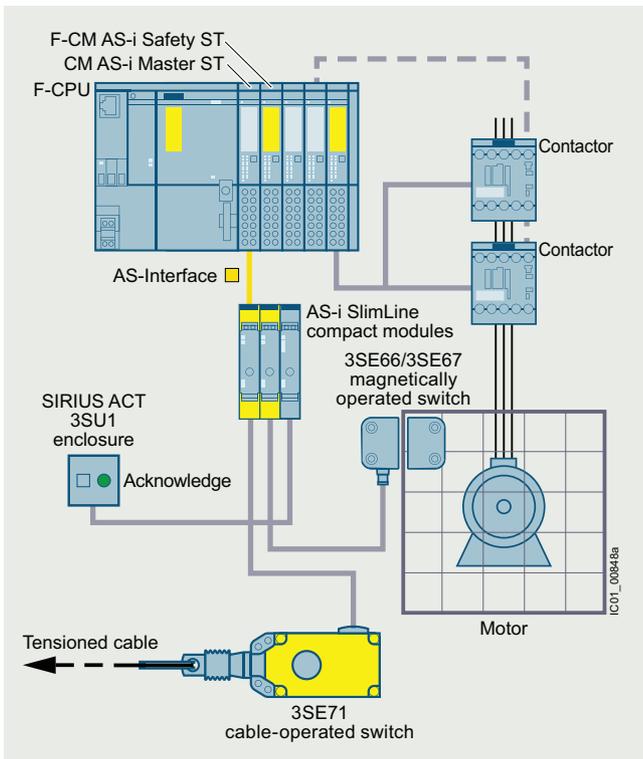
Application examples

Example 1



Protective door monitoring using a 3SE66/3SE67 non-contact safety switch (magnetically operated switch) up to SIL 3/PL e and a 3SK1 safety relay

Example 2



Protective door monitoring using a 3SE66/3SE67 non-contact safety switch (magnetically operated switch) and EMERGENCY-STOP shutdown using 3SE71 cable-operated switch up to SIL 3/PL e by means of AS-i ET 200SP Master and AS-i SlimLine compact modules

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109747653>.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Combination of monitoring units and magnetically operated switches

Monitoring units		Magnetically operated switches (contact block + switching solenoid)			Achievable Safety Integrity Level (IEC 62061/ IEC 61508) Performance Level (ISO 13849-1)
		1 NO + 1 NC 3SE6605-.BA..  3SE6704-.BA	2 NC 3SE6604-2BA.. 1 NO + 2 NC 3SE6606-2BA04  3SE6704-2BA		
		1 NO + 1 NC (+ 1 NC signaling contact) 3SE6616-3CA01 3SE6626-3CA01  3SE6714-3CA 3SE6724-3CA	2 NC; 2 NC (+ 1 NC signaling contact) 3SE6614-4CA01 3SE6624-4CA01 3SE6617-2CA01 3SE6627-2CA01 3SE6617-2CA04 3SE6627-2CA04  3SE6714-2CA 3SE6724-2CA	2 NC (+ 1 NC signaling contact) 3SE6617-3CA01 3SE6627-3CA01 3SE6617-3CA04 3SE6627-3CA04  3SE6714-3CA 3SE6724-3CA	
Relay outputs					
SIRIUS safety relays	3SK1121 	✓	✓	✓	SIL 3/PL e
Solid-state outputs					
SIRIUS safety relays	3SK1112, 3SK1122 	--/✓	✓	✓	SIL 3/PL e
	3SK2112, 3SK2122 	✓	✓	✓	SIL 3/PL e
ASIsafe compact safety modules	3RK1205, 3RK1405 	--	✓	✓	SIL 3/PL e
SIMATIC S7-1200					
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0, 6AG1226-6BA32-5XB0 (SIPLUS)	✓	✓	✓	SIL 3/PL e
SIMATIC S7-1500/ET 200MP					
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0, 6AG1526-1BH00-2AB0 (SIPLUS)	✓	✓	✓	SIL 3/PL e
SIMATIC ET 200SP					
• F-DI 8 x 24 V DC	6ES7136-6BA00-0CA0, 6AG1136-6BA00-2CA0 (SIPLUS)	✓	✓	✓	SIL 3/PL e
• F-PM-E 24 V DC/8 A PPM	6ES7136-6PA00-0BC0, 6AG1136-6PA00-2BC0 (SIPLUS)	✓	✓	✓	SIL 3/PL e
SIMATIC ET 200pro					
• 8/16 F-DI 24 V DC	6ES7148-4FA00-0AB0	✓	✓	✓	SIL 3/PL e
• 4/8 F-DI 24 V DC + 4 F-DO 24 V DC/2 A	6ES7148-4FC00-0AB0	✓	✓	✓	SIL 3/PL e
• F-SWITCH	6ES7148-4FS00-0AB0	✓	✓	✓	SIL 3/PL e
SIMATIC ET 200eco PN					
• F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2 A	6ES7146-6FF00-0AB0	✓	✓	✓	SIL 3/PL e
SIMATIC ET 200AL					
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2 A	6ES7146-5FF00-0BA0	✓	✓	✓	SIL 3/PL e

✓ Suitable magnetically operated switch

-- Not available

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Selection and ordering data

Version	Size	Contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
mm							
Standard range – Round sensor units							
	Switching solenoid (coded)	M30	--	3SE6704-1BA	1	1 unit	41K
3SE6704-1BA							
	Contact blocks	M30	1 NO + 1 NC	3SE6605-1BA	1	1 unit	41K
	• With cable 3 m	M30	1 NO + 1 NC	3SE6605-1BA02	1	1 unit	41K
3SE6605-1BA	• With M12 plug, 4-pole	M30	1 NO + 1 NC				
Standard range – Rectangular sensor units							
	Switching solenoids (coded)	25 x 88	--	3SE6704-2BA	1	1 unit	41K
3SE6704-2BA	• Operating distance 5 mm	25 x 88	--	3SE6701-2BA	1	1 unit	41K
	• Operating distance 8 mm	25 x 88	--				
	Contact blocks	25 x 88	1 NO + 1 NC	3SE6605-2BA	1	1 unit	41K
3SE660.-2BA	• With cable 3 m	25 x 88	2 NC	3SE6604-2BA	1	1 unit	41K
			1 NO + 2 NC	3SE6606-2BA04	1	1 unit	41K
	• With cable 10 m	25 x 88	1 NO + 1 NC	3SE6605-2BA10	1	1 unit	41K
			2 NC	3SE6604-2BA10	1	1 unit	41K
	• With M8 plug, 4-pole	25 x 88	1 NO + 1 NC	3SE6605-2BA01	1	1 unit	41K
			2 NC	3SE6604-2BA01	1	1 unit	41K
	Switching solenoid (coded)	25 x 33	--	3SE6704-3BA	1	1 unit	41K
3SE6704-3BA							
	Contact blocks	25 x 33	1 NO + 1 NC	3SE6605-3BA	1	1 unit	41K
3SE6605-3BA	• With cable 3 m	25 x 33	1 NO + 1 NC	3SE6605-3BA05	1	1 unit	41K
	• With cable 5 m	25 x 33	1 NO + 1 NC	3SE6605-3BA10	1	1 unit	41K
	• With cable 10 m	25 x 33	1 NO + 1 NC				
Supplementary range – Rectangular sensor units for left-hinged door							
	Switching solenoids (coded)	25 x 88	--	3SE6714-2CA	1	1 unit	41K
3SE6714-2CA	• Same level	25 x 88	--	3SE6724-2CA	1	1 unit	41K
	• 90° offset	25 x 88	--				
	Contact blocks	25 x 88	2 NC	3SE6614-4CA01	1	1 unit	41K
3SE6614-4CA01	• With M8 plug, 4-pole, with LED	25 x 88	2 NC + 1 NC ¹⁾	3SE6617-2CA01	1	1 unit	41K
	• Ø 8 mm, latching connection, plug, 6-pole	25 x 88	2 NC + 1 NC ¹⁾	3SE6617-2CA04	1	1 unit	41K
	• With cable 3 m	25 x 88	2 NC + 1 NC ¹⁾				
	Switching solenoids (coded)	26 x 36	--	3SE6714-3CA	1	1 unit	41K
3SE6714-3CA	• Same level	26 x 36	--	3SE6724-3CA	1	1 unit	41K
	• 90° offset	26 x 36	--				
	Contact blocks	26 x 36	1 NO + 1 NC + 1 NC ¹⁾	3SE6616-3CA01	1	1 unit	41K
3SE6616-3CA01	• Ø 8 mm, latching connection, plug, 6-pole	26 x 36	2 NC + 1 NC ¹⁾	3SE6617-3CA01	1	1 unit	41K
	• With cable 3 m	26 x 36	2 NC + 1 NC ¹⁾	3SE6617-3CA04	1	1 unit	41K

¹⁾ The NC is a signaling contact, not a safety contact.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Version	Size	Contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
mm							
Supplementary range – Rectangular sensor units for right-hinged door							
	Switching solenoids (coded)						
	• Same level	25 x 88	--	3SE6714-2CA		1	1 unit 41K
	• 90° offset	25 x 88	--	3SE6724-2CA		1	1 unit 41K
	Contact blocks						
	• With M8 plug, 4-pole, with LED	25 x 88	2 NC	3SE6624-4CA01		1	1 unit 41K
	• Ø 8 mm, latching connection, plug, 6-pole	25 x 88	2 NC + 1 NC ¹⁾	3SE6627-2CA01		1	1 unit 41K
	• With cable 3 m	25 x 88	2 NC + 1 NC ¹⁾	3SE6627-2CA04		1	1 unit 41K
	Switching solenoids (coded)						
	• Same level	26 x 36	--	3SE6714-3CA		1	1 unit 41K
	• 90° offset	26 x 36	--	3SE6724-3CA		1	1 unit 41K
	Contact blocks						
	• Ø 8 mm, latching connection, plug, 6-pole	26 x 36	1 NO + 1 NC + 1 NC ¹⁾	3SE6626-3CA01		1	1 unit 41K
			2 NC + 1 NC ¹⁾	3SE6627-3CA01		1	1 unit 41K
	• With cable 3 m	26 x 36	2 NC + 1 NC ¹⁾	3SE6627-3CA04		1	1 unit 41K
Accessories for standard range							
	Spacers						
		25 x 88	--	3SX3260		1	1 unit 41K
		25 x 33	--	3SX3261		1	1 unit 41K
Accessories for supplementary range							
	Spacers						
		26 x 36	--	3SX5600-2GA01		1	1 unit 41K
		25 x 88	--	3SX5600-2GA02		1	1 unit 41K
	Connecting cables						
	Length 5 m						
	• With M8 socket, 4-pole	--	--	3SX5601-3GA05		1	1 unit 41K
	• With Ø 8 mm socket, 8 mm latching connection, 6-pole	--	--	3SX5601-4GA05		1	1 unit 41K
	M12 plugs, 5-pole						
	• Straight, separate item	--	--	3RK1902-4BA00-5AA0		1	1 unit 42D
	• Angled, separate item	--	--	3RK1902-4DA00-5AA0		1	1 unit 42D

¹⁾ The second NC is a signaling contact, not a safety contact.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Version	Rated control voltage	Number of sensors	Enabling/signaling circuits	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Monitoring units



3SK1 safety relays

Standard or Advanced basic units

- With relay output 24 V DC 6¹⁾ 3 NO/1 NC
- With semiconductor output 24 V DC 1 2 x F-DQ/1 QM

3SK1121-1AB40

3SK1112-1BB40

1 1 unit 41L

1 1 unit 41L

3SK1121-1AB40



3SK2 safety relays

Basic units

- With semiconductor output 24 V DC 5 2 x F-DQ/1 QM
- 10 4 x F-DQ/2 QM

3SK2112-1AA10

3SK2122-1AA10

1 1 unit 41L

1 1 unit 41L

3SK2112-1AA10

¹⁾ Only when up to five 3SK1220 input expansion units are used, see page 11/29.

Further monitoring units, see pages 8/1, 9/1 and 11/1.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches
 SiePortal, see www.siemens.com/product_catalog_siep?3SE
 Equipment Manual, see <https://support.industry.siemens.com/cs/ww/en/view/52233535>



RFID non-contact safety switch with maximum tamper resistance

3SE63 RFID non-contact safety switches comply with the highest safety requirements, SIL 3, for monitoring the positions of movable protective devices.

An RFID safety switch consists of a coded RFID switch with an 8-pole M12 connection plug and an identical RFID actuator.

The switch is available in several versions:

- Family-coded with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable once, with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable more than once (an unlimited number of times), with M12 plug or version with additional 18 N magnetic catch

The actuator is therefore available in two versions:

- Standard
- With 18 N magnetic catch

The magnetic catch keeps doors and flaps closed with permanent magnets.

Mounting and maintenance

Various options for mounting save on enclosure versions:

- Mounting of the switch on the right or left side
- The actuator can be mounted on all sides

Quick and easy mounting thanks to universal mounting holes:

- Standard gauge/holes for 3SE6 magnetically operated switches
- Fine adjustment thanks to slotted holes

Little adjustment or maintenance required:

- Threshold indication by LED display on the switch for quick and easy adjustment during mounting and maintenance
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Notes:

- Keep metal parts and cuttings away from the vicinity of the switch
- Minimum distance between two switches 100 mm

Optional accessories (mounting)

- Covers for sealing mounting holes, also suitable for tamper-proofing screw fixings
- Spacers (approx. 3 mm high) to facilitate cleaning under the installation surface when using high-pressure cleaners, for example

Coding

Family-coded

These safety switches are delivered ready to use, i. e. no programming is necessary.

Individually coded, programmable once

The assignment of safety switch and actuator thus created is irreversible.

The actuator is programmed by a simple routine during startup, thus permanently preventing any form of tampering by means of a replacement actuator.

Individually coded, programmable several times

Programming procedure:

1. Apply operational voltage to safety sensor
2. Move actuator into detection range:
red LED lights up, yellow LED flashes (1 Hz)
3. After 10 s it changes to a shorter flashing frequency (3 Hz).
In this state switch off operational voltage.
4. After the next time the operational voltage is switched on, the actuator is detected again to activate the programmed actuator code. The activated code is thus stored permanently.

The procedure for programming a new actuator can be repeated an unlimited number of times. When a new actuator is programmed the previous code becomes invalid. A protected coding process allows new actuators to be programmed for service purposes.

After this, a ten-minute lockout provides enhanced tamper protection. The green LED flashes until the lockout time has ended and the new actuator has been detected. If the operational voltage is interrupted during this time, the ten-minute guard time is restarted.

Diagnostics

The RFID safety switch indicates its operating state including faults by means of the LED display in the switch and the short-circuit-proof diagnostics output. The signals can then be used for central displays or non-safety-related control tasks.

There are the following diagnostics functions:

- Cross-circuit monitoring
- Open-circuit monitoring
- External voltage monitoring
- Ambient temperature too high
- Wrong or defective actuator
- Operating distance threshold indication with LED display

The signal combination "diagnostics output switched off" and "safety outputs still switched on" can be used to move the machine into a controlled stop position.

Any cross-circuit or a fault that is not currently compromising the safe function of a safety switch results in the disconnection of the safety channels after a 30-minute delay. However, the diagnostics output switches off instantaneously.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Mode of operation of the diagnostics LEDs

The safety switch indicates not only its operating state, but also faults by means of LEDs in three colors at the ends of the RFID switch.

- The green LED indicates readiness for operation when the control supply voltage is connected.

- The yellow LED indicates that there is an actuator in detection range. If the actuator is in the operating distance threshold, this is indicated by flashing. This flashing can be used to identify a change in the distance between sensor and actuator at an early stage (e.g. as a result of the sagging of a protective door). The installation should be tested before the distance increases further. Otherwise, the safety outputs will be switched off and the machine will be stopped.
- The red LED indicates the individual causes of the fault by means of defined flashing frequencies.

Benefits

- Maximum tamper resistance by means of individual coding of switches and actuators at the highest safety level
- Plastic enclosure with integrated plug
- Two solid-state short-circuit-proof safety outputs, each 250 mA
- Integrated cross-circuit, open-circuit and external voltage monitoring, with series circuit as far as the control cabinet
- Safety and diagnostics signals can be connected in series
- Series connection of safety circuits according to SIL 3/PL e
- LED status indication including operating distance threshold indication for quick and easy adjustment during installation and maintenance
- Short-circuit-proof conventional diagnostics output
- Optional version with magnetic catch for interlocking hinge flaps or small doors even when de-energized
- Highly rugged thanks to the use of tested enclosure materials, resistant to aggressive cleaning products, with a degree of protection of up to IP69. IP69 does not automatically mean that it can be used outdoors. The devices must be installed with corresponding protection for this purpose. UV radiation additionally affects the enclosure.
- Fine adjustment thanks to slotted holes
- Little adjustment or maintenance required
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Application

RFID non-contact safety switches are designed for use in safety circuits, and are used to monitor the positions of movable protective devices. They monitor the positions of rotating, laterally sliding or removable protective devices using the coded electronic actuator.

For more information on protective door monitoring applications, see flyer.

Their high degree of protection IP69 and the use of cleaning-product-resistant materials means that these switches are optimized for use under extreme environmental conditions.

Their electronic operating principle makes these switches ideal for metalworking machinery.

The switches have a larger operating distance and switching displacement than mechanical switches, improve the mounting tolerance of the protective door, and offer a wide range of diagnostics options.

The RFID switches can be connected to all standard evaluation units suitable for solid-state inputs and in which the built-in cross-circuit monitoring function can be deactivated, e.g.:

Monitoring units	Type	SIPLUS version
Relay outputs		
SIRIUS safety relays	3SK1111-.AB30, 3SK1121	--
Solid-state outputs		
SIRIUS safety relays	3SK1112, 3SK1122, 3SK2112, 3SK2122	--
SIMATIC S7-1200		
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0	6AG1226-6BA32-5XB0
SIMATIC S7-1500/ET 200MP		
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0	6AG1526-1BH00-2AB0
SIMATIC ET 200SP		
• F-DI 8 x 24 V DC	6ES7136-6BA01-0CA0	6AG1136-6BA01-2CA0
• F-PM-E 24 V DC/8 A PPM	6ES7136-6PA00-0BC0	6AG1136-6PA00-2BC0
SIMATIC ET 200pro		
• 8/16 F-DI 24 V DC	6ES7148-4FA00-0AB0	--
• 4/8 F-DI 24 V DC + 4 F-DO 24 V DC/2 A	6ES7148-4FC00-0AB0	--
• F-SWITCH	6ES7148-4FS00-0AB0	--
SIMATIC ET 200eco PN		
• F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2 A	6ES7146-6FF00-0AB0	--
SIMATIC ET 200AL		
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2 A	6ES7146-5FF00-0BA0	--

These safety categories can be achieved in safety circuits:

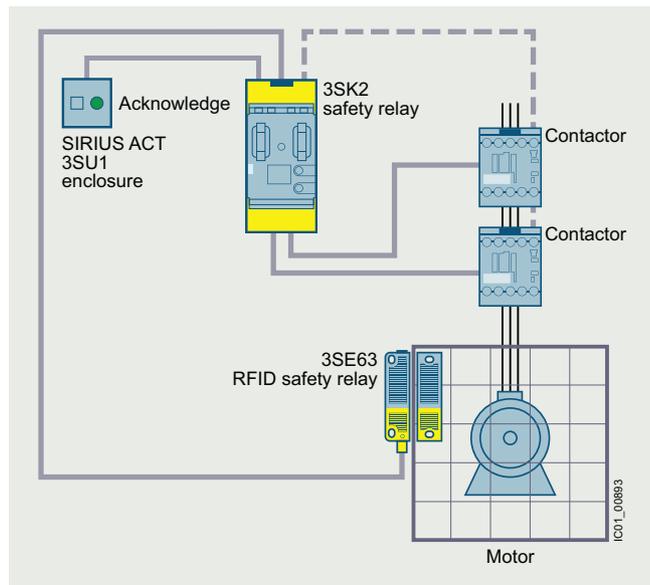
- SIL 3 according to IEC 62061/IEC 61508
- PL e according to ISO 13849-1

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Application example



Protective door monitoring using a 3SE63 RFID non-contact safety switch up to SIL 3/PL e with a 3SK2 safety relay

For a detailed description, see

<https://support.industry.siemens.com/cs/ww/en/view/109485646>.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Selection and ordering data

With M12 connection plug, 8-pole

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3SE63 rectangular safety switches¹⁾					
RFID safety switches					
Actuator 3SE6310 must be ordered separately.					
 3SE6315-BB0	• Family-coded Without catch	3SE6315-0BB01-1AP0	1	1 unit	41K
	With 18 N magnetic catch	3SE6315-1BB01-1AP0	1	1 unit	41K
	• Individually coded, programmable several times Without catch	3SE6315-0BB02-1AP0	1	1 unit	41K
	With 18 N magnetic catch	3SE6315-1BB02-1AP0	1	1 unit	41K
 3SE6310-BC01	• Individually coded, programmable once Without catch	3SE6315-0BB03-1AP0	1	1 unit	41K
	With 18 N magnetic catch	3SE6315-1BB03-1AP0	1	1 unit	41K
RFID actuators					
 3SE6310-BC01	• Standard Without catch	3SE6310-0BC01	1	1 unit	41K
	With 18 N magnetic catch	3SE6310-1BC01	1	1 unit	41K

¹⁾ Not connectable via AS-i modules.

For monitoring units, see pages 8/1, 9/1 and 11/1.

Accessories

Version	Length	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessories						
 3SX5600-1G	Covers and spacers	--	3SX5600-1G	1	1 unit	41K
	One pack (1 unit) contains 8 covers and 4 spacers					
 3SX5601-2GA03	Connecting cables	3 m	3SX5601-2GA03	1	1 unit	41K
	With M12 socket, 8-pole, straight, open end,	5 m	3SX5601-2GA05	1	1 unit	41K
	rated voltage 30 V,	10 m	3SX5601-2GA10	1	1 unit	41K
	rated current 2 A	15 m	3SX5601-2GA15	1	1 unit	41K
 6GT2090-0BE00	M12 plugs, 8-pole	--	6GT2090-0BE00	1	5 units	572
	Straight					
 3SX5601-3SV00-1AK3	Adapter cable¹⁾	0.5 m	3SX5601-3SV00-1AK3	1	1 unit	41K
	With M12 socket, 8-pole on M12 plug, 5-pole, for connection, e.g., to fail-safe field modules of SIMATIC ET 200eco PN and SIMATIC ET 200AL					

¹⁾ Extend if necessary with connecting cable 3SX5601-3SV15, length 1 m, see page 12/52.

²⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/93 onwards.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler **NEW**

Overview



3SE64 RFID non-contact safety switch with actuator (right-hand switch with escape release)

3SE64 RFID non-contact safety switches comply with the highest safety requirements and tamper protection according to ISO 14119 for monitoring the positions of movable protective devices.

The operating principle using a rotating shaft and star handle is unique. This allows the protective door to be pulled into its end position with almost zero backlash and simultaneous guard locking, even acting as a door stop. No additional door stop is therefore required.

Integrated latching, adjustable from 25 to 50 N with the aid of a star handle, ensures that the protective door remains closed after the tumbler has been released.

The 3SE64 safety switch consists of a coded RFID switch with an 8-pole M12 connection plug and an RFID actuator. They can be ordered family-coded or individually coded (programmable several times).

The two versions differ in the principle by which the guard locking function is activated:

Version 1	Version 2
<p>The 3SE6415-1.B0. version operates according to the <u>closed-circuit principle</u> and is <u>spring-locked</u>.</p> <ul style="list-style-type: none"> • PL e applies to the interlocking function, corresponding to SIL 3. • PL d applies to the guard locking function, corresponding to SIL 2. • In this version, the tumbler is monitored and consequently the DC required to achieve SIL 2/PL d is reached. • Used to protect personnel 	<p>The 3SE6415-1AB0. version operates according to the <u>open-circuit principle</u> and is <u>solenoid-locked</u>.</p> <ul style="list-style-type: none"> • PL e applies to the interlocking function, corresponding to SIL 3. • In this case, the guard locking function does not have a SIL level or PL level. • Used to protect the process

One actuator is available for all versions.

A blocking insert protects operating personnel against inadvertently being closed in during maintenance and repair work.

An escape release allows the hazard zone to be exited from the inside if the protective door has accidentally been closed.

More information

Homepage, see www.siemens.com/sirius-position-switches

SiePortal, see www.siemens.com/product_catalog_siep73SE

Equipment Manual, see

<https://support.industry.siemens.com/cs/ww/en/view/109808156>

Operating Instructions, see

<https://support.industry.siemens.com/cs/ww/en/view/109811041>



Video: Mount, connect and teach in 3SE6415 SIRIUS RFID safety switch with tumbler

Mounting and maintenance



3SE64 RFID non-contact safety switch with actuators from three directions

- Various options for mounting save on enclosure versions:
 - Mounting of the switch on the right or left side of rotating or sliding doors, simple installation on profile systems
 - Mounting of the actuator from three sides (narrow, front and rear side of the switch), see figure above
- Quick and easy mounting thanks to universal mounting holes
- Little adjustment or maintenance required:
 - Threshold indication by LED display on the switch for quick and easy adjustment during mounting and maintenance
 - Dampers in the actuator allow it to be used as an end stop for small and medium-sized doors

Notes:

- Keep metal parts and cuttings away from the vicinity of the switch
- Minimum distance between two switches 250 mm (depending on the mounting position)

Optional accessories (mounting)

- Mounting plate for doors so that they are flush with the door frame
- Blocking insert for padlocks to prevent the door from being closed
- Triangular key to unlock the escape release
- Protection plate (masking plate) for the RFID actuator when used on glass and plastic doors
- Connecting cables in various lengths

Coding

Family-coded

These safety switches are delivered ready to use, i. e. no programming is necessary.

Individually coded, programmable several times

Programming procedure:

1. Apply operational voltage to safety sensor
2. Move actuator into detection range:
red LED lights up, yellow LED flashes (1 Hz)
3. After 10 s it changes to a shorter flashing frequency (3 Hz).
In this state switch off operational voltage.
4. After the next time the operational voltage is switched on, the actuator is detected again to activate the programmed actuator code. The activated code is thus stored permanently.

The procedure for programming a new actuator can be repeated an unlimited number of times. When a new actuator is programmed the previous code becomes invalid. A protected coding process allows new actuators to be programmed for service purposes.

After this, a ten-minute lockout provides enhanced tamper protection. The green LED flashes until the lockout time has ended and the new actuator has been detected. If the operational voltage is interrupted during this time, the ten-minute guard time is restarted.

Diagnostics

The RFID safety switch indicates its operating state including faults by means of the LED display in the switch and the short-circuit-proof diagnostics output. The signals can then be used for central displays or non-safety-related control tasks.

There are the following diagnostics functions:

- Cross-circuit monitoring
- Open-circuit monitoring
- External voltage monitoring
- Ambient temperature too high
- Wrong or defective actuator
- Operating distance threshold indication with LED display

The signal combination "diagnostics output switched off" and "safety outputs still switched on" can be used to move the machine into a controlled stop position.

Any cross-circuit or a fault that is not currently compromising the safe function of a safety switch results in the disconnection of the safety channels after a 30-minute delay. However, the diagnostics output switches off instantaneously.

LED display



3SE64 RFID safety switch with LED display, auxiliary release and 8-pole M12 plug

Simple diagnostics with three colored LEDs:

- Green = Power
- Yellow = Status
- Red = Fault

Mode of operation of the diagnostics LEDs

The safety switch indicates not only its operating state, but also faults by means of LEDs in three colors located in the yellow cover of the RFID switch.

- The green LED indicates readiness for operation when the control supply voltage is connected.
- The yellow LED indicates that there is an actuator in detection range. If the actuator is in the operating distance threshold, this is indicated by flashing. This flashing can be used to identify a change in the distance between sensor and actuator at an early stage (e.g. as a result of the sagging of a protective door). The installation should be tested before the distance increases further. Otherwise, the safety outputs will be switched off and the machine will be stopped.
- The red LED indicates the individual causes of the fault by means of defined flashing frequencies.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler **NEW**

Benefits

- Maximum or requirements-oriented protection against tampering thanks to coded RFID technology
- Hygiene-compliant design ideal for food & beverage industries, degree of protection IP69
- Variable options for mounting on rotating or sliding doors, simple installation on profile systems
- Guard locking possible from three sides (three directions of actuation) by means of a star handle
- High actuator tolerances, [see Fig. 1](#):
- Longitudinal direction $\pm 3,5$ mm
- Transverse direction ± 2 mm
- Simple adjustment of latching force:
By rotating the star handle through 180° , the latching force can be increased from 25 N (position I) to 50 N (position II), [see Fig. 2](#).
- LED display, simple diagnostics with 3-colored LEDs
- Auxiliary release, M12 plug, 8-pole, A-coded, [see LED display on page 12/133](#)
- Actuator can be used for a door stop using the integrated damper
- Controlled shutdown process in the event of a cross-circuit:
The controller first receives the fault signal, and is only disconnected after 30 minutes.

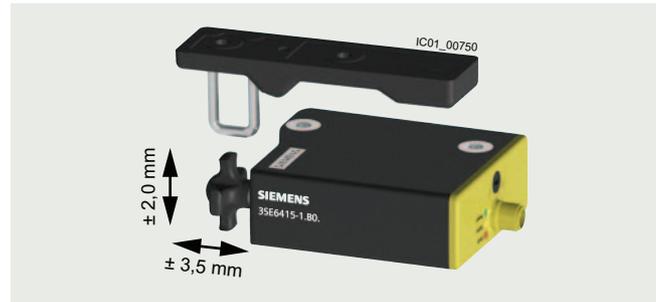


Fig. 1: Actuator tolerance

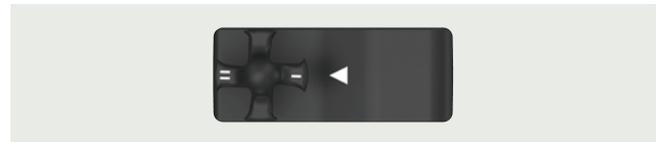


Fig. 2: Star handle for adjustment of latching force

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

NEW 3SE64 RFID safety switches with tumbler

Application

Whether for grids, covers or doors, rotating, laterally sliding or removable protective devices – safety tumblers ensure that movable guards cannot be opened until hazardous states such as over-travel movements of rollers, chains, shafts, etc. have ended. They are suitable for protecting both the personnel and the process.

When the protective door is closed and the tumbler locked, the safety outputs are activated.

The actuator design for 3SE64 RFID safety switches with tumbler differs from the 3SE53 mechanical safety switches with tumbler in that it is based on an operating principle involving a rotating shaft and a star handle. The advantage is that, during closing, the protective door is pulled into its end position and kept closed

with almost zero backlash. The tumbler can be approached from three sides, making the switch universally deployable.

Thanks to the high degree of protection IP69 and hygienic design, the 3SE64 RFID safety switch is preferred for hygiene-sensitive areas – for example in food production or the packaging and pharmaceutical industry.

The switches have a larger operating distance and switching displacement than mechanical switches, improve the mounting tolerance of the protective door, and offer a wide range of diagnostics options.

The RFID switches can be connected to all standard evaluation units suitable for solid-state inputs and in which the built-in cross-circuit monitoring function can be deactivated, e.g.:

Monitoring units	Type	SIPLUS version	Safety assessment of the	
			interlocking function	guard locking function
Solid-state outputs				
SIRIUS safety relays				
• 3SK2	3SK21 12, 3SK2122	--	SIL 3/PL e	SIL 2/PL d
• 3SK1	3SK1111-..AB30, 3SK1112, 3SK112., 3SK1220	--	SIL 3/PL e	--
SIMATIC S7-1200				
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0	6AG1226-6BA32-5XB0	SIL 3/PL e	--
• F-DQ 4 x 24 V DC/2 A	6ES7226-6DA32-0XB0	6AG1226-6DA32-5XB0	SIL 3/PL e	--
SIMATIC S7-1500/ET 200MP				
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0	6AG1526-1BH00-2AB0	SIL 3/PL e	--
• F-DQ 8 x 24 V DC/2 A PPM	6ES7526-2BF00-0AB0	6AG1526-2BF00-2AB0	--	SIL 2/PL d
SIMATIC ET 200SP				
• F-DI 8 x 24 V DC	6ES7136-6BA01-0CA0	6AG1136-6BA01-2CA0	SIL 3/PL e	--
• F-DQ 8 x 24 V DC/0.5 A PP	6ES7136-6DC00-0CA0	6AG1136-6DC00-2CA0	--	SIL 2/PL d
• F-PM-E 24 V DC/8 A	6ES7136-6PA00-0BC0	6AG1136-6PA00-2BC0	SIL 3/PL e	--
SIMATIC ET 200pro				
• F-DI 8/16 24 V DC	6ES7148-4FA00-0AB0	--	SIL 3/PL e	--
• F-DI 4/8 24 V DC + 4 F-DQ 24 V DC/2 A PM	6ES7148-4FC00-0AB0	--	SIL 3/PL e	--
SIMATIC ET 200eco PN				
• F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2 A PM	6ES7146-6FF00-0AB0	--	SIL 3/PL e	--
SIMATIC ET 200AL				
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2 A PM	6ES7146-5FF00-0BA0	--	SIL 3/PL e	--

These safety categories can be achieved in safety circuits:

- SIL 3 according to IEC 62061/IEC 61508
- PL e according to ISO 13849-1

Note:

In order to achieve the maximum achievable safety level (SIL 2 or PL d) of the guard locking function of the 3SE64 RFID safety switch, fail-safe PP-switching outputs of the safety relay or fail-safe controller must be used. When the tumbler of the 3SE64 is connected to standard SIMATIC output modules (DQ) and to fail-safe SIMATIC output modules with the PM switching principle (F-DQ PM-switching), no safety level (SIL or PL) can be reached. In this case, the guard locking function of the 3SE64 can only be used to protect the process.

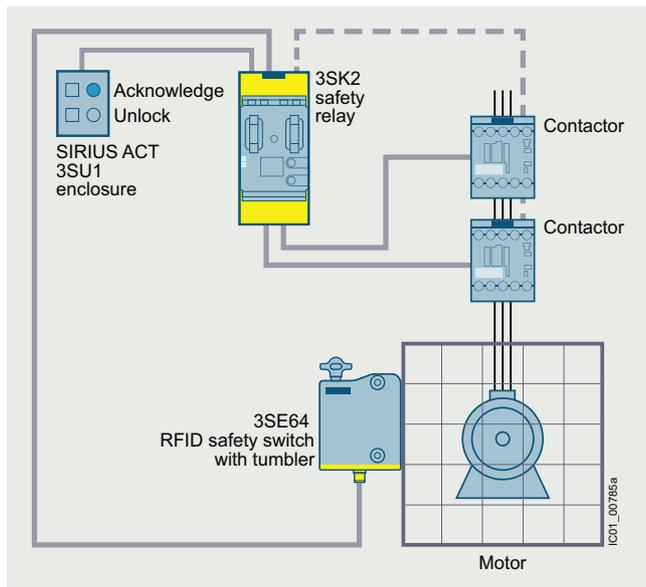
Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler **NEW**

Application examples

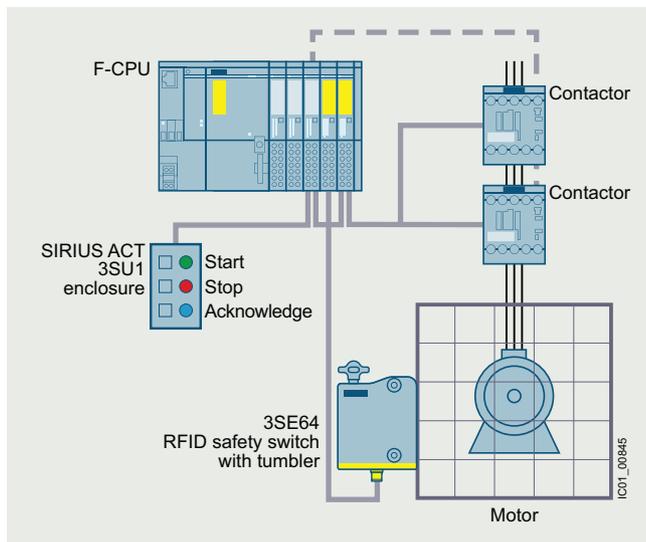
Example 1



Protective door monitoring with tumbler with a 3SE64 RFID safety switch up to SIL 3/PL e and a 3SK2 safety relay

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109811081>.

Example 2



Protective door monitoring with tumbler with a 3SE64 RFID safety switch up to SIL 3/PL e and ET 200SP

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109811981>. A SIMIT simulation model is available for this example.

Example 3

Protective door monitoring with tumbler with 3SE64 RFID safety switch for the field level to ET 200AL-F, see page 12/94.

For a detailed description, see <https://support.industry.siemens.com/cs/ww/en/view/109818115>.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step by step. You receive the results as a standard-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

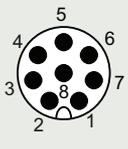
NEW 3SE64 RFID safety switches with tumbler

Technical specifications

Type	3SE6415	
General data		
Standards	IEC 60947-5-3, IEC 62061/IEC 61508, ISO 14119, ISO 13849-1	
Enclosure material	Plastic, glass-fiber reinforced thermoplastic, self-extinguishing	
Ambient temperature	<ul style="list-style-type: none"> • During operation °C 0 ... +60 • During storage, transport °C -10 ... +90 	
Shock resistance	<i>g/ms</i>	30/11
Vibration resistance	10 ... 150 Hz, amplitude 0.35 mm	
Operating principle	RFID	
Coding level according to ISO 14119	<ul style="list-style-type: none"> • Individually coded, programmable several times High • Family-coded Low 	
Series connection	Number of devices unlimited, ensure external line protection	
Length of sensor chain	Max. 200 m (cable length and cable cross-section change the voltage drop in relation to the output current)	
Mechanical data		
Locking force F_{Zh}	N	1 150
Latching force	N	25 or 50
Mechanical endurance	Operating cycles	≥ 1 000 000
Connection type	Integrated socket M12, 8-pole, A-coded	
Degree of protection	IP66, IP67, IP69 according to IEC 60529	
Safety assessment of the interlocking function		
Standards	ISO 13489-1, IEC 62061/IEC 61508	
PL	Up to e	
Category	Up to 4	
PFHD in high demand mode	$5.2 \times 10^{-10}/h$	
PFD_{avg} in low demand mode	4.5×10^{-5}	
SIL	Suitable for applications in SIL 3	
Mission time	Years	20
Safety assessment of the guard locking function		
Standards	ISO 13489-1, IEC 62061/IEC 61508	
PL	Up to d	
Category	Up to 2	
PFHD in high demand mode	$2.0 \times 10^{-9}/h$	
PFD_{avg} in low demand mode	4.5×10^{-4}	
SIL	Suitable for applications in SIL 2	
Mission time	Years	20

Pin assignment

M12 device plug, 8-pole



1	WH = White	→	A1
2	BN = Brown	→	X1
3	GN = Green	→	A2
4	YE = Yellow	→	OSSD1
5	GY = Grey	→	OUT
6	PK = Pink	→	X2
7	BU = Blue	→	OSSD2
8	RD = Red	→	IN

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Position and safety switches

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler **NEW**

Selection and ordering data

Plastic enclosures · With M12 connection plug, 8-pole · Locking force 1 150 N

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3SE64 RFID safety switches with tumbler¹⁾					
 3SE6415-1.B0	Three LEDs for displaying the operating states (24 V DC), three directions of actuation, latching force adjustable with star handle: 25 N or 50 N, actuator 3SE6410 must be ordered separately.				
	<ul style="list-style-type: none"> • Closed-circuit principle with auxiliary release (tumbler monitored) <ul style="list-style-type: none"> - Family-coded - Individually coded, programmable several times 	3SE6415-1BB01	1	1 unit	41K
		3SE6415-1BB02	1	1 unit	41K
	<ul style="list-style-type: none"> • Open-circuit principle with auxiliary release (actuator monitored) <ul style="list-style-type: none"> - Family-coded - Individually coded, programmable several times 	3SE6415-1AB01	1	1 unit	41K
		3SE6415-1AB02	1	1 unit	41K
 3SE6415-1CB01	<ul style="list-style-type: none"> • Closed-circuit principle with escape release (tumbler monitored), lever handle included as separate item, can be mounted on either side <ul style="list-style-type: none"> - Family-coded 	3SE6415-1CB01	1	1 unit	41K
RFID actuator					
 3SE6410-1AC01	With high-grade steel bracket, can be used as door stop	3SE6410-1AC01	1	1 unit	41K

¹⁾ Not connectable via AS-i modules.

Monitoring units, [see pages 8/1, 9/1 and 11/1 onwards](#).

Position and safety switches

SIRIUS 3SE6 non-contact safety switches

NEW 3SE64 RFID safety switches with tumbler

Accessories

Version	Length	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	m					
Optional accessories						
 3SX5600-1F	Mounting plate For doors so that they are flush with the door frame To compensate for the height between the safety switch and the RFID actuator	--		3SX5600-1F	1	1 unit 41K
 3SX5600-2F	Blocking insert This is inserted into the actuator bracket to prevent the door from closing. For 1 to 6 padlocks (not included in the scope of supply), bracket diameter max. 6 mm	--		3SX5600-2F	1	1 unit 41K
 3SX5600-3F	Triangular key For 3SE6415-1CB01 safety switches To unlock the escape release when the red lever is missing.	--		3SX5600-3F	1	1 unit 41K
 3SX5600-4F	Protection plate (masking plate) For the RFID actuator 3SE6410-1AC01 For use on glass and plastic doors on machinery, Material: Aluminum, Aluminum thread heads with M6-thread including rubber washers	--		3SX5600-4F	1	1 unit 41K
 3SX5601-3SV18	Connecting cable With M12 socket, 8-pole and M12 plug, 8-pole	1		3SX5601-3SV18	1	1 unit 41K
 3SX5601-3SY00-1AK4	ET 200 Y-cable For connecting 1 x 2-channel sensor With M12 socket, 8-pole on 2 x M12 plug, 5-pole, length 200 mm, for connection, e.g., to fail-safe field modules of SIMATIC ET 200eco PN and SIMATIC ET 200AL For more information, see page 12/93 onwards .	0.2		3SX5601-3SY00-1AK4	1	1 unit 41K
 3SX5601-2GA03	Connecting cables With M12 socket, 8-pole, straight, open end, rated voltage 30 V, rated current 2 A	3		3SX5601-2GA03	1	1 unit 41K
		5		3SX5601-2GA05	1	1 unit 41K
		10		3SX5601-2GA10	1	1 unit 41K
		15		3SX5601-2GA15	1	1 unit 41K
 6GT2090-0BE00	M12 plugs, 8-pole Straight	--		6GT2090-0BE00	1	5 units 572
 3RK1902-4BA00-5AA0	M12 plugs, 5-pole • Straight, separate item • Angled, separate item	--		3RK1902-4BA00-5AA0	1	1 unit 42D
		--		3RK1902-4DA00-5AA0	1	1 unit 42D

Position and safety switches

Notes