

# Position and Safety Switches

## Introduction

## Overview



	Position switches, standard					Safety hinge switches	
<b>Enclosure</b>							
Plastic	✓	✓	✓	--	--	✓	✓
Metal	✓	--	✓	✓	✓	✓	✓
Dimensions (W x H x D) in mm	31 × 68 × 33	50 × 53 × 33	40 × 78 × 38	56 × 78 × 38	56 × 100 × 38	31 × 68 × 33	40 × 78 × 38
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP65, IP66/IP67	IP66/IP67
<b>Standards</b>	Mounting and operating points acc. to EN 50047		Mounting and operating points acc. to EN 50041		Operating points acc. to EN 50047		Mounting and operating points acc. to EN 50041
IEC 60947-5-1							
<b>Approvals</b>	CE, UL, CSA, CCC		CE, UL, CSA, CCC		CE, UL, CSA, CCC		CE, UL, CSA, CCC
<b>Contact blocks</b>							
2 slow-action contacts	1 NO + 1 NC, 2 NC		1 NO + 1 NC, 2 NC		2 × (1 NO + 1 NC)		--
2 snap-action contacts	1 NO + 1 NC		1 NO + 1 NC		2 × (1 NO + 1 NC)		1 NO + 1 NC
• Short stroke	1 NO + 1 NC		✓		--		--
• With 2 × 2 mm contact gap	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		1 NO + 2 NC		2 × (1 NO + 2 NC)		--
3 snap-action contacts	1 NO + 2 NC		1 NO + 2 NC		--		1 NO + 2 NC
<b>Special features</b>							
LED status display	✓		✓		--		✓
Increased corrosion protection	✓		✓		✓		✓
<b>ASIsafe integrated</b>	✓		✓		--		✓
<b>Electrical specifications</b>							
Insulation voltage $U_i$	400 V		400 V		400 V		400 V
Conventional thermal current $I_{the}$	6 A/10 A (3-/2-pole)		6 A/10 A (3-/2-pole)		6 A/10 A (3-/2-pole)		6 A/10 A (3-/2-pole)
<b>Connections</b>							
Cable entry	1 × M20 × 1.5	2 × M20 × 1.5	1 × M20 × 1.5	3 × M20 × 1.5	3 × M20 × 1.5	1 × M20 × 1.5	1 × M20 × 1.5
M12 connector socket, 4-, 5- or 8-pole	✓	✓	✓	✓	✓	✓	✓
Connector socket, 6-pole + PE	--	--	✓	✓	--	--	--
<b>Actuators</b>							
Rounded plungers and roller plungers	✓		✓		✓		--
Roller levers and angular roller levers	✓		✓		✓		--
Spring rod	✓		✓		--		--
Twist levers and rod actuators	✓		✓		✓		--
Fork lever	--		✓		--		--
Hinge switches	--		--		--		✓
<b>Page</b>							
Complete units	12/14, 12/32	12/24	12/20, 12/36	12/40	12/44	12/78	12/79
Modular system	12/18, 12/34	12/26	12/22, 12/38	12/42	12/45	--	--
Ambient temperature -40 °C	12/28, 12/48	12/28	12/31, 12/49	12/50	12/50	--	--
ASIsafe	12/84, 12/86	12/84	12/88	12/88	--	12/97	12/98

✓ Available

-- Not available



	Compact design	Open-type	Safety switches with separate actuator		Safety switches with solenoid interlocking	RFID safety switches
<b>Enclosure</b>						
Plastic	--	✓	✓	✓	✓	✓
Metal	✓	--	✓	✓	✓	--
Dimensions (W x H x D) in mm	30 x .. x .., 40 x .. x ..	30 x 48.5 x 20	31 x 68 x 33, 50 x 53 x 33	40 x 78 x 38, 56 x 78 x 38	54 x 185 x 44	25 x 91 x 22
Degree of protection	IP66/IP67	IP10 or IP20	IP65, IP66/IP67	IP66/IP67	IP66/IP67	IP69K
<b>Standards</b>	--	Mounting and operating points acc. to EN 50047	Mounting acc. to EN 50047	Mounting acc. to EN 50041	EN 1088	Category 4 acc. to ISO 13849-1, PL e acc. to ISO 13849-1, SIL 3 acc. to IEC 61508
IEC 60947-5-1						
<b>Approvals</b>	CE, UL, CSA, CCC	--	CE, TÜV, UL, CSA, CCC		CE, TÜV, UL, CSA, CCC	CE, TÜV, UL, CSA <sup>1)</sup>
<b>Contact blocks / outputs</b>						
2 slow-action contacts	--	1 NO + 1 NC	1 NO + 1 NC, 2 NC		--	--
2 snap-action contacts	1 NO + 1 NC	1 NO + 1 NC	--		--	--
• Short stroke	--	✓				
• With 2 x 2 mm contact gap	--	✓				
3 slow-action contacts	--	1 NO + 2 NC; 2 NO + 1 NC	1 NO + 2 NC		2 x (1 NO + 2 NC)	--
• With make-before-break	--	1 NO + 2 NC				
3 snap-action contacts	--	1 NO + 2 NC	--		--	--
Electron. safety outputs	--	--	--		--	2
<b>Special features</b>						
LED status display	--	--	✓		✓	✓
Increased corrosion protection	--	--	✓		✓	✓
<b>ASIsafe integrated</b>	--	--	✓		✓	--
<b>Electrical specifications</b>						
Insulation voltage $U_i$	400 V	400 V	400 V		400 V	--
Conventional thermal current $I_{the}$	6 A	6 A	6 A		6 A	--
<b>Connections</b>						
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	3 x M20 x 1.5	--
M12 connector socket, 4-, 5- or 8-pole	✓	--	✓	✓	✓	✓
Molded cables	✓	--	--	--	--	--
AS-Interface	--	--	✓	✓	✓	--
<b>Actuators</b>						
Plungers, twist levers	✓	✓	--		--	--
Separate actuators	--	--	✓		✓	--
<b>Page</b>						
Complete units	12/52	12/54	12/63, 12/65	12/64, 12/66	12/73, 12/74	--
Modular system	--	--	--	--	--	12/101
ASIsafe	--	--	12/91	12/92	12/95, 12/96	--

✓ Available

-- Not available

1) CCC not required for voltages &lt; 36 V.

Note:

Safety characteristics see Chapter 16, "Appendix" → "Standards and Approvals".

# SIRIUS 3SE5 Mechanical Position Switches

## General data

### Overview

The innovative SIRIUS 3SE5 position switches are modern in design, compact, modular and simple to connect. They save time and increase flexibility during installation of a whole range of switch variants. In principle it is possible to combine any enclosure with any operating mechanism, 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 features a new 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.

An easy plug-in method enables fast replacement of the actuator heads.



Examples of selection options in the modular system

#### Design

All enclosure variants have an integrated chlorinated rubber diaphragm (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 variants

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

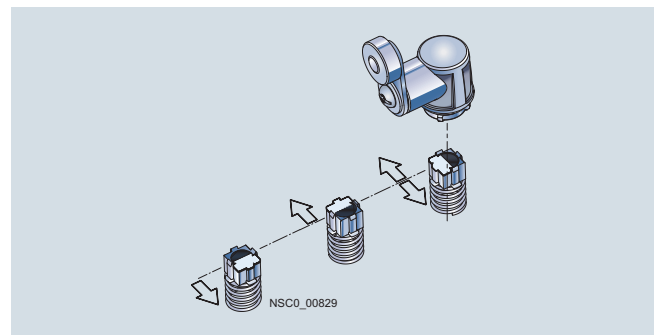
- With contact blocks with two or three contacts (screw terminals) designed as slow-action or snap-action contacts; the slow-action contacts also with make-before-break
- Optional LED status display
- With mounted four- or five-pole M12 connector socket (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole connector socket + PE on the metal enclosures
- Versions with increased corrosion protection
- Versions for operating temperature up to  $-40\text{ }^{\circ}\text{C}$
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/82)

#### Actuator variants

All operating mechanisms can be rotated around the axis in increments of  $22.5^{\circ}$ . The following actuator variants are available:

- Standard, rounded and roller plungers
- Roller levers and angular roller levers
- Spring rod
- Twist levers and rod actuators 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)

**Optional LED indicators**

LED indicators  
available for all enclosure sizes except for XL.



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

**Many different contact types**

Exchangeable two and three-pole contact blocks  
for all enclosure sizes



The three-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 two-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 three-pole blocks are also available with make-before-break and with 2 NO + 1 NC.

**Contact reliability**

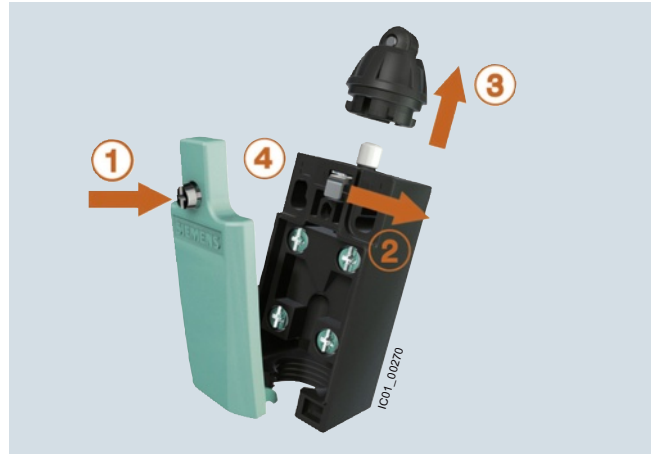
The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents, e.g. 1 mA at 5 V DC.

**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".

**Mounting**

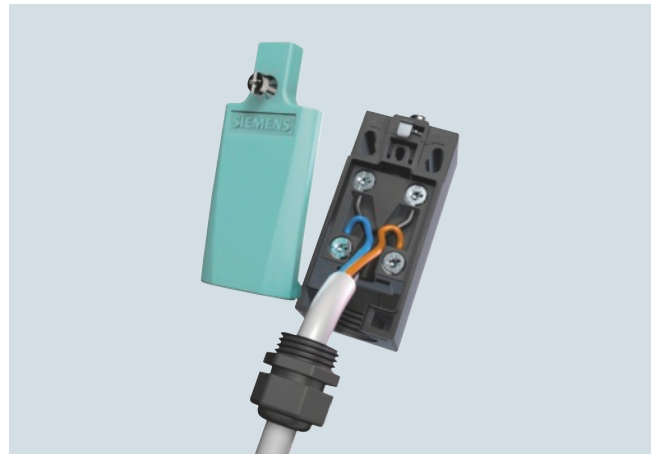
Easy plug-in method  
for fast replacement of the actuator heads



Open the cover (1)  
Actuate the locking lever (2)  
Replace the head (turnable by 16 × 22.5°) (3)  
Lock and close the cover (4)

**Quick-connect technology**

For plastic enclosures with a width of 31 mm



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.

## 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 operating mechanisms.
- All actuators can be turned around the axis in increments of 22.5° (see picture, page 12/5).
- 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 picture, page 12/5).
- All enclosure variants have an integrated chlorinated rubber diaphragm (high functional safety in cold and aggressive environments).
- All contact blocks are replaceable (see page 12/56).
- The three-pole contact blocks are available for all enclosure sizes (see picture, page 12/5).
- Elements 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 2 x 2 mm contact opening is suitable for simultaneous disconnection and signaling, particularly in the elevator industry.
- XL metal enclosures for accommodating two 2- or 3-pole contact blocks.
- The plastic enclosure with a width of 31 mm has simple and fast wiring equipment which makes it possible to save from approx. 20 to 25 % of the time when connecting (see picture, page 12/5).
- The ASIsafe electronic component is integrated in the enclosure for the versions with AS-Interface connection (see page 12/82); 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 variants, 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 best contact blocks suited for the particular purpose. And many different actuator variants are available to match the mechanical configuration of the moving machined parts. Dimensions, fixing points and characteristics are largely in accordance with the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

### Standards


IEC 60947-5-1 or EN 60947-5-1



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

### Safety position switches

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

### Safety circuits

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

Category 2 according to EN ISO 13849-1 can be attained with 3SE5 position switches with , and category 3 or 4 when using an additional position switch, if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK1 or 3TK28 safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges. The operating mechanisms (actuators) must also be connected to the enclosure by keyed techniques. The corresponding operating mechanisms are marked in the catalog with .

### Contacts for each 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.

### Operating mechanisms for each application

#### Standard, 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, straight-edges (approach angle 30°) or cam disks

#### Spring rod

- Can be used for undefined actuations and changing starting conditions
- Starting from any direction is possible




#### Twist levers and rod actuators

- For a high starting speed ( $v = 1.5$  m/s)
- Variety of starting options
- Insensitive to oil, grinding dust 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

## Technical specifications

Type		3SE51.., 3SE52..	3SE541.	3SE542.
<b>General data</b>				
<b>Standards</b>		IEC 60947-5-1, EN 60947-5-1		
<b>Rated insulation voltage <math>U_i</math></b>	V	400 <sup>1)</sup>		400
<b>Pollution degree</b> acc. to IEC 60664-1		Class 3		Class 3
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	kV	6		4
<b>Rated operational voltage <math>U_e</math></b>	V	400 V AC, over 300 V AC only for equal potential <sup>2)</sup>		300 AC
<b>Conventional thermal current <math>I_{th}</math></b>	A	10	6	10
<b>Rated operational current <math>I_e</math></b>		2-pole	3-pole	2-pole
• With alternating current 50/60 Hz		$I_e/AC-15$	$I_e/AC-15$	$I_e/AC-15$
- At 24 V	A	6	6	6
- At 120 V	A	6	3	6
- At 240 V	A	3	1.5	3
• For direct current		$I_e/DC-13$	$I_e/DC-13$	$I_e/DC-13$
- At 24 V	A	3	3	3
- At 125 V	A	0.55	0.55	0.55
- At 250 V	A	0.27	0.27	0.27
<b>Short-circuit protection<sup>3)</sup></b>				
• With DIAZED fuse links, operational class gG	A	6		10
• With miniature circuit breaker, Char. C	A	1		3
<b>Mechanical endurance</b>				
• Basic switch		15 × 10 <sup>6</sup> operating cycles	30 × 10 <sup>6</sup> operating cycles	30 × 10 <sup>6</sup> operating cycles
• With spring rod, 3SE5...-R..		10 × 10 <sup>6</sup> operating cycles	--	--
• With fork lever, 3SE51...-T..		1 × 10 <sup>6</sup> operating cycles	--	--
<b>Electrical endurance</b>				
• With 3RH.1, 3RT contactors in size S00, S0		10 × 10 <sup>6</sup> operating cycles	10 × 10 <sup>6</sup> operating cycles	5 × 10 <sup>6</sup> operating cycles
• For utilization category AC-15 when switching off $I_e/AC-15$ at 240 V		0.1 × 10 <sup>6</sup> operating cycles	--	--
• With utilization category DC-12/DC-13		For direct current depending on the loading of the switch		
<b>Switching frequency</b> With 3RH.1, 3RT contactors in size S00, S0		6 000 operating cycles/h	1 800 operating cycles/h	
<b>Switching accuracy</b> For repeated switching, measured at the plunger of the contact block	mm	0.05		0.05
• With twist actuators		1°		1°
<b>Rated data according to   and </b>				
• Rated voltage	V	300		300
• Uninterrupted current	A	6		10
• Switching capacity		Heavy duty, A 300 / B 300 / Q 300		A 300 / Q 300

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

<sup>2)</sup> 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 only equal potential.

<sup>3)</sup> Without any welds according to IEC 60947-5-1.

Type		3SE523.	3SE513.	3SE524.	3SE521.	3SE511.	3SE512., 3SE516.	3SE54..	3SE525.	
<b>Enclosure</b>										
<b>Enclosure</b>		Ultramid A3X2G7			Zinc diecasting GD Zn Al4 Cu1			Zn/Al	--	
• Material								30 / 40	30	
• Width	mm	31	40	50	31	40	56			
<b>Degree of protection</b> acc. to IEC 60529		IP65		IP66/IP67 <sup>1)</sup>				IP67	IP20, IP10	
<b>Ambient temperature</b>										
• During operation	°C	-25 ... +85							-25 ... +85	-25 ... +85
• In operation, switch with LEDs	°C	-25 ... +60							--	--
• Storage, transport	°C	-40 ... +90							-40 ... +90	-40 ... +90
<b>Mounting position</b>		Any								
<b>Connection</b>										
<b>Cable entry</b>		1 x (M20 x 1.5)		2 x (M20 x 1.5)	1 x (M20 x 1.5)		3 x (M20 x 1.5)	--	--	
<b>Conductor cross-sections</b>										
• Solid	mm <sup>2</sup>	1 x (0.5 ... 1.5), 2 x (0.5 ... 0.75)								
• Finely stranded with end sleeve	mm <sup>2</sup>	1 x (0.5 ... 1.5), 2 x (0.5 ... 0.75)								
• AWG cables	AWG	1 x (AWG 20 ... 16), 2 x (AWG 20 ... 19)								
<b>Tightening torque</b> , contact block	Nm	0.8 ... 1.0								
<b>Protective conductor connection</b> inside enclosure		--			M3.5			--	--	

<sup>1)</sup> For twist actuators with spring rod and rod actuators: IP65/IP67.

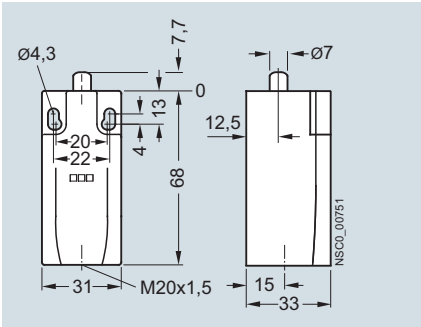


# SIRIUS 3SE5 Mechanical Position Switches

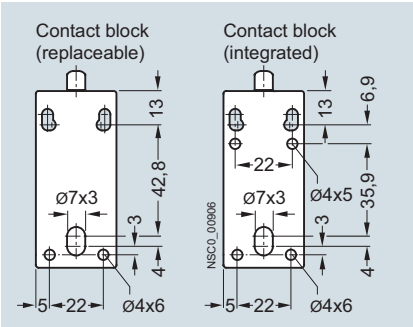
## General data

### Dimensions of the basic switches

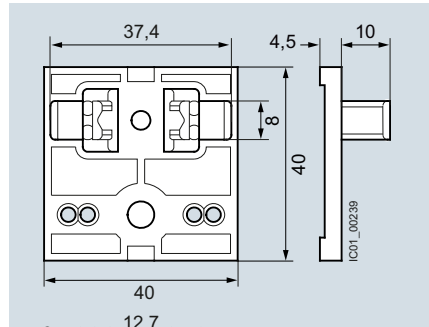
Enclosure width 31 mm, EN 50047, with M20 × 1.5/7 connecting thread 3SE5232, 3SE5212



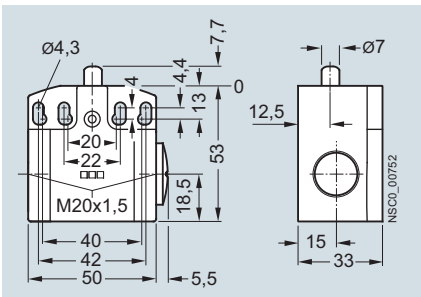
Enclosure width 31 mm, EN 50047, rear with fixing holes 3SE5232, 3SE5212



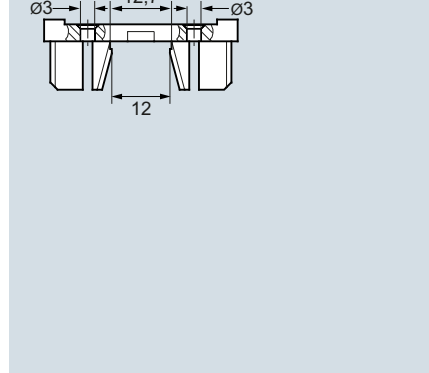
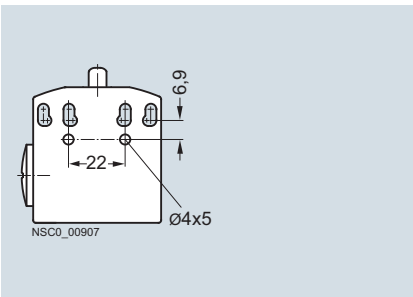
Mounting plate for 3SE5232, 3SE5212 position switch 3SX5100-1A



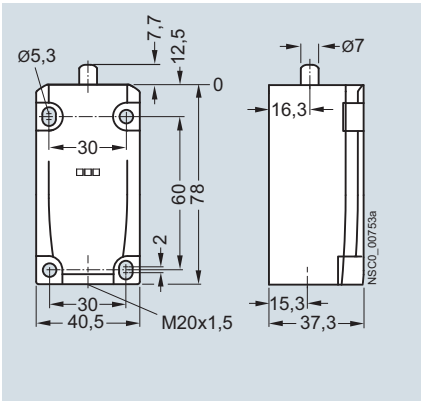
Enclosure width 50 mm, with M20 × 1.5 connecting thread 3SE5242



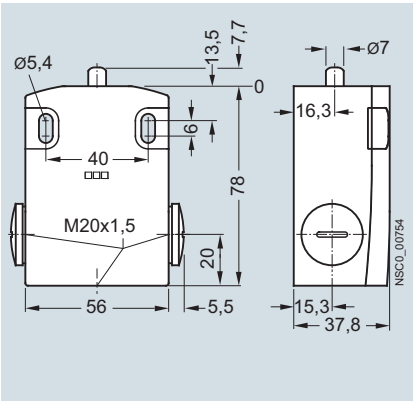
Enclosure width 50 mm, rear with fixing holes 3SE5242



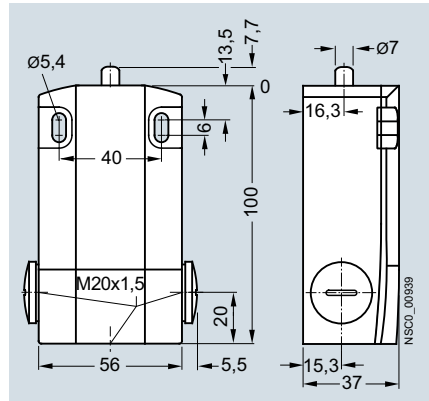
Enclosure width 40 mm, EN 50041, with M20 × 1.5 connecting thread 3SE5112, 3SE5132



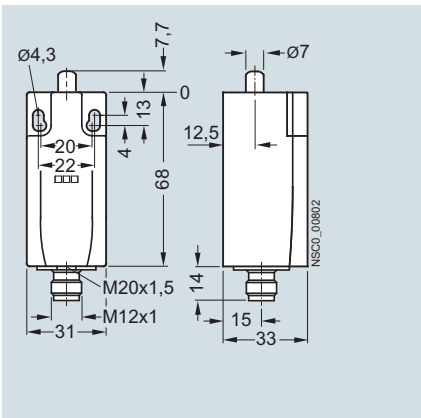
Enclosure width 56 mm, with M20 × 1.5 connecting thread 3SE5122



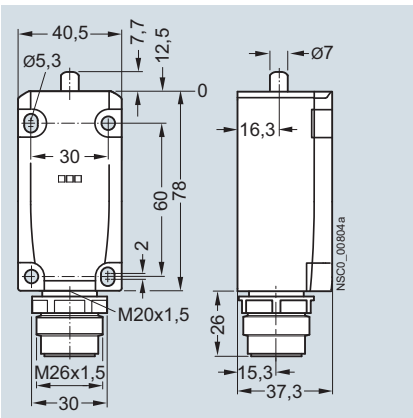
XL enclosure, width 56 mm, with M20 × 1.5 connecting thread 3SE5162



Enclosure width 31 mm, EN 50047, with M12 connector socket 3SE5234, 3SE5214



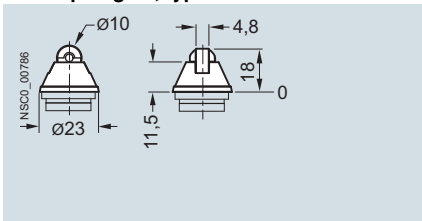
Enclosure width 40 mm, EN 50041, with 6-pole connector socket 3SE5115



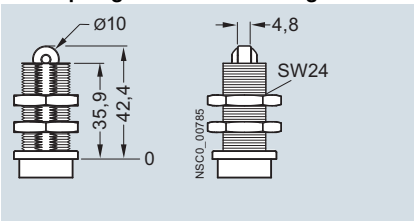
Operating mechanisms for basic switches, see pages 12/9 and 12/10.

## Operating mechanisms for enclosure width 31 mm and 50 mm

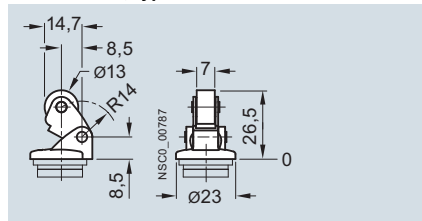
**Roller plungers, type C acc. to EN 50047**



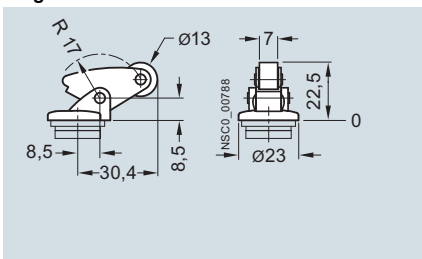
**Roller plunger with central fixing**



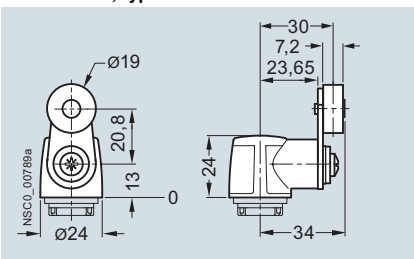
**Roller levers, type E acc. to EN 50047**



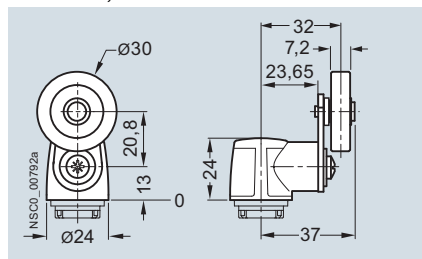
**Angular roller lever**



**Twist levers, type A acc. to EN 50047**

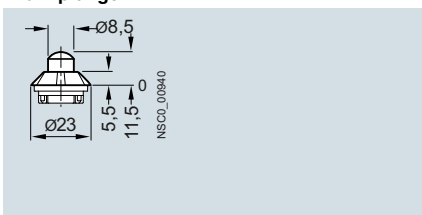


**Twist lever, roller 30 mm**

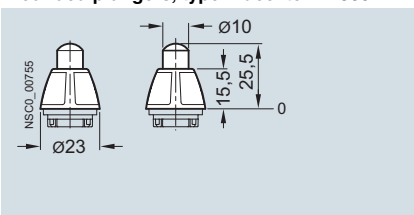


## Operating mechanisms for enclosure width 40 mm and 56 mm

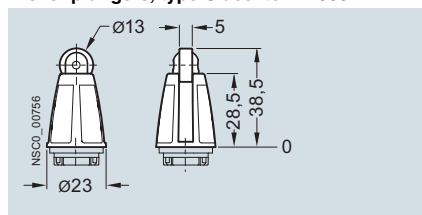
**Plain plunger**



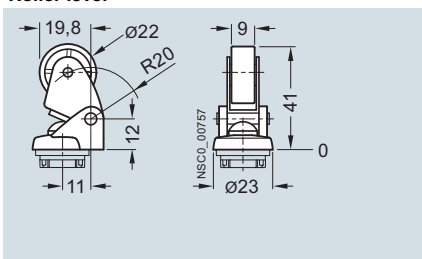
**Rounded plungers, type B acc. to EN 50041**



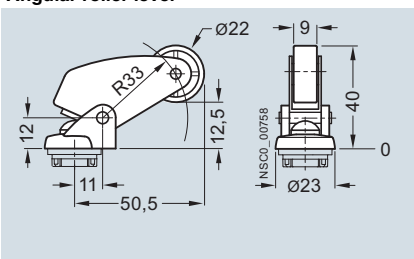
**Roller plungers, type C acc. to EN 50041**



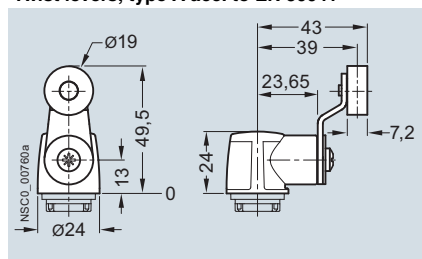
**Roller lever**



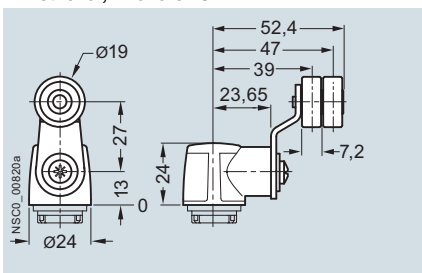
**Angular roller lever**



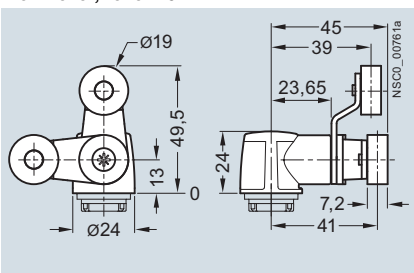
**Twist levers, type A acc. to EN 50041**



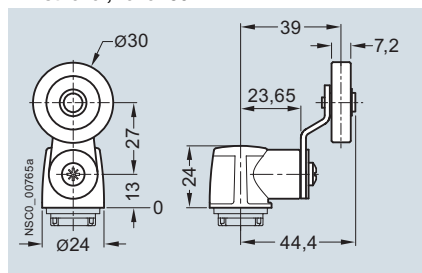
**Twist lever, 2 rollers 19 mm**



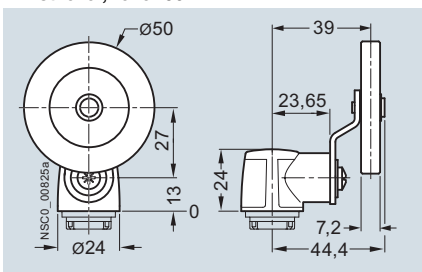
**Fork lever, roller 19 mm**



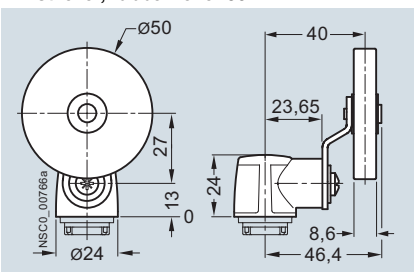
**Twist lever, roller 30 mm**



**Twist lever, roller 50 mm**



**Twist lever, rubber roller 50 mm**



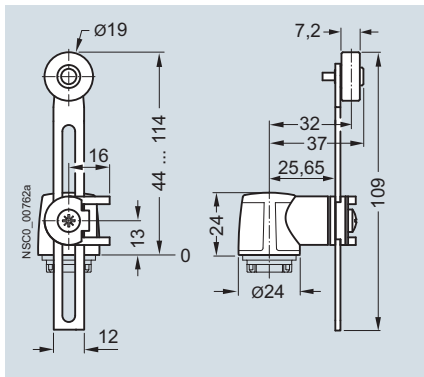


# SIRIUS 3SE5 Mechanical Position Switches

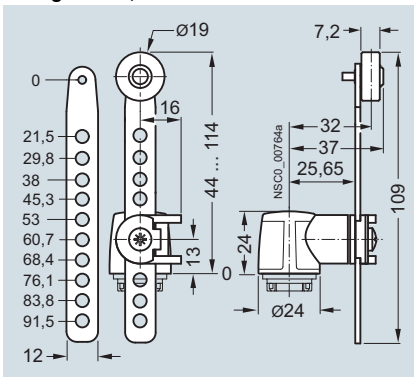
## General data

### Operating mechanisms for all enclosure widths

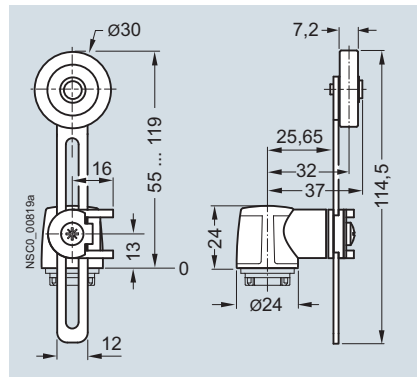
Twist lever, adjustable length, roller 19 mm



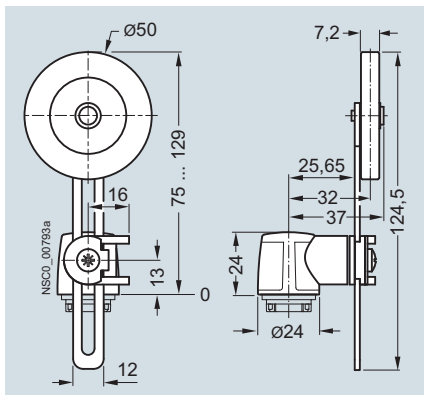
Twist lever, adjustable length, with grid hole, roller 19 mm



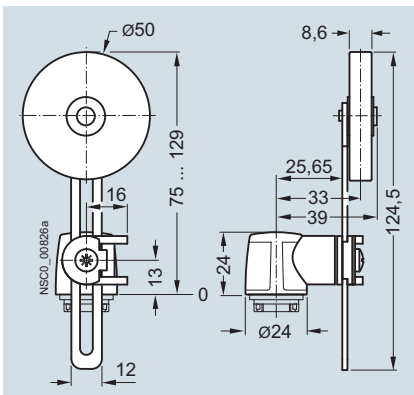
Twist lever, adjustable length, roller 30 mm



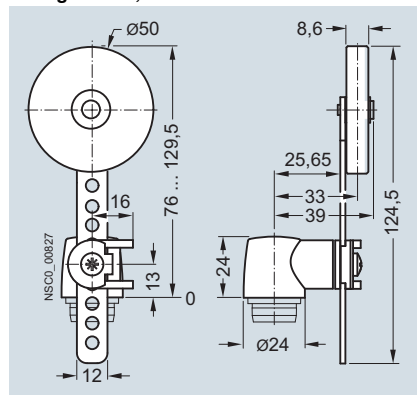
Twist lever, adjustable length, roller 50 mm



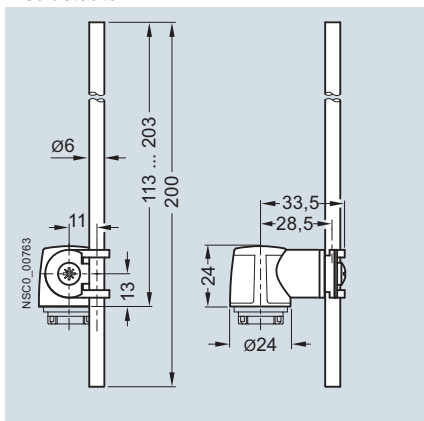
Twist lever, adjustable length, rubber roller 50 mm



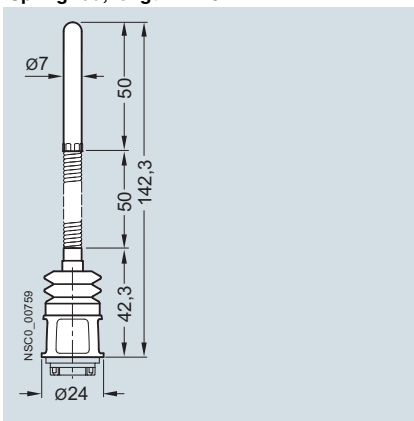
Twist lever, adjustable length, with grid hole, rubber roller 50 mm



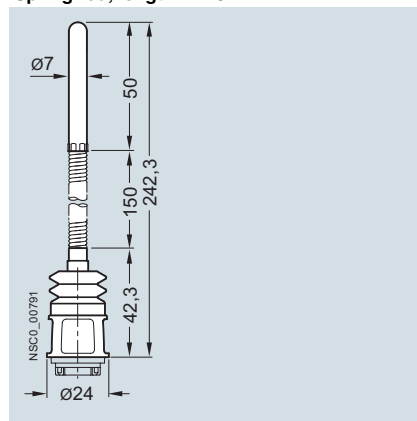
Rod actuator



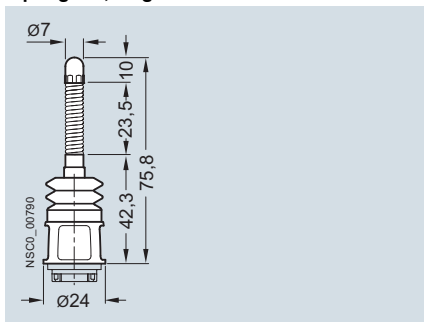
Spring rod, length 142.5 mm



Spring rod, length 242.5 mm

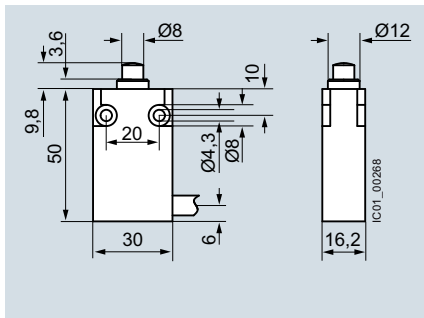


Spring rod, length 76 mm

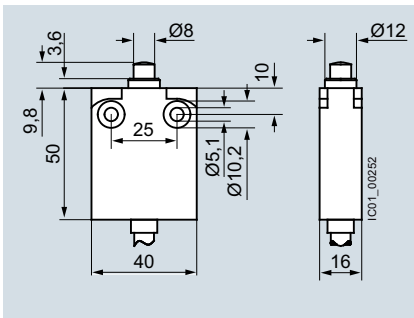


## Dimensions of the switches in compact design

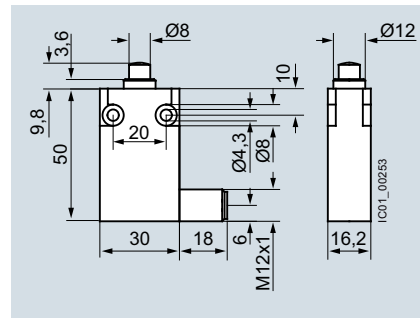
**Rounded plunger, enclosure width 30 mm, with connecting cable  
3SE5413-0CC20-1EA2**



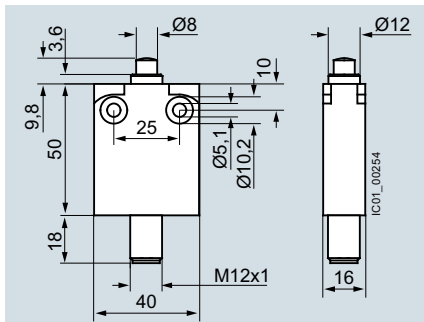
**Rounded plunger, enclosure width 40 mm, with connecting cable  
3SE5423-0CC20-1EA2**



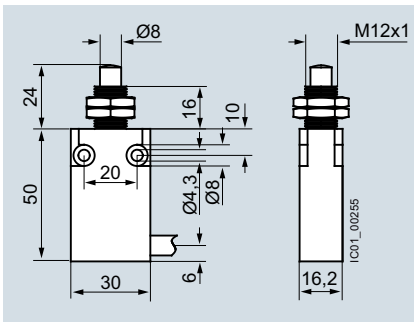
**Rounded plunger, enclosure width 30 mm, with M12 connector socket  
3SE5413-0CC20-1EB1**



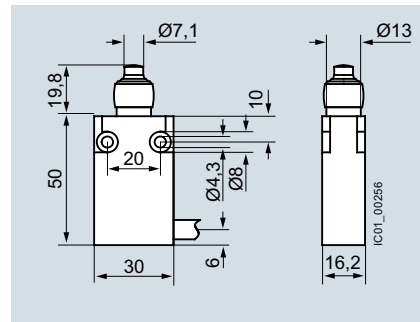
**Rounded plunger, enclosure width 40 mm, with M12 connector socket  
3SE5423-0CC20-1EB1**



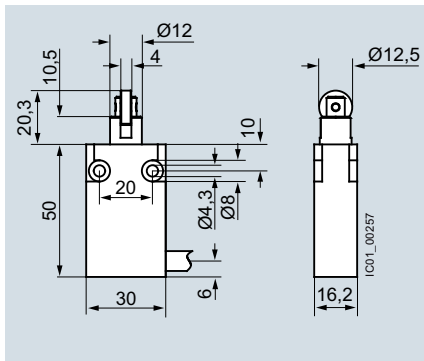
**Rounded plunger, enclosure width 30 mm, with central fixing  
3SE5413-0CC21-1EA2**



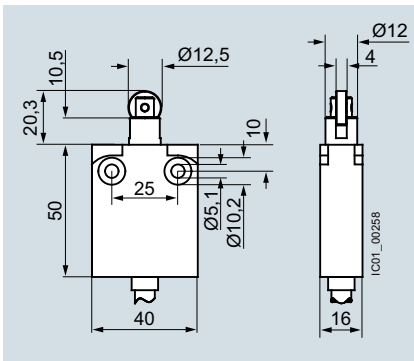
**Rounded plunger, enclosure width 30 mm, with external seal  
3SE5413-0CC22-1EA2**



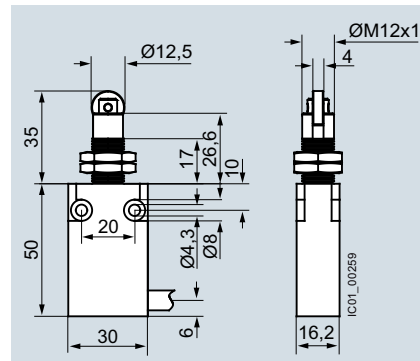
**Roller plunger, enclosure width 30 mm, with connecting cable  
3SE5413-0CD20-1EA2**



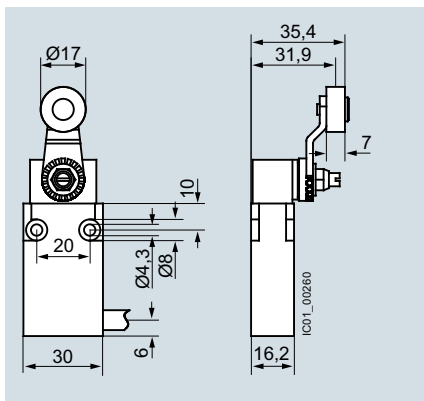
**Roller plunger, enclosure width 40 mm, with connecting cable  
3SE5423-0CD20-1EA2**



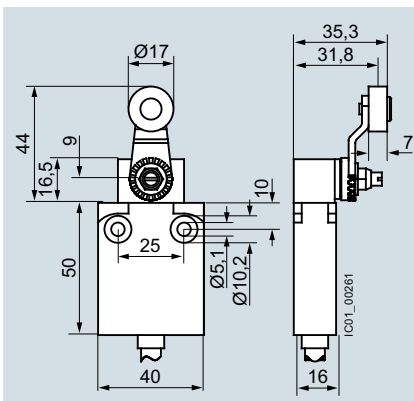
**Roller plunger, enclosure width 30 mm, with central fixing  
3SE5413-0CD21-1EA2**



**Twist lever, enclosure width 30 mm, with connecting cable  
3SE5413-0CN20-1EA2**



**Twist lever, enclosure width 40 mm, with connecting cable  
3SE5423-0CN20-1EA2**



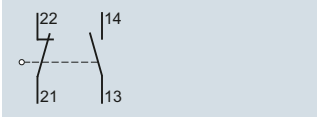
# SIRIUS 3SE5 Mechanical Position Switches

## General data

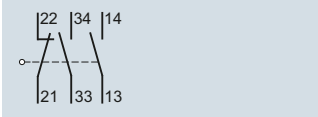
### Circuit diagrams

Enclosure widths 31, 40, 50 and 56 mm

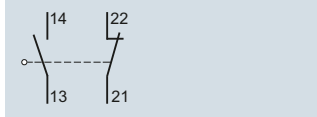
**Slow-action contacts**  
1 NO + 1 NC  
3SE5...-B..., -R...



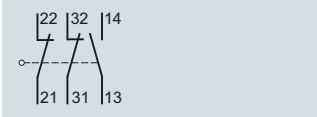
**Slow-action contacts**  
2 NO + 1 NC  
3SE5...-P...



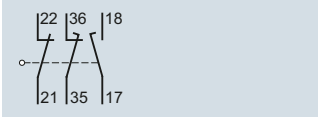
**Snap-action contacts**  
1 NO + 1 NC  
3SE5...-C..., -F..., -G..., -H..., -N...



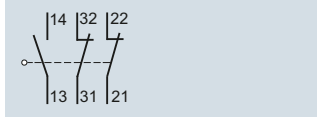
**Slow-action contacts**  
1 NO + 2 NC  
3SE5...-K..., -Q...



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

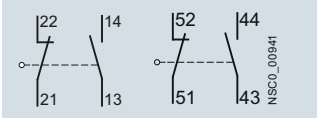


**Snap-action contacts**  
1 NO + 2 NC  
3SE5...-L...

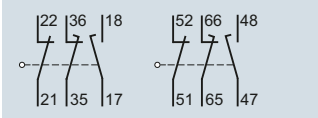


XL enclosures, width 56 mm

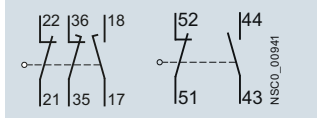
**Slow-action contacts**  
2 x (1 NO + 1 NC)  
3SE5162-0B...



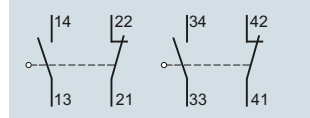
**Slow-action contacts**  
2 x (1 NO + 2 NC) with make-before-break, 3SE5162-0D...



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

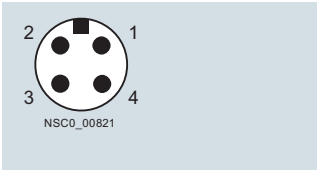


**Snap-action contacts**  
2 x (1 NO + 1 NC)  
3SE5162-0C...

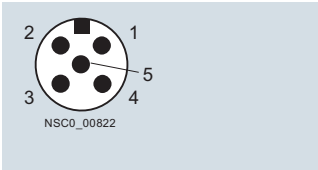


### 3SE5 connector assignment

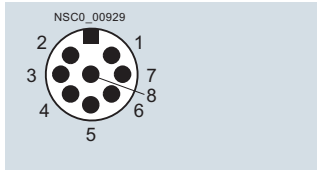
**M12 connector socket, 4-pole**  
3SY3127



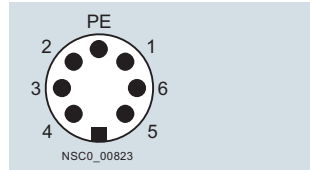
**M12 connector socket, 5-pole**  
3SY3128



**M12 connector socket, 8-pole**  
3SY3134



**Connector sockets, 6-pole + PE**  
3SY3131



Article No.	Connector sockets Type	Contacts Version	LEDs Version	Connections										
				Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	PE		
<b>M12 connector sockets (4-, 5- or 8-pole)</b>														
3SE5..4-0.....1AC4	3SY3127	1 NO + 1 NC	--	21	22	13	14	--	--	--	--	--	--	--
3SE5..4-0.....1AC5	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	3SY3128	2 NC	--	21	22	31	32	PE	--	--	--	--	--	
3SE5..4-1C...-1AF3	3SY3128	1 NO + 1 NC snap-action	2 LEDs	21	22	13 / LED gn	14 / LED ye	Ground LED	--	--	--	--	--	
3SE5..4-1B...-1AF3	3SY3128	1 NO + 1 NC slow-action	2 LEDs	21	22	14 / LED gn	13 / LED ye	Ground LED	--	--	--	--	--	
3SE5..4-1L...-1AD4	3SY3134	1 NO + 2 NC snap-action	2 LEDs	21	22	13 / LED gn	14 / LED ye	31	32	Ground LED	PE	--	--	
3SE5..4-1K...-1AD4	3SY3134	1 NO + 2 NC slow-action	2 LEDs	21	22	14 / LED gn	13 / LED ye	31	32	Ground LED	PE	--	--	
<b>Connector sockets, 6-pole + PE</b>														
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	--	--	--	✓	
3SE5..5-.C...-1AF2	3SY3131	1 NO + 1 NC snap-action	2 LEDs	21	22	13 / LED gn	14 / LED ye	--	Ground LED	--	--	--	✓	
3SE5..5-.B...-1AF2	3SY3131	1 NO + 1 NC slow-action	2 LEDs	21	22	14 / LED gn	13 / LED ye	--	Ground LED	--	--	--	✓	
3SE5..5-.L...-1AD2	3SY3131	2 NC snap-action	2 LEDs	21	22	31	32	13 / LED gn	Ground LED	--	--	--	✓	
3SE5..5-.K...-1AD2	3SY3131	2 NC slow-action	2 LEDs	21	22	31	32	14 / LED gn	Ground LED	--	--	--	✓	

gn Green  
ye Yellow

✓ Connected  
-- Not available

# SIRIUS 3SE5 Mechanical Position Switches

## 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 × (M20 × 1.5)

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

#### Complete units<sup>1)</sup> · Enclosure width 56 mm, XL

	<b>Plain plungers</b>							
	<b>With high-grade steel plunger</b>							
	Snap-action contacts	2 × (1 NO + 1 NC) --	⊕ B	<b>3SE5162-0CB01</b>		1	1 unit	41K
	<b>Rounded plungers</b>							
	<b>With high-grade steel plungers, with 3 mm overtravel</b>							
	Slow-action contacts	1 NO + 1 NC and --	⊕ B	<b>3SE5162-0EC02</b>		1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 NC						
	2 mm travel difference							
	<b>Roller plungers</b>							
	<b>With high-grade steel roller 13 mm, with 3 mm overtravel</b>							
	Slow-action contacts	2 × (1 NO + 1 NC) --	⊕ B	<b>3SE5162-0BD02</b>		1	1 unit	41K
	Snap-action contacts	2 × (1 NO + 1 NC) --	⊕ A	<b>3SE5162-0CD02</b>		1	1 unit	41K
	<b>Roller levers</b>							
	<b>With metal lever and plastic roller 22 mm</b>							
	Slow-action contacts	2 × (1 NO + 1 NC) --	⊕ B	<b>3SE5162-0BE01</b>		1	1 unit	41K
	Snap-action contacts	2 × (1 NO + 1 NC) --	⊕ A	<b>3SE5162-0CE01</b>		1	1 unit	41K
	<b>Angular roller lever</b>							
	<b>With metal lever and high-grade steel roller 22 mm</b>							
	Snap-action contacts	2 × (1 NO + 1 NC) --	⊕ B	<b>3SE5162-0CE02</b>		1	1 unit	41K
	<b>Twist levers</b>							
	<b>With metal lever 27 mm and plastic roller 19 mm</b>							
	Snap-action contacts	2 × (1 NO + 1 NC) --	⊕ A	<b>3SE5162-0CH01</b>		1	1 unit	41K

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

⊕ Positive opening according to IEC 60947-5-1, Appendix K.

<sup>1)</sup> Popular versions.

#### Note:

If the device you require is not available as a complete unit, see "Modular System", page 12/45.