

# SIRIUS Standard Position Switches

## Product Overview



# sirius

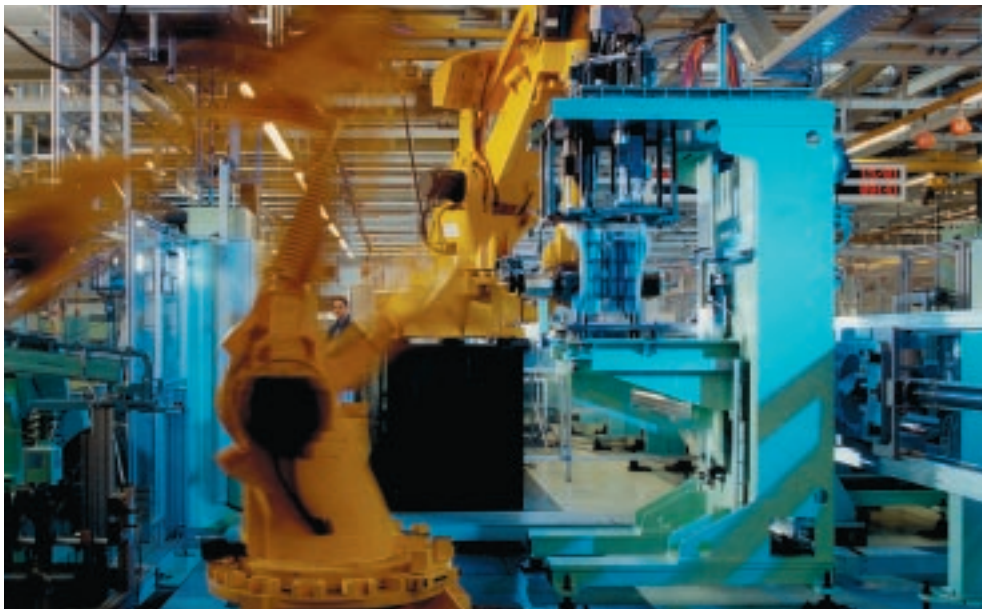
## DETECTING



**SIEMENS**

## Always on the alert: **SIRIUS** detection devices

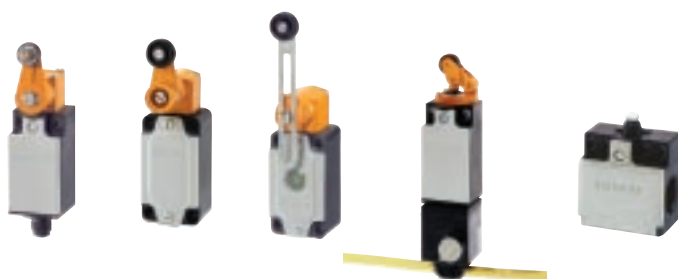
A wide variety of information prevails in the field. To monitor it accurately, you need equipment you can rely on. This is a clear case for SIRIUS detection devices. They cover virtually all possible applications in the field. Whether used with their standard functions or within safety circuits, their mechanical sensors detect every motion process in the field precisely and transmit it as an electric signal. This ensures safe and targeted shutdown of machinery and plants in the event of faults or dangerous situations.



### **The complete product range of SIRIUS standard position switches**

In almost any application, our comprehensive product range of SIRIUS standard position switches provides easy, safe and economical motion detection. Be it surveillance of protective equipment with hinged joints, such as swivel doors, valves or flaps; monitoring of laterally sliding protective equipment, such as sliding doors or trellised gates; or detection of dangerous machinery parts motions – The SIRIUS standard position switches complete almost every task with ease and perfection.

Standardized design type and functions facilitate the selection of the most suitable standard position switch and ensure that configuration, storage, installation, wiring and maintenance are as easy as can be. See for yourself! This product overview presents the whole range of enclosure types, contacts and actuator versions for standard position switches and everything connected to our supplementary range associated products.



### **The whole range of standard position switches**

You will find everything at a glance in our product overview:

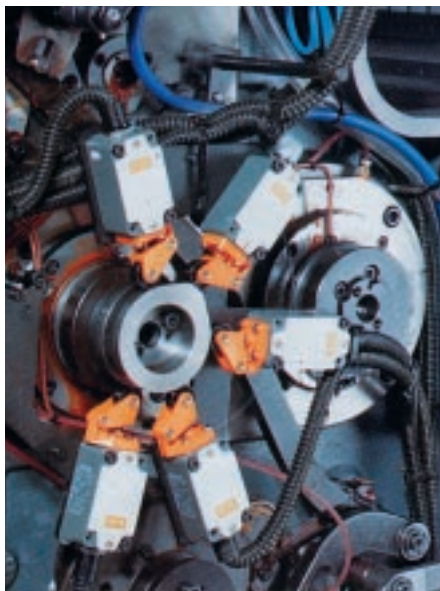
- Open-type
- Molded plastic enclosure
- Metal enclosure
- 3SE supplementary range

# Perfectly suited for rugged industrial conditions:

## **SIRIUS standard position switches**

### **Practice-oriented variety**

SIRIUS standard position switches meet almost any requirement encountered in industrial conditions due to their modular, uniform design which include a great variety of product types. To match ambient conditions, there are standardized device types: open-type, enclosed in molded plastic or enclosed in metal. Various control tasks can be completed with the corresponding actuators. And depending on the startup or operating situation, we offer an enormous large assortment variety of actuators. Dimensions, operating points and characteristic values comply with either EN 50047 or EN 50041.



### **Pure reliability**

Movable double contact elements ensure excellent contact stability at extremely low currents and voltages, such as 5 V DC / 1 mA. However, our SIRIUS standard position switches are also suited for continuous currents of 10 A. As the movable double contact elements are electrically isolated, the position switches can also switch circuits up to 380 V with different potentials without any restrictions.

### **Positive opening contacts (EN 60947-5-1)**

VDE 0660 Part 220, which is identical to IEC 60947-5-1 or EN 60947-5-1, requires positive opening contacts. This means that the safe opening of closed contacts is explicitly stipulated for the electrical equipment of machinery in all safety circuits, and in accordance with IEC 60947-5-1, and is marked with the  $\ominus$  symbol.

SIRIUS standard position switches can achieve Category 4 according to EN 60947-5-1. It is important, to ensure the correct selection and use of appropriate devices and their interaction with fail-safe evaluation units such as 3TK28 Safety Relays, ASIsafe, SIMATIC or SINUMERIK.

# Selection criteria for SIRIUS standard position switches

## Enclosure design – for all ambient conditions

- Open-type IP20: Dust-free environments
- Molded plastic enclosure IP66/IP67: Where there is moisture and mechanical stressing
- Metal enclosure IP67: Additional thermal stressing
- In various widths:
  - Molded plastic: 31 mm and 40 mm (1 cable gland), 50 mm (2 cable glands, suitable for looping through cables)
  - Metal: 40 mm (1 cable gland), 56 mm (3 cable glands, suitable for looping through cables)

## Contacts – for various control tasks

- Snap-action contact (the NC and NO contacts switch simultaneously)
- Slow-action contacts (the NC contact opens and the NO contact closes at different travel positions)
- Slow-action contact, with make-before-break function  
(This is suitable for initiating a second function in a sequence control before the first function has been disconnected)

## Actuators – for the widest range of applications

The following should be taken into careful consideration:

- Approach direction
- Actuation speed
- Shape of the actuating element
- Suitable combination of materials



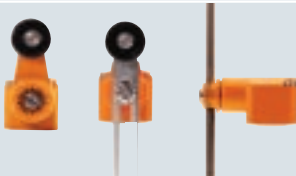
### Plunger, overtravel and roller plungers

- Approach in the direction of the stroke or with a bar at right angles to the axis stroke
- Overtravel and roller plungers have an additional overtravel and therefore a longer actuation travel
- We recommend the roller plunger for lateral actuation and a relatively low overtravel
- Roller plungers can be rotated in 90° increments which means they can be approached from all four directions at right angles to the plunge direction



### Roller lever and angular roller lever

- For high approach speeds ( $v_{max} = 2.5 \text{ m/s}$ )
- Depending on the approach direction (left or right), various approach ( $\alpha = 30^\circ$ ) and exit angles ( $\gamma = 45^\circ$ ) are possible
- The actuator can be rotated in 90° increments
- Actuator elements manufactured from finely polished steel in the form of cams, rods or cam disks
- Extremely high mechanical lifetime



### Roller crank, adjustable roller crank and rod actuator

- For high approach speeds ( $v_{max} = 3 \text{ m/s}$ )
- Various approaches are possible
- Resistant to oil, grinding dust, ice, dirt, coarse materials
- For the roller crank, the max. approach angle is the same as the max. exit angle
- Rod actuator – if it is not possible to use an actuator element with approach and exit angle



### Spring rod (Wobble Sprint)

- Can be used for undefined actuation and approach conditions that change
- Approach from all directions



### Overtravel plunger and roller plunger for central mounting with M18 x 1 thread

- Fast mounting
- Simple adjustment
- Same mounting type as a BERO proximity switch



### Fork lever

- Can switch in two directions
- Latching actuator
- For backward and forward movements

## Device connections

- Metric thread, M20 x 1.5
- With AS-Interface F adapter, direct ASIsafe connection, up to Category 2 in accordance with EN 60954-1
- With AS-Interface F adapter, direct ASIsafe connection, with M12 receptacle to connect a second position switch, up to Category 4 in accordance with EN 60954-1



# SIRIUS position switches



## Molded plastic enclosure, 3SE2 standard position switch

			
Movable double contact elements degree of protection IP66 ⊕ Positively opening in accordance with IEC 60947-5-3	<b>Replacement contact block</b>	<b>Overtravel plunger 3SX3 160</b>  ↓ $V_{max} = 1.5 \text{ m/s}$ ↓ $V_{max} = 1.5 \text{ m/s}$	<b>Roller plunger 3SX3 161</b>  ↔ $V_{max} = 1 \text{ m/s}$
Complete devices with actuator head			



**Narrow enclosure, 40 mm wide, 2 contacts, threaded opening 1 x M20 x 1.5**

Design in accordance with EN 50041

Snap-action contacts	1 NO + 1 NC	<b>3SE3 000-1A</b>	⊕ <b>3SE2 230-1C</b>	⊕ <b>3SE230-1D</b>
	2 NC	<b>3SE3 000-8AV00</b>	⊕ <b>3SE2 230-8CV00</b>	⊕ <b>3SE2 230-8DV00</b>
Slow-action contacts	1 NO + 1 NC	<b>3SE3 000-0A</b>	⊕ <b>3SE2 230-0C</b>	⊕ <b>3SE2 230-0D</b>
	2 NC	<b>3SE3 000-6A</b>	⊕ <b>3SE2 230-6C</b>	⊕ <b>3SE2 230-6D</b>
	2 NO	<b>3SE3 000-7A</b>	<b>3SE2 230-7C</b>	<b>3SE2 230-7D</b>
Slow-action contacts, make-before-break	1 NO + 1 NC	<b>3SE3 000-3A</b>	⊕ <b>3SE2 230-3C</b>	⊕ <b>3SE2 230-3D</b>

## Open-type 3SE30 position switches

					
Movable double contact elements, degree of protection for terminals IP20, switching chamber IP40, 6 mm stroke, ⊕ positive opening in accordance with IEC 60947-5-1		<b>Position switch with 2 contacts</b> ↓ $V_{\max} = 1.5 \text{ m/s}$		<b>Position switch with 3 contacts and repeat plunger</b> ↓ $V_{\max} = 1.5 \text{ m/s}$	
Snap-action contacts	1 NO + 1 NC	⊕ <b>3SE3 020-1A</b>	Slow-action contacts	1 NO + 2 NC	⊕ <b>3SE3 023-0A</b>
Slow-action contacts	1 NO + 1 NC	⊕ <b>3SE3 020-0A</b>	Slow-action contacts	2 NO + 1 NC	⊕ <b>3SE3 023-1A</b>
Slow-action contacts, make-before-break	1 NO + 1 NC	⊕ <b>3SE3 020-3A</b>	Slow-action contacts, make-before-break	1 NO + 2 NC	⊕ <b>3SE3 023-2A</b>
			Slow-action contacts, make-before-break	2 NO + 1 NC	⊕ <b>3SE3 023-3A</b>

					
<b>Roller lever 3SX3 164</b>	<b>Angular roller lever 3SX3 168</b>	<b>Roller crank, finely adjustable from 10° to 10° SX3 167</b>	<b>Roller crank, adjustable length 3SX3 163</b>	<b>Rod actuator made of molded plastic 3SX3 166 (W), aluminum 3SX3 165 (V)</b>	<b>Spring rod 3SX3 210</b>
← $V_{\max} = 2.5 \text{ m/s}$	↔ $V_{\max} = 2.5 \text{ m/s}$	↔ $V_{\max} = 3 \text{ m/s}$	↔ $V_{\max} = 1 \text{ m/s}$	↔ $V_{\max} = 3 \text{ m/s}$	All directions $V_{\max} = 1 \text{ m/s}$

s (the actuator heads can subsequently be replaced by other versions)

⊕ <b>3SE2 230-1E</b>	⊕ <b>3SE2 230-1F</b>	⊕ <b>3SE2 230-1GW</b>	<b>3SE2 230-1U</b>	<b>3SE2 230-1W</b> <b>3SE2 230-1V</b>	<b>3SE2 230-1R</b>
⊕ <b>3SE2 230-8EV00</b>	⊕ <b>3SE2 230-8FV00</b>	⊕ <b>3SE2 230-8GW00</b>	<b>3SE2 230-8UW00</b>	<b>3SE2 230-8WW00</b> <b>3SE2 230-8VW00</b>	<b>3SE2 230-8RV00</b>
⊕ <b>3SE2 230-0E</b>	⊕ <b>3SE2 230-0F</b>	⊕ <b>3SE2 230-0GW</b>	<b>3SE2 230-0U</b>	<b>3SE2 230-0W</b> <b>3SE2 230-0V</b>	–
⊕ <b>3SE2 230-6E</b>	⊕ <b>3SE2 230-6F</b>	⊕ <b>3SE2 230-6GW</b>	<b>3SE2 230-6U</b>	<b>3SE2 230-6W</b> <b>3SE2 230-6V</b>	–
<b>3SE2 230-7E</b>	<b>3SE2 230-7F</b>	<b>3SE2 230-7GW</b>	<b>3SE2 230-7U</b>	<b>3SE2 230-7W</b> <b>3SE2 230-7V</b>	–
⊕ <b>3SE2 230-3E</b>	⊕ <b>3SE2 230-3F</b>	⊕ <b>3SE2 230-3GW</b>	–	–	–




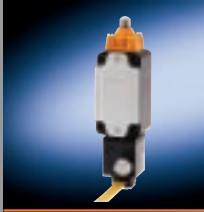

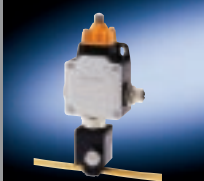


## Molded plastic enclosure, 3SE2 and 3SF standard position switches

							
				Movable double contact elements, degree of protection IP67 ⊕ positive opening in accordance with IEC 60 947-5-1	Overtravel plunger (basic version)  ↓ V <sub>max</sub> = 1 m/s	Roller plunger 3SX3 170  ↔ V <sub>max</sub> = 1 m/s ↓ V <sub>max</sub> = 1 m/s	Roller lever 3SX3 171  ← V <sub>max</sub> = 1 m/s
				Complete devices with actuator heads			
	Snap-action contacts	1 NO + 1 NC	⊕ 3SE2 200-1C	⊕ 3SE2 200-1D	⊕ 3SE2 200-1E		
		2 NC	⊕ 3SE2 200-8CV00	⊕ 3SE2 200-8DV00	⊕ 3SE2 200-8EV00		
	Slow-action contacts	1 NO + 1 NC	⊕ 3SE2 200-0C	⊕ 3SE2 200-0D	⊕ 3SE2 200-0E		
		2 NC	⊕ 3SE2 200-6C	⊕ 3SE2 200-6D	⊕ 3SE2 200-6E		
		2 NO	3SE2 200-7C	3SE2 200-7D	3SE2 200-7E		
	Slow-action contacts, make-before-break	1 NO + 1 NC	⊕ 3SE2 200-3C	⊕ 3SE2 200-3D	⊕ 3SE2 200-3E		
With AS-Interface F adapter	Snap-action contact	1 NC	⊕ 3SF3 200-1CV00-0BA1	⊕ 3SF3 200-1DV00-0BA1	⊕ 3SF3 200-1EV00-0BA1		
	Slow-action contact	2 NC	⊕ 3SF3 200-6CV00-0BA1	⊕ 3SF3 200-6DV00-0BA1	⊕ 3SF3 200-6EV00-0BA1		
	Snap-action contacts	1 NO + 1 NC	⊕ 3SE2 210-1C	⊕ 3SE2 210-1D	⊕ 3SE2 210-1E		
		2 NC	⊕ 3SE2 210-8CV00	⊕ 3SE2 210-8DV00	⊕ 3SE2 210-8EV00		
	Slow-action contacts	1 NO + 1 NC	⊕ 3SE2 210-0C	⊕ 3SE2 210-0D	⊕ 3SE2 210-0E		
		Slow-action contacts, make-before-break	1 NO + 1 NC	⊕ 3SE2 210-3C	⊕ 3SE2 210-3D	⊕ 3SE2 210-3E	
With M12 connector and AS-Interface F adapter	Snap-action contact	1 NC	⊕ 3SF3 210-1CV00-0BA2	⊕ 3SF3 210-1DV00-0BA2	⊕ 3SF3 210-1EV00-0BA2		
	Slow-action contact	1 NC	⊕ 3SF3 210-0CV00-0BA2	⊕ 3SF3 210-0DV00-0BA2	⊕ 3SF3 210-0EV00-0BA2		



						
<b>Angular roller lever</b> <b>3SX3 172</b>	<b>Roller crank, finely adjustable from 10° to 10°</b> <b>3SX3 173</b>	<b>Roller crank, adjustable length</b> <b>3SX3 174</b>	<b>Rod actuator made of molded plastic</b> <b>3SX3 175 (W), aluminum</b> <b>3SX3 176 (V), spring rod</b> <b>3SX 177 (S)</b>	<b>Spring rod</b> <b>3SX3 178</b>	<b>Overtravel plunger, central mounting, with thread</b> <b>M18 x 1</b> <b>3SX3 180</b>	<b>Roller plunger, central mounting, with thread</b> <b>M18 x 1</b> <b>3SX3 181</b>
↑ $V_{\max} = 1 \text{ m/s}$	↔ $V_{\max} = 1 \text{ m/s}$	↔ $V_{\max} = 1 \text{ m/s}$	↔ $V_{\max} = 1.5 \text{ m/s}$	All directions $V_{\max} = 1.5 \text{ m/s}$	↓ $V_{\max} = 1 \text{ m/s}$	↓ $V_{\max} = 1 \text{ m/s}$
(the actuator heads can subsequently be replaced by other versions)						
⊕ 3SE2 200-1F	⊕ 3SE2 200-1G	3SE2 200-1U	3SE2 200-1W 3SE2 200-1V 3SE2 200-1S	3SE2 200-1R	⊕ 3SE2 200-1L	⊕ 3SE2 200-1M
⊕ 3SE2 200-8FV00	⊕ 3SE2 200-8GV00	3SE2 200-8UV00	3SE2 200-8WV00 3SE2 200-8VV00 3SE2 200-8SV00	3SE2 200-8RV00	–	–
⊕ 3SE2 200-0F	⊕ 3SE2 200-0G	3SE2 200-0U	3SE2 200-0W 3SE2 200-0V 3SE2 200-0S	–	⊕ 3SE2 200-0L	⊕ 3SE2 200-0M
⊕ 3SE2 200-6F	⊕ 3SE2 200-6G	3SE2 200-6U	3SE2 200-6W 3SE2 200-6V 3SE2 200-6S	–	⊕ 3SE2 200-6L	⊕ 3SE2 200-6M
3SE2 200-7F	3SE2 200-7G	3SE2 200-7U	3SE2 200-7W 3SE2 200-7V 3SE2 200-7S	–	3SE2 200-7L	3SE2 200-7M
⊕ 3SE2 200-3F	⊕ 3SE2 200-3G	3SE2 200-3U	3SE2 200-3W 3SE2 200-3V 3SE2 200-3S	–	⊕ 3SE2 200-3L	⊕ 3SE2 200-3M
⊕ 3SF3 200-1FV00-0BA1	⊕ 3SF3 200-1GV00-0BA1	–	–	–	–	–
⊕ 3SF3 200-6FV00-0BA1	⊕ 3SF3 200-6GV00-0BA1	–	–	–	–	–
⊕ 3SE2 210-1F	⊕ 3SE2 210-1G	3SE2 210-1U	3SE2 210-1W 3SE2 210-1V 3SE2 210-1SV	3SE2 210-1R	⊕ 3SE2 210-1L	⊕ 3SE2 210-1M
⊕ 3SE2 210-8FV00	⊕ 3SE2 210-8GV00	3SE2 210-8UV00	3SE2 210-8WV00 3SE2 210-8VV00 3SE2 210-8SV00	–	–	–
⊕ 3SE2 210-0F	⊕ 3SE2 210-0G	3SE2 210-0U	3SE2 210-0W 3SE2 210-0V 3SE2 210-0S	–	⊕ 3SE2 210-0L	⊕ 3SE2 210-0M
⊕ 3SE2 210-3F	⊕ 3SE2 210-3G	3SE2 210-3U	3SE2 210-3W 3SE2 210-3V 3SE2 210-3S	–	⊕ 3SE2 210-3L	⊕ 3SE2 210-3M
⊕ 3SF3 210-1FV00-0BA2	⊕ 3SF3 210-1GV00-0BA2	–	–	–	–	–
⊕ 3SF3 210-0FV00-0BA2	⊕ 3SF3 210-0GV00-0BA2	–	–	–	–	–

## Metal enclosure, 3SE2 and 3SF standard position switches

					
		Movable double contact elements, degree of protection IP67 ⊕ Positive opening acc. to IEC 60947-5-1		Replacement contact block	Roller plunger 3SX3 100  ↓ $V_{\max} = 1.5 \text{ m/s}$
	<b>Narrow enclosure; 40 mm wide,</b> 2 contacts, threaded opening 1 x M20 x 1.5  Design acc. to EN 50041	Snap-action contacts	1 NO + 1 NC	<b>3SE3 000-1A</b>	⊕ <b>3SE2 120-1B</b>
			2 NC	<b>3SE3 000-8AV00</b>	⊕ <b>3SE2 120-8BV00</b>
		Slow-action contacts	1 NO + 1 NC	<b>3SE3 000-0A</b>	⊕ <b>3SE2 120-0B</b>
			2 NC	<b>3SE3 000-6A</b>	⊕ <b>3SE2 120-6B</b>
		Slow-action contacts, make-before-break	2 NO	<b>3SE3 000-7A</b>	⊕ <b>3SE2 120-7B</b>
			1 NO + 1 NC	<b>3SE3 000-3A</b>	⊕ <b>3SE2 120-3B</b>
		Snap-action contact	1 NC	–	–
		Slow-action contact	2 NC	<b>3SE3 000-6A</b>	–
	<b>Wide enclosure, 56 mm wide,</b> 2 contacts, threaded opening 3 x M20 x 1.5	Snap-action contacts	1 NO + 1 NC	<b>3SE3 000-1A</b>	⊕ <b>3SE2 100-1B</b>
			2 NC	<b>3SE3 000-8AV00</b>	⊕ <b>3SE2 100-8BV00</b>
		Slow-action contacts	1 NO + 1 NC	<b>3SE3 000-0A</b>	⊕ <b>3SE2 100-0B</b>
			2 NC	<b>3SE3 000-6A</b>	⊕ <b>3SE2 100-6B</b>
		Slow-action contacts, make-before-break	2 NO	<b>3SE3 000-7A</b>	<b>3SE2 100-7B</b>
			1 NO + 1 NC	<b>3SE3 000-3A</b>	⊕ <b>3SE2 100-3B</b>
		Snap-action contact	1 NC	–	–
		Slow-action contact	1 NC	–	–
	3 contacts, threaded opening 3 x M20 x 1.5	Slow-action contacts	1 NO + 2 NC	<b>3SE3 003-0A</b>	⊕ <b>3SE2 303-0B</b>
		Slow-action contacts	2 NO + 1 NC	<b>3SE3 003-1A</b>	⊕ <b>3SE2 303-1B</b>
		Slow-action contacts, make-before-break	1 NO + 2 NC	<b>3SE3 003-2A</b>	⊕ <b>3SE2 303-2B</b>
		Slow-action contacts, make-before-break	2 NO + 1 NC	<b>3SE3 003-3A</b>	⊕ <b>3SE2 303-3B</b>
	4 contacts, threaded opening 3 x M20 x 1.5	Snap-action contacts	2 NO + 2 NC	<b>3SE3 000-1A und 3SE3 010-1A</b>	⊕ <b>3SE2 404-1B</b>
		Slow-action contacts	2 NO + 2 NC	<b>3SE3 000-0A und 3SE3 010-0A</b>	⊕ <b>3SE2 404-0B</b>
		Slow-action contacts, make-before-break	2 NO + 2 NC	<b>3SE3 000-3A und 3SE3 010-3A</b>	⊕ <b>3SE2 404-2B</b>



**Overtravel plunger  
3SX3 106**

↓  $V_{\max} = 1.5 \text{ m/s}$

**Roller plunger  
3SX3 107**

↔  $V_{\max} = 1 \text{ m/s}$   
↓  $V_{\max} = 1.5 \text{ m/s}$

**Roller lever  
3SX3 102**

←  $V_{\max} = 2.5 \text{ m/s}$

**Angular roller lever  
3SX3 104**

↑  $V_{\max} = 2.5 \text{ m/s}$

**Roller crank  
3SX3 212  
+ actuator head with  
round shaft 3SX3 211**

↔  $V_{\max} = 3 \text{ m/s}$

Complete devices with actuator heads (the actuator heads can subsequently be replaced by other versions)

⊕ 3SE2 120-1C

⊕ 3SE2 120-1D

⊕ 3SE2 120-1E

⊕ 3SE2 120-1F

⊕ 3SE2 120-1GW

⊕ 3SE2 120-8CV00

⊕ 3SE2 120-8DV00

⊕ 3SE2 120-8EV00

⊕ 3SE2 120-8FV00

⊕ 3SE2 120-8GW00

⊕ 3SE2 120-0C

⊕ 3SE2 120-0D

⊕ 3SE2 120-0E

⊕ 3SE2 120-0F

⊕ 3SE2 120-0GW

⊕ 3SE2 120-6C

⊕ 3SE2 120-6D

⊕ 3SE2 120-6E

⊕ 3SE2 120-6F

⊕ 3SE2 120-6GW

3SE2 120-7C

3SE2 120-7D

3SE2 120-7E

3SE2 120-7F

3SE2 120-7GW

⊕ 3SE2 120-3C

⊕ 3SE2 120-3D

⊕ 3SE2 120-3E

⊕ 3SE2 120-3F

⊕ 3SE2 120-3GW

⊕ 3SF3 120-1CV00-0BA1

⊕ 3SF3 120-1DV00-0BA1

⊕ 3SF3 120-1EV00-0BA1

⊕ 3SF3 120-1FV00-0BA1

⊕ 3SF3 120-1GW00-0BA1

⊕ 3SF3 120-6CV00-0BA1

⊕ 3SF3 120-6DV00-0BA1

⊕ 3SF3 120-6EV00-0BA1

⊕ 3SF3 120-6FV00-0BA1

⊕ 3SF3 120-6GW00-0BA1

⊕ 3SE2 100-1C

⊕ 3SE2 100-1D

⊕ 3SE2 100-1E

⊕ 3SE2 100-1F

⊕ 3SE2 100-1GW

⊕ 3SE2100-8CV00

⊕ 3SE2 100-8DV00

⊕ 3SE2 100-8EV00

⊕ 3SE2 100-8FV00

⊕ 3SE2 100-8GW00

⊕ 3SE2 100-0C

⊕ 3SE2 100-0D

⊕ 3SE2 100-0E

⊕ 3SE2 100-0F

⊕ 3SE2 100-0GW

⊕ 3SE2 100-6C

⊕ 3SE2 100-6D

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3SE2 100-7D

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3SE2 100-7GW

⊕ 3SE2 100-3C

⊕ 3SE2 100-3D

⊕ 3SE2 100-3E

⊕ 3SE2 100-3F

⊕ 3SE2 100-3GW

⊕ 3SF3 100-1CV00-0BA2

⊕ 3SF3 100-1DV00-0BA2

⊕ 3SF3 100-1EV00-0BA2

⊕ 3SF3 100-1FV00-0BA2

⊕ 3SF3 100-1GW00-0BA1

⊕ 3SF3 100-0CV00-0BA2

⊕ 3SF3 100-0DV00-0BA2

⊕ 3SF3 100-0EV00-0BA2

⊕ 3SF3 100-0FV00-0BA2

⊕ 3SF3 100-0GW00-0BA1

⊕ 3SE2 303-0C

⊕ 3SE2 303-0D

⊕ 3SE2 303-0E

⊕ 3SE2 303-0F

⊕ 3SE2 303-0GW

⊕ 3SE2 303-1C

⊕ 3SE 2303-1D

⊕ 3SE2 303-1E

⊕ 3SE2 303-1F

⊕ 3SE2 303-1GW

⊕ 3SE2 303-2C

⊕ 3SE2 303-2D

⊕ 3SE2 303-2E

⊕ 3SE2 303-2F

⊕ 3SE2 303-2GW

⊕ 3SE2 303-3C

⊕ 3SE2 303-3D

⊕ 3SE2 303-3E

⊕ 3SE2 303-3F

⊕ 3SE2 303-3GW

⊕ 3SE2 404-1C

⊕ 3SE2 404-1D

⊕ 3SE2 404-1E

⊕ 3SE2 404-1F

⊕ 3SE2 404-1GW

⊕ 3SE2 404-0C

⊕ 3SE2 404-0D

⊕ 3SE2 404-0E

⊕ 3SE2 404-0F

⊕ 3SE2 404-0GW





⊕ 3SE2 404-2C

⊕ 3SE2 404-2D

⊕ 3SE2 404-2E

⊕ 3SE2 404-2F

⊕ 3SE2 404-2GW

					
<p>Roller crank, adjustable length 3SX3 213 + actuator head with round shaft 3SX3 211</p> <p>↔ <math>V_{\max} = 1 \text{ m/s}</math></p>	<p>Rod actuator + actuator head with round shaft 3SX3 211</p> <table><tr><td>Molded plastic rod (W) 3SX3 215</td><td>Aluminum rod (V) 3SX3 214</td></tr></table> <p>↔ <math>V_{\max} = 3 \text{ m/s}</math></p>	Molded plastic rod (W) 3SX3 215	Aluminum rod (V) 3SX3 214	<p>Spring rod 3SX3 126</p> <p>All directions <math>V_{\max} = 1 \text{ m/s}</math></p>	<p>Fork lever, latching 3SX3 115 + actuator head with round shaft 3SX3 127</p> <p>↔ <math>V_{\max} = 2 \text{ m/s}</math></p>
Molded plastic rod (W) 3SX3 215	Aluminum rod (V) 3SX3 214				

3SE2 120-1UW	3SE2 120-1WW	3SE2 120-1VW	3SE2 120-1R	3SE2 120-1T
3SE2 120-8UW00	3SE2 120-8WW00	3SE2 120-8VW00	3SE2 120-8RV00	–
3SE2 120-0UW	3SE2 120-0WW	3SE2 120-0VW	–	–
3SE2 120-6UW	3SE2 120-6WW	3SE2 120-6VW	–	–
3SE2 120-7UW	3SE2 120-7WW	3SE2 120-7VW	–	–
3SE2 120-3UW	3SE2 120-3WW	3SE2 120-3VW	–	–
–	–	–	–	–
–	–	–	–	–
3SE2 100-1UW	3SE2 100-1WW	3SE2 100-1VW	3SE2 100-1R	3SE2 100-1T
3SE2 100-8UW00	3SE2 100-8WW00	3SE2 100-8VW00	3SE2 100-8RV00	–
3SE2 100-0UW	3SE2 100-0WW	3SE2 100-0VW	–	–
3SE2 100-6UW	3SE2 100-6WW	3SE2 100-6VW	–	–
3SE2 100-7UW	3SE2 100-7WW	3SE2 100-7VW	–	–
3SE2 100-3UW	3SE2 100-3WW	3SE 100-3VW	–	–
–	–	–	–	–
–	–	–	–	–
3SE2 303-0UW	3SE2 303-0WW	3SE2 303-0VW	–	–
3SE2 303-1UW	3SE2 303-1WW	3SE2 303-1VW	–	–
3SE2 303-2UW	3SE2 303-2WW	3SE2 303-2VW	–	–
3SE2 303-3UW	3SE2 303-3WW	3SE2 303-3VW	–	–
3SE2 404-1UW	3SE2 404-1WW	3SE2 404-1VW	–	3SE2 404-1T
3SE2 404-0UW	3SE2 404-0WW	3SE2 404-0VW	–	–
3SE2 404-2UW	3SE2 404-2WW	3SE2 404-2VW	–	–

# Technical data

## Technical data

Type	3SE2 1, 3SE2 2, 3SE2 3, 3SE2 4, 3SE3 0, 3SF3					
Standards	IEC 60947-5-1, EN 60947-5-1 (VDE 0660 Part 200)					
Rated insulation voltage	500 V					
Degree of pollution in acc. with DIN VDE 0110	Class 3					
Rated operating voltage $V_e$	500 V AC; above 380 V AC (300 V with 2 snap-action NC contacts) only the same potential					
Conventional thermal current $I_{th}$	10 A					
Rated operating current $I_e$	AC current 50 to 60 Hz DC current			DC current		
	$V_e$	$I_e/AC-12$	$I_e/AC-15$	$V_e$	$I_e/DC-12$	$I_e/DC-13$
	V	A	A	V	A	A
	24	10	10	24	10	10
	125	10	10	48	6	4
	230	10	6	110	4	1
400	10	4	220	1	0.4/0.27*	
500	10	3	440	0.5	0.2/0.1*	*for 3SE2...-8...
Short-circuit protection <sup>1)</sup> , DIAZED fuse links						
• Utilization category gL/gG	6 A					
• Characteristic, fast	10 A (not for 3SE2...-8...)					
Mechanical endurance	30 x 10 <sup>6</sup> operating cycles (15 x 10 <sup>6</sup> for 3SE2...-8 ...)					
Electrical endurance						
• with 3RH11, 3RT10 16 up to 3RT10 26 contactors	10 x 10 <sup>6</sup> operating cycles					
• Utilization category AC-15	0.5 x 10 <sup>6</sup> operating cycles when interrupting $I_e/AC-15$ at 230 V					
• Utilization category DC-13	For DC current, the endurance of the contacts depends not only on the current when interrupting, but also on the voltage, the inductance of the circuit and the switching speed. Generally valid data cannot be provided.					
Operating frequency	6 x 10 <sup>3</sup> operating cycles/hour (1.8 x 10 <sup>3</sup> operating cycles/hour for 3SE2...-8...) with 3RH11, 3RT10 16 to 3RT10 26 contactors					
Switching accuracy	0.05 mm; when repeatedly switching, measured at the plunger of the contact					
Operating point of snap-action contacts	Constant over the complete endurance time independent of erosion					
Ⓢ Ⓡ and ⓇA rated data						
• Rated voltage	600 V (300 for 3SE2...-8...)					
• Continuous current	10 A					
• Switching capacity	Heavy duty, A 600/Q 600 (A 300/Q 600 for 3SE2...-8...)					
Typ	3SE2 200 3SF3 200	3SE2 230	3SE2 210 3SF3 210	3SE2 120 3SF3 120	3SE2 100, 3SE2 303, 3SE2 404, 3SF3 100	3SE3 0
Enclosure	Glass-fiber reinforced molded plastic			Aluminum (GD-A/Si 12)		–
Degree of protection acc. to IEC 60529 (VDE 0470 Part 1)	IP67 <sup>2)</sup>	IP66	IP67 <sup>2)</sup>	IP67 <sup>2)</sup>	IP67 <sup>2)</sup>	IP20
Ambient temperature (in operation)	–30 ... +85 °C					
Mounting position	Any					
Threaded opening	1 x (M20 x 1.5)		2 x (M20 x 1.5)	1 x (M20 x 1.5)	3 x (M20 x 1.5)	–
Device connection:						
• Connector cross sections						
solid conductor	2 x 2.5 mm <sup>2</sup>					
finely stranded with end sleeves	2 x 1.5 mm <sup>2</sup>					
• AS-Interface	AS-Interface trapezoidal-section cable			–		–
Protective conductor connection inside the enclosure <sup>3)</sup>	–	–	–	M3.5		–

<sup>1)</sup> Without welding of any type in accordance with DIN VDE 0660 Part 200

<sup>2)</sup> IP65 for 3SF3

<sup>3)</sup> ATEX versions have an additional grounding screw on the outside



# Standard position switches

## Further options

### Supplementary range of metal enclosures

#### Position switches with device connector/ prefabricated assemblies

If it is important to install or replace position switches quickly and easily, in fully automated assembly lines, under high stress, models incorporating device connectors or prefabricated device assemblies are the ideal solution.

They are available with 4-pole (max. 250 V, 4 A) and 5-pole (125 V, 4 A) M12 receptacles. Matching plugs must be ordered separately.

The following applies to 3SY3127 device connectors, M12, 4-pole:

PIN assignment: PIN1=21, PIN2=22, PIN3=13, PIN4=14; NC=PIN1+2, NO=PIN3+4

#### Models of position switch 3SE2 120-1

								
<b>Basic switch</b> Metal enclosure acc. to EN 50041;  Basic enclosure (e.g. with connector, with LED etc.) without actuator head		Positive opening	With M12 receptacle, 4-pole (3SY3127), matching plug 3RX1505  <b>3SE2 120-1AV00-0AC4</b>		With M12 receptacle, 5-pole (3SY3127), matching plug 3RX1584  <b>3SE2 120-1AV00-0AC5</b>		With connector 6+PE (3SY3131), plug box 3SY3123  <b>3SE2 120-1AV00-0AD1</b>	
<b>Plunger</b>	3SE2 120-1B	⊞	<b>3SE2 120-1BV00-0AC4</b>		<b>3SE2 120-1BV00-0AC5</b>		<b>3SE2 120-1BV00-0AD1</b>	
<b>Overtravel plunger</b>	3SE2 120-1C	⊞	<b>3SE2 120-1CV00-0AC4</b>		<b>3SE2 120-1CV00-0AC5</b>		<b>3SE2 120-1CV00-0AD1</b>	
<b>Roller plunger</b>	3SE2 120-1D	⊞	<b>3SE2 120-1DV00-0AC4</b>		<b>3SE2 120-1DV00-0AC5</b>		<b>3SE2 120-1DV00-0AD1</b>	
<b>Roller lever</b>	3SE2 120-1E	⊞	<b>3SE2 120-1EV00-0AC4</b>		<b>3SE2 120-1EV00-0AC5</b>		<b>3SE2 120-1EV00-0AD1</b>	
<b>Angular roller lever</b>	3SE2 120-1F	⊞	<b>3SE2 120-1FV00-0AC4</b>		<b>3SE2 120-1FV00-0AC5</b>		<b>3SE2 120-1FV00-0AD1</b>	
<b>Roller crank, 10°</b>	3SE2 120-1GW	⊞	<b>3SE2 120-1GW00-0AC4</b>		<b>3SE2 120-1GW00-0AC5</b>		<b>3SE2 120-1GW00-0AD1</b>	
<b>Roller crank, 10°, adjustable length</b>	3SE2 120-1UW		<b>3SE2 120-1UW00-0AC4</b>		<b>3SE2 120-1AV00-0AC5+ 3SX3 211+3SX3 213</b>		<b>3SE2 120-1UW00-0AD1</b>	
<b>Lever rod, 10°, aluminum</b>	3SE2 120-1VW		<b>3SE2 120-1VW00-0AC4</b>		<b>3SE2 120-1AV00-0AC5+ 3SX3 211+3SX3 214</b>		<b>3SE2 120-1VW00-0AD1</b>	
<b>Lever rod, 10°, molded plastic</b>	3SE2 120-1WW		<b>3SE2 120-1AV00-0AC4+ 3SX3 211+3SX3 215</b>		<b>3SE2 120-1AV00-0AC5+ 3SX3 211+3SX3 215</b>		<b>3SE2 120-1AV00-0AD1+ 3SX3 211+3SX3 215</b>	
<b>Spring rod</b>	3SE2 120-1R		<b>3SE2 120-1AV00-0AC4+ 3SX3 126</b>		<b>3SE2 120-1AV00-0AC5+ 3SX3 126</b>		<b>3SE2 120-1AV00-0AD1+ 3SX3 126</b>	
<b>Fork lever</b>	3SE2 120-1T		<b>3SE2 120-1TV00-0AC4</b>		<b>3SE2 120-1AV00-0AC5+ 3SX3 127+3SX3 115</b>		<b>3SE2 120-1AV00-0AD1+ 3SX3 127+3SX3 115</b>	

The following applies to 3SY3128 device connectors, M12, 5-pole:

PIN assignment: PIN1=21, PIN2=22, PIN3=13, PIN4=14, PIN5=PE; NC=PIN1+2, NO=PIN3+4

Device connectors, 6+PE (max. 250 V, 10 A) with or without quick-change kits are suitable, for example, for the automotive industry.

The following applies to 3SY3131 device connectors, 6+PE:

PIN assignment: PIN1=21, PIN2=22, PIN3=13, PIN4=14; NC=PIN1+2, NO=PIN3+4; PIN5 and PIN6 are not assigned, PE is connected. Matching coupling or cable boxes must be ordered separately.

### Position switches with special steel roller

If you are looking for position switches with extremely robust rollers that can withstand frequent overtraveling, your choice of special steel rollers is perfect. This option is available for all position switches with rollers – roller plunger, roller lever, angular roller lever or roller crank.

### Position switches with increased anti-corrosion protection

They are ideal for use in plants with high humidity or in aggressive ambient conditions.

All metal parts subject to corrosion – by exposure to salt water or detergents, are made of stainless steel.

### Position switches with 24 V LED

If the switching status of the position switch is to be indicated at its mounting location, position switches in metal enclosures can also be equipped with yellow pilot lamps. If you desire a status indication, the position switch can also be ordered with two LEDs: yellow pilot lamp for switching status and green pilot lamp for status indication.

			
With receptacle 6+PE (3SY3131) and quick-change kit with lever	With special steel roller	With increased anti-corrosion protection	With 1 LED, 24 V, yellow
<b>3SE2 120-1BV00-0AD0</b>	–	<b>3SE2 120-1BV00-0AK0</b>	<b>3SE2 120-1AV00-0AF0</b>
<b>3SE2 120-1CV00-0AD0</b>	–	<b>3SE2 120-1CV00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 100</b>
<b>3SE2 120-1DV00-0AD0</b>	<b>3SE2 120-1DV00-0AA3</b>	<b>3SE2 120-1DV00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 106</b>
<b>3SE2 120-1EV00-0AD0</b>	<b>3SE2 120-1EV00-0AA3</b>	<b>3SE2 120-1EV00-0AK0</b>	<b>3SE2 120-1AV00-0AF0</b>
–	<b>3SE2 120-1FV00-0AA3</b>	<b>3SE2 120-1FV00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 104</b>
<b>3SE2 120-1GW00-0AD0</b>	<b>3SE2 120-1GW00-0AA3</b>	<b>3SE2 120-1GW00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 211+3SX3 214</b>
–	<b>3SE2 120-1UW00-0AA3</b>	<b>3SE2 120-1UW00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 211+3SX3 215</b>
–	–	<b>3SE2 120-1VW00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 126</b>
<b>3SE2 120-1WW00-0AD0</b>	–	<b>3SE2 120-1WW00-0AK0</b>	<b>3SE2 120-1AV00-0AF0+3SX3 127+3SX3 115</b>
<b>3SE2 120-1RV00-0AD0</b>	–	<b>3SE2 120-1RV00-0AK0</b>	
–	<b>3SE2 120-1TV00-0AA3</b>	<b>3SE2 120-1TV00-0AK0</b>	

#### Note:

In addition to the product types presented here, there are many more options available. Please forward your enquiry by e-mail to [technical.assistance@siemens.com](mailto:technical.assistance@siemens.com) or call +49 (0)911 895 5900.

## Supplementary range of molded plastic enclosures

### Position switch with device connector

If it is important to install or replace position switches quickly and easily, in fully automated assembly lines, under high stress, models incorporating device connectors are the ideal solution, for example, for the automotive industry.

They are available with 4-pole (max. 250 V, 4 A) M12 connectors. The following applies to 3SY3127 device connectors, M12, 4-pole: PIN assignment: PIN1=21, PIN2=22, PIN3=13, PIN4=14; NC=PIN1+2, NO=PIN3+4. A matching coupling box 3RX1505 must be ordered separately.

### Position switch with special steel roller

If you are looking for position switches with extremely robust rollers that can withstand frequent overtraveling, your choice of special steel rollers is perfect. This option is available for all position switches with rollers – roller plunger, roller lever, angular roller lever or roller crank.

### Position switch with chlorine rubber membrane (flexible sealing to the actuator head)

If a high resistance to acids, ozone or sunlight is required, our position switches with chlorine rubber membranes provide the ideal solution. This model offers greater flexibility of use and thus operational reliability even in cold temperatures or aggressive ambient conditions.

#### Note:

In addition to the product types presented here, there are many more options available. Feel free to ask us about them. Please forward your enquiry by e-mail to [technical.assistance@siemens.com](mailto:technical.assistance@siemens.com) or call +49 (0)911 895 5900.

### Models of position switch 3SE2 200-1



							
Basic switch Molded plastic enclosure in accordance with EN 50047		Positive opening	With M12 receptacle, 4-pole (3SY3127), matching plug 3RX1505	With special steel roller		With chlorine boot	
Overtravel plunger	3SE2 200-1C	⊞	3SE2 200-1CV00-0AC4	–		3SE2 200-1CV00-0AH0	
Roller plunger	3SE2 200-1D	⊞	3SE2 200-1DV00-0AC4	3SE2 200-1DV00-0AA3		3SE2 200-1CV00-0AH0 + 3SX3170	
Roller lever	3SE2 200-1E	⊞	3SE2 200-1EV00-0AC4	3SE2 200-1EV00-0AA3		3SE2 200-1CV00-0AH0 + 3SX3171	
Angular roller lever	3SE2 200-1F	⊞	3SE2 200-1FV00-0AC4	3SE2 200-1FV00-0AA3		3SE2 200-1CV00-0AH0 + 3SX3172	
Roller crank	3SE2 200-1G	⊞	3SE2 200-1GV00-0AC4	3SE2 200-1GV00-0AA3		3SE2 200-1CV00-0AH0 + 3SX3173	
Roller crank, adjustable length, 10°	3SE2 200-1U		3SE2 200-1UV00-0AC4	3SE2 200-1UV00-0AA3		3SE2 200-1CV00-0AH0 + 3SX3174	
Spring rod	3SE2 200-1R		3SE2 200-1CV00-0AC4 + 3SX3178	–		3SE2 200-1RV00-0AH0	

### 3SE supplementary range

#### Position switch in compliance with ATEX 100a

In hazardous locations that require flame-proof equipment, or in steamy or dusty environments, we recommend using our position switches in compliance with ATEX 100a.

These position switches meet Directive 94/4/EC II 3D, ATEX 100a of the European Union and are approved for Zone 22.

Actuator	Order No.
 Plunger	3SE2 1□ 0-1BV00-0AE0
Overtravel plunger	3SE2 1□ 0-1CV00-0AE0
Roller plunger	3SE2 1□ 0-1DV00-0AE0
Roller level	3SE2 1□ 0-1EV00-0AE0
Angular roller lever	3SE2 1□ 0-1FV00-0AE0
 Roller crank, 10°	3SE2 1□ 0-1GW00-0AE0
Rod actuator, 10°, molded plastic	3SE2 1□ 0-1WW00-0AE0
Spring rod	3SE2 1□ 0-1RV00-0AE0
Fork lever	3SE2 1□ 0-1TV00-0AE0



40 mm version, type series 2  
56 mm version, type series 0

#### SIRIUS position switch with integrally cast cable for narrow spaces

For rugged conditions or plants providing limited space, these small metal-enclosed position switches 3SE3 160 or 3SE3 180 are ideal due to their robust enclosures.

Ex works, the switches are delivered with integrally cast cables of 2 m length, they don't need to be wired at the switch. This enables easy mounting even in very confined spaces.

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



Actuator	Enclosure widths (mm)	Order No.
 Overtravel plunger	30 40	⊕ 3SE3 180-1C ⊕ 3SE3 160-1C
Overtravel plunger with thread fastening M12	30 40	⊕ 3SE3 180-1CJ ⊕ 3SE3 160-1CJ
 Roller plunger	30 40	⊕ 3SE3 180-1D ⊕ 3SE3 160-1D
Roller plunger with thread fastening M12	30 40	⊕ 3SE3 180-1DJ ⊕ 3SE3 160-1DJ
Roller crank	30 40	⊕ 3SE3 180-1G ⊕ 3SE3 160-1G

#### SIRIUS short-stroke position switch Precision for short travel lengths

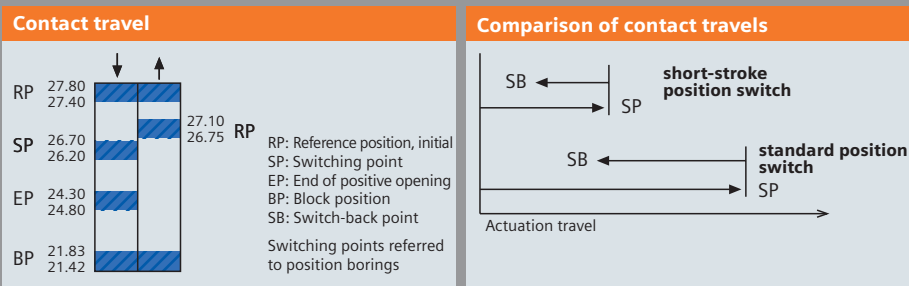
Position scanning and monitoring of doors and shutters require precise off-switching. The short-stroke position switch is perfectly suited for these tasks.

It can be used in safety circuits up to Category 4 in accordance with EN 945-1 because the NC contact meets the requirement of positive opening in accordance with EN 60947-5-1.

Travel and switching hysteresis of the snap-action contact are noticeably reduced. This ensures precise switching and optimal abrasive properties. Suitable for front or side actuation.

Actuator	Enclosure widths (mm)	Order No.
 Overtravel plunger Contacts 1 NC + 1 NO 6 mm stroke	31	⊕ 3SE2 200-1CV01
 Overtravel plunger Contacts 1 NC + 1 NO 6 mm stroke	50	⊕ 3SE2 210-1CV01

⊕ Positive opening in accordance with IEC 60947-5-1



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