Features

- UL Listed, CSA Certified, CE. Meets or exceeds most local, national and international standards.
- Standard (40 mm) or Wide (56 mm) die-cast aluminum housing. Offers increased wiring space, additional cable entry options and corrosion resistant housing
- Standard (40 mm) offerings can accomodate both U.S. 29.4 [1.16] × 59.5 [2.34] and DIN 30 [1.18] × 60 [2.36] mounting dimensions
- Nine field interchangeable operating heads (12 variations). Interchangeable on both the standard (40 mm) and wide (56 mm) styles. Reduces inventory and inventory costs
- Field replaceable, electrically isolated, double bridge contacts. Provides electrical flexibility and ease of maintenance
- Direct opening action (positive opening) of the NC contact
- NEMA A600, Q600 contact ratings

Application

The function of position switches (limit switches) is to produce electrical signals corresponding to the positions of moving machinery.

The units are suitable for use in virtually any climate.

Specifications

IEC 60 947-5-1.

The 3SE2 100 and 3SE2 120 position switches correspond to Swiss regulations (SUVA). The following actuator types have been approved:

- Plunger –. B
- Overtravel plunger –. C
- Roller plunger –. D
- Roller lever –. E
- Angular roller lever –. F
- Roller crank –. GW

In addition, the open-type 3SE3 position switches and the 3SE3 switch inserts are also permitted.

Safety position switches

The 3SE. position switches with metal enclosures and snap-action contacts as well as devices with slow-action contacts can be used as safety position switches in control systems conforming to EN 60 204-1, or IEC 60 204-1.

Construction

3SE position switches are available in die-cast standard (40 mm) or wide (50 mm) aluminum enclosures or as open-type units.

The 3SE2 120/3SE3 170 position switches with standard enclosure, overtravel plunger, roller plunger, rod and roller crank actuators, conform to EN 50 041. These specifications define the most important mounting dimensions, operating points, enclosure types and actuator types.

Position switches have one or three cable entries. The cable entry has a 1/2"-NPT (3SE3) or M20 x 1.5 (3SE2) threaded metal wire opening. (see also Accessories, Page 13/97)

Actuators

All actuators can be retro-fitted or exchanged for another version. They can also be repositioned every 90° so that the switches can be operated from any of the four sides.

- The position switches with roller lever are approached perpendicular to the plunger axis and position switches with angular roller lever are approached in parallel with the plunger axis.
- The roller crank actuators, adjustable-length roller crank actuators and rod actuators can be operated from both sides and be positioned from 10° to 10° on the actuating spindle. The rollers of the actuators are made from wear resistant plastic.
- The wobble spring can be approached from any direction.
- The forked lever actuator has two defined switching positions. The actuating element causes changeover from one position to the other. This actuator is suitable for two-channel operation.

The open-type 3SE. position switches are available exclusively with a plunger actuator.

Important:
The 3SE. position switches with metal enclosure are not permitted to be used as stops.

Contacts

The position switches (limit switches) are available with snap-action contacts, slow-action contacts or slow-action make-before-break contacts.

The 3SE. position switches with a metal enclosure are available with 2, 3 or 4 contacts.

The movable normally closed and normally open switch contacts are electrically isolated from each other and are suitable for switching voltages of different potentials.

Contact reliability

The movable switch contacts are double moving contacts. This increases the contact reliability even when the switch has to be operated with low voltages and currents, e. g. DC 5 V/1 mA.

The switching point of the snap action contacts is independent of the switching speed.

The contact chamber is covered to prevent ingress of foreign bodies.

Principle of operation

Positive opening

The opening contacts of the switch are forced open mechanically, positively-driven and reliably by the plunger (positive-opening).

In order to ensure this positive opening, the position switch must be actuated in such a way that the nominal travel (Pages 13/100 to 13/112) and angle for the positive opening are substantially exceeded.

Position switches that display this symbol are suitable for use in safety applications.

3SE2 100 to 3SE3 170 / 3SE2 303 / 3SE2 404
Metal enclosure and open type, 40 and 56 mm width

Technical data

, and ratings (with metal enclosure)	
• rated voltage	AC 600 V
• continuous current	10 A
• switching capacity	Heavy Duty, A 600/Q 600
- for 3SE. ...–8.	Heavy Duty, A 300/Q 30
Rated insulation voltage U_i	500 V
Pollution degree	Class 3
Short circuit protection[1]), DIAZED-fuse links	Utilization category gL/gG 6 A, quick response characteristic 10 A
Rated operational voltage U_e	AC 500 V, over 300 V only for equal potential (3SE21.0-and 35E3170-8..00) AC 500 V, over AC 380 V only for equal potential
Conventional free-air thermal current I_{th}	10 A

Rated operational current I_e[4])

AC 40 to 60 Hz			DC		
U_e	I_e / AC-12	I_e / AC-15	U_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[2])
500	10	3	440	0.5	0.2[3])

Mechanical endurance	30 ×10^6 operating cycles (15 ×10^6 for 3SE3 2.0-8.)
Electrical endurance	10 ×10^6 operating cycles with 3RH11, 3RT10 16, 3RT10 17, 3RT10 24 to 3RT10 26 (3TH4, 3TF40 to 3TF43) contactors
• for AC-15 duty	0.5 ×10^6 operating cycles when interrupting I_e / AC-15 at 230 V
• for DC-13 duty	With DC the contact endurance depends not only on the breaking current but also on the voltage, the circuit inductance and the speed of switching. No generally valid information can be given.
Operating frequency	6 ×10^3 operating cycles per hour with 3RH11, 3RT10 16, 3RT10 17, 3RT10 24 to 3RT10 26 (3TH4, 3TF40 to 3TF43) contactors
Operating accuracy	0.05 mm for repeated switching, measured at the plunger of the switch block.
Operating point	With snap-action contacts independent of contact wear constant throughout the life of the switch
Ambient temperature	–30 to +85 °C (-22 to +185°F)
Degree of protection DIN VDE 0470 and IEC 60 529	
• with metal enclosure	IP 67
• open-type	IP 20 (terminals), IP 40 (switching chamber)
• electrical plug and socket connection	IP 65
Enclosure cable entry	1 × 1/2"-NPT (3SE3); 1 x M 20 × 1.5 (3SE212) or 3 x M20 x 1.5 (3SE2100, 2303, 2404)
Conductor cross-sections	
• solid	2 × 2.5 mm^2 (2 × 14 AWG)
• finely stranded with end sleeve	2 × 1.5 mm^2 (2 × 16 AWG)
Installation angle	Any
Enclosure material	Metal (GD – AlSi 12)
Protective conductor terminal	M 3.5 inside enclosure

1) Without any welding acc. to DIN VDE 0660 Part 200.

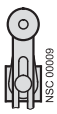
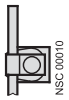
2) 3SE21.0 - and 3SE3170 - 8..00: 0.27A

3) 3SE21.0 - and 3SE3170 - 8..00: 0.10A

4) Refer to Section 19, General Information for NEMA Control and Circuit Ratings.

Selection and ordering data

2 contacts · Moving double break contacts · IP 67 degree of protection · EN 50 041

40 mm wide	56 mm wide [2]	Actuator design to EN 50 041	Enclosure width	3SE. position switches with 2 slow-action contacts 21 13 / 22 14 (NSC00001) 6 mm stroke Identification number **11** acc. to EN 50 013, switch block 3SE3 000-0A		3SE. position switches with 2 slow-action contacts 11 21 / 12 22 (NSC00002) 6 mm stroke Identification number **02** acc. to EN 50 013, switch block 3SE3 000-6A		Weight approx.
	Actuator [1]		mm	Order No.	List Price $ 1 unit	Order No.	List Price $ 1 unit	kg
 NSC00096	**Plunger** (3SX3100)	–	40 56	→ **3SE□ 1□0-0B** → **3SE2 100-0B**	**50.00** **50.00**	→ **3SE□ 1□0-6B** → **3SE2 100-6B**	**50.00** **50.00**	0.190 0.220
 NSC00097	**Overtravel plunger** (3SX3106)	B	40 56	→ **3SE□ 1□0-0C** → **3SE2 100-0C**	**67.00** **67.00**	→ **3SE□ 1□0-6C** → **3SE2 100-6C**	**67.00** **67.00**	0.230 0.258
 NSC 00098	**Roller plunger** (3SX3107)	C	40 56	→ **3SE□ 1□0-0D** → **3SE2 100-0D**	**74.00** **74.00**	→ **3SE□ 1□0-6D** → **3SE2 100-6D**	**74.00** **74.00**	0.250 0.280
 ISC 00099	**Roller lever** Actuator made of molded plastic (3SX3102)	–	40 56	→ **3SE□ 1□0-0E** → **3SE2 100-0E**	**63.00** **63.00**	→ **3SE□ 1□0-6E** → **3SE2 100-6E**	**63.00** **63.00**	0.210 0.240
 NSC00093	**Angular roller lever** Actuator made of molded plastic (3SX3104)	–	40 56	→ **3SE□ 1□0-0F** → **3SE2 100-0F**	**60.00** **60.00**	→ **3SE□ 1□0-6F** → **3SE2 100-6F**	**60.00** **60.00**	0.225 0.240
 NSC 00094	**Roller crank**							
	• finely adjustable from 10° to 10° (3SX3211 + 3SX3212)	A	40 56	→ **3SE□ 1□0-0GW** → **3SE2 100-0GW**	**71.00** **71.00**	→ **3SE□ 1□0-6GW** → **3SE2 100-6GW**	**71.00** **71.00**	0.305 0.335
 NSC 00009	• adjustable length, finely adjustable from 10° to 10° (3SX3211 + 3SX3213)	–	40 56	**3SE□ 1□0-0UW** **3SE2 100-0UW**	**87.00** **87.00**	**3SE□ 1□0-6UW** **3SE2 100-6UW**	**87.00** **87.00**	0.315 0.333
 NSC 00010	**Rod actuator** finely adjustable from 10° to 10°	D						
	• Molded plastic rod (3SX3211 + 3SX3215)		40 56	**3SE□ 1□0-0WW** **3SE2 100-0WW**	**82.00** **82.00**	**3SE□ 1□0-6WW** **3SE2 100-6WW**	**82.00** **83.00**	0.315 0.348
	• Aluminum rod (3SX3211 + 3SX3214)		40 56	**3SE□ 1□0-0VW** **3SE2 100-0VW**	**83.00** **83.00**	**3SE□ 1□0-6VW** **3SE2 100-6VW**	**83.00** **83.00**	0.321 0.354
	Switch body with switch block without actuator		40 56	**3SE□ 1□0-0A** **3SE2 100-0A**	**44.00** **44.00**	**3SE□ 1□0-6A** **3SE2 100-6A**	**44.00** **44.00**	0.175 0.203

Order No. suffix
- with metric connecting thread M 20 × 1.5 I.E. 3SE**2**1 **2**0 — **2 . 2**
- with 1/2" - NPT connecting thread I.E. 3SE**3**1 **7**0 — **3 . 7**

For operation, operating speed and travel, see Pages 13/100 to 13/105.

→ Positive opening acc. to IEC 60 947-5-1, Appendix K, and DIN VDE 0660 Part 200.

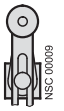
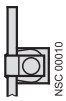
1) The actuator heads can be subsequently exchanged (see Page 13/95).
2) For conduit thread adaptors see page 13/97.

Position Switches

3SE2 100 to 3SE3 170
Metal enclosure, 40 and 56 mm width

Selection and ordering data

2 contacts · Moving double break contacts · IP 67 degree of protection · EN 50 041

40 mm wide	56 mm wide [2]	Actuator design to EN 50 041	Enclosure width	3SE. position switches with 2 slow-action contacts 13|23 / 14|24, NSC00003, 6 mm stroke Identification number **20** acc. to EN 50 013, switch block 3SE3 000-7A		3SE. position switches with 2 slow-action make before-break contacts 17|25 / 18|26, NSC00014, 6 mm stroke Identification number **11** acc. to EN 50 013, switch block 3SE3 000-3A		Weight approx.
	Actuator [1]		mm	Order No.	List Price $ 1 unit	Order No.	List Price $ 1 unit	kg
 NSC00096	**Plunger**	–	40	**3SE□ 1□0-7B**	**50.00**	→ **3SE□ 1□0-3B**	**50.00**	0.195
	(3SX3100)		56	**3SE2 100-7B**	**50.00**	→ **3SE2 100-3B**	**50.00**	0.220
 NSC00097	**Overtravel plunger**	B	40	**3SE□ 1□0-7C**	**67.00**	→ **3SE□ 1□0-3C**	**67.00**	0.230
	(3SX3106)		56	**3SE2 100-7C**	**67.00**	→ **3SE2 100-3C**	**67.00**	0.259
 NSC 00098	**Roller plunger**	C	40	**3SE□ 1□0-7D**	**74.00**	→ **3SE□ 1□0-3D**	**74.00**	0.252
	(3SX3107)		56	**3SE2 100-7D**	**74.00**	→ **3SE2 100-3D**	**74.00**	0.277
 ISC 00099	**Roller lever**	–	40	**3SE□ 1□0-7E**	**63.00**	→ **3SE□ 1□0-3E**	**63.00**	0.209
	Actuator made of molded plastic (3SX3102)		56	**3SE2 100-7E**	**63.00**	→ **3SE2 100-3E**	**63.00**	0.239
 NSC00093	**Angular roller lever**	–	40	**3SE□ 1□0-7F**	**60.00**	→ **3SE□ 1□0-3F**	**60.00**	0.220
	Actuator made of molded plastic (3SX3104)		56	**3SE2 100-7F**	**60.00**	→ **3SE2 100-3F**	**60.00**	0.236
 NSC 00094	**Roller crank**							
	• finely adjustable from 10° to 10° (3SX3211 + 3SX3212)	A	40	**3SE□ 1□0-7GW**	**75.00**	→ **3SE□ 1□0-3GW**	**71.00**	0.305
			56	**3SE2 100-7GW**	**71.00**	→ **3SE2 100-3GW**	**71.00**	0.328
 NSC 00009	• adjustable length, finely adjustable from 10° to 10° (3SX3211 + 3SX3213)	–	40	**3SE□ 1□0-7UW**	**87.00**	**3SE□ 1□0-3UW**	**87.00**	0.315
			56	**3SE2 100-7UW**	**87.00**	**3SE2 100-3UW**	**87.00**	0.336
 NSC 00010	**Rod actuator** finely adjustable from 10° to 10°	D						
	• Molded plastic rod (3SX3211 + 3SX3215)		40	**3SE□ 1□0-7WW**	**82.00**	**3SE□ 1□0-3WW**	**82.00**	0.190
			56	**3SE2 100-7WW**	**83.00**	**3SE2 100-3WW**	**83.00**	0.200
	• Aluminum rod (3SX3211 + 3SX3214)		40	**3SE□ 1□0-7VW**	**83.00**	**3SE□ 1□0-3VW**	**83.00**	0.190
			56	**3SE2 100-7VW**	**83.00**	**3SE2 100-3VW**	**83.00**	0.200
	Switch body with switch block without actuator		40	**3SE□ 1□0-7A**	**44.00**	**3SE□ 1□0-3A**	**44.00**	0.175
			56	**3SE2 100-7A**	**44.00**	**3SE2 100-3A**	**44.00**	0.203

Order No. suffix
- with metric connecting thread M 20 × 1.5 I.E. **3SE□1 □0**
- with 1/2" - NPT connecting thread I.E. **3SE□1 □0**

2 . 2
3 . 7

2 . 2
3 . 7

For operation, operating speed and travel, see Pages 13/100 to 13/105.

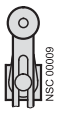
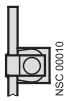
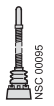
→ Positive opening acc. to IEC 60 947-5-1, Appendix K, and DIN VDE 0660 Part 200.

1) The actuator heads can be subsequently exchanged (see Page 13/95).
2) For conduit thread adaptors see page 13/97.

3SE2120 Specials
Metal enclosure, 40 and 56mm width

Selection and ordering data

2 contacts · Moving double break contacts · IP 67 degree of protection · EN 50 041

40 mm wide	56 mm wide [2]		Actuator design to EN 50 041	Enclosure width	3SE. position switches with 2 snap-action contacts 13 21 / 14 22 NSC00013 6 mm stroke Identification number **11** acc. to EN 50 013, switch block 3SE3 000-1A [2]		3SE3 position switches with 2 snap-action contacts 11 21 / 12 22 NSC00002 6 mm stroke Identification number **02** acc. to EN 50 013 switch block 3SE3 000-8AV00 [2]		Weight approx.
		Actuator [1]		mm	Order No.	List Price $ 1 unit	Order No.	List Price $ 1 unit	kg
		**Plunger**	–	40	→ **3SE□ 1□0-1B**	**50.00**	→ **3SE□ 1□0-8BV00**	**50.00**	0.190
NSC00096		(3SX3100)		56	→ **3SE2 100-1B**	**50.00**	→ **3SE2 100-8BV00**	**50.00**	0.225
		**Overtravel plunger**	B	40	→ **3SE□ 1□0-1C**	**67.00**	→ **3SE□ 1□0-8CV00**	**67.00**	0.230
NSC00097		(3SX3106)		56	→ **3SE2 100-1C**	**67.00**	→ **3SE2 100-8CV00**	**67.00**	0.260
		**Roller plunger**	C	40	→ **3SE□ 1□0-1D**	**74.00**	→ **3SE□ 1□0-8DV00**	**74.00**	0.255
NSC 00098		(3SX3107)		56	→ **3SE2 100-1D**	**74.00**	→ **3SE2 100-8DV00**	**74.00**	0.279
		**Roller lever**	–	40	→ **3SE□ 1□0-1E**	**63.00**	→ **3SE□ 1□0-8EV00**	**63.00**	0.210
NSC 00099		Actuator made of molded plastic		56	→ **3SE2 100-1E**	**63.00**	→ **3SE2 100-8EV00**	**63.00**	0.239
		(3SX3102)							
		**Angular roller lever**	–	40	→ **3SE□ 1□0-1F**	**60.00**	→ **3SE□ 1□0-8FV00**	**60.00**	0.225
NSC00093		Actuator made of molded plastic		56	→ **3SE2 100-1F**	**60.00**	→ **3SE2 100-8FV00**	**60.00**	0.242
		(3SX3104)							
		**Roller crank**							
NSC 00094		• finely adjustable from 10° to 10°	A	40	→ **3SE□ 1□0-1GW**	**71.00**	→ **3SE□ 1□0-8GW00**	**71.00**	0.305
		(3SX3211 + 3SX3212)		56	→ **3SE2 100-1GW**	**71.00**	→ **3SE2 100-8GW00**	**71.00**	0.331
		• adjustable length, finely adjustable from 10° to 10°	–	40	**3SE□ 1□0-1UW**	**87.00**	**3SE□ 1□0-8UW00**	**87.00**	0.315
NSC 00009		(3SX3211 + 3SX3213)		56	**3SE2 100-1UW**	**87.00**	**3SE2 100-8UW00**	**87.00**	0.336
		Rod actuator	D						
		finely adjustable from 10° to 10°							
NSC 00010		• Molded plastic rod		40	**3SE□ 1□0-1WW**	**82.00**	**3SE□ 1□0-8WW00**	**82.00**	0.315
		(3SX3211 + 3SX3215)		56	**3SE2 100-1WW**	**82.00**	**3SE2 100-8WW00**	**82.00**	0.346
		• Aluminum rod		40	**3SE□ 1□0-1VW**	**83.00**	**3SE□ 1□0-8VW00**	**83.00**	0.320
		(3SX3211 + 3SX3214)		56	**3SE2 100-1VW**	**83.00**	**3SE2 100-8VW00**	**83.00**	0.355
		**Wobble spring**	–	40	**3SE□ 1□0-1R**	**81.00**	**3SE□ 1□0-8RV00**	**81.00**	0.230
NSC 00095		(3SX3126)		56	**3SE2 100-1R**	**81.00**	**3SE2 100-8RV00**	**81.00**	0.270
		**Fork lever**, latching	–	40	**3SE□ 1□0-1T**	**117.00**	–		0.340
NSC 00101		(3SX3127 + 3SX3115)		56	**3SE2 100-1T**	**117.00**	–		0.360
		Switch body							
		with switch block without actuator		40	**3SE□ 1□0-1A**	**44.00**	**3SE□ 1□0-8AV00**	**44.00**	0.175
				56	**3SE2 100-1A**	**44.00**	**3SE3 100-8AV00**	**44.00**	0.203

Order No. suffix
- with metric connecting thread M 20 x 1.5 I.E. 3SE□1□0
- with 1/2" - NPT connecting thread I.E. 3SE□1□0

2.2 3.7 2.2 3.7

For operation, operating speed and travel, see Pages 13/100 to 13/105.

→ Positive opening acc. to IEC 60 947-5-1, Appendix K, and DIN VDE 0660 Part 200.

1) The actuator heads can be subsequently exchanged (see Page 13/95).
2) For conduit thread adaptors see page 13/97.

3SE2120 Specials
Metal enclosure, 40mm width

Selection and ordering data

2 contacts · Moving double break contacts · IP 67 degree of protection · EN 50 041 · with 4-pole or 5-pole male receptacle

40 mm wide

Actuator design to EN 50 041 | Enclosure width | **3SE3 position switches** with 2 snap-action contacts

6 mm stroke

Identification number **11** acc. to EN 50 013. switch block 3SE3 000-1A)

	Actuator [1]	Actuator design to EN 50 041	Enclosure width mm	Order No.	List Price $ 1 unit	Weight approx. kg
 NSC00096	**Plunger**	–	40			
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1BV00-0AC4**	**67.00**	0.200
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1BV00-0AC5**	**70.00**	0.200
 NSC00097	**Overtravel plunger**	B	40			
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1CV00-0AC4**	**84.00**	0.200
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1CV00-0AC5**	**87.00**	0.200
 NSC 00098	**Roller plunger**	C	40			
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1DV00-0AC4**	**91.00**	0.265
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1DV00-0AC5**	**94.00**	0.265
 NSC 00099	**Roller lever**	–	40			
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1EV00-0AC4**	**80.00**	0.225
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1EV00-0AC5**	**83.00**	0.200
 NSC00093	**Angular roller lever**	–	40			
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1FV00-0AC4**	**67.00**	0.230
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1FV00-0AC5**	**70.00**	0.230
 NSC 00094	**Roller crank**	A	40			
	• **finely adjustable from 10° to 10°**					
	• with 4-pole, M12 male receptacle			→ **3SE2 120-1GW00-0AC4**	**88.00**	0.310
	• with 5-pole, M12 male receptacle			→ **3SE2 120-1GW00-0AC5**	**91.00**	0.310
 NSC 00009	• **adjustable length, finely adjustable from 10° to 10°**					
	• with 4-pole, M12 male receptacle			**3SE2 120-1UW00-0AC4**	**104.00**	0.325
	• with 5-pole, M12 male receptacle					
	Switch body with contact block without operating head	–	40			
	• with 4-pole, M12 male receptacle			**3SE2 120-1AV00-0AC4**	**61.00**	0.180
	• with 5-pole, M12 male receptacle			**3SE2 120-1AV00-0AC5**	**64.00**	0.180

Wiring Diagram for M12 Connections

M12 Pin	Limit Switch, Snap-Action Contacts 2[2] 4-pole Connection	5-pole Connection	Typical M12 Cable[3] 4-wire Connection	5-wire Connection
1	21	21	Brown	Brown
2	22	22	White	White
3	13	13	Blue	Blue
4	14	14	Black	Black
5	N/A	Ground	N/A	Green

4-pole Male Receptacle **5-pole Male Receptacle**

→ Positive opening acc. to IEC 60 947-5-1, Appendix K

1) The actuator heads can be subsequently exchanged (see Page 13/95).
2) 21 & 22 = Normally Closed; 13 & 14 = Normally Open.

3) Typical M12 female plug with 5 meter cable.

	4-pole	5-pole
Right-angle	3RX1542	3RX1631
Straight	3RX1513	3RX1570

Selection and ordering data

2 contacts · Moving double break contacts · IP 67 degree of protection · EN 50 041
1 or 2 LEDs · Stainless steel roller/rod · Increased corrosion protection

40 mm wide [2]	Actuator design to EN 50 041	Enclosure width	3SE3 position switches with 2 snap-action contacts, 6 mm stroke. Identification number **11** acc. to EN 50 013, switch block 3SE3 000-8AV00 [2]		Weight approx.
Actuator [1]		mm	Order No.	List Price $ 1 unit	kg
Plunger	–	40			
• with 1 LED, 24 V, yellow[3]) [5]			→ **3SE2120-1AV00-0AF0 + 3SX3100**	[5])	0.220
• with increased corrosion protection			→ **3SE2 120-1BV00-0AK0**	**52.00**	0.200
Overtravel plunger	B	40			
• with 1 LED, 24 V, yellow[3]) [5]			→ **3SE2120-1AV00-0AF0 + 3SX3106**	[5])	0.260
• with increased corrosion protection			→ **3SE2 120-1CV00-0AK0**	**69.00**	0.240
Roller plunger	C	40			
• with 1 LED, 24 V, yellow[3])			→ **3SE2120-1DV00-0AF0**	**99.00**	0.250
• with 2 LED, 24 V, yellow & green[4])			→ **3SE2120-1DV00-0AF1**	**108.00**	0.250
• with stainless steel roller			→ **3SE2120-1DV00-0AA3**	**92.00**	0.255
• with increased corrosion protection			→ **3SE2120-1DV00-0AK0**	**76.00**	0.250
Roller lever	–	40			
Actuator made of moulded plastic					
• with 1 LED, 24 V, yellow[3])			→ **3SE2120-1EV00-0AF0**	**88.00**	0.215
• with stainless steel roller			→ **3SE2120-1EV00-0AA3**	**85.00**	0.200
• with increased corrosion protection			→ **3SE2120-1EV00-0AK0**	**65.00**	0.210
Angular roller lever	–	40			
• with 1 LED, 24 V, yellow[3])			→ -		
• with stainless steel roller			→ **3SE2120-1FV00-0AA3**	**82.00**	0.240
• with increased corrosion protection			→ **3SE2120-1FV00-0AK0**	**62.00**	0.210
Roller crank	A	40			
• **finely adjustable from 10° to 10°**					
• with 1 LED, 24 V, yellow[3])			→ **3SE2120-1GW00-0AF0**	**96.00**	0.305
• with stainless steel roller			→ **3SE2120-1GW00-0AA3**	**93.00**	0.315
• with increased corrosion protection			→ **3SE2120-1GW00-0AK0**	**73.00**	0.310
• **adjustable length, finely adjustable from 10° to 10°**					
• with 1 LED, 24 V, yellow[3])			**3SE2120-1UW00-0AF0**	**112.00**	0.310
• with stainless steel roller			**3SE2120-1UW00-0AA3**	**109.00**	0.315
• with increased corrosion protection			**3SE2120-1UW00-0AK0**	**89.00**	0.315
Rod actuator	D	40			
finely adjustable from 10° to 10°					
• **molded plastic rod**					
• with 1 LED, 24 V, yellow[3])			-		
• with increased corrosion protection			**3SE2120-1WW00-0AK0**	**84.00**	0.315
• aluminum rod					
• with 1 LED, 24 V, yellow[3])			-		
• with increased corrosion protection			**3SE2120-1VW00-0AK0**	**85.00**	0.320
Wobble spring	–	40			
• with 1 LED, 24 V, yellow[3])			-		
• with stainless steel roller			**3SE2120-1RV00-0AL0**	**78.00**	0.200
• with increased corrosion protection			**3SE2120-1RV00-0AK0**	**83.00**	0.200
Fork lever, latching	–	40			
• with 1 LED, 24 V, yellow[3])			-		
• with stainless steel roller			**3SE2120-1TV00-0AA3**	**220.00**	0.355
• with increased corrosion protection			**3SE2120-1TV00-0AK0**	**119.00**	0.345
Switch body with contact block without operating head	–	40			
• with 1 LED, 24 V, yellow[3])			**3SE2120-1AV00-0AF0**	**69.00**	0.185
• with 2 LEDs, 24 V, yellow & green[4])			**3SE2120-1AV00-0AF1**	**78.00**	0.200

NSC00096, NSC00097, NSC 00098, NSC 00099, NSC00093, NSC 00094, NSC 00009, NSC 00010, NSC 00095, NSC 00101

→ Positive opening acc. to IEC 60 947-5-1, Appendix K

1) The actuator heads can be subsequently exchanged (see Page 13/95).
2) For conduit thread adaptors see page 13/97.
3) The switch contacts have changed from their normal state.
4) Green LED – There is power to the switch. Yellow LED – The switch contacts have changed from their normal state.
5) Two parts required. Order separately.

3SE2 100 to 3SE3 170, 3SE2 230

Selection and ordering data

Switch Bodies with replaceable contact block without operating head

Metal Housing
40 mm [1)]

3SE2 120
3SE3 170

56 mm[1)]

3SE2 100

Molded Plastic Housing
40 mm[2)]

3SE2 230

3SE2100, 3SE2120, 3SE2230 and 3SE3170 limit switches with field replaceable contact blocks may be provided as complete devices; or, separately as components; switch body, operating head and lever (if applicable).

Switch Bodies are complete except for the operating head and lever (if applicable). The contact blocks are field replaceable and have a molded plastic housing in which the fixed contacts and the terminals are located.

Operating Heads include the necessary hardware to mount to the selected Switch Body and may require an **Operating Lever**.

Plunger, Overtravel Plunger, Roller Plunger, Roller Lever, Angular Roller Lever and Wobble Spring operating heads are complete so only a Switch Body is required.

Side rotary operating heads such as Roller Crank, Adjustable Roller Crank, Fork Lever and Rod Actuator require a side rotary Operating Head and a suitable Lever. Therefore three parts are required for a complete switch; Switch Body, Operating Head, suitable Lever.

Operating heads for the 3SE2100, 3SE2120 and 3SE3170 series are interchangeable with each other and the various contact configurations. The same operating heads are also used in the 3SE2303 and 3SE2404 series. These switches are not available in parts.

Operating heads for the 3SE2230 series are interchangeable with the various contact configurations and may also require a lever (side rotary operating head).

Switch Body with Contact Block without Operating Head

Housing Style	Contact Arrangement																	
	1 NO + 1 NC Slow-action			1 NO + 1 NC Snap-action			1 NO + 1 NC, Slow-action Make-Before-Break			2 NC Slow-action			2 NO Slow-action			2 NC Snap-action		
	Order No.	List Price $ 1 Unit	Weight Approx. kg	Order No.	List Price $ 1 Unit	Weight Approx. kg	Order No.	List Price $ 1 Unit	Weight Approx. kg	Order No.	List Price $ 1 Unit	Weight Approx. kg	Order No.	List Price $ 1 Unit	Weight Approx. kg	Order No.	List Price $ 1 Unit	Weight Approx. kg
56 mm Wide Metal Housing with M20 x 1.5 Threaded Opening																		
	3SE2100-0A	**44.00**	0.202	**3SE2100-1A**	**44.00**	0.203	**3SE2100-3A**	**44.00**	0.205	**3SE2100-6A**	**44.00**	0.200	**3SE2100-7A**	**44.00**	0.203	**3SE2100-8AV00**	**44.00**	0.175
40 mm Wide Metal Housing with M20 x 1.5 Threaded Opening																		
	3SE2120-0A	**44.00**	0.175	**3SE2120-1A**	**44.00**	0.175	**3SE2120-3A**	**44.00**	0.175	**3SE2120-6A**	**44.00**	0.175	**3SE2120-7A**	**44.00**	0.190	**3SE2120-8AV00**	**44.00**	0.175
40 mm Wide Metal Housing with M20 x 1.5 Threaded Opening and One 24V LED																		
	—	—	—	**3SE2120-1AV00-0AF0**	**69.00**	0.185	—	—	—	—	—	—	—	—	—	—	—	—
40 mm Wide Metal Housing with M20 x 1.5 Threaded Opening and Two 24V LEDs																		
	—	—	—	**3SE2120-1AV00-0AF1**	**78.00**	0.200	—	—	—	—	—	—	—	—	—	—	—	—
40 mm Wide Metal Housing with M12 male Receptacle, 4-Poles																		
	—	—	—	**3SE2120-1AV00-0AC4**	**61.00**	0.180	—	—	—	—	—	—	—	—	—	—	—	—
40 mm Wide Metal Housing with M12 male Receptacle, 5-Poles																		
	—	—	—	**3SE2120-1AV00-0AC5**	**64.00**	0.180	—	—	—	—	—	—	—	—	—	—	—	—
40 mm Wide Metal Housing with 1/2" NPT Threaded Opening																		
	3SE3170-0A	**44.00**	0.171	**3SE3170-1A**	**44.00**	0.169	**3SE3170-3A**	**44.00**	0.182	**3SE3170-6A**	**44.00**	0.174	**3SE3170-7A**	**44.00**	0.170	**3SE3170-8AV00**	**44.00**	0.170
40 mm Wide Plastic Housing with M20 x 1.5 Threaded Opening																		
	3SE2230-0A	**31.00**	0.095	**3SE2230-1A**	**31.00**	0.100	**3SE2230-3A**	**31.00**	0.095	**3SE2230-6A**	**31.00**	0.095	**3SE2230-7A**	**31.00**	0.095	**3SE2230-8AV00**	**31.00**	0.130

[1)] Shown with operating head. See catalog page 13/95 and 13/96 for operating heads and levers.
[2)] Shown with operating head. See catalog page 13/83 for operating heads and levers.

Selection and ordering data

3 contacts · Wide enclosure · Moving double break contacts · IP 67 degree of protection · M20 x 1.5 connecting thread

56 mm wide [2]		3SE. position switches with mit 3 slow-action contacts 13 21 31 / 14 22 32 NSC00105 6 mm stroke Identification number **12** acc. to EN 50 013, switch block 3SE*3* 003-0A	3SE. position switches with mit 3 slow-action contacts 13 21 33 / 14 22 34 NSC00106 6 mm stroke Identification number **21** acc. to EN 50 013, switch block 3SE3 003-1A	3SE. position switches with 3 slow-action make-before-break contacts 17 25 31 / 18 26 32 NSC00107 6 mm stroke Identification number **12** acc. to EN 50 013, switch block 3SE3 003-2A	3SE. position switches with 3 slow-action make-before-break contacts 17 25 33 / 18 26 34 NSC00108 6 mm stroke Identification No. **21** acc. to EN 50 013, switch block 3SE3 003-3A		Wght approx.
	Actuator [1]	Order No.	Order No.	Order No.	Order No.	List Price $ 1 unit	kg
NSC00096	**Plunger** (3SX3100)	→ **3SE2 303-0B**	→ **3SE2 303-1B**	→ **3SE2 303-2B**	→ **3SE2 303-3B**	**99.00**	0.310
NSC00097	**Overtravel plunger** (3SX3106)	→ **3SE2 303-0C**	→ **3SE2 303-1C**	→ **3SE2 303-2C**	→ **3SE2 303-3C**	**94.00**	0.332
NSC 00098	**Roller plunger** (3SX3107)	→ **3SE2 303-0D**	→ **3SE2 303-1D**	→ **3SE2 303-2D**	→ **3SE2 303-3D**	**102.00**	0.356
NSC 00099	**Roller lever** Actuator made of molded plastic (3SX3102)	→ **3SE2 303-0E**	→ **3SE2 303-1E**	→ **3SE2 303-2E**	→ **3SE2 303-3E**	**91.00**	0.314
NSC00093	**Angular roller lever** Actuator made of molded plastic (3SX3104)	→ **3SE2 303-0F**	→ **3SE2 303-1F**	→ **3SE2 303-2F**	→ **3SE2 303-3F**	**87.00**	0.330
NSC 00094	**Roller crank** • finely adjustable from 10° to 10° (3SX3211 + 3SX3212)	→ **3SE2 303-0GW**	→ **3SE2 303-1GW**	→ **3SE2 303-2GW**	→ **3SE2 303-3GW**	**98.00**	0.411
NSC 00009	• adjustable length, finely adjustable from 10° to 10° (3SX3211 + 3SX3213)	**3SE2 303-0UW**	**3SE2 303-1UW**	**3SE2 303-2UW**	**3SE2 303-3UW**	**114.00**	0.415
NSC 00010	**Rod actuator** finely adjustable from 10° to 10° • Molded plastic rod (3SX3211 + 3SX3215)	**3SE2 303-0WW**	**3SE2 303-1WW**	**3SE2 303-2WW**	**3SE2 303-3WW**	**111.00**	0.416
	• Aluminum rod (3SX3211 + 3SX3214)	**3SE2 303-0VW**	**3SE2 303-1VW**	**3SE2 303-2VW**	**3SE2 303-3VW**	**111.00**	0.425

For operation, operating speed and travel, see Pages 13/106 to 13/112.

→ Positive opening acc. to IEC 60 947-5-1, Appendix K, and DIN VDE 0660 Part 200.

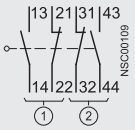
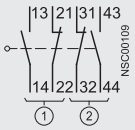
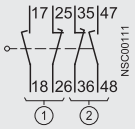
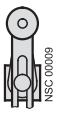
1) The actuator heads can be subsequently exchanged (see page 13/95).
2) For conduit thread adaptors see page 13/97.

Position Switches

3SE2 404
Metal enclosure, 56 mm width

Selection and ordering data

4 contacts · Wide enclosure · Moving double-break contacts · Degree of protection IP 67 · M20 x 1.5 connecting thread

56 mm wide [2]		**3SE. position switches** with 4 snap-action contacts		**3SE. position switches** with 4 slow-action contacts		**3SE. position switches** with 4 slow-action make before-break contacts		Wght approx.
		 6 mm stroke Identification number **22** acc. to EN 50 013 ① Switch block 3SE3 000-1A ② Switch block 3SE3 010-1A		 6 mm stroke Identification number **22** acc. to EN 50 013 ① Switch block 3SE3 000-0A ② Switch block 3SE3 010-0A		 6 mm stroke Identification number **22** acc. to EN 50 013 ① Switch block 3SE3 000-3A ② Switch block 3SE3 010-3A		
Actuator [1]		Order No.	List Price $ 1 unit	Order No.	List Price $ 1 unit	Order No.	List Price $ 1 unit	kg
 NSC00096	**Plunger** (3SX3100)	→ **3SE2 404-1B**	**121.00**	→ **3SE2 404-0B**	**121.00**	→ **3SE2 404-2B**	**121.00**	0.380
 NSC00097	**Overtravel plunger** (3SX3106)	→ **3SE2 404-1C**	**138.00**	→ **3SE2 404-0C**	**138.00**	→ **3SE2 404-2C**	**138.00**	0.400
 NSC 00098	**Roller plunger** (3SX3107)	→ **3SE2 404-1D**	**189.00**	→ **3SE2 404-0D**	**147.00**	→ **3SE2 404-2D**	**147.00**	0.420
 NSC 00099	**Roller lever** Actuator made of molded plastic (3SX3102)	→ **3SE2 404-1E**	**136.00**	→ **3SE2 404-0E**	**136.00**	→ **3SE2 404-2E**	**136.00**	0.381
 NSC00093	**Angular roller lever** Actuator made of molded plastic (3SX3104)	→ **3SE2 404-1F**	**132.00**	→ **3SE2 404-0F**	**132.00**	→ **3SE2 404-2F**	**132.00**	0.400
 NSC 00094	**Roller crank**							
	• finely adjustable from 10° to 10° (3SX3211+3SX3212)	→ **3SE2 404-1GW**	**181.00**	→ **3SE2 404-0GW**	**141.00**	→ **3SE2 404-2GW**	**141.00**	0.480
 NSC 00009	• adjustable length, finely adjustable from 10° to 10° (3SX3211+3SX3213)	**3SE2 404-1UW**	**161.00**	**3SE2 404-0UW**	**161.00**	**3SE2 404-2UW**	**161.00**	0.479
 NSC 00010	**Rod actuator** finely adjustable from 10° to 10°							
	• Molded plastic rod (3SX3211+3SX3215)	**3SE2 404-1WW**	**155.00**	**3SE2 404-0WW**	**155.00**	**3SE2 404-2WW**	**155.00**	0.490
	• Aluminum rod (3SX3211+3SX3214)	**3SE2 404-1VW**	**155.00**	**3SE2 404-0VW**	**155.00**	**3SE2 404-2VW**	**155.00**	0.490
 NSC 00101	**Fork lever** (3SX3127+3SX3115)	**3SE2 404-1T**	**193.00**	–		–		0.515

For operation, operating speed and travel, see Pages 13/100 to 13/105.

→ Positive opening acc. to IEC 60 947-5-1, Appendix K, and DIN VDE 0660 Part 200.

1) The actuator heads can be subsequently exchanged (see page 13/95).

2) For conduit thread adaptors see page 13/97.

Accessories

Actuator heads lamps

The actuator heads of the position switches can be subsequently exchanged for other variants.

	Actuators with mounting screws	For position switches 3SE2 100-□□ 3SE2 120-□□ 3SE2 230-□□ 3SE2 303-□□ 3SE2 404-□□ 3SE3 170-□□	Order No.	List Price $ 1 unit	Weight approx. kg
	**Plunger** includes screws and gasket	–.B	**3SX3 100**	**24.00**	0.018
	**Overtravel plunger** includes screws and gasket	–.C	**3SX3 106**	**43.00**	0.056
	**Roller plunger** includes screws and gasket	–.D			
	• standard roller		**3SX3 107**	**51.00**	0.082
	• stainless steel roller		**3SX3 263**	**69.00**	0.080
	**Roller lever** includes screws and gasket	–.E			
	• standard roller		**3SX3 102**	**28.00**	0.034
	• stainless steel roller		**3SX3 275**	**33.00**	0.050
	**Angular roller lever** includes screws and gasket	–.F			
	• standard roller		**3SX3 104**	**35.00**	0.043
	• stainless steel roller		**3SX3 276**	**30.00**	0.050
3SX3 126 	**Wobble spring** [1] (includes screws and gasket)	–.R			
	• standard, spring 50 mm, plastic rod 50 mm		**3SX3 126**	**59.00**	0.049
	• length 73 mm, spring 23.5 mm, stainless steel rod 10 mm		**3SX3 282**	**66.00**	0.020
	• length 113 mm, spring 23.5 mm, stainless steel rod 50 mm		**3SX3 285**	**66.00**	0.020
	• length 139.5 mm, spring 50 mm, plastic rod 50 mm with increased corrosion protection		**3SX3 284**	**85.00**	0.050
	• length 139.5 mm, spring 50 mm, stainless steel rod 50 mm		**3SX3 281**	**77.00**	0.060
	• length 239.5 mm, spring 150 mm, plastic rod 50 mm		**3SX3 283**	**66.00**	0.070
	• length 239.5 mm, spring 150 mm, stainless steel rod 50 mm		**3SX3 311**	**82.00**	0.080

[1] Not for safety circuits

Position Switches

3SE2 100 to 3SE3 170 / 3SE2 303 / 3SE2 404
Metal enclosure, 40 and 56 mm width

Accessories

	Actuators with mounting screws	For position switches 3SE2 100-□□ 3SE2 120-□□ 3SE2 303-□□ 3SE2 404-□□ 3SE3 170-□□	Order No.	List Price $ 1 unit	Weight approx. kg
3SX3 211 	**Roller crank operating heads** (without lever, includes screws & gasket)				
	• standard momentary (spring return), left and right operation	-.GW, -.U, -.V, -.W	**3SX3 211**	**41.00**	0.112
	• momentary (spring return), left and/or right operation	-.GW, -.U, -.V, -.W	**3SX3 307**	**48.00**	0.085
	• fork lever, maintained	-1T	**3SX3 127**	**65.00**	0.131
3SX3 212 	**Roller crank levers** (operating head not included)	–.GW			
	• standard, plastic roller, 19 mm dia.		**3SX3 212**	**9.00**	0.020
	• stanless steel roller, 19 mm dia.		**3SX3 265**	**21.75**	0.025
	• plastic roller, 30 mm dia.		**3SX3 278**	**17.00**	0.020
	• plastic roller, 50 mm dia.		**3SX3 301**	**16.00**	0.020
	• rubber roller, 50 mm dia.		**3SX3 280**	**18.00**	0.020
3SX3 213 	**Adjustable length roller crank** (operating head not included)	–.UW			
	• **levers with clamp**				
	• standard, plastic roller, 19 mm dia.		**3SX3 213**	**24.00**	0.024
	• stanless steel roller, 19 mm dia.		**3SX3 268**	**37.00**	0.030
	• plastic roller, 30 mm dia.		**3SX3 302**	**30.00**	0.025
	• rubber roller, 50 mm dia.		**3SX3 304**	**32.00**	0.020
	• **levers without clamp**				
	• rubber roller, 50 mm dia.		**3SY3 024**	**8.00**	0.036
3SX3 115 	**Fork lever** (operating head not included)	-1T			
	• standard, plastic rollers, 19 mm dia.		**3SX3 115**	**35.00**	0.032
	• stainless steel rollers, 19 mm dia.		**3SX3 266**	**61.00**	0.050
3SX3 215 	**Rod actuator** (operating head not included)				
	• **with support**				
	• standard, plastic rod	–.WW	**3SX3 215**	**20.00**	0.031
	• aluminum rod	–.VW	**3SX3 214**	**20.00**	0.032
	• **without support**				
	• standard, plastic rod	–.WW	**3SX3 000**	**3.00**	0.008
	• aluminum rod	–.VW	**3SX3 001**	**3.00**	0.016

Connectors
for fast installation and replacement of position and interlock switches

		Design	Order No. Preferred type	List Price $ 1 unit	Weight approx. kg
Cable connectors for 3SE2 (with M20 x 1.5)					
3SY3 131 	3SY3 123 	**Receptacle (6-poles + ground)** 250V max., 10A for M20 x 1.5 with 0.75 mm² connecting leads, for 3SX3 123 cable plug, molded plastic, IP 65 degree of protection	**3SY3 131**	**53.00**	0.030
		Plug [1]) Molded plastic enclosure, degree of protection IP 65, screw terminals	**3SY3 123**	**57.40**	0.064
3SY3 131 	3SY3 123 	**Receptacle (4-pole), M 12 for M20 x 1.5** 250V max., 4A for 3RX1 505 coupling plug, with 0.75 mm² connecting lead, IP 67 degree of protection	**3SY3 127**	**36.00**	0.008
	3SY3 128 	**Receptacle (5-pole), M 12 for M20 x 1.5** 125V max., 4A for 3RX1584 with 0.25 mm² connecting lead, IP 67 degree of protection	**3SY3 128**	**36.00**	0.006
3SX9918 		**Plug (4-pole), M 12** with terminal compartment, can be pre-assembled	**3RX1 505**		0.016
	3RX1 505 3RX1 584	**Plug (5-pole), M 12** with terminal compartment, can be pre-assembled	**3RX1 584**		0.016
5VF1182 		**Plastic wire gland**			
		PG 13.5 (6 mm long, with seal)	**5VF1 182**	**5.00**	
		PG 11 (6 mm long, with seal)	**5VF1 181**	**5.00**	
Adaptors for 3SE. (with M 16)					
 3SX1997		metal M16 x 1.5 to 1/2" NPT	**3SX1997**	**8.40**	0.022
Adaptors for 3SE2 (with M 20)					
 3SX9918		plastic M20 x 1.5 wire gland	**3SB3901-0CK**	**5.00**	0.011
		metal M20 x 1.5 to 1/2" NPT	**3SX1998**	**8.60**	0.022
 3SX1998	 3SX9918	plastic M20 x 1.5 to 1/2" NPT	**3SX9918**	**7.00**	0.012
Adaptors for 3SE. (with M 25)					
 3SX1999		metal M 25 x 1.5 to 1/2" NPT	**3SX1999**	**8.75**	0.022

1) For wiring, a crimping tool is necessary, max. conductor size 1 mm².

Position Switches

3SE2 100 to 3SE3 170 / 3SE2 303 / 3SE2 404
Metal enclosure, 40 and 56 mm width

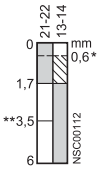
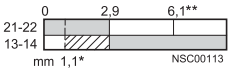
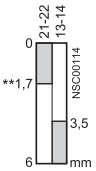
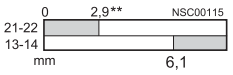
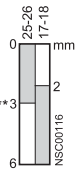
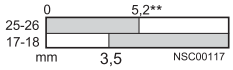
Accessories and spare parts

	Design	Fig.	For position switches	Order No.	List Price $ 1 unit	Weight approx. kg	Pack Units
Spare parts for 3SE. 1.0, 3SE. 230 and 3SE. 404							
1 2 	**Switch blocks with 2 contacts with moving double-break contacts**						
	• with snap-action contacts						
	- 1 NO + 1 NC	1	3SE. 1.0-1., 3SE2 230-1., 3SE2 404-1.	**3SE3 000-1A**	**27.00**	0.032	
	- 2 NC	1	3SE. 1.0-8., 3SE2 230-8., 3SE2 404-8.	**3SE3 000-8AV00**	**27.00**	0.020	
	• with slow-action contacts						
	- 1 NO + 1 NC	2	3SE. 1.0-0., 3SE. 230-0., 3SE. 404-0.	**3SE3 000-0A**	**27.00**	0.031	
	- 2 NC		3SE. 1.0-6., 3SE. 230-6.	**3SE3 000-6A**	**27.00**	0.029	
	- 2 NO		3SE. 1.0-7., 3SE. 230-7.	**3SE3 000-7A**	**27.00**	0.029	
	• with slow-action make-before-break contacts						
	- 1 NO + 1 NC	2	3SE. 1.0-3., 3SE. 230-3., 3SE. 404-2.	**3SE3 000-3A**	**27.00**	0.031	
3 4 	**Switch blocks with repeat plunger with 2 contacts - 1 NO + 1 NC**						
	for position switches with 4 contacts with moving double-break contacts						
	• with snap-action contacts	3	3SE. 404-1.	**3SE3 010-1A**	**37.00**	0.033	
	• with slow-action contacts	4	3SE. 404-0.	**3SE3 010-0A**	**37.00**	0.032	
	• with slow-action make-before-break contacts	4	3SE. 404-2.	**3SE3 010-3A**	**29.00**	0.034	
Spare parts for 3SE. 303							
5 	**Switch blocks with 3 contacts with moving double-break contacts**						
	• with slow-action contacts						
	- 1 NO + 2 NC	5	3SE. 303-0.	**3SE3 003-0A**	**53.00**	0.047	
	- 2 NO + 1 NC	5	3SE. 303-1.	**3SE3 003-1A**	**53.00**	0.047	
	• with slow-action make-before-break contacts						
	- 1 NO + 2 NC	5	3SE. 303-2.	**3SE3 003-2A**	**41.00**	0.047	
	- 2 NO + 1 NC	5	3SE. 303-3.	**3SE3 003-3A**	**41.00**	0.063	

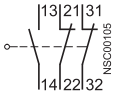
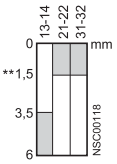
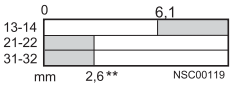
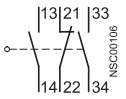
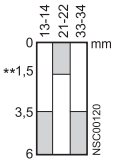
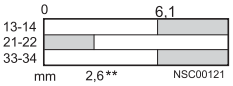
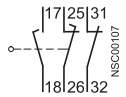
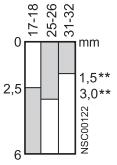
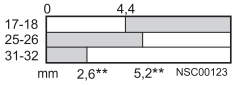
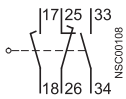
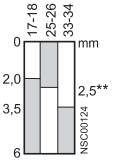
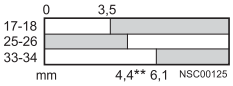
Selection and ordering data

2 contacts · Moving double break contacts · Degree of protection: Terminals IP 20, switching chamber IP 40

Tandem arrangement (2 × 2 contacts) is possible when 3SY3 121 adapter is used (see accessories below).

	Internal circuit diagram Term. design. acc. to EN 50 013	Order No.	List Price $	Weight approx.	Nominal travel and related terminals 0-line commencement of plunger travel contact closed contact open * operating point on return ** positive opening acc. to IEC 60 947-5-1-3	Minimum force required along plunger axis
		Preferred type	1 unit	kg	along plunger axis perpend. to plunger axis α = 30°	
Snap-action contacts, 6 mm stroke						
3SE3 020-1A		with 21 mm long plunger, 6mm Hub				
		→ **3SE3 020-1A**	**25.00**	0.036	 	6 N
Slow-action contacts, 6 mm stroke						
3SE3 020-0A		with 21 mm long plunger, 6mm Hub				
		→ **3SE3 020-0A**	**25.00**	0.036	 	8 N
Slow-action make-before-break contacts, 6 mm stroke						
3SE 020-3A		with 21 mm long plunger				
		→ **3SE3 020-3A**	**25.00**	0.036	 	8 N
3SY3 121		**Intermediate piece** for tandem arrangement of 2-pole open-type position switches				
		3SY3 121	**2.00**	0.001		

3 contacts · Moving double break contacts · Degree of protection: Terminals IP 20, switching chamber IP 40

Slow-action contacts, 6 mm stroke						
3SE3 023-0A		with 21 mm plunger and repeat plunger, for tandem arrangement, 6mm Hub				11 N
		→ **3SE3 023-0A**	**39.00**	0.051	 	
		→ **3SE3 023-1A**	**39.00**	0.051	 	13 N
Slow-action make-before-break contacts, 6 mm stroke						
3SE3 023-2A		with 21 mm plunger and repeat plunger, for tandem arrangement, 6mm Hub				11 N
		→ **3SE3 023-2A**	**39.00**	0.051	 	
		→ **3SE3 023-3A**	**39.00**	0.058	 	13 N

→ Safety function according to IEC 60 947-5-1, Appendix K.

For operation, operating speed and travel, see Page 13/112.

Position Switches

3SE2 100 to 3SE3 170 / 3SE2 404
Metal enclosure, 40 and 56 mm width

Operation, operating speed and travel or angle of actuators

2 contacts · Standard and wide enclosure

Bars, cams, stops, etc. are used as actuating devices. The shape of the actuating device must provide the given angles for the leading and trailing edges.

For operation from the side, sparingly greased steel, POM (polyoxymethylene or polyacetal) or PA (polyamide) should be used as cam and bar material.

Operating speed along plunger axis

The actuating speed in the case of position switches with slow-action contacts is not permitted to go lower than 15 mm/s for DC and 1 mm/s for AC. Position switches with snap-action contacts should be used when the speeds are lower.

3SE2 404 position switches · 4 contacts · Wide enclosure

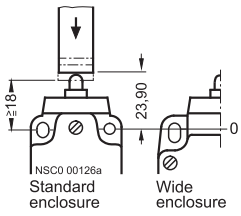
The data for operation, operating speed, travel and angle of operation is the same as for the position switches with 2 switch blocks.

Two switch blocks with 2 contacts are used for position switches with 4 contacts.

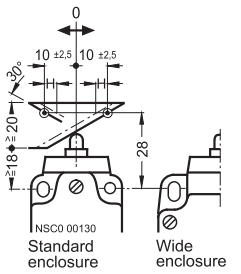
Operation by a bar		Switch blocks	Nominal travel and related terminals		Switch blocks	Nominal travel and related terminals
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	reference line acc. to EN 50 041		
v_{max}	max. operating speed		S	travel acc. to EN 50 041		
0-line	ref. line acc. to EN 50 041		▬	contact closed		
H	travel difference		▭	contact open		
→	direction of operation		*	operating point on return		
			**	positive opening acc. to IEC 60 947-5-1-3		

Plunger

3SE2 100–.B,
3SE. 1□0–.B,
3SE2 404–.B



$v_{max.}$ = 1.5 m/s



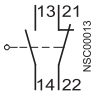
$v_{max.}$ = 0.5 m/s

Minimum force required in direction of operation: 12 N

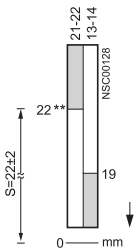
along plunger axis | perpendicular to plunger axis | along plunger axis

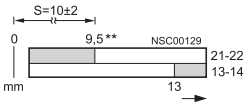
Slow-action contacts

1 NC + 1 NO



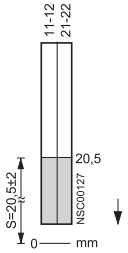
3SE3 000–0A,
3SE3 010–0A,
Ident. No. **11**



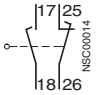


2 NC

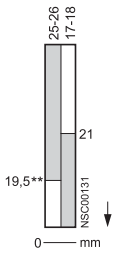
3SE3 000–6A,
Ident. No. **02**

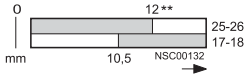


1 NO + 1 NC
with make-before-break



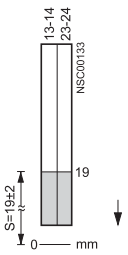
3SE3 000–3A,
3SE3 010–3A,
Ident. No. **11**





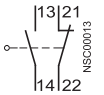
2 NO

3SE3 000–7A,
Ident. No. **20**

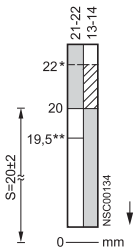


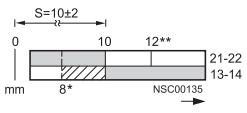
Snap-action contacts

1 NC + 1 NO



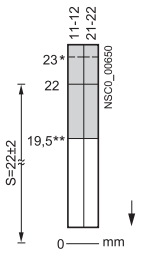
3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**





2 NC

3SE3 000–1AV00,
3SE3 010–1AV00
Ident. No. **02**



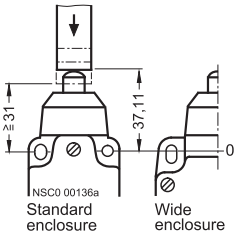
Operation, operating speed and travel or angle of actuators

2 or 4 contacts · Standard and wide enclosure

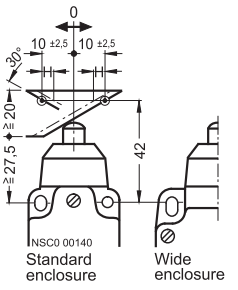
Operation by a bar		Switch blocks	Nominal travel and related terminals		Switch blocks	Nominal travel and related terminals
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	reference line acc. to EN 50 041		
v_{max}	max. operating speed		S	travel acc. to EN 50 041		
0-line	ref. line acc. to EN 50 041		▭	contact closed		
H	travel difference		▭	contact open		
→	direction of operation		*	operating point on return		
			**	positive opening acc. to IEC 60 947-5-1-3		

Overtravel plunger, Type B

3SE2 100–.C,
3SE. 1□0–.C,
3SE2 230–.C,
3SE2 404–.C

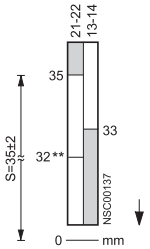
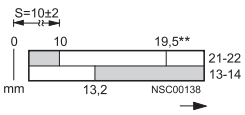
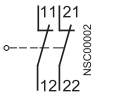
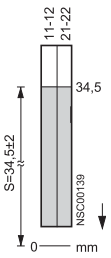
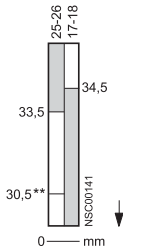
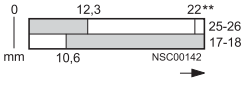
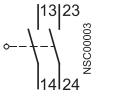
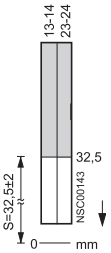
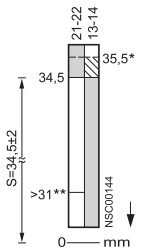
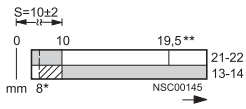
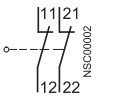
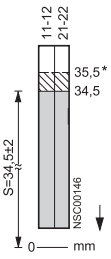


$v_{max.}$ = 1.5 m/s



$v_{max.}$ = 0.5 m/s

Minimum force required in direction of operation: 32 N

	along plunger axis	perpendicular to plunger axis		along plunger axis
Slow-action contacts				
1 NC + 1 NO			**2 NC**	
				
3SE3 000–0A, 3SE3 010–0A, Ident. No. **11**			3SE3 000–6A, Ident. No. **02**	
1 NO + 1 NC **With make-before-break**			**2 NO**	
				
3SE3 000–3A, 3SE3 010–3A, Ident. No. **11**			3SE3 000–7A, Ident. No. **20**	
Snap-action contacts				
1 NC + 1 NO			**2 NC**	
				
3SE3 000–1A, 3SE3 010–1A, Ident. No. **11**			Ident. No. **02**	

Position Switches

3SE2 100 to 3SE3 170 / 3SE2 230 / 3SE2 404
Metal enclosure, 40 and 56 mm width

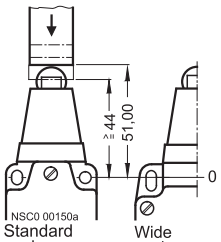
Operation, operating speed and travel or angle of actuators

2 or 4 contacts · Standard and wide enclosure

Operation by a bar		Switch blocks	Nominal travel and related terminals		Switch blocks	Nominal travel and related terminals
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	reference line acc. to EN 50 041		
v_{max}	max.operating speed		S	travel acc. to EN 50 041		
0-line	ref. line acc. to EN 50 041		▬	contact closed		
H	travel difference		▭	contact open		
→	direction of operation		*	operating point on return		
			**	positive opening acc. to IEC 60 947-5-1-3		

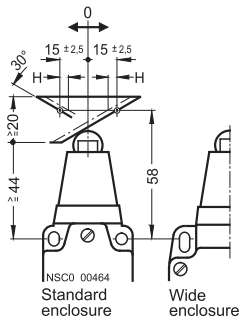
Roller plunger, type C

3SE2 100–.D,
3SE. 1□0–.D,
3SE2 230–.D,
3SE2 404–.D



Standard enclosure — Wide enclosure

$v_{max.}$ = 1.5 m/s



Standard enclosure — Wide enclosure

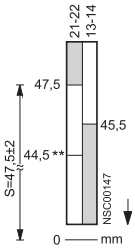
$v_{max.}$ = 1 m/s (3SE3 230–1D),
$v_{max.}$ = 0.5 m/s (3SE3 1.0–1D),
Minimum force required in direction of operation: 32 N

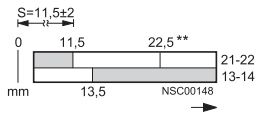
along plunger axis — perpendicular to plunger axis — along plunger axis

Slow-action contacts

1 NC + 1 NO

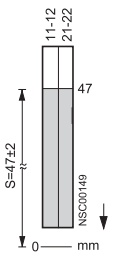
3SE3 000–0A,
3SE3 010–0A,
Ident. No. **11**





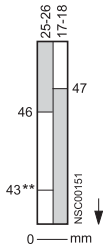
2 NC

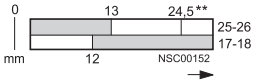
3SE3 000–6A,
Ident. No. **02**



1 NO + 1 NC
With make-before-break

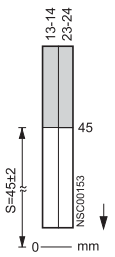
3SE3 000–3A,
3SE3 010–3A,
Ident. No. **11**





2 NO

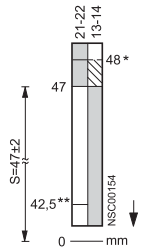
3SE3 000–7A,
Ident. No. **20**

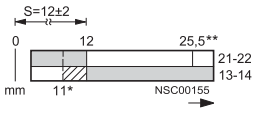


Snap-action contacts

1 NC + 1 NO

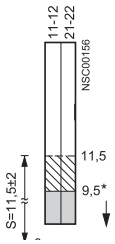
3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**





2 NC

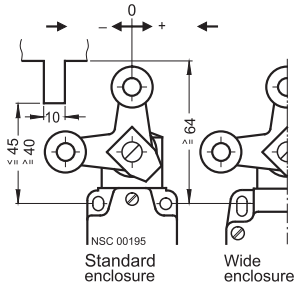
3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**



Fork lever

3SE2 100–1T,
3SE. 1□0–1T,
3SE2 404–1T

lateral actuation



Standard enclosure — Wide enclosure

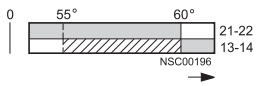
$v_{max.}$ = 2 m/s
Minimum force required in direction of operation: 30 N

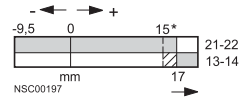
Deflection in direction of rotation

Snap-action contacts

1 NC + 1 NO

3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**





2 NC

3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**

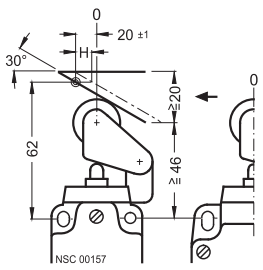
Operation, operating speed and travel or angle of actuators

2 or 4 contacts · Standard and wide enclosure

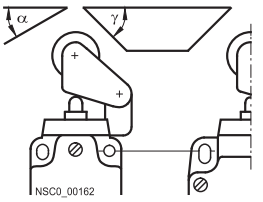
Operation by a bar		Switch blocks	Nominal travel and related terminals		Switch blocks	Nominal travel and related terminals
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	reference line acc. to EN 50 041		
α, γ	approach angle		S	travel acc. to EN 50 041		
v_{max}	max. operating speed			contact closed		
0-line	ref. line acc. to EN 50 041			contact open		
H	travel difference		*	operating point on return		
→	direction of operation		**	positive opening to IEC 60 947-5-1-3		

Roller lever

3SE2 100–.E, 3SE. 1□0–.E, 3SE2 230–.E, 3SE2 404–.E



$v_{max.}$ = 2.5 m/s



$v_{max.}$ = 1 m/s, α_{max} = 30°, γ_{max} = 45°

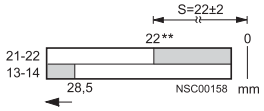
Minimum force required in direction of operation: 12 N

perpendicular to plunger axis

Slow-action contacts

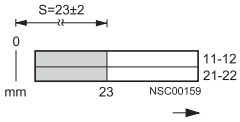
1 NC + 1 NO

3SE3 000–0A, 3SE3 010–0A, Ident. No. **11**



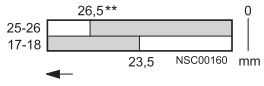
2 NC

3SE3 000–6A, Ident. No. **02**

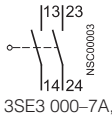


1 NO + 1 NC
With make-bef.-break

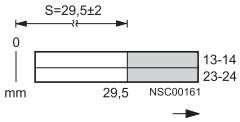
3SE3 000–3A, 3SE3 010–3A, Ident. No. **11**



2 NO



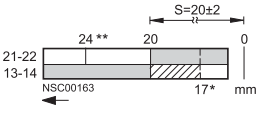
3SE3 000–7A, Ident. No. **20**



Snap-action contacts

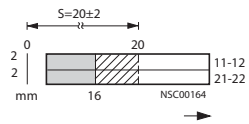
1 NC + 1 NO

3SE3 000–1A, 3SE3 010–1A, Ident. No. **11**



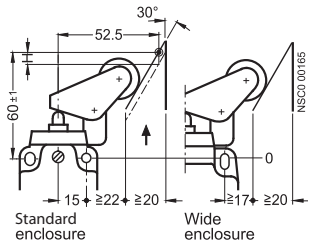
2 NC

Ident. No. **02**

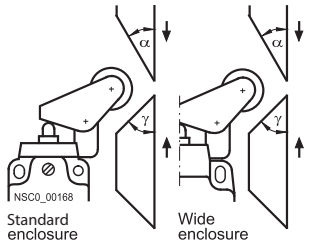


Angular roller lever

3SE2 100–.F, 3SE. 1□0–.F, 3SE2 230–.F, 3SE2 404–.F



$v_{max.}$ = 2.5 m/s



$v_{max.}$ = 1 m/s, α_{max} = 30°, γ_{max} = 45°

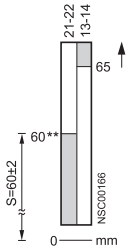
Minimum force required in direction of operation: 12 N

along plunger axis

Slow-action contacts

1 NC + 1 NO

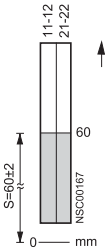
3SE3 000–0A, 3SE3 010–0A, Ident. No. **11**



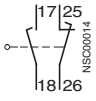
2 NC

3SE3 000–6A, Ident. No. **02**

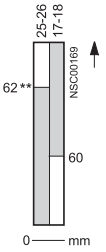
along plunger axis



1 NO + 1 NC
With make-before-break

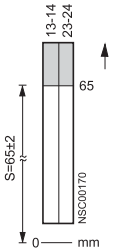


3SE3 000–3A, 3SE3 010–3A, Ident. No. **11**



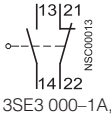
2 NO

3SE3 000–7A, Ident. No. **20**

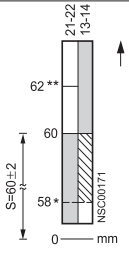


Snap-action contacts

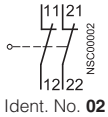
1 NC + 1 NO



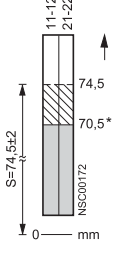
3SE3 000–1A, 3SE3 010–1A, Ident. No. **11**



2 NC



Ident. No. **02**



Position Switches

3SE2 100 to 3SE3 170 / 3SE2 230 / 3SE2 404
Metal enclosure, 40 and 56 mm width

Operation, operating speed and travel or angle of actuators

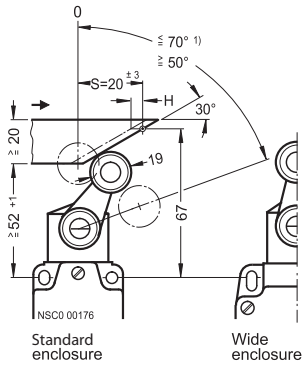
2 or 4 contacts · Standard and wide enclosure

Operation by a bar		Switch blocks	Nominal travel and related terminals		Switch blocks	Nominal travel and related terminals
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	ref. line acc. to EN 50 041		
α	approach angle		S	travel acc. to EN 50 041		
β	trailing angle			contact closed		
v_{max}	max. operating speed			contact open		
0-line	reference line acc. to EN 50 041		*	operating point on return		
S	travel acc. to EN 50 041		**	positive opening to IEC 60 947-5-1-3		
H	travel difference					
→	direction of operation					

Roller crank, type A

repositionable and
finely adjustable from 10° to 10°

3SE2 100–.GW, 3SE. 1□0–.GW, 3SE2 230–.GW, 3SE2 404–.GW



$v_{max.}$ = 3 m/s

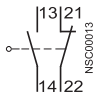
Minimum torque required
in direction of operation: 25 Ncm

In special designs, contacts can only be operated from right or left. By twisting the plunger from the right and left.

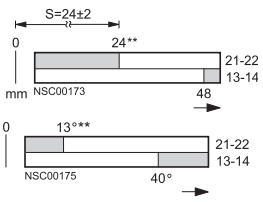
perpendicular to plunger axis

Slow-action contacts

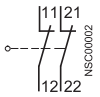
1 NC + 1 NO



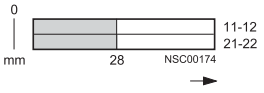
3SE3 000–0A,
3SE3 010–0A,
Ident. No. **11**



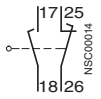
2 NC



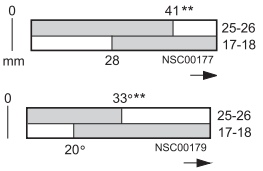
3SE3 000–6A,
Ident. No. **02**



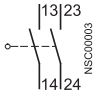
1 NO + 1 NC
With make-bef.-break



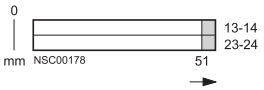
3SE3 000–3A,
3SE3 010–3A,
Ident. No. **11**



2 NO

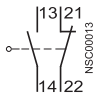


3SE3 000–7A,
Ident. No. **20**

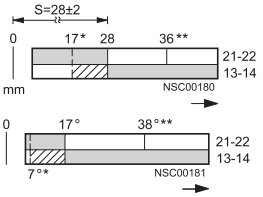


Snap-action contacts

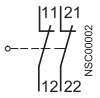
1 NC + 1 NO



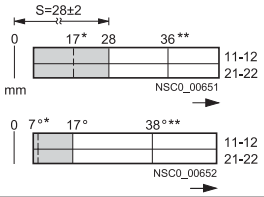
3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**



2 NC



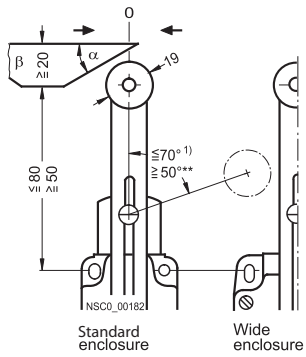
3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**



Roller crank, adjustable length

finely adjustable from 10° to 10°

3SE2 100–.UW, 3SE. 1□0–.UW, 3SE2 230–.U, 3SE2 404–.UW



$v_{max.}$ = 1 m/s, α_{max} = 30°, β_{max} = 30°

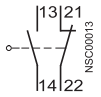
Minimum torque required
in direction of operation: 25 Ncm

Contact operation either from right or left or from right and left.

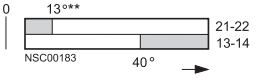
Deflection in direction of rotation

Slow-action contacts

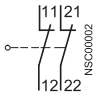
1 NC + 1 NO



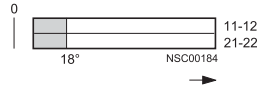
3SE3 000–0A,
3SE3 010–0A,
Ident. No. **11**



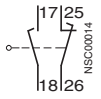
2 NC



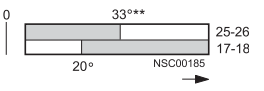
3SE3 000–6A,
Ident. No. **02**



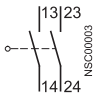
1 NO + 1 NC
With make-bef.-break



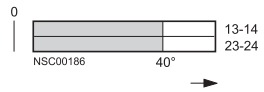
3SE3 000–3A,
3SE3 010–3A,
Ident. No. **11**



2 NO

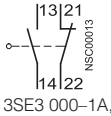


3SE3 000–7A,
Ident. No. **20**

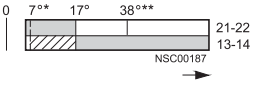


Snap-action contacts

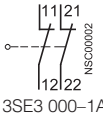
1 NC + 1 NO



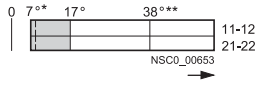
3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**



2 NC



3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**



1) Max. operating angle 70°.

Operation, operating speed and travel or angle of actuators

2 or 4 contacts · Standard and wide enclosure

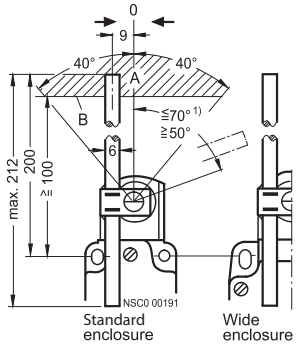
Operation by a bar	Switch blocks	Nominal travel and related terminals	Switch blocks	Nominal travel and related terminals
⊙ operating pt acc. to EN 50 041 v_{max} max. operating speed 0-line ref. line acc. to EN 50 041 → direction of operation	Terminal designation acc. to EN 50 013	0-line ref. line acc. to EN 50 041 contact closed contact open * operating point on return ** positive opening to IEC 60 947-5-1-3		

Rod actuator

finely adjustable from 10° to 10°

3SE2 100–.WW, 3SE. 1□0–.WW, 3SE2 230–.W, 3SE2 404–.WW

3SE2 100–.VW, 3SE. 1□0–.VW, 3SE2 230–.V, 3SE2 404–.VW



A = Operating range
B = Lower edge of actuator

$v_{max.}$ = 3 m/s

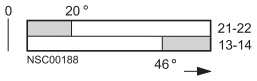
Minimum torque required in direction of operation: 25 Ncm

In special designs, contacts can only be operated from right or left. By twisting the plunger from the right and left.

in direction of rotation

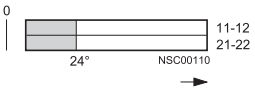
Slow-action contacts

1 NC + 1 NO



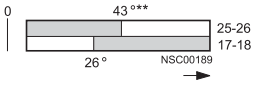
3SE3 000–0A,
3SE3 010–0A,
Ident. No. **11**

2 NC



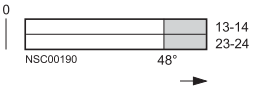
3SE3 000–6A,
Ident. No. **02**

1 NO + 1 NC
With make-before-break



3SE3 000–3A,
3SE3 010–3A,
Ident. No. **11**

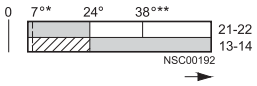
2 NO



3SE3 000–7A,
Ident. No. **20**

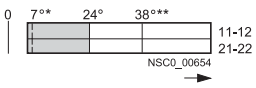
Snap-action contacts

1 NC + 1 NO



3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**

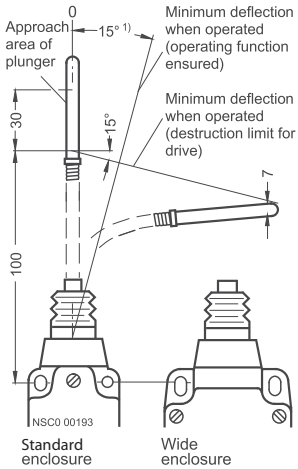
2 NC



3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**

Spring rod

3SE2 100–1R, 3SE. 1□0–1R, 3SE2 230–.R



$v_{max.}$ = 1 m/s, approachable from all sides

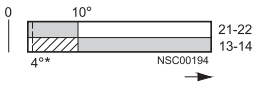
Minimum force required in direction of operation: 12 N

with lateral deflection at the tip: 2.5 N

Deflection of spring rod

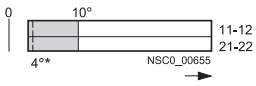
Snap-action contacts

1 NC + 1 NO



3SE3 000–1A,
3SE3 010–1A,
Ident. No. **11**

2 NC



3SE3 000–1AV00,
3SE3 010–1AV00,
Ident. No. **02**

1) Max. operating angle 70°.

Position Switches

3SE2 303
Metal enclosure, 56 mm width

Operation, operating speed and travel or angle of actuators

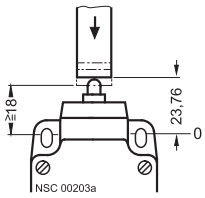
3 contacts · Wide enclosure

Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of operation
⊙ operating pt acc. to EN 50 041 v_{max} max. operating speed 0-line reference line acc. to EN 50 041 H travel difference → direction of operation	Terminal designation acc. to EN 50 013	0-line reference line acc. to EN 50 041 S travel acc. to EN 50 041 ▬ contact closed ▭ contact open * operating point on return ** positive opening to IEC 60 947-5-1-3	

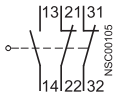
Plunger — *Slow-action contacts* — along plunger axis — perpendicular to plunger axis

3SE2 303–.B

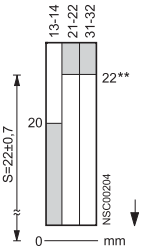
1 NO + 2 NC

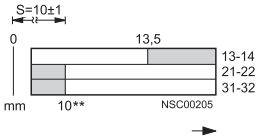


$v_{max.}$ = 1.5 m/s

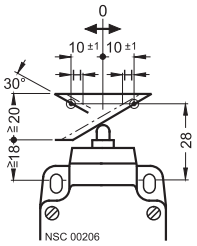


Ident. No. **12**



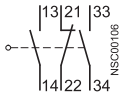


16 N

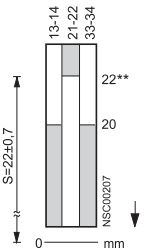


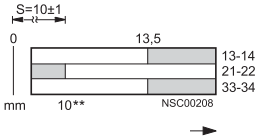
$v_{max.}$ = 0.5 m/s

2 NO + 1 NC



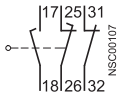
Ident. No. **21**



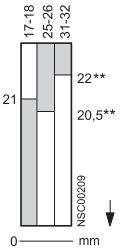


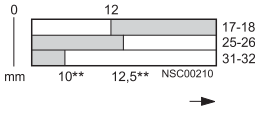
18 N

1 NO + 2 NC
make-before-break



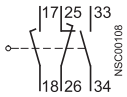
Ident. No. **12**



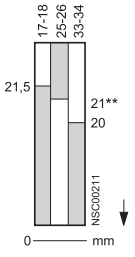


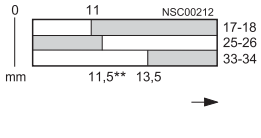
16 N

2 NO + 1 NC
make-before-break



Ident. No. **21**





18 N

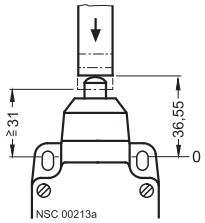
Operation, operating speed and travel or angle of actuators

3 contacts · Wide enclosure

Operation by a bar		Switch blocks	Nominal travel and related terminals		Minimum force required in direction of operation
⊙	operating pt acc. to EN 50 041	Terminal designation acc. to EN 50 013	0-line	reference line acc. to EN 50 041	
v_{max}	max. operating speed		S	travel acc. to EN 50 041	
0-line	reference line acc. to EN 50 041			contact closed	
H	travel difference			contact open	
→	direction of operation		*	operating point on return	
			**	positive opening to IEC 60 947-5-1-3	

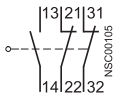
Overtravel plunger — *Slow-action contacts* — along plunger axis — perpendicular to plunger axis

3SE2 303–.C

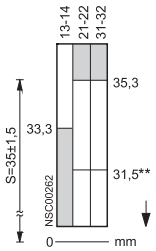


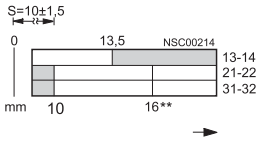
$v_{max.}$ = 1.5 m/s

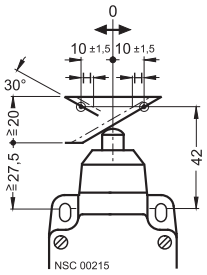
1 NO + 2 NC — 35 N



Ident. No. **12**

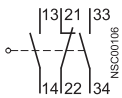




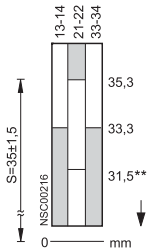


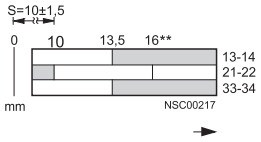
$v_{max.}$ = 0.5 m/s

2 NO + 1 NC — 37 N

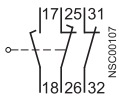


Ident. No. **21**

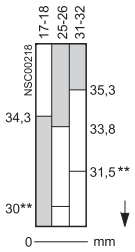


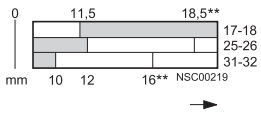


1 NO + 2 NC
make-before-break — 35 N

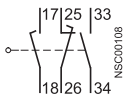


Ident. No. **12**

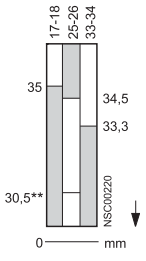


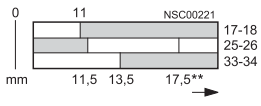


2 NO + 1 NC
make-before-break — 37 N



Ident. No. **21**





3SE2 303
Metal enclosure, 56 mm width

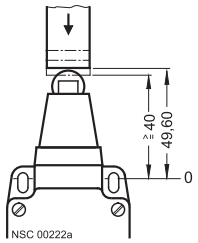
Operation, operating speed and travel or angle of actuators

3 contacts · Wide enclosure

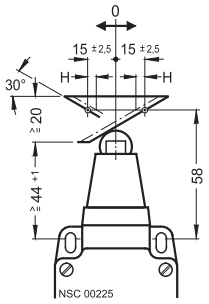
Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of operation
⊙ operating pt acc. to EN 50 041 v_{max} max. operating speed 0-line reference line acc. to EN 50 041 H travel difference → direction of operation	Terminal designation acc. to EN 50 013	0-line reference line acc. to EN 50 041 S travel acc. to EN 50 041 ■ contact closed □ contact open * operating point on return ** positive opening to IEC 60 947-5-1-3	

Roller plunger

3SE2 303–.D

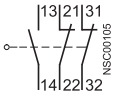
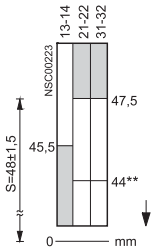
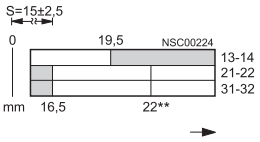
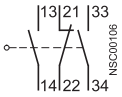
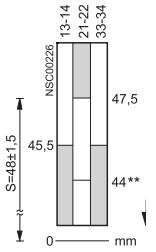
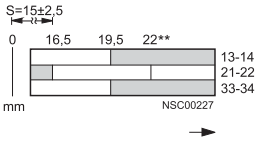
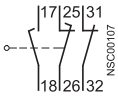
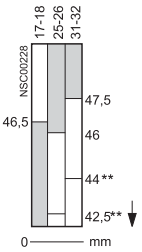
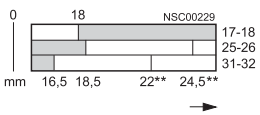
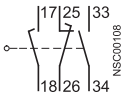
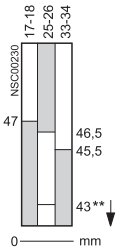
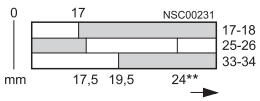


$v_{max.}$ = 1.5 m/s



$v_{max.}$ = 1 m/s

Slow-action contacts

	along plunger axis	perpendicular to plunger axis	
1 NO + 2 NC  Ident. No. **12**			35 N
2 NO + 1 NC  Ident. No. **21**			37 N
1 NO + 2 NC **make-before-break**  Ident. No. **12**			35 N
2 NO + 1 NC **make-before-break**  Ident. No. **21**			37 N

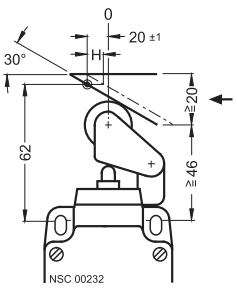
Operation, operating speed and travel or angle of actuators

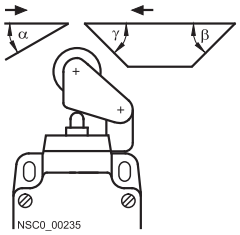
3 contacts · Wide enclosure

Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of operation
⊙ operating pt acc. to EN 50 041 α approach angle β trailing angle γ approach angle v_{max} max. operating speed 0-line reference line acc. to EN 50 041 H travel difference → direction of operation	Terminal designation acc. to EN 50 013	0-line reference line acc. to EN 50 041 S travel acc. to EN 50 041 contact closed contact open ** positive opening to IEC 60 947-5-1-3	

Roller lever

3SE2 303–.E

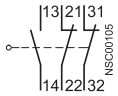




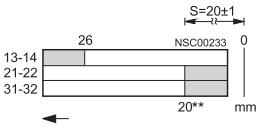
For operation perpendicular to plunger axis
: $v_{max.}$ = 1 m/s at α_{max} = 30°
$v_{max.}$ = 2.5 m/s at γ_{max} = 45°
β_{max} = 45°
For operation along plunger axis: $v_{max.}$ = 1.5 m/s

Slow-action contacts — perpendicular to plunger axis

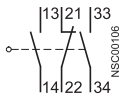
1 NO + 2 NC — 15 N



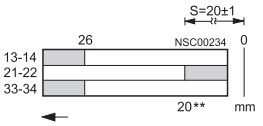
Ident. No. **12**



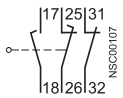
2 NO + 1 NC — 17 N



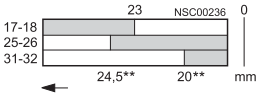
Ident. No. **21**



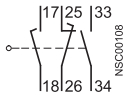
1 NO + 2 NC
make-before-break — 15 N



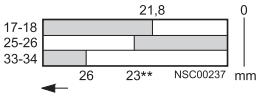
Ident. No. **12**



2 NO + 1 NC
make-before-break — 17 N

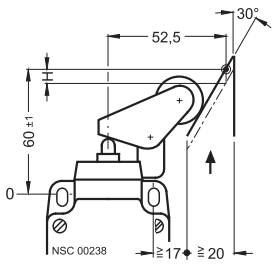


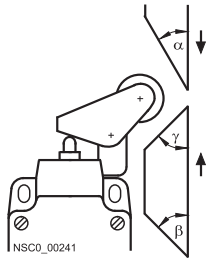
Ident. No. **21**



Angular roller lever

3SE2 303–.F

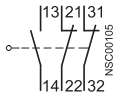




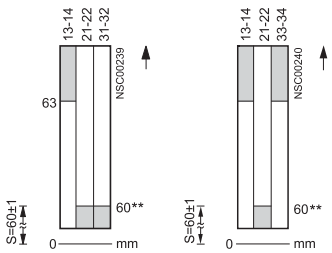
For operation along plunger axis:
$v_{max.}$ = 1 m/s at α_{max} = 30°
$v_{max.}$ = 2.5 m/s at γ_{max} = 45°
$v_{max.}$ = 2.5 m/s at β_{max} = 45°

Slow-action contacts — along plunger axis

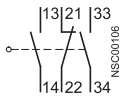
1 NO + 2 NC — 15 N



Ident. No. **12**

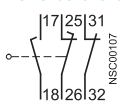


2 NO + 1 NC — 17 N

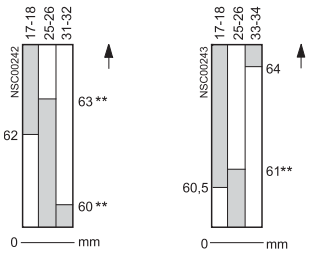


Ident. No. **21**

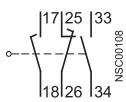
1 NO + 2 NC
make-before-break — 15 N



Ident. No. **12**



2 NO + 1 NC
make-before-break — 17 N



Ident. No. **21**

Position Switches

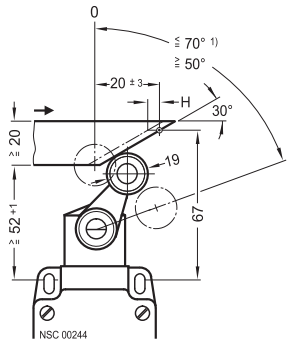
3SE2 303
Metal enclosure, 56 mm width

Operation, operating speed and travel or angle of actuators

3 contacts · Wide enclosure

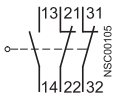
Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of rotation
⊙ operating pt acc. to EN 50 041 v_{max} max. operating speed 0-line reference line acc. to EN 50 041 H travel difference → direction of operation	Terminal designation acc. to EN 50 013	0-line reference line acc. to EN 50 041 S travel acc. to EN 50 041 ▩ contact closed □ contact open ** positive opening to IEC 60 947-5-1-3	
Roller crank	***Slow-action contacts***	perpendicular to plunger axis	
finely adjustable from 10° to 10°	**1 NO + 2 NC**		25 Ncm

3SE2 303–.GW–Z
A31

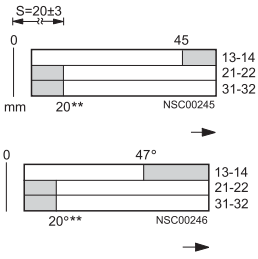


$v_{max.}$ = 3 m/s

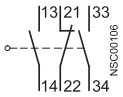
In special designs contacts can only be operated from right or left. By twisting the plunger from the right and left.



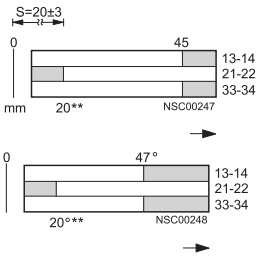
Ident. No. **12**



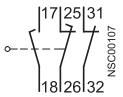
2 NO + 1 NC



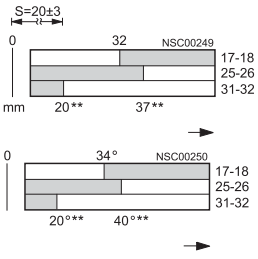
Ident. No. **21**



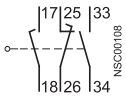
1 NO + 2 NC
make-before-break



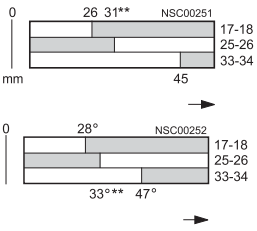
Ident. No. **12**



2 NO + 1 NC
make-before-break



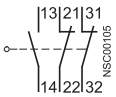
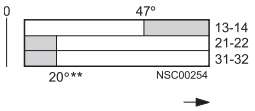
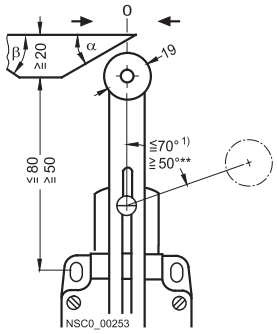
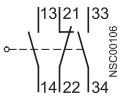
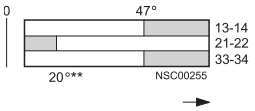
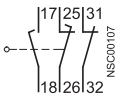
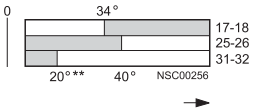
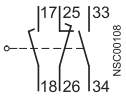
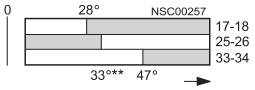
Ident. No. **21**



1) Max. operating angle 70°.
Max. deflection for adjustment purposes 90°.

Operation, operating speed and travel or angle of actuators

3 contacts · Wide enclosure

Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of rotation
⊙ operating pt acc. to EN 50 041 α approach angle β trailing angle v_{max} max. operating speed 0-line reference line acc. to EN 50 041 → direction of operation	Terminal designation acc. to EN 50 013	0-line reference line acc. to EN 50 041 S travel acc. to EN 50 041 ■ contact closed □ contact open ** positive opening to IEC 60 947-5-1-3	
Roller crank, adjustable length	***Slow-action contacts***	perpendicular to plunger axis	
finely adjustable from 10° to 10°	**1 NO + 2 NC**		25 Ncm
3SE2 303–.UW			
	Ident. No. **12**		
	2 NO + 1 NC		
			
	Ident. No. **21**		
	1 NO + 2 NC **make-before-break**		
			
	Ident. No. **12**		
	2 NO + 1 NC **make-before-break**		
			
	Ident. No. **21**		

$v_{max.}$ = 3 m/s,
α_{max} = 30°,
β_{max} = 30°

In special designs contacts can only be operated from right or left. By twisting the plunger from the right and left.

1) Max. operating angle 70°.

Position Switches

3SE2 303 / 3SE3 02.
Metal enclosure, 56 mm width

Operation, operating speed and travel or angle of actuators

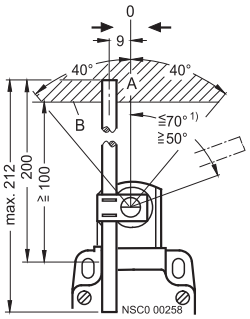
3 contacts · Wide enclosure

Operation by a bar	Switch blocks	Nominal travel and related terminals	Minimum force required in direction of rotation
⊙ operating pt acc. to EN 50 041 v_{max} max. operating speed 0-line reference line acc. to EN 50 041 → direction of operation	Terminal designation acc. to EN 50 013	0-line S travel acc. to EN 50 041 contact closed contact open ** positive opening to IEC 60 947-5-1-3	

Rod actuator

finely adjustable from 10° to 10°

3SE2 303–.WW,
3SE2 303–.VW



A = Operating range
B = Lower edge of actuator

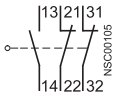
$v_{max.}$ = 3 m/s

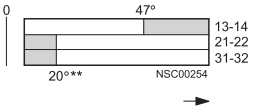
In special designs contacts can only be operated from right or left. By twisting the plunger from the right and left.

Slow-action contacts

Deflection in direction of rotation

1 NO + 2 NC

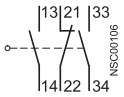


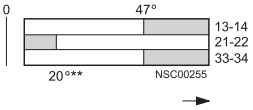


Ident. No. **12**

25 Ncm

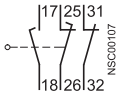
2 NO + 1 NC

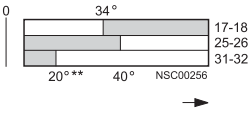




Ident. No. **21**

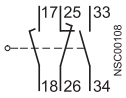
1 NO + 2 NC
make-before-break

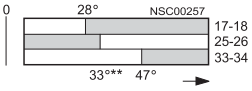




Ident. No. **12**

2 NO + 1 NC
make-before-break



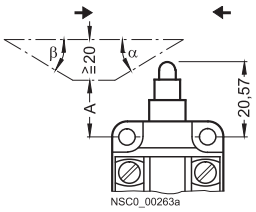


Ident. No. **21**

1) Max. operating angle 70°. Max. deflection for adjustment purposes 90°.

3SE3 020 and 3SE3 023 open-type position switches

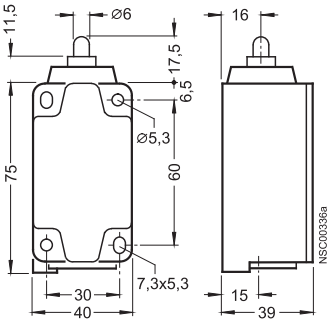
2 and 3 contacts · Moving double break contacts · Degree of protection: Terminals IP 20, switching chamber IP 40

Operation by a bar		Type	A ≥ mm	A** ≤ mm
Plunger				
	Actuators can be in the form of a bar, cam, stop etc.	3SE3 020-0A	15	–
	For operation perpendicular to plunger axis: α_{max} = 30°, v_{max} = 0.5 m/s β_{max} = 30°	3SE3 020-1A	15	17.5
		3SE3 020-3A	15	–
	For operation perpendicular plunger axis: v_{max} = 1.5 m/s			
	A Actuating bar spacing = distance from center, fixing hole up to lower edge of contact bar	3SE3 023-0A	15	–
		3SE3 023-1A	15	–
		3SE3 023-2A	15	–
	A** Actuating bar distance, to guarantee positive opening of the snap-action contacts acc. to DIN VDE 0113.	3SE3 023-3A	15	–

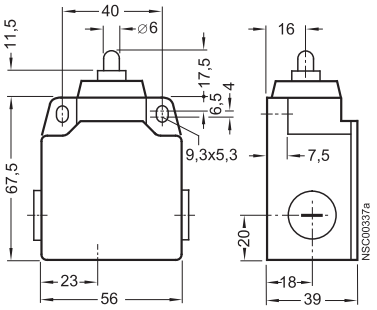
Dimension drawings

3SE2 1.0, 3SE3 1.0

3SE. 1□0
narrow enclosure, 2 contacts, with plunger

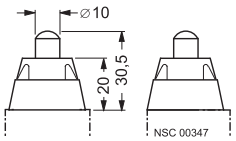


3SE2 100
wide enclosure, 2 contacts, with plunger

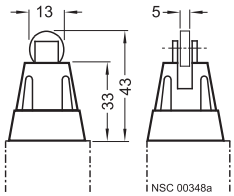


Actuators for 3SE2 1.0, 3SE3 1.0 position switches

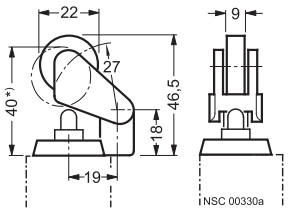
Overtravel plunger, Form B



Roller plunger, Form C

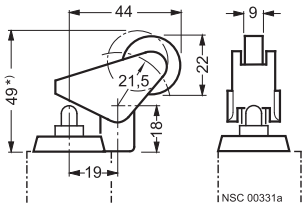


Roller lever



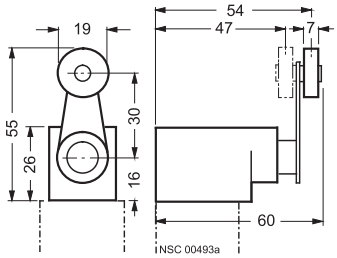
* Lever in final position

Angular roller lever

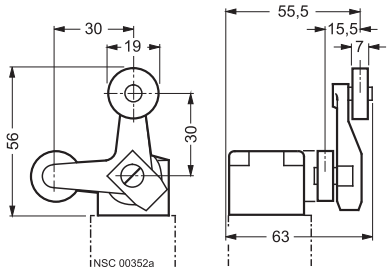


* Lever in final position

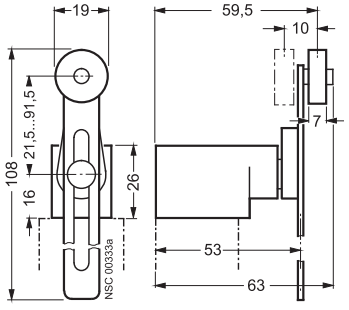
3SX3 212 roller crank for 3SX3 211 actuator heads



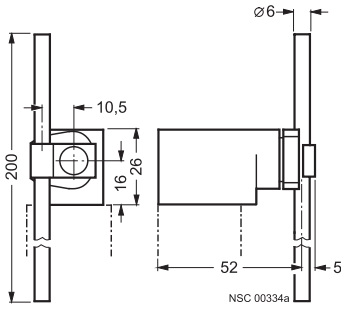
Fork lever



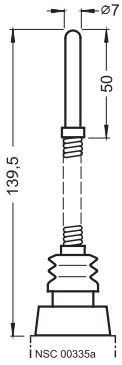
Roller crank, adjustable length



Rod actuator, adjustable length, Form D



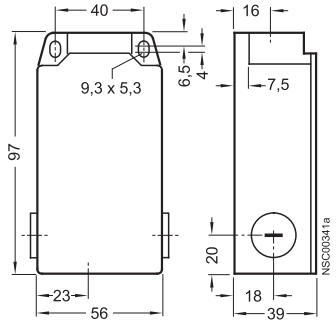
Wobble spring



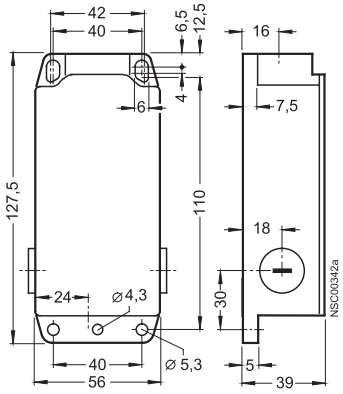
3SE2 303 / 3SE2 404
Metal enclosure, 56 mm width

Dimension drawings

3SE2 303
wide enclosure, 3 contacts

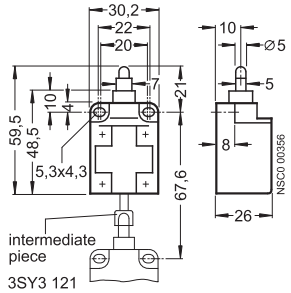


3SE2 404
wide enclosure, 4 contacts

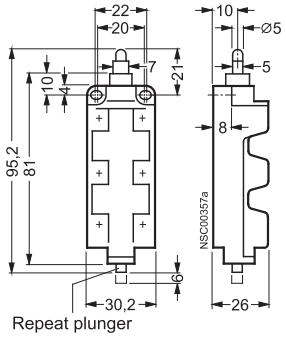


Open-type

3SE3 020-.A



3SE3 023-.A



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Siemens:

5VF1182