SIEMENS

Safety components

SIRIUS Safety Integrated

Quick-search catalogue 2014

Answers for industry.

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Free online tool

A safe machine concept without detours!

- Determines SIL
- Determines PL

www.siemens.com/safety-evaluation-tool

Product Guide

3SK1 Input Capability

Type	Part number	E-Stop	Gate	Light Curtain	Two Hand Control	N/O Contacts (Gate Interlock)	Expandable Inputs using Device Connectors
Standard with Relay Enabling Contacts	3SK1111-*A**0	✓	✓	✓	-	-	-
Standard with Solid State Enabling Contacts	3SK1112-*BB40	✓	✓	✓	-	-	-
Advanced with Relay Enabling Contacts	3SK1121-*AB40	✓	✓	✓	✓	✓	✓
	3SK1121-*CB4*	✓	✓	✓	✓	✓	✓
Advanced with Solid State Enabling Contacts	3SK1120-*AB40	✓	✓	✓	✓	✓	✓
	3SK1122-*AB40	✓	✓	✓	✓	✓	✓
	3SK1122-*CB4*	✓	✓	✓	✓	✓	✓
Input Sensor Expansion Unit	3SK1220-1AB40	✓	✓	✓	✓	✓	✓

3SK1 Output Capability

Type	Part number	Relay Enabling Contacts (n/o)	Solid State Enabling Contacts	Signal Contact (n/c)	Delayed Relay Enabling Contacts	Delayed Solid State Enabling Contacts	Expandable Outputs Using device Connectors
Standard with Relay Enabling Contacts	3SK1111-*A**0	3	0	1	0	0	-
Standard with Solid State Enabling Contacts	3SK1112-*BB40	0	2	1	0	0	-
Advanced with Relay Enabling Contacts	3SK1121-*AB40	3	0	1	0	0	✓
	3SK1121-*CB4*	2	0	0	2	0	✓
Advanced with Solid State Enabling Contacts	3SK1120-*AB40	0	1	0	0	0	✓
	3SK1122-*AB40	0	3	1	0	0	✓
	3SK1122-*CB4*	0	2	0	0	2	✓
Output Expansion Unit	3SK1211-*BB00	4	0	1	★	0	-
	3SK1211-*BB40	4	0	1	★	0	✓
	3SK1211-*BW20	4	0	1	★	0	-
	3SK1213-*AB40	3	0	1	★	0	-
	3SK1213-*AJ20	3	0	1	★	0	✓
	3SK1213-*AL20	3	0	1	★	0	-

✓ *Version compatible*
- *Version not compatible*
★ *Enabling circuits can be set to time delayed if used in conjunction with a time delayed base unit*

SIRIUS 3SK1 Safety Relays

22 different fast-moving types of the 3TK28 series can be replaced by 7 different 3SK1basic units as standard version or 6 different 3SK1 basic units as advanced version. Benefit from the advantages yourself.

www.siemens.com/safety-relays

Safety Relays

SIRIUS 3SK1 Safety Relays

Description:	Fig.	Adjustable off-delay time	Rated control supply voltage	Enable circuits	Signaling circuits	Artical No. Screw-type connection	Artical No. Spring-type connection (push-in)	L Price £	Prod. group
Standard basic units									
With relay outputs	1	-	24 V AC/DC	3	1	3SK1111-1AB30	3SK1111-2AB30	92.40	41L
	1	-	110 - 240 V AC/DC	3	1	3SK1111-1AW20	3SK1111-2AW20	92.40	41L
With semiconductor outputs	1	-	24 V DC	2	1	3SK1112-1BB40	3SK1112-2BB40	73.48	41L
Advanced basic units									
With relay outputs	2	-	24 V DC	3	1	3SK1121-1AB40	3SK1121-2AB40	117.48	41L
	2	0.05 to 3 s	24 V DC	2/2tv	-	3SK1121-1CB41	3SK1121-2CB41	146.52	41L
	2	0.5 to 30 s	24 V DC	2/2tv	-	3SK1121-1CB42	3SK1121-2CB42	146.52	41L
With semiconductor outputs	2	-	24 V DC	3	1	3SK1122-1AB40	3SK1122-2AB40	88.00	41L
	2	0.5 to 30 s	24 V DC	2/2tv	-	3SK1122-1CB42	3SK1122-2CB42	88.00	41L
Input expansion module 17.5 mm									
Sensor expansion module for safety-oriented expansion of the Advanced basic units by adding an additional 2-channel sensor or two 1-channel sensors	3	-	24 V DC	-	-	3SK1220-1AB40	3SK1220-2AB40	70.40	41L
Output expansion module 4RO 22.5 mm									
with relay outputs	4	-	24 V DC	4	1	3SK1211-1BB40	3SK1211-2BB40	82.92	41L
Device connectors for saving wiring for Advanced basic units, input or output expansion modules									
Device connector, 17.5 mm	5					3ZY1212-1BA00		8.58	41L
Device connector, 22.5 mm	5					3ZY1212-2BA00		8.58	41L
Device termination connector, 22.5 mm	5					3ZY1212-2DA00		9.24	41L

For application examples and circuit diagrams please refer to Page 22

SIRIUS 3SK1 Safety Relays*

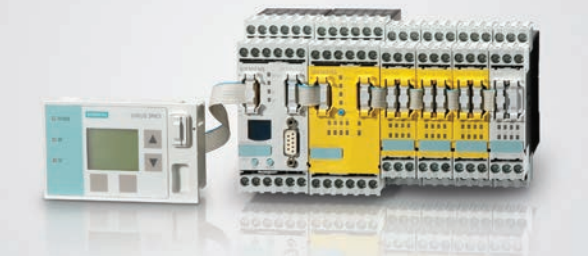
Description:	Fig.	Order number	L Price £	Prod. group
Standstill monitoring safety relay, Cat.4 / SIL 3 / PL e, IP20, screw terminal				
▪ Suitable for three-phase motors, max. 690 V AC. ▪ Sensorless measuring principle (residual induction voltage principle).				
3NO+1NC release circuits,1CO+1DO mess. output, sens. 20-400mV, switch-off time adj. 0.2-6 sec, 24 VDC	1	3TK2810-0BA01	510.66	41L
RPM / standstill monitoring safety relay with integrated gate monitoring function, SIL 3 / PL e, IP20, screw terminal				
▪ For PNP, NPN sensors and Cos/Sin, TTL / HTL encoders, inst. 1Hz-400kHz ▪ Integrated gate monitoring function for connecting to gate (locking) switches				
2NO release circuits, 2NO mess. output, 1 encoder + 2 sensor inputs, conn. to gate monitoring sw., 24 VDC	2	3TK2810-1BA41	834.24	41L
2NO release circuits, 2NO mess. output, 1 encoder + 2 sensor inputs, conn. to gate mon. sw., 110-240V AC/DC	2	3TK2810-1KA41	853.20	41L
Accessories for safety relays				
Sealable cover against unauthorized changing of settings, for 3TK2820 safety relays	3	3TK2820-0AA00	1.11	41L
Sealable cover against unauthorized changing of settings, for 3TK2826 safety relays	3	3TK2826-0DA00-0HA0	2.53	41L
Sealable cover against unauthorized changing of settings, for other 3TK28 models	3	3RP1902	2.58	41H
Connecting / copying cable for 3TK2810.1 rpm monitor to encoder (RJ 45-cross cable)		3TK2810-0A	20.03	41L
Adapter for connecting 15-pole encoder to 3TK2810.1 rpm monitor		3TK2810-1A	59.98	41L
Adapter for connecting 25-pole encoder to 3TK2810.1 rpm monitor		3TK2810-1B	66.99	41L
Safety connector				
For mounting 2 contactors side by side in series for redundant switching.				
For SIRIUS contactors, series 3RT2.1, screw terminals (size S00)	4	3RA2916-1A	8.03	41B
For SIRIUS contactors, series 3RT2.2, screw terminals (size S0)	4	3RA2926-1A	8.03	41B

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Modular Safety System - SIRIUS 3RK3*

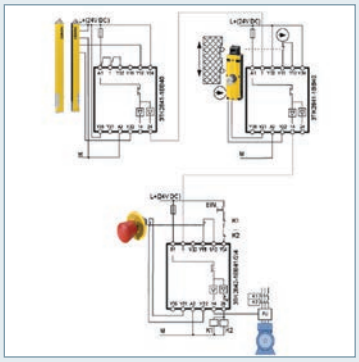
Description:	Fig.	Order number	L Price £	Prod. group
Modular Safety System, expandable, with freely parameterizable software, SIL3 / PL e, IP20, screw terminals, 24VDC:				
Basic module, 8 F-DI + 1 F-RO (relay output) + 1 F-DO (electr.output 24VDC), exp. with max. 7 modules	1	3RK3111-1AA10	449.10	42B
Expansion module 8 F-DI safety inputs	2	3RK3211-1AA10	105.16	42B
Expansion module 4 F-DI safety inputs + 2 F-RO safety relay outputs	2	3RK3221-1AA10	181.02	42B
Expansion module 4 F-DI safety inputs + 2 F-DO electronic safety relay outputs 24VDC	2	3RK3231-1AA10	168.95	42B
Expansion module 4 F-DO electronic safety outputs 24VDC	2	3RK3242-1AA10	210.33	42B
Expansion module 8 F-RO safety relay outputs	3	3RK3251-1AA10	277.56	42B
Expansion module 8 DI standard electronic inputs 24VDC (not suitable for safety signals)	4	3RK3321-1AA10	84.30	42B
Expansion module 8 DO standard electronic outputs 24VDC (not suitable for safety signals)	4	3RK3311-1AA10	105.16	42B
DP interface module for connection to PROFIbus-DP, 12Mbit/sec, RS485	5	3RK3511-1BA10	251.70	42B
Diagnostic display for MSS, suitable for front mounting in panel or switch box (dimensions 60x96 mm).	6	3RK3611-3AA00	198.26	42B
MSS starter package comprising: MSS basic unit + software MSS-ES + PC cable	1 +10 + 11	3RK3921-1AA10	639.60	42B
Accessories for Modular Safety System:				
Connection cable (flat cable) for connecting MSS-basic mod. to expansion/DP interface module, length 2.5cm	7	3UF7930-0AA00-0	5.87	42J
Connection cable (flat cable) for connecting MSS-basic mod. to diagnostic display, length 0.5m		3UF7930-0AA00-0	5.87	42J
Connection cable (round) for connecting MSS-basic module to diagnostic display, length 0.5m		3UF7932-0AA00-0	9.15	42J
Connection cable (round) for connecting MSS-basic module to diagnostic display, length 1.0 m		3UF7932-0BA00-0	17.43	42J
Connection cable (round) for connecting MSS-basic module to diagnostic display, length 2.5m		3UF7933-0BA00-0	21.65	42J
Cover for system interface	8	3UF7950-0AA00-0	4.41	42J
Memory module for parameterizing 3RK3 Modular Safety System without PC/PG	9	3RK3931-0AA00	18.13	42C
PC cable for connecting the MMS to the PC/PG serial interface	10	3UF7940-0AA00-0	38.13	42J
Parameterization software for Modular Safety System ES 2008 Standard, incl. 1 floating licence	11	3ZS1314-5CC10-0YA5	326.70	42B

SIRIUS 3RK3 Modular Safety System: Don't wire - parameterize!

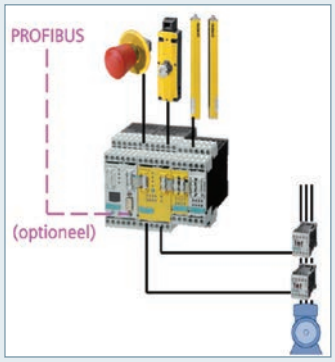


- Flexible safety system with modular assembly
- Save time with simple software parameterizing
- Save costs because you fit only those modules which are actually used
- Is already profitable from 3 safety functions onwards
- Simple to expand
- Expandable with Profibus DP communication module for diagnosis in PLC control
- Expandable with diagnostic display
- Complete "Technical Construction File" with fully assembled MSS safety application

Formerly



With SIRIUS 3RK3 MSS



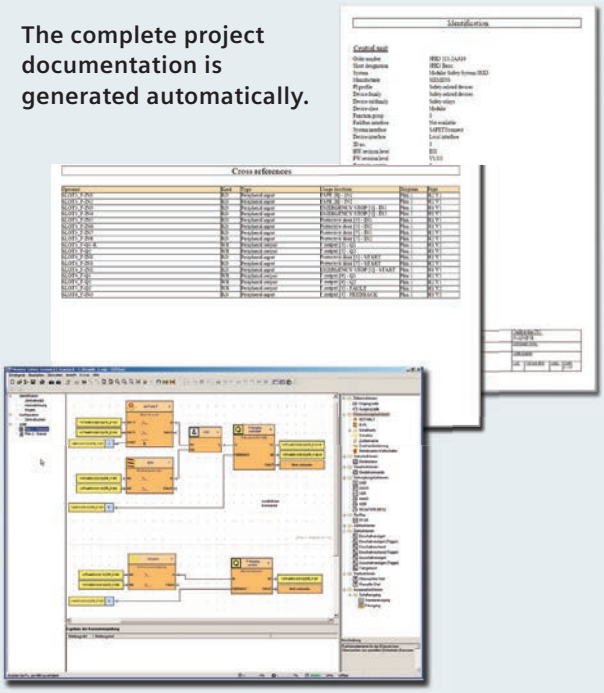
**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Motor Starters

Software MSS ES: Hardware and software advancement in programmes (Safety Relays continued)

Software MSS ES: Hardware and software structure in one program.

The complete project documentation is generated automatically.



Getting started – even when things get tight SIRIUS 3RM1 Motor Starters

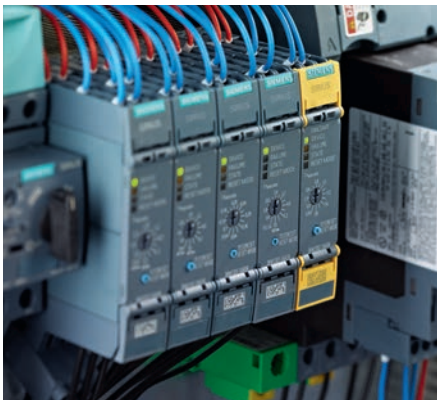
Space-saving systems require maximum efficiency and can pose significant challenges for system engineers. Systems and machinery are becoming increasingly compact and are expected to have smaller footprints, but at the same time they typically require more auxiliary drives. Because every inch counts in a control cabinet, SIRIUS 3RM1 Motor Starters are precisely tailored to meet these requirements and represent the solution for the development of cutting-edge and future-oriented systems.

Their innovative housing concept even received the internationally renowned iF product design award 2013. It's easy to get started: The new motor starters are so narrow that they fit into the smallest space.

In brief: SIRIUS 3RM1 Motor Starters – multifunctional with a width of just 22.5 mm.

Direct or or reversing starting – with SIRIUS 3RM1 Motor Starters, you can implement compact control cabinet solutions for small motors up to 3 kW.

In a width of just 22.5 mm there is now room for so many functions



Scan and learn more about space savings in control cabinets!

Narrow width

The motor starters are distinguished by their narrow width of just 22.5 mm. That saves room in the control cabinet and provides the ideal conditions for systems and machines with many small motors up to 3 kW.

Even subsequent expansions are easier to plan and implement: If more motors are needed in the system, thanks to their narrow width it's easy to add additional SIRIUS 3RM1 Motor Starters to the ones already installed in the control cabinet.

Multifunctional

Direct and reversing starters
Motor starters are available as direct starters or with a reversing starter function, all in a uniform housing design. The operation, configuration, and the width for both device types are identical.

Overload protection
Every motor starter is equipped with integrated electronic overload protection. In other words, you no longer need a separate overload relay when you use these motor starters. The result is lower wiring costs, shorter installation time and more room on the DIN rail.

Safe shutdown

To meet the requirements for safe shutdowns, SIRIUS 3RM1 Motor Starters are also available in a safety version. They can be used in combination with the modular safety relays to easily implement locally limited safety applications.

The motor starters for safe shutdowns are available as direct and reversing starters. They are certified in accordance with SIL 3/PL e Cat. 4.

SIRIUS 3RM1 Motor Starter - Order number overview

Order no.							Three-phase standard motor[1]	Adjustment range	L Price £	Prod. group
							Standard power rating P	Electronic overload releas		
3RM1	■	01	■	AA	■	4	0 ... 0.12 kW	0.1 ... 0.5 A		
3RM1	■	02	■	AA	■	4	0.09 ... 0.75 kW	0.4 ... 2.0 A		
3RM1	■	07	■	AA	■	4	0.55 ... 3 kW	1.6 ... 7.0 A, (10 A)[2]		
					0 1		DC 24 V AC 110 ... 230 V; DC 110 V	Rated control supply voltage Vs		
			1 2 3				Screw-type connection Spring-loaded connection Mixed connection technology	Connection technology		
	0 1 2 3						Direct starter Failsafe direct starter Reversing starter Failsafe reversing starter	Function	114.75 133.08 124.94 143.27	41D 41D 41D 41D

1) Base 4-pin with AC 400 V; the concrete start-up and rated data of the motor should be taken into consideration for the selection
2) Operation of ohmic loads with a maximum of 10 A
3) Mixed connection technology: control circuit implemented as a push-in spring-loaded connection and main circuit as a screw-type connection

Position switches and safety position switches

Safety relays - SIRIUS 3SE5*

All Siemens position and safety position switches are suitable for both standard applications and machine safety applications (all contact elements have mechanically driven break contacts to IEC 60947-51)

Description:	Fig.	Order number	L Price £	Prod. group
Plastic position switch (EN 50047), IP65, enclosure 31mm wide, 1xM20 cable entry, 1NO+1NC snap-action contact, 10A (AC15):				
Teflon plunger (basic switch), type B to EN 50047	1	3SE5232-0CC05	12.01	41K
Plastic plunger, with plastic roller 10mm, type C to EN 50047[1]	2	3SE5232-0HD03	15.42	41K
Plastic roller lever, with 13mm plastic roller, type E to EN 50047[1]	3	3SE5232-0HE10	17.63	41K
90° plastic roller lever, with 13mm plastic roller, sideways operation[1]	4	3SE5232-0HF10	17.63	41K
Plastic twist lever, with 19mm plastic roller, type A to EN 50047[1]	5	3SE5232-0HK21	18.08	41K
Plastic twist lever, with 19mm plastic roller, adjustable length[1]	6	3SE5232-0HK60	22.31	41K
Plastic actuator rod, adjustable length[1]	7	3SE5232-0HK82	22.75	41K
Aluminium actuator rod, adjustable length[1]	7	3SE5232-0HK80	21.99	41K
Spring lever with plastic top[1]	8	3SE5232-0HR01	22.56	41K
Plastic position switch (EN 50047), IP65, enclosure 31mm wide, 1xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Teflon plunger (basic switch), type B to EN 50047	1	3SE5232-0LC05	13.15	41K
Plastic plunger, with 10mm plastic roller, type C to EN 50047	2	3SE5232-0LD03	16.50	41K
Plastic roller lever, with 13mm plastic roller, type E to EN 50047	3	3SE5232-0LE10	18.64	41K
90° plastic roller lever, with 13mm plastic roller, sideways operation	4	3SE5232-0LF10	18.64	41K
Plastic twist lever, with 19mm plastic roller, type A to EN 50047	5	3SE5232-0LK21	19.15	41K
Plastic position switch (EN 50047), IP65, enclosure 50mm wide, 2xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Teflon plunger (basic switch)	9	3SE5242-0LC05	16.43	41K
Plastic plunger, with 10mm plastic roller	10	3SE5242-0LD03	19.84	41K
Plastic roller lever, with 13mm plastic roller	11	3SE5242-0LE10	22.06	41K
Plastic twist lever, with 19mm plastic roller	12	3SE5242-0LK21	22.56	41K
Metal position switch (EN 50047), IP67, enclosure 31mm wide, 1xM20 cable entry, 1NO+1NC snap-action contact, 10A (AC15):				
Teflon plunger (basic switch), type B to EN 50047	13	3SE5212-0CC05	16.50	41K
Stainless steel plunger	13	3SE5212-0CB01	28.86	41K
Plastic plunger, with 10mm plastic roller, type C to EN 50047	14	3SE5212-0CD03	19.91	41K
Plastic roller lever, with 13mm plastic roller, type E to EN 50047	15	3SE5212-0CE10	21.30	41K
90° plastic roller lever, with 13mm plastic roller, sideways operation	16	3SE5212-0CF10	21.30	41K
Plastic twist lever, with 19mm plastic roller, type A to EN 50047	17	3SE5212-0CK21	22.63	41K
Plastic twist lever, with 19mm plastic roller, adjustable length	18	3SE5212-0CK60	26.73	41K
Metal position switch (EN 50047), IP67, enclosure 31mm wide, 1xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Teflon plunger (basic switch), type B to EN 50047	13	3SE5212-0LC05	18.33	41K
Stainless steel plunger	13	3SE5212-0LB01	22.06	41K
Plastic plunger, with 10mm plastic roller, type C to EN 50047	14	3SE5212-0LD03	21.68	41K
Plastic roller lever, with 13mm plastic roller, type E to EN 50047	15	3SE5212-0LE10	23.13	41K
90° plastic roller lever, with 13mm plastic roller, sideways operation	16	3SE5212-0LF10	36.60	41K
Plastic twist lever, with 19mm plastic roller, type A to EN 50047	17	3SE5212-0LK21	24.52	41K
Plastic twist lever, with 19mm plastic roller, adjustable length	18	3SE5212-0LK60	28.44	41K

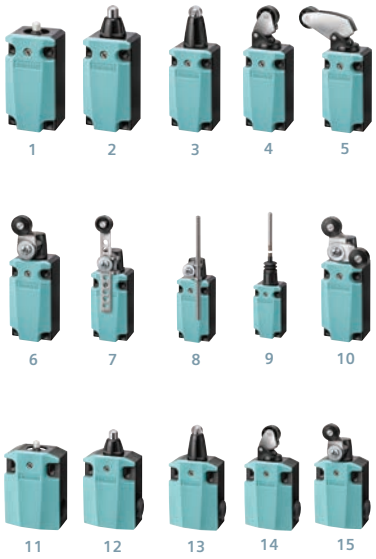
1) contact block not replaceable

Special designs of position switches to EN 50047 model:

- *Extra corrosion-resistant designs: see IC 10 2014 catalogue*
- *Plastic enclosure: see IC 10 2014 catalogue*
- *Models for extremely low ambient temperatures (- 40 °C): see IC 10 2014 catalogue*
- *ATEX models for use in explosive environments: see IC 10 2014 catalogue*
- *Position switches with integrated AS interface coupling: see IC 10 2014 catalogue*

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Position switches and safety position switches



Description:	Fig.	Order number	L Price £	Prod. group
Metal position switch (EN 50041), IP67, enclosure 40mm wide, 1xM20 cable entry, 1NO+1NC snap-action contact, 10A (AC15):				
Teflon plunger (basic switch)	1	3SE5112-0CA00	18.64	102
Metal plunger, type B to EN 50041	2	3SE5112-0CC02	30.72	102
Metal plunger, with 13mm plastic roller, type C to EN 50041	3	3SE5112-0CD02	34.19	102
Metal roller lever, with 22mm plastic roller	4	3SE5112-0CE01	29.32	102
90° metal roller lever, with 22mm plastic roller, sideways operation	5	3SE5112-0CF01	29.32	102
Metal twist lever, with 19mm plastic roller, type A to EN 50041	6	3SE5112-0CH01	32.86	102
Metal twist lever, with 19mm plastic roller, adjustable length	7	3SE5112-0CH60	36.28	102
Plastic actuator rod, adjustable length, type D to EN 50041	8	3SE5112-0CH82	37.98	102
Aluminium actuator rod, adjustable length, type D to EN 50041	8	3SE5112-0CH80	37.04	102
Spring lever with plastic top	9	3SE5112-0CR01	29.14	102
Fork lever actuator with 2 rollers	10	3SE5112-0CT11	54.29	102
Metal position switch (EN 50041), IP67, enclosure 40mm wide, 1xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Teflon plunger (basic switch)	1	3SE5112-0LA00	19.84	102
Metal plunger, type B to EN 50041	2	3SE5112-0LC02	31.92	102
Metal plunger, with 13mm plastic roller, type C to EN 50041	3	3SE5112-0LD02	35.20	102
Metal roller lever, with 22mm plastic roller	4	3SE5112-0LE01	30.40	102
90° metal roller lever, with 22mm plastic roller, sideways operation	5	3SE5112-0LF01	30.40	102
Metal twist lever, with 19mm plastic roller, type A to EN 50041	6	3SE5112-0LH01	34.00	102
Metal position switch (EN 50041), IP67, enclosure 56mm wide, 3xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Teflon plunger (basic switch)	11	3SE5122-0LA00	22.06	102
Metal plunger	12	3SE5122-0LC02	31.92	102
Metal plunger, with 13mm metal roller	13	3SE5122-0LD02	35.20	102
Metal roller lever, with 22mm plastic roller	14	3SE5122-0LE01	30.40	102
Metal twist lever, with 19mm plastic roller	15	3SE5122-0LH01	34.00	102

Special designs of position switches to EN 50041 model:

- *Extra corrosion-resistant designs: see IC 10 2014 catalogue*
- *Plastic enclosure: see IC 10 2014 catalogue*
- *Models for extremely low ambient temperatures (- 40 °C): see IC 10 2014 catalogue*
- *XL enclosure with max. 6 switching contacts: see IC 10 2014 catalogue*
- *ATEX models for use in explosive environments: see IC 10 2014 catalogue*
- *Position switches with integrated AS interface coupling: see IC 10 2014 catalogue*

Accessories for 3SE5 position switches*

Description:	Fig.	Order number	L Price £	Prod. group
Levers for small standard switches to EN 50047:				
Plunger lever with stainless plunger	1	3SE5000-0AB01	4.41	41K
Plastic plunger lever, with 10mm plastic roller, type C to EN 50047	2	3SE5000-0AD03	3.43	41K
Plastic plunger lever, with 10mm stainless steel roller, type C to EN 50047	2	3SE5000-0AD04	8.97	41K
Metal roller lever, with 13mm plastic roller, type E to EN 50047	3	3SE5000-0AE10	5.50	41K
Stainless steel roller lever, with 13mm stainless steel roller, type E to EN 50047	3	3SE5000-0AE13	13.84	41K
Plastic actuator head, with round spindle, for twist lever type A to EN 50047 (excl. twist lever)	4	3SE5000-0AK00	3.89	41K
Metal twist lever, with 19mm plastic roller, type A to EN 50047	5	3SE5000-0AA21	2.27	41K
Stainless steel twist lever, with stainless steel 19mm roller, type A to EN 50047	5	3SE5000-0AA32	9.35	41K
Levers for large standard switches to EN 50041:				
Metal plunger lever, stainless steel plunger, type B to EN 50041	6	3SE5000-0AC02	12.07	41K
Metal plunger lever, with 13mm stainless steel roller, type C to EN 50041	7	3SE5000-0AD02	15.48	41K
Metal roller lever, with 22mm plastic roller, type E to EN 50041	8	3SE5000-0AE01	10.68	41K
Stainless steel roller lever, with 22mm stainless steel roller, type E to EN 50041	8	3SE5000-0AE04	18.83	41K
Metal actuator head with round spindle, for twist lever type A to EN 50041 (excl. twist lever)	9	3SE5000-0AH00	11.19	41K
Metal twist lever, with 22mm plastic roller, type A to EN 50041	10	3SE5000-0AA01	2.98	41K
Stainless steel twist lever, with stainless steel 22mm roller, type A to EN 50041	10	3SE5000-0AA12	9.99	41K
Other levers/accessories:				
Metal twist lever, with 22mm plastic roller, adjustable length	11	3SE5000-0AA50	4.92	41K
Stainless steel twist lever, with 22mm stainless steel roller, adjustable length	11	3SE5000-0AA53	11.94	41K
Spring lever with plastic top	12	3SE5000-0AR01	10.49	41K
Spring lever with stainless steel top	12	3SE5000-0AR02	16.24	41K
Aluminium actuator rod, adjustable length	13	3SE5000-0AA80	6.09	41K
Plastic actuator rod, adjustable length	13	3SE5000-0AA82	6.95	41K
Contact block 1NO +1NC, slide contacts	14	3SE5000-0BA00	10.18	41K
Contact block 1 1NO +1NC, snap-action contacts	14	3SE5000-0CA00	9.54	41K
Contact block 1 1NO +2NC, slide contacts	15	3SE5000- 0KA00	11.38	41K
Contact block 1 1NO +2NC, snap-action contacts	15	3SE5000-0LA00	10.68	41K
LED cover, electric blue colour, plastic, for position switch 31mm wide (EN 50047), 24 VDC	16	3SE5230-1AA00	12.89	41K
LED cover, yellow colour, plastic, for safety position switch 31mm wide (EN 50047), 24 VDC		3SE5230-0AA00-1AG0	1.88	41K
LED cover, yellow colour, plastic, for safety position switch 31mm wide (EN 50047), 24 VDC		3SE5230-1AA00-1AG0	12.89	41K
LED cover, electric blue colour, metal, for position switch 40mm wide (EN 50041), 24 VDC		3SE5110-1AA00	13.52	41K
LED cover, yellow colour, metal, for safety position switch 40mm wide (EN 50041), 24 VDC		3SE5110-0AA00-1AG0	2.53	41K
LED cover, yellow colour, metal, for safety position switch 40mm wide (EN 50041), 24 VDC	17	3SE5110-1AA00-1AG0	13.52	41K

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Position switches and safety position switches

Position switches with moulded cables - SIRIUS 3SE5*

Description:	Fig.	Order number	L Price £	Prod. group
Metal position switch IP67, enclosure 30mm wide, 1NO+1NC snap-action contact, 10A (AC15):				
Metal plunger, 2m moulded cable (5x0.75mm2), with side cable exit	1	3SE5413-0CC20-1EA2	29.14	41K
Metal plunger, 5m moulded cable (5x0.75mm2), with side cable exit	1	3SE5413-0CC20-1EA5	36.85	41K
Metal plunger, M12 plug connector on side of enclosure	2	3SE5413-0CC20-1EB1	31.22	41K
Metal plunger with central fixing (M12), 2m moulded cable (5x0.75mm2), with side cable exit	3	3SE5413-0CC21-1EA2	32.67	41K
Metal plunger with rubber seal, 2m moulded cable (5x0.75mm2), with side cable exit	4	3SE5413-0CC22-1EA2	32.67	41K
Plunger with roller, 2m moulded cable with side cable exit	5	3SE5413-0CD20-1EA2	30.53	41K
Plunger with roller, 5m moulded cable with side cable exit	5	3SE5413-0CD20-1EA5	38.30	41K
Plunger with roller, M12 plug connector on side of enclosure	6	3SE5413-0CD20-1EB1	32.67	41K
Plunger with roller and central fixing (M12), 2m moulded cable (5x0.75mm2), with side cable exit	7	3SE5413-0CD21-1EA2	38.99	41K
Plunger with roller twisted 90°, 2m moulded cable with side cable exit	8	3SE5413-0CD23-1EA2	30.53	41K
Twist lever with roller, 2m moulded cable with side cable exit	9	3SE5413-0CN20-1EA2	31.98	41K
Twist lever with roller, 5m moulded cable with side cable exit	9	3SE5413-0CN20-1EA5	39.69	41K
Twist lever with roller, M12 plug connector on side of enclosure	10	3SE5413-0CN20-1EB1	34.06	41K
Metal position switch, IP67, enclosure 40mm wide, 1NO+1NC snap-action contact, 10A (AC15):				
Metal plunger, 2m moulded cable (5x0.75mm2), with bottom cable exit	11	3SE5423-0CC20-1EA2	35.58	41K
Metal plunger, M12 plug connector on bottom of enclosure	12	3SE5423-0CC20-1EB1	37.67	41K
Metal plunger with central fixing (M12), 2m moulded cable (5x0.75mm2), with bottom cable exit	13	3SE5423-0CC21-1EA2	40.45	41K
Metal plunger with rubber seal, 2m moulded cable (5x0.75mm2), with bottom cable exit	14	3SE5423-0CC22-1EA2	40.45	41K
Plunger with roller, 2m moulded cable with bottom cable exit	15	3SE5423-0CD20-1EA2	36.91	41K
Plunger with roller, M12 plug connector on bottom of enclosure	16	3SE5423-0CD20-1EB1	37.67	41K
Plunger with roller and central fixing (M12), 2m moulded cable (5x0.75mm2), with bottom cable exit		3SE5423-0CD21-1EA2	45.50	41K
Twist lever with roller, 2m moulded cable with bottom cable exit	17	3SE5423-0CN20-1EA2	38.36	41K
Twist lever with roller, M12 plug connector on bottom of enclosure	18	3SE5423-0CN20-1EB1	40.51	41K

Position switches without enclosure - SIRIUS 3SE5*

Description:	Fig.	Order number	L Price £	Prod. group
Position switches without enclosure, plastic, IP20 / IP10, 30mm wide, with Teflon operating plunger, 6A (AC15):				
1NO+1NC, slide contacts, IP20	1	3SE5250-0BC05	13.40	41K
1NO+1NC, snap-action contacts, IP20	1	3SE5250-0CC05	12.58	41K
1NO+2NC, slide contacts, IP20	2	3SE5250-0KC05	13.40	41K
1NO+2NC, snap-action contacts, IP20	2	3SE5250-0LC05	12.58	41K

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Gate locking switches - SIRIUS 3SE5*

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Description:	Fig.	Order number	L Price £	Prod. group
Plastic gate monitoring switch with locking function, IP66/IP67, enclosure 54mm wide, 3xM20 cable entry, 24 V DC, 1NO+2NC / 1NO+2NC 6A (AC15):				
Spring locked, 1300N, with auxiliary release	1	3SE5322-0SD21	134.62	41K
Spring locked, 1300N, auxiliary release with lock	2	3SE5322-0SE21	156.74	41K
Spring locked, 1300N, escape release from front	3	3SE5322-0SF21	166.22	41K
Spring locked, 1300N, escape release from back and auxiliary release from front	4	3SE5322-0SG21	187.07	41K
Magnetically locked, 1300N, with auxiliary release	1	3SE5322-0SB21	137.14	41K
Metal gate monitoring switch with locking function, IP66/IP67, enclosure 54mm wide, 3xM20 cable entry, 24 V DC, 1NO+2NC / 1NO+2NC 6A (AC15):				
Spring locked, 2600N, with auxiliary release	1	3SE5312-0SD11	176.33	41K
Spring locked, 2600N, auxiliary release with lock	2	3SE5312-0SE11	197.82	41K
Spring locked, 2600N, escape release from front	3	3SE5312-0SF11	207.30	41K
Spring locked, 2600N, escape release from back and auxiliary release from front	4	3SE5312-0SG11	228.15	41K
Magnetically locked, 2600N, with auxiliary release	1	3SE5312-0SB11	180.75	41K
Accessories for 3SE5 position switches:				
Actuator straight (for gate monitoring switch)	5	3SE5000-0AV01	3.56	41K
Actuator 90°, vertical (for gate monitoring switch)	6	3SE5000-0AV02	4.08	41K
Actuator 90°, horizontal (for gate monitoring switch)	7	3SE5000-0AV03	4.08	41K
Universal radius actuator (for gate monitoring switch)	8	3SE5000-0AV05	18.64	41K
Universal radius actuator (for gate monitoring switch)	9	3SE5000-0AV07	40.51	41K

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Description:	Fig.	Order number	L Price £	Prod. group
Mechanical gate locks: (accompanying SIRIUS 3SE5312/-322 gate locking switch to be ordered separately)				
AXELENT X-lock, for doors with lock on the left, suitable for revolving and sliding doors		L66-20L	*	
AXELENT X-lock, for doors with lock on the right, suitable for revolving and sliding doors	1	L66-20R	*	

** AXELENT door locks can be ordered direct from:*
AXELENT GmbH, Sigmaringer Strasse 122, 70567 Stuttgart-Möhringer, Germany
Tel.: ***0049 711 2525090****, Fax:* ***0049 711 25250949****, E-mail:* ***sales@axelent.de****, internet:* ***www.axelent.de***

2

Inga Tools, suitable for doors with lock on the left or right, for revolving and sliding doors	2	I-SIE-0004-07-R	**	

*** Inga Tools door locks can be ordered direct from:*
Inga Tools GmbH, Neckarstrasse 10, 38120 Braunschweig, Germany
Tel.: ***0049 531 390440****, Fax:* ***0049 531 3904429****, internet:* ***www.ingatools.de***

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Gate monitoring & Cable-operated switches

Gate monitoring switches - SIRIUS 3SE5*

Description:	Fig.	Order number	L Price £	Prod. group
Gate monitoring switch (EN 50047), IP65, enclosure 31mm wide, 1xM20 cable entry, 1NO+2NC slide contact, 6A (AC15):				
Plastic enclosure, gate monitoring switch with separate actuator	1	3SE5232-0QV40	26.99	41K
Plastic enclosure, gate monitoring switch with separate actuator, increased extraction force 30N	1	3SE5232-0QV40-1AA1	28.38	41K
Metal enclosure, gate monitoring switch with separate actuator	1	3SE5212-0QV40	32.23	41K
Gate monitoring switch (EN 50041), IP67 enclosure 40mm wide, 1xM20 cable entry, 1NO+2NC slide contact, 6A (AC15):				
Plastic enclosure, gate monitoring switch with separate actuator	2	3SE5132-0QV20	29.26	41K
Metal enclosure, gate monitoring switch with separate actuator	2	3SE5112-0QV10	47.08	41K
Metal enclosure, gate monitoring switch with separate actuator, increased extraction force 30N	2	3SE5112-0QV10-1AA7	49.86	41K
Accessories for 3SE5 position switches:				
Actuator straight (for gate monitoring switch)	3	3SE5000-0AV01	3.56	41K
Actuator 90°, vertical (for gate monitoring switch)	4	3SE5000-0AV02	4.08	41K
Actuator 90°, horizontal (for gate monitoring switch)	5	3SE5000-0AV03	4.08	41K
Universal radius actuator (for gate monitoring switch)	6	3SE5000-0AV05	18.64	41K
Universal radius actuator (for gate monitoring switch)	7	3SE5000-0AV07	40.51	41K
Plastic gate monitoring switch 3SE2243, IP67 enclosure 52mm wide, 3xM20 cable entry, 1NO+2NC slide contact, 6A (AC15):				
Gate monitoring switch with separate actuator, extraction force 5N	8	3SE2243-0XX40	25.28	41K
Gate monitoring switch with separate actuator, extraction force 30N	8	3SE2243-0XX	26.48	41K
Gate monitoring switch with separate actuator, with automatic actuator ejection	8	3SE2243-0XX30	26.48	41K
Accessories for 3SE2243 gate monitoring switches:				
Actuator straight (for gate monitoring switch)	9	3SX3218	2.91	41K
Universal radius actuator (for gate monitoring switch)	10	3SX3228	6.89	41K

Cable-operated switches - SIRIUS 3SE7*

Description:	Fig.	Order number	L Price £	Prod. group
Metal cable-operated switch IP65/IP67, 1xM20 cable entry, snap-action contact, 6A (AC15):				
Cable length max. 10m, with release function, 1NO+2NC, enclosure with yellow cover	1	3SE7120-1BH00	121.98	41K
Cable length max. 25m, with release function, 1NO+1NC	2	3SE7150-1BD00	111.23	41K
Cable length max. 25m, with release function, 1NO+2NC, enclosure with yellow covert	1	3SE7150-1BH00	121.98	41K
Cable length max. 50m, with release function, 1NO+1NC	3	3SE7140-1BD00	259.75	41K
Cable length max. 50m, with release function, 2NC	3	3SE7140-1BF00	259.75	41K
Cable length max. 75m, with release function and emergency-stop button, 1NO+3NC	4	3SE7141-1EG10	223.73	41K
Cable length max. 2x75m, with release function, 2NO+2NC	5	3SE7160-1AE00	276.82	41K
Accessories for cable-operated switches:				
Steel cable with red plastic sleeve, 4mm diameter, length 10m.	6	3SE7910-3AA	38.36	41K
Steel cable with red plastic sleeve, 4mm diameter, length 20m.	6	3SE7910-3AC	75.84	41K
Steel cable with red plastic sleeve, 4mm diameter, length 50m.	6	3SE7910-3AH	190.23	41K
Cable clamp (duplex), suitable for 4mm cable (min. order 4 pcs)	7	3SE7941-1AC	6.95	41K
Pretensioning spring 35N (max.cable length 2x50m)	8	3SE7931-1AD	16.50	41K
Pretensioning spring 35N (max. cable length 2x75m)	8	3SE7931-1AE	18.71	41K
Turnbuckle, M6x60	9	3SE7950-1AB	8.15	41K
Cable pulley, suitable for 4mm cable	10	3SE7921-1AC	8.97	41K
Cable mount (U shape), incl. nuts	11	3SE7921-1AA	2.14	41K
Cable mount (eye bolt), M8, incl. nut	12	3SE7920-1AB	5.44	41K
Thimble, suitable for 4mm cable (min. order 4 pcs)	13	3SE7930-1AD	1.30	41K

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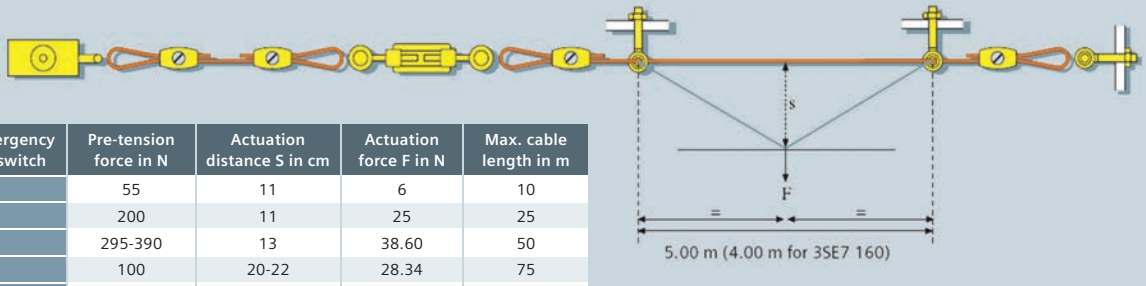
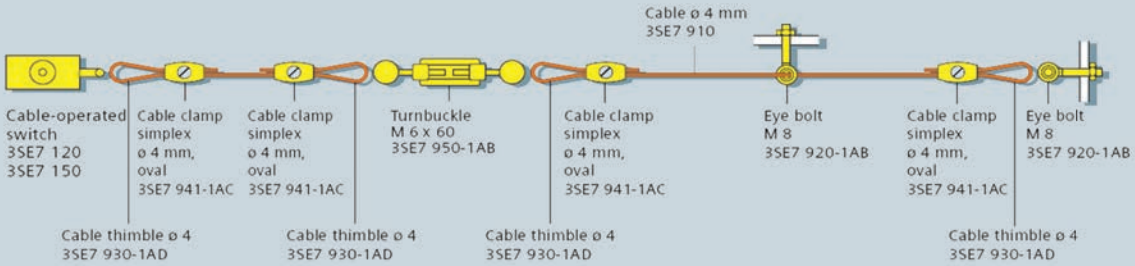
Cable-operated assembly instructions

Cable pretensions and operating forces

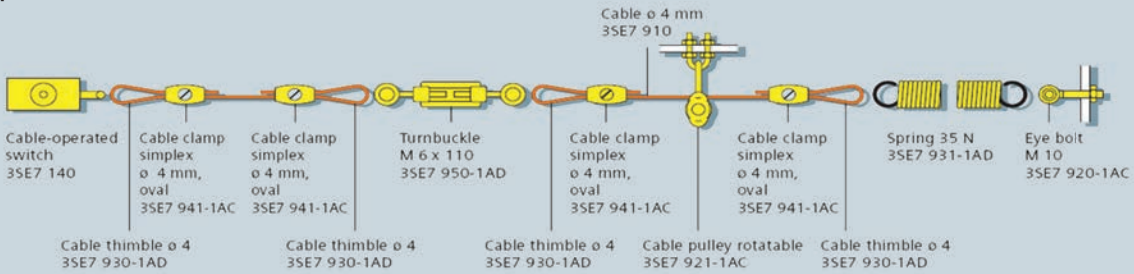


Cable tension Emergency SWITCHING-OFF switch	Pre-tension force in N	Actuation distance S in cm	Actuation force F in N	Max. cable length in m
3SE7 120-1BF00	55	11	6	10
3SE7 150	200	11	25	25
3SE7 140	295-390	13	38.60	50
3SE7 141	100	20-22	28.34	75
3SE7 160	-	32-40	45.85	2x75

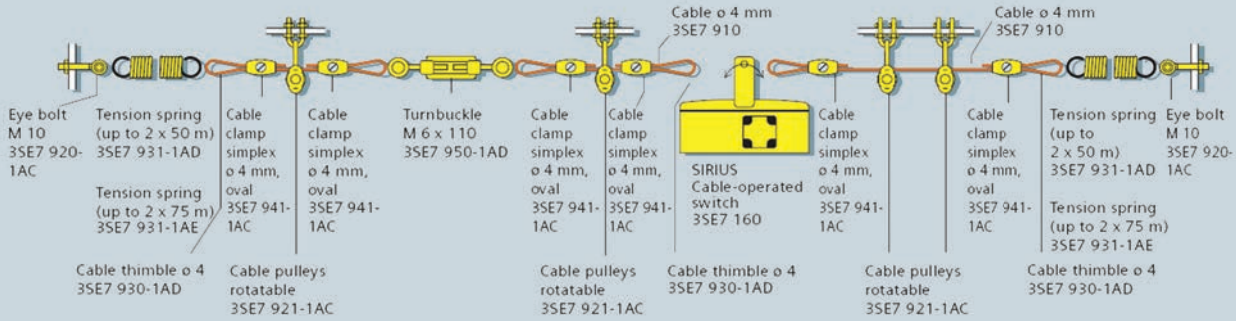
Cable lengths up to 25m



Cable lengths up to 50m



Cable lengths up to 2x75m



Hinge Switches

Hinge switches - SIRIUS 3SE5*

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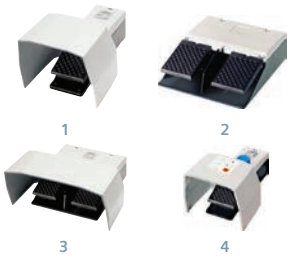
3

Description:	Fig.	Order number	L Price £	Prod. group
Plastic hinge switch, IP65, enclosure 31mm wide (EN 50047) 1xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Hinge switch, hollow pin, opening angle 10°		3SE5232-0LU21	25.22	41K
Hinge switch, solid pin, opening angle 10°	1	3SE5232-0LU22	25.22	41K
Metal hinge switch, IP67, enclosure 40mm wide (EN 50041), 1xM20 cable entry, 1NO+2NC snap-action contact, 6A (AC15):				
Hinge switch, hollow pin, opening angle 10°	2	3SE5112-0LU21	31.92	41K
Hinge switch, solid pin, opening angle 10°		3SE5112-0LU22	36.97	41K
Plastic hinge switch integrated into aluminium hinge, IP65 2xM20 cable entry, 1NO+2NC slide contact, 2A (AC15):				
Hinge switch, hollow pin, opening angle 4°. Supply includes 2nd hinge and fasteners	3	3SE2283-0GA43	114.39	41K

Foot switches - SIRIUS 3SE29*


1 2 3 4

Description:	Fig.	Order number	L Price £	Prod. group
Metal foot switch IP65, 1xM20 cable entry, 2NO+2NO slide contacts, 6A (AC15):				
1 pedal, switching, without protective cover		3SE2903-1AB20	72.05	41K
1 pedal, switching, with protective cover	1	3SE2903-1AA20	105.54	41K
2 pedals, switching, without protective cover	2	3SE2932-1AB20	120.71	41K
2 pedals, switching, with protective cover	3	3SE2932-1AA20	171.90	41K
Safety foot switch to ISO 13850,1 pedal, switching (NO) and latching (NC), with protective cover	4	3SE2924-3AA20	175.06	41K

Two-hand operation consoles - SIRIUS 3SB38*

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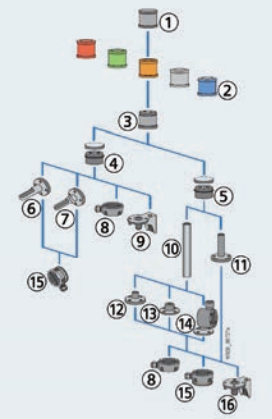
Description:	Fig.	Order number	L Price £	Prod. group
Two-hand operation consoles, 3 x pushbutton black with 1NO+1NC, emergency-stop button 40mm turn-to-release with 2NC IP65:				
Metal enclosure	1	3SB3863-4BB	289.46	41J
Plastic enclosure	1	3SB3863-1BB3	167.48	41J
Accessories for two-hand operation consoles:				
Stand for two-hand operation console	2	3SB3901-0AQ3	309.68	41J

Signalling columns - SIRIUS 8WD



1 Acoustic element **8WD44**
2 Light element **8WD44**
3 AS-Interface adapter element **8WD4428-0BD/8WD4428-0BE**
4 Connection element for bracket, base and floor mounting **8WD4408-0AB/8WD4408-0AE**
5 Connection element for pipe mounting **8WD4408-0AA/8WD4408-0AD**
6 Bracket for wall mounting **8WD4308-0CA**
7 Bracket for wall mounting (two-side) **8WD4308-0CB**
8 Connection for socket **8WD4308-0DD**
9 Bracket for base mounting **8WD4408-0CD**
10 Pipe **8WD42/8WD43**
11 Foot with pipe **8WD4308-0DA**
12 Foot with pipe mounting **8WD4308-0DB**
13 Foot for pipe mounting (>400 mm) **8WD4308-0DC**
14 Foldaway foot for pipe mounting **8WD4408-0DF**
15 Connection socket (magnetic mounting) **8WD4308-0DE**
16 Bracket for foot mounting **8WD4408-0CC**

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Signalling columns - SIRIUS 8WD*

Signalling columns, small design (50mm diameter): see catalogue: IC 10 2014 catalogue

Description:	Fig.	Order number	L Price £	Prod. group
Signalling unit, optical, plastic, diameter 70mm, IP 65, max. 5 elements, screw terminal, integrated LED, steady, 24 V AC / DC:				
Signalling element, steady, red	1	8WD4420-5AB	47.46	41J
Signalling element, steady, green	2	8WD4420-5AC	47.46	41J
Signalling element, steady, orange	3	8WD4420-5AD	47.46	41J
Signalling element, steady, clear	4	8WD4420-5AE	50.81	41J
Signalling element, steady, blue	5	8WD4420-5AF	50.81	41J
Signalling element, optical, plastic, diameter 70mm, IP 65, max. 5 units, screw terminal, BA15d lamp socket, 12-230 VAC / DC:				
Signalling element, red (excl. lamp)	1	8WD4400-1AB	24.77	41J
Signalling element, green (excl. lamp)	2	8WD4400-1AC	24.77	41J
Signalling element, orange (excl. lamp)	3	8WD4400-1AD	24.77	41J
Signalling element, clear (excl. lamp)	4	8WD4400-1AE	24.77	41J
Signalling element, blue (excl. lamp)	5	8WD4400-1AF	24.77	41J
Signalling element, optical, plastic, diameter 70mm, IP 65, max. 5 units, screw terminal, integrated LED, flashing, 24 V AC / DC:				
Signalling element, flashing, red	1	8WD4420-5BB	62.63	41J
Signalling element, flashing, green	2	8WD4420-5BC	62.63	41J
Signalling element, flashing, orange	3	8WD4420-5BD	62.63	41J
Signalling element, acoustic, plastic, diameter 70mm, IP 65, screw terminal, 24 V AC / DC:				
Buzzer element, 85dB	6	8WD4420-0FA	47.15	41J
Multitone siren element, 100dB	6	8WD4420-0EA2	68.89	41J
Siren element, 108dB (IP40)	6	8WD4420-0EA	47.91	41J
AS interface adapter element, diameter 70mm, IP 65, 24 V AC / DC:				
AS interface adapter element for 8WD44 series, A/B technology, max. 3 signalling elements, 24 V DC	7	8WD4428-0BD	133.35	41J
Flush mount signalling lamps, optical, diameter 70mm, IP 65, screw terminal, integrated LED, steady, 24 V AC / DC:				
Signalling element, steady, red	8	8WD5320-5AB	86.58	41J
Signalling element, steady, green	9	8WD5320-5AC	86.58	41J
Signalling element, steady, orange	10	8WD5320-5AD	86.58	41J
Flush mount signalling lamps, optical, plastic, diameter 70mm, IP 65, screw terminal, BA15d lamp socket, 12-230 V AC / DC:				
Signalling element, red (excl. lamp)	8	8WD5300-1AB	32.80	41J
Signalling element, green (excl. lamp)	9	8WD5300-1AC	32.80	41J
Signalling element, orange (excl. lamp)	10	8WD5300-1AD	32.80	41J
Signalling element, clear (excl. lamp)	11	8WD5300-1AE	32.80	41J
Signalling element, blue (excl. lamp)	12	8WD5300-1AF	32.80	41J
Accessories for signalling columns:				
Connection element + cover, for pipe mounting, screw terminals	13	8WD4408-0AA	28.06	41J
Connection element + cover, for mounting on foot/wall bracket, screw terminals	13	8WD4408-0AB	27.56	41J
Foot with 100 mm pipe (for use with 8WD4408-0AA)	14	8WD4308-0DA	24.90	41J
Plastic foot, for mounting on ≤ 400mm pipe (for use with 8WD4408-0AA)	15	8WD4308-0DB	14.03	41J
Metal foot, for mounting on ≤ 400mm pipe (for use with 8WD4408-0AA)	15	8WD4308-0DC	29.96	41J
Plastic foot, adjustable 7.5° for mounting on pipe (for use with 8WD4408-0AA)	16	8WD4408-0DF	52.08	41J
Pipe, aluminium, 150mm	17	8WD4308-0EE	23.07	41J
Pipe, aluminium, 250mm	17	8WD4308-0EA	15.67	41J
Pipe, aluminium, 400mm	17	8WD4308-0EB	21.30	41J
Pipe, aluminium, 1000mm	17	8WD4308-0ED	50.24	41J
Wall bracket (for use with 8WD4408-0AB)	18	8WD4308-0CA	15.86	41J
Wall bracket with cable gland (for use with 8WD4408-0AB)	19	8WD4408-0CD	12.01	41J
Lamp BA15d, 24 V AC / DC (min. order 10 pcs)	20	8WD4328-1XX	3.43	41J
Lamp BA15d, 115 V AC (min. order 10 pcs)	20	8WD4348-1XX	3.82	41J
Lamp BA15d, 230 V AC (min. order 10 pcs)	20	8WD4358-1XX	3.82	41J
LED BA15d, red, 24 V AC / DC	21	8WD4428-6XB	30.40	41J
LED BA15d, green, 24 V AC / DC	21	8WD4428-6XC	30.40	41J
LED BA15d, orange, 24 V AC / DC	21	8WD4428-6XC	30.40	41J
LED BA15d, clear, 24 V AC / DC	21	8WD4428-6XE	33.94	41J
LED BA15d, blue, 24 V AC / DC	21	8WD4428-6XF	33.94	41J

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Safety Magnets

Safety magnets - SIRIUS 3SE6*

7 8

9 10

11 12

Description:	Fig.	Order number	L Price £	Prod. group
Plastic safety magnets, IP67:				
Switching magnet, 25x88mm, coded	1	3SE6704-2BA	12.20	41K
Switch block, 25x88mm, 1NO+1NC, 3m cable	2	3SE6605-2BA	39.25	41K
Switch block, 25x88mm, 2NC, 3m cable	2	3SE6604-2BA	50.31	41K
Switch block, 25x88mm, 1NO+1NC, M8 plug connector	2	3SE6605-2BA01	51.70	41K
Switch block, 25x88mm, 2NC, M8 plug connector	2	3SE6604-2BA01	62.69	41K
Switching magnet, 25x33mm, coded	3	3SE6704-3BA	12.20	41K
Switch block, 25x33mm, 1NO+1NC, 3m cable	4	3SE6605-3BA	39.25	41K
Switching magnet, round 30mm, coded	5	3SE6704-1BA	17.19	41K
Switch block, round 30mm, 1NO+1NC, 3m cable	6	3SE6605-1BA	43.42	41K
Safety relays for safety magnets:				
For connecting 1 set of safety magnets, Cat.4 / SIL3 / PL e, 24 VDC, 2NO (transistor) 1.5A (DC13)	7	3TK2841-1BB40	112.50	41L
For connecting 6 sets of safety magnets, Cat.3 / SIL2 / PL d, 24 V DC, 2NO+1NC (relay) 6A (AC15)	8	3SE6806-2CD00	270.50	41K
Accessories for safety magnets:				
Fill-up element 25x88mm	9	3SX3260	6.89	41K
Fill-up element 25x33mm	10	3SX3261	6.89	41K
Non-Contact RFID Safety Switches				
Family coded, M12 plug	11	3SE6315-0BB01	97.33	41K
Family coded, M12 plug with magnetic latching	11	3SE6315-1BB01	136.51	41K
Individually coded, Multiple teach-in capability, M12 plug	11	3SE6315-0BB02	142.83	41K
Individually coded, Multiple teach-in capability, M12 plug with magnetic latching	11	3SE6315-1BB02	179.49	41K
Individually coded, Single teach-in capability, M12 plug	11	3SE6315-0BB03	156.74	41K
Individually coded, Single teach-in capability, M12 plug with magnetic latching	11	3SE6315-1BB03	196.55	41K
RFID actuator standard	12	3SE6310-0BC01	18.64	41K
RFID actuator with magnetic latching 18N	12	3SE6310-1BC01	58.33	41K

Flush mount (emergency-stop) pushbuttons & signalling lamps - SIRIUS 3SB3*

1 2

3 4 5

Description:	Fig.	Order number	L Price £	Prod. group
Emergency-stop pushbuttons, plastic, flush mount, round 22mm, IP66, incl. holder: (Delivery excl. contact block. Consult pushbutton accessories for contact blocks needed.)				
Emergency-stop pushbutton, plastic, 40mm dia., turn to unlatch	1	3SB3000-1HA20	13.46	41J
Emergency-stop pushbutton, plastic, 60mm dia., turn to unlatch	2	3SB3000-1AA20	14.92	41J
Emergency-stop pushbutton, plastic, 40mm dia., with CES lock, turn to unlatch	3	3SB3000-1KA20	42.28	41J
Emergency-stop pushbutton, plastic, 40mm dia., pull to unlatch	4	3SB3000-1TA20	13.46	41J
Emergency-stop pushbutton, plastic, 40mm dia., with LED-illuminated yellow backing plate - assembly of 3SB3000-1..20 + 3SB3921-0DA.	5			

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Pushbuttons & signalling lamps - flush mount

Flush mount (emergency-stop) pushbuttons & signalling lamps - SIRIUS 3SB3* (continued)

Description:	Fig.	Order number	L Price £	Prod. group
Pushbuttons/signalling lamps, plastic, flush mount, round 22mm, IP66, incl. holder:				
Pushbutton, flat, plastic, black	6	3SB3000-0AA11	4.54	41J
Pushbutton, flat, plastic, red	7	3SB3000-0AA21	4.54	41J
Pushbutton, flat, plastic, yellow	8	3SB3000-0AA31	4.54	41J
Pushbutton, flat, plastic, green	9	3SB3000-0AA41	4.54	41J
Pushbutton, flat, plastic, blue	10	3SB3000-0AA51	4.54	41J
Pushbutton, flat, plastic, white	11	3SB3000-0AA61	4.54	41J
Pushbutton, flat, plastic, clear	12	3SB3000-0AA71	4.54	41J
Illuminated pushbutton, flat, plastic, red, incl. holder for snapping on 3 elements	13	3SB3001-0AA21	5.32	41J
Illuminated pushbutton, flat, plastic, yellow incl. holder for snapping on 3 elements	14	3SB3001-0AA31	5.32	41J
Illuminated pushbutton, flat, plastic, green, incl. holder for snapping on 3 elements	15	3SB3001-0AA41	5.32	41J
Illuminated pushbutton, flat, plastic, blue, incl. holder for snapping on 3 elements	16	3SB3001-0AA51	5.32	41J
Illuminated pushbutton, flat, plastic, white, incl. holder for snapping on 3 elements	17	3SB3001-0AA61	5.32	41J
Illuminated pushbutton, flat, plastic, clear, incl. holder for snapping on 3 elements	18	3SB3001-0AA71	5.32	41J
Selector switch, plastic, black, 2 positions, latching, O / I	19	3SB3000-2KA11	7.52	41J
Selector switch, plastic, black, 2 positions, momentary contact type, O / I	19	3SB3000-2LA11	7.52	41J
Selector switch, plastic, black, 3 positions, latching, I / O / II	19	3SB3000-2DA11	7.52	41J
Selector switch, plastic, black, 3 positions, momentary contact type, I / O / II	19	3SB3000-2EA11	7.52	41J
Key switch, RONIS, plastic, latching, O / I, key removable in 2 positions	20	3SB3000-4AD11	16.56	41J
Key switch, CES, plastic, latching, O / I, key removable in 2 positions	21	3SB3000-4LD11	34.25	41J
Illuminated twin pushbuttons, plastic, flush mount, round 22mm, IP65, incl. holder: (Delivery excl. contact block/lamp. Consult pushbutton accessories for contact blocks needed.)				
Illuminated twin pushbuttons, flat, plastic, green/red, 2 pos., I / O, incl. holder for snapping on 3 elements	22	3SB3101-8BC21	9.29	41J
Illuminated twin pushbuttons, flat, plastic, white/black, 2 pos., I / O, incl. holder for snapping on 3 elements	23	3SB3101-8BC31	9.29	41J
Emergency-stop pushbuttons, metal, flush mount, 22mm, IP67, incl. holder: (Delivery excl. contact block. Consult pushbutton accessories for contact blocks needed.)				
Emergency-stop pushbutton, metal, 40mm dia., turn to unlatch	24	3SB3500-1HA20	14.66	41J
Emergency-stop pushbutton, metal, 60mm dia., turn to unlatch	25	3SB3500-1AA20	16.12	41J
Emergency-stop pushbutton, metal, 40mm dia., with CES lock, turn to unlatch	26	3SB3500-1KA20	46.01	41J
Emergency pushbutton, metal, 40mm dia., pull to unlatch	27	3SB3500-1TA20	14.66	41J
Emergency-stop pushbutton, metal, 40mm dia., with LED-illuminated yellow backing plate - assembly of 3SB3500-1..20 + 3SB3921-0DA.	28			
Pushbuttons/signalling lamps, metal, flush mount, round 22mm, IP67, incl. holder: (Delivery excl. contact block/lamp. Consult pushbutton accessories for contact blocks needed)				
Pushbutton, flat, metal, black	29	3SB3500-0AA11	5.06	41J
Pushbutton, flat, metal, red	30	3SB3500-0AA21	5.06	41J
Pushbutton, flat, metal, yellow	31	3SB3500-0AA31	5.06	41J
Pushbutton, flat, metal, green	32	3SB3500-0AA41	5.06	41J
Pushbutton, flat, metal, blue	33	3SB3500-0AA51	5.06	41J
Pushbutton, flat, metal, white	34	3SB3500-0AA61	5.06	41J
Pushbutton, flat, metal, clear	35	3SB3500-0AA71	5.06	41J
Illuminated pushbutton, flat, metal, red, incl. holder for snapping on 3 elements	36	3SB3501-0AA21	5.83	41J
Illuminated pushbutton, flat, metal, yellow, incl. holder for snapping on 3 elements	37	3SB3501-0AA31	5.83	41J
Illuminated pushbutton, flat, metal, green, incl. holder for snapping on 3 elements	38	3SB3501-0AA41	5.83	41J
Illuminated pushbutton, flat, metal, blue, incl. holder for snapping on 3 elements	39	3SB3501-0AA51	5.83	41J
Illuminated pushbutton, flat, metal, white, incl. holder for snapping on 3 elements	40	3SB3501-0AA61	5.83	41J
Illuminated pushbutton, flat, metal, clear, incl. holder for snapping on 3 elements	41	3SB3501-0AA71	5.83	41J
Selector switch, metal, black, 2 positions, latching, O / I	42	3SB3500-2KA11	8.22	41J
Selector switch, metal, black, 2 positions, momentary contact type, O / I	42	3SB3500-2LA11	8.22	41J
Selector switch, heavy duty, metal, black, 2 positions, latching, O / I	43	3SB3500-2PA11	10.87	41J
Selector switch, heavy duty, metal, black, 2 positions, momentary contact type, O / I	43	3SB3500-2QA11	10.87	41J
Selector switch, metal, black, 3 positions, latching, I / O / II	42	3SB3500-2DA11	8.22	41J
Selector switch, metal, black, 3 positions, momentary contact type, I / O / II	42	3SB3500-2EA11	8.22	41J
Selector switch, heavy-duty, metal, black, 3 positions, latching, I / O / II	43	3SB3500-2SA11	10.87	41J
Selector switch, heavy-duty, metal, black, 3 positions, momentary contact type, I / O / II	43	3SB3500-2TA11	10.87	41J
Key switch, RONIS, metal, latching, O / I, key removable in 2 positions	44	3SB3500-4AD11	17.89	41J
Key switch, CES, metal, latching, O / I, key removable in 2 positions	45	3SB3500-4LD11	37.29	41J

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Pushbuttons & signalling lamps - flush mount

Flush mount (emergency-stop) pushbuttons & signalling lamps - SIRIUS 3SB3* (continued)

Pushbuttons and signalling lamps, round 16mm and square 26mm: see catalogue: IC 10 2014 catalogue

46 47 48

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51 52

53 54

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Description:	Fig.	Order number	L Price £	Prod. group
Accessories for flush-mount pushbuttons/signalling lamps:				
Contact block 1NC, screw terminals	46	3SB3400-0C	3.17	41J
Contact block 1NO, screw terminals	46	3SB3400-0B	3.17	41J
Contact block 1NC + 1NC, screw terminals	47	3SB3400-0A	4.86	41J
Contact block 1NC + 1NC, make-before-break contact, screw terminals	47	3SB3400-0H	6.70	41J
Contact block 2NO, screw terminals	47	3SB3400-0D	6.70	41J
Contact block 2NC, screw terminals	47	3SB3400-0E	6.70	41J
Contact block with mounting monitoring1NC, screw terminals	48	3SB3400-0M	7.20	41J
Pushbutton holder for clicking on 3 elements (min. order 10 pcs)	49	3SB3901-0AB	0.22	41J
Holder for selector/key switch with pressure mechanism for actuating central switch block (min. order 10 pcs)	50	3SB3901-0AC	0.29	41J
Yellow backing plate for emergency stop, round 80 mm (sticker), w/o inscription	51	3SB3921-0AB	2.27	41J
Yellow backing plate for emergency stop, round 80mm (sticker), inscription: 'Emergency stop'	51	3SB3921-0CM	2.27	41J
Yellow backing plate for emergency stop, round 60mm (sticker), inscription: 'Emergency stop'		3SB3921-0CL	2.27	41J
Yellow backing plate for emerg. stop, round 80 mm (sticker), 4 language (English/German/French/Italian)	51	3SB3921-0BW	2.53	41J
LED-illuminated yellow backing plate for emerg. stop, round 60mm, 24 V AC/DC, w/o inscription	52	3SB3921-0DA	39.88	41J
Lampholder with integrated LED, yellow, 24 V AC / DC, screw terminals	53	3SB3400-1PA	4.54	41J
Lampholder with integrated LED, red, 24 V AC / DC, screw terminals	53	3SB3400-1PB	4.54	41J
Lampholder with integrated LED, green, 24 V AC / DC, screw terminals	53	3SB3400-1PC	4.54	41J
Lampholder with integrated LED, blue, 24 V AC / DC, screw terminals	53	3SB3400-1PC	4.54	41J
Lampholder with integrated LED, clear, 24 V AC / DC, screw terminals	53	3SB3400-1PE	4.54	41J
Lampholder with integrated LED, yellow, 110 V AC, screw terminals	53	3SB3400-1QA	8.03	41J
Lampholder with integrated LED, red, 110 V AC, screw terminals	53	3SB3400-1QB	8.03	41J
Lampholder with integrated LED, green, 110 V AC, screw terminals	53	3SB3400-1QC	8.03	41J
Lampholder with integrated LED, blue, 110 V AC, screw terminals	53	3SB3400-1QD	8.03	41J
Lampholder with integrated LED, clear, 110 V AC, screw terminals	53	3SB3400-1QE	8.03	41J
Lampholder with integrated LED, yellow, 230 V AC, screw terminals	53	3SB3400-1RA	8.03	41J
Lampholder with integrated LED, red, 230 V AC, screw terminals	53	3SB3400-1RB	8.03	41J
Lampholder with integrated LED, green, 230 V AC, screw terminals	53	3SB3400-1RC	8.03	41J
Lampholder with integrated LED, blue, 230 V AC, screw terminals	53	3SB3400-1RD	8.03	41J
Lampholder with integrated LED, clear, 230 V AC, screw terminals	53	3SB3400-1RE	8.03	41J
Lampholder BA9s, screw fitting, excl. lamp	54	3SB3400-1A	3.17	41J
Lamp BA9s, 24 V AC / DC 2W (min. order 10 pcs)	55	3SX1344	1.74	41J

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Pushbutton enclosures - surface mount

Surface mount (emergency-stop) pushbutton enclosures - SIRIUS 3SB3

Loose pushbuttons/signalling lamps for fitting into the pushbutton enclosures can be found on page 12 under "Flush mount (emergency-stop) pushbuttons & signalling lamps".

Description:	Fig.	Order number	L Price £	Prod. group
Emergency-stop pushbutton enclosures complete, plastic enclosure, 2xM20 cable entry, with 22mm round actuators, IP65:				
Emergency-stop pushbutton enclosure, turn to unlatch, 2NC contacts	1	3SB3801-0EG3	27.74	41J
Emergency-stop pushbutton enclosure, turn to unlatch, with protective collar, 2NC contacts	2	3SB3801-0EF3	37.54	41J
Emergency-stop pushbutton enclosures complete, metal enclosure, 2xM20 cable entry, with 22mm round actuators, IP67:				
Emergency-stop pushbutton enclosure, turn to unlatch, 2NC contacts	1	3SB3801-2EG3	42.66	41J
Emergency-stop pushbutton enclosure, turn to unlatch, with protective collar, 2NC contacts	2	3SB3801-2EF3	63.20	41J
Pushbutton enclosures, empty, plastic enclosure, 2xM20 cable entry, for 22mm round actuators, IP65:				
Pushbutton enclosure, 1 position, yellow top part	3	3SB3801-0AB3	8.66	41J
Pushbutton enclosure, 1 position, grey top part	4	3SB3801-0AA3	8.66	41J
Pushbutton enclosure, 2 positions, grey top part	5	3SB3802-0AA3	9.42	41J
Pushbutton enclosure, 3 positions, grey top part	6	3SB3803-0AA3	11.44	41J
Pushbutton enclosure, 4 positions, grey top part	7	3SB3804-0AA3	15.86	41J
Pushbutton enclosure, 6 positions, grey top part	8	3SB3806-0AA3	22.94	41J
Pushbutton enclosures, empty, 2xM20 cable entry, for 22mm round actuators, IP67:				
Pushbutton enclosure, 1 position, yellow top part	3	3SB3801-2AB3	21.55	41J
Pushbutton enclosure, 1 position, grey top part	4	3SB3801-2AA3	18.77	41J
Pushbutton enclosure, 2 positions, grey top part	5	3SB3802-2AA3	22.50	41J
Pushbutton enclosure, 3 positions, grey top part	6	3SB3803-2AA3	29.83	41J
Pushbutton enclosure, 4 positions, grey top part	7	3SB3804-2AA3	39.56	41J
Pushbutton enclosure, 6 positions, grey top part	8	3SB3806-2AA3	51.32	41J
Pushbutton enclosure accessories:				
Contact block, bottom mount, 1NC, screw terminal	9	3SB3420-0B	3.63	41J
Contact block, bottom mount, 1NO, screw terminal	9	3SB3420-0C	3.63	41J
Lampholder with integrated LED, yellow, bottom mount, 24 V AC / DC, screw terminal	10	3SB3420-1PA	4.80	41J
Lampholder with integrated LED, red, bottom mount, 24 V AC / DC, screw terminal	10	3SB3420-1PB	4.80	41J
Lampholder with integrated LED, green, bottom mount, 24 V AC / DC, screw terminal	10	3SB3420-1PC	4.80	41J
Lampholder with integrated LED, blue, bottom mount, 24 V AC / DC, screw terminal	10	3SB3420-1PD	4.80	41J
Lampholder with integrated LED, clear, bottom mount, 24 V AC / DC, screw terminal	10	3SB3420-1PE	4.80	41J
Lampholder with integrated LED, yellow, bottom mount, 110 V AC, screw terminal	10	3SB3420-1QA	9.29	41J
Lampholder with integrated LED, red, bottom mount, 110 V AC, screw terminal	10	3SB3420-1QB	9.29	41J
Lampholder with integrated LED, green, bottom mount, 110 V AC, screw terminal	10	3SB3420-1QC	9.29	41J
Lampholder with integrated LED, blue, bottom mount, 110 V AC, screw terminal	10	3SB3420-1QD	9.29	41J
Lampholder with integrated LED, clear, bottom mount, 110 V AC, screw terminal	10	3SB3420-1QE	9.29	41J
Lampholder with integrated LED, yellow, bottom mount, 230 V AC, screw terminal	10	3SB3420-1RA	9.29	41J
Lampholder with integrated LED, red, bottom mount, 230 V AC, screw terminal	10	3SB3420-1RB	9.29	41J
Lampholder with integrated LED, green, bottom mount, 230 V AC, screw terminal	10	3SB3420-1RC	9.29	41J
Lampholder with integrated LED, blue, bottom mount, 230 V AC, screw terminal	10	3SB3420-1RD	9.29	41J
Lampholder with integrated LED, clear, bottom mount, 230 V AC, screw terminal	10	3SB3420-1RE	9.29	41J
Lampholder BA9s, bottom mount, screw fitting, excl. lamp	11	3SB3420-1A	3.43	41J
Lamp BA9s, 24 V AC / DC 2W (min. order 10 pcs)	12	3SX1344	1.74	41J
Yellow backing plate for emergency stop, (sticker), with recess for labelling plate	13	3SB3921-0BV	2.40	41J

**For more models and comprehensive technical information, please see the Industrial Controls catalogue: IC 10 2014. For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Application examples & reference materials

Sensor wiring

Parameter definitions depending on the sensor wiring

Slide switch		Description	Typical circuit
AUTO	MONITORED		Basic unit 3SK1 Standard relay
	✓	EMERGENCY STOP, single-channel, with monitored start	1 and 2
✓		EMERGENCY STOP, single-channel, with autostart	3 and 4
	✓	Two-channel, with cross-circuit detection, with monitored start	5
✓		Two-channel, with cross-circuit detection, with autostart	6
✓		Sensors with solid-state outputs, without crosscircuit detection, with autostart	7

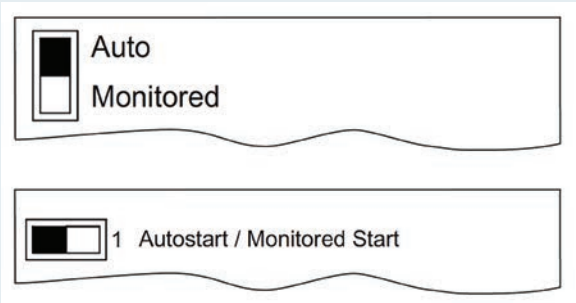
DIP switch				Description	Typical circuit
1	2	3	4		Basic units 3SK1 Standard / Advanced
right	right	right	-	1 x two-channel, with cross-circuit detection, with monitored start	8
left	right	right	-	1 x two-channel, with cross-circuit detection with autostart	9
right	left	right	-	Electronic sensor, without cross-circuit detection, with monitored start	10
left	left	right	-	Electronic sensor, without cross-circuit detection, with autostart	11
right	left	left	-	2 x single-channel, without cross-circuit detection, with monitored start	12
left	left	left	-	2x single-channel, without cross-circuit detection, with autostart	13

DIP switch				Description	Typical circuit
1	2	3	4		Basic units 3SK1 Advanced
right	right	right	-	1NC/1NO sensor, with cross-circuit detection, with monitored start	14
left	right	right	-	1NC/1NO sensor, with cross-circuit detection, with autostart	15
left	right	right	-	Two-hand operation, with cross-circuit detection, with autostart	16

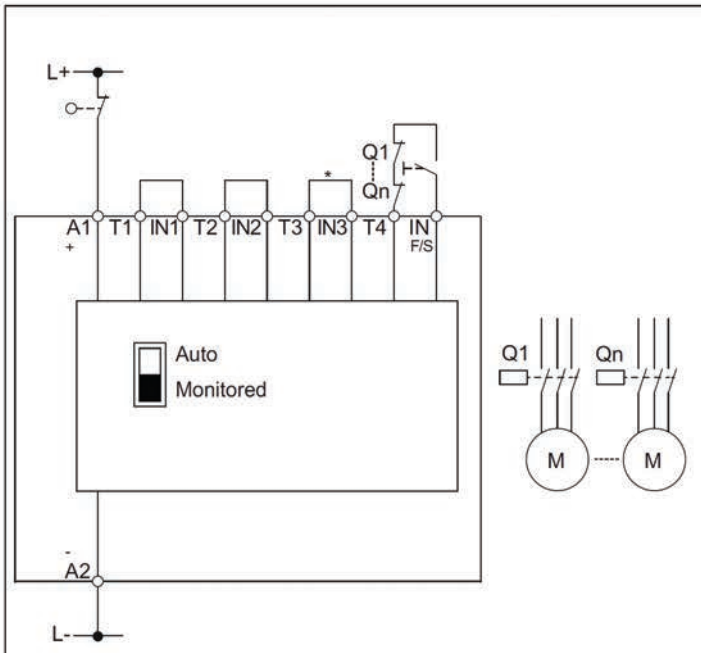
- not relevant

Typical circuits for basic unit 3SK1111 Standard relay

The black fields show the positions of the switches. Here, "Autostart" in each case.



Typical circuit 1: Single-channel, with monitored start



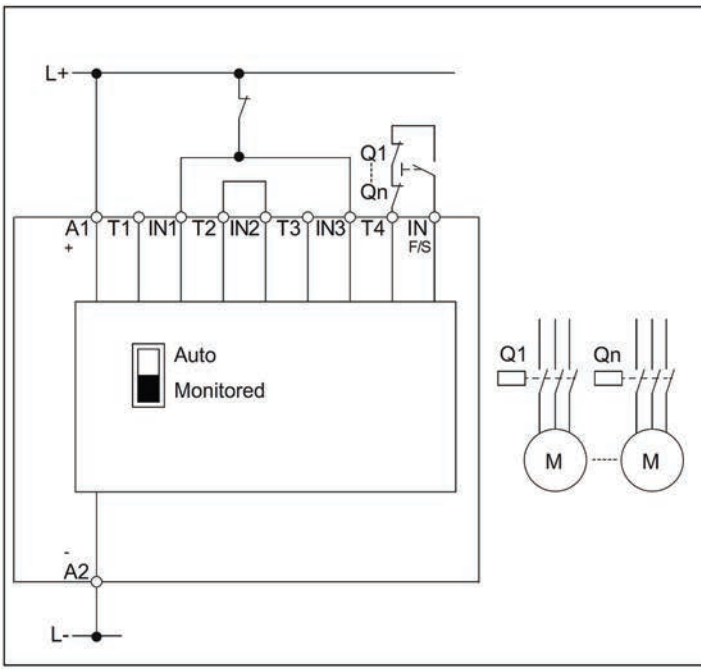
* For 3SK1111-.AB30 basic unit only

- Monitored start
- 3SK1111 Standard relay
- Sensor: 1 NC contact

Slide switch	
Auto	**Monitored**
—	ON bottom

Up to PL in accordance with ISO 13849-1	c
Up to Safety Integrity Level (SILCL) to IEC 62061	1

Typical circuit 2: Single-channel, with monitored start



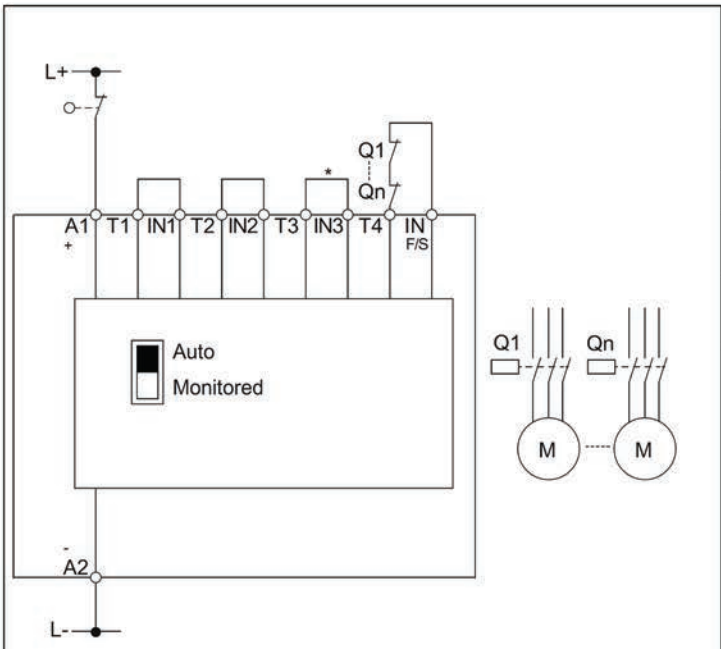
- Monitored start
- 3SK1111 Standard relay
- Sensor: 1 NC contact

Slide switch	
Auto	**Monitored**
—	ON bottom

Up to PL in accordance with ISO 13849-1	c
Up to Safety Integrity Level (SILCL) to IEC 62061	1

Typical circuits

Typical circuit 3: single-channel, with autostart

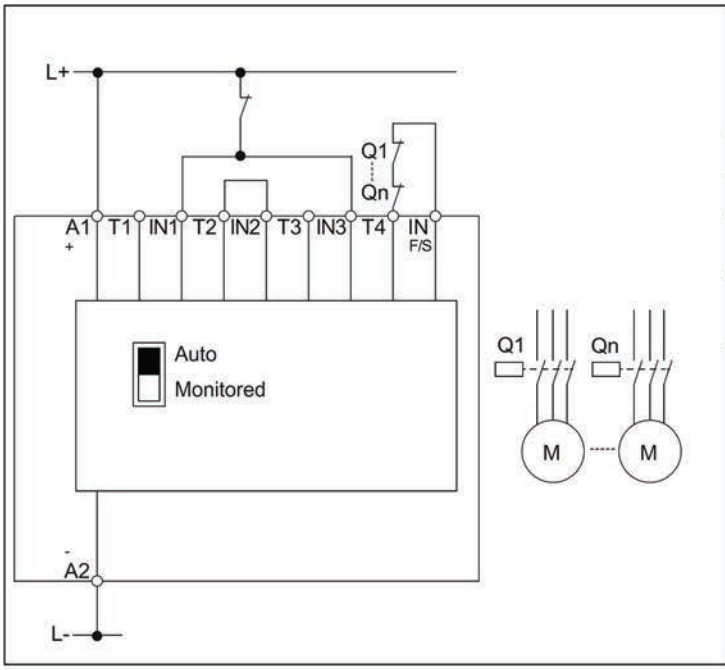


- Autostart
- 3SK1111 Standard relay
- Sensor: 1 NC contact

Slide switch	
Auto	**Monitored**
ON top	—

Up to PL in accordance with ISO 13849-1	c
Up to Safety Integrity Level (SILCL) to IEC 62061	1

Typical circuit 4: single-channel, with autostart

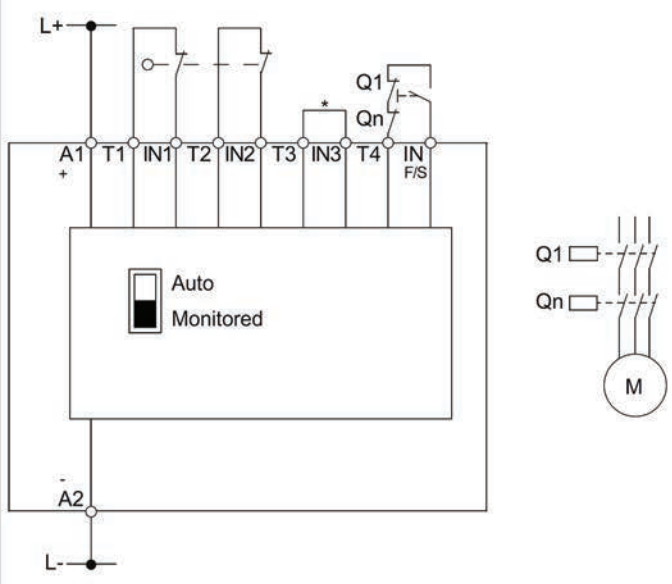


- Autostart
- 3SK1111 Standard relay
- Sensor: 1 NC contact

Slide switch	
Auto	**Monitored**
ON top	—

Up to PL in accordance with ISO 13849-1	c
Up to Safety Integrity Level (SILCL) to IEC 62061	1

Typical circuit 5: EMERGENCY STOP two-channel, with cross-circuit detection, with monitored start



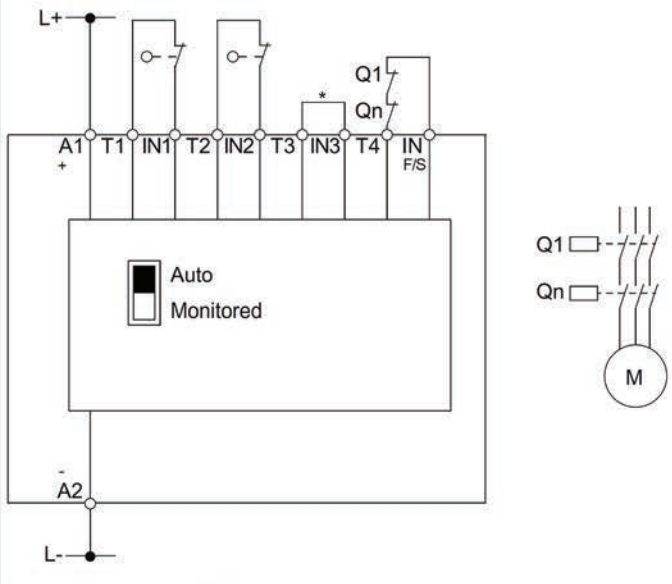
* For 3SK1111-.AB30 basic unit only

- Monitored start
- With cross-circuit detection
- Sensor: 2 NC contacts
- 3SK1111 Standard relay

Slide switch	
Auto	**Monitored**
—	ON bottom

Up to PL in accordance with ISO 13849-1	e
Up to Safety Integrity Level (SILCL) to IEC 62061	3

Typical circuit 6: Two-channel, with cross-circuit detection, with autostart



* For 3SK1111-.AB30 basic unit only

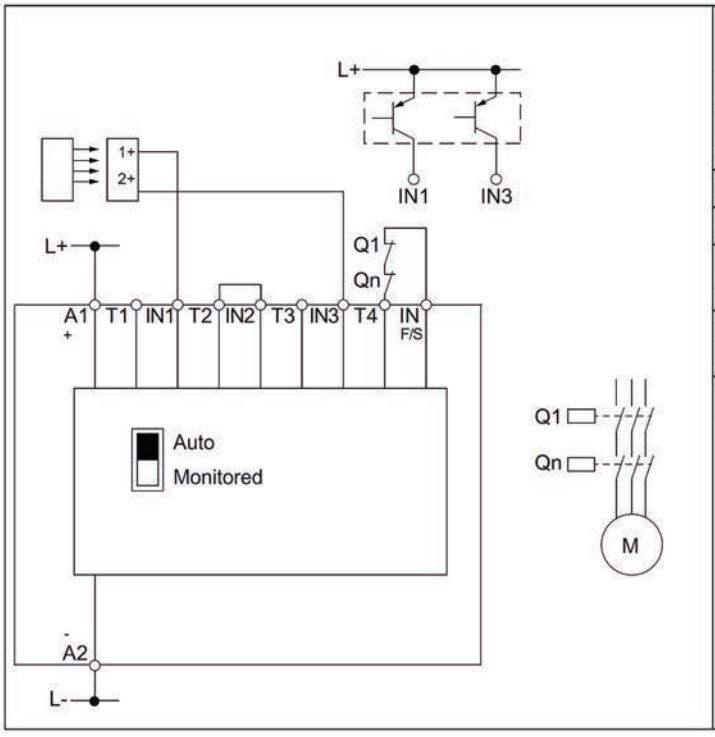
- Autostart
- With cross-circuit detection
- Sensor: 2 NC contacts
- 3SK1111 Standard relay

Slide switch	
Auto	**Monitored**
ON top	—

Up to PL in accordance with ISO 13849-1	e
Up to Safety Integrity Level (SILCL) to IEC 62061	3

Typical circuits

Typical circuit 7: Sensors with solid-state outputs, without cross-circuit detection, with autostart



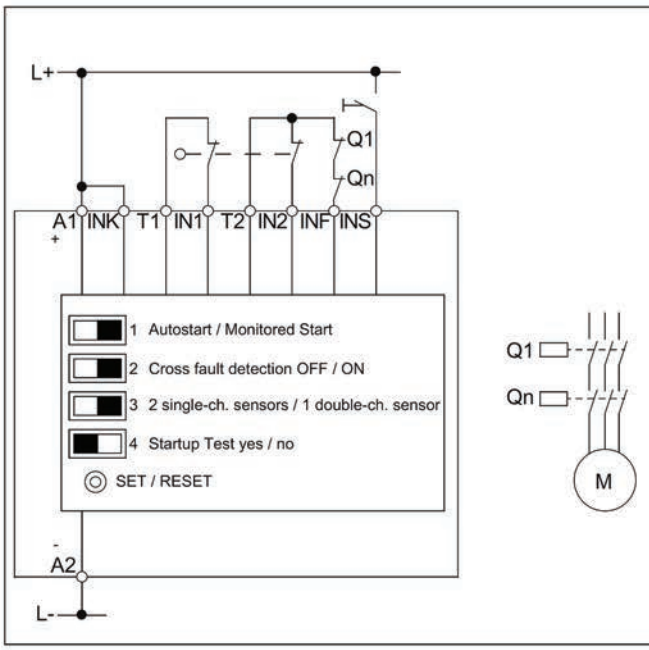
- Autostart
- Without cross-circuit detection
- Sensor: 2-channel non-floating
- 3SK1111 Standard relay

Slide switch	
Auto	**Monitored**
ON top	—

Up to PL in accordance with ISO 13849-1	e
Up to Safety Integrity Level (SILCL) to IEC 62061	3

Typical circuits for 3SK1 Standard solid-state basic units or 3SK1 Advanced basic units

Typical circuit 8: EMERGENCY STOP two-channel, with cross-circuit detection, with monitored start

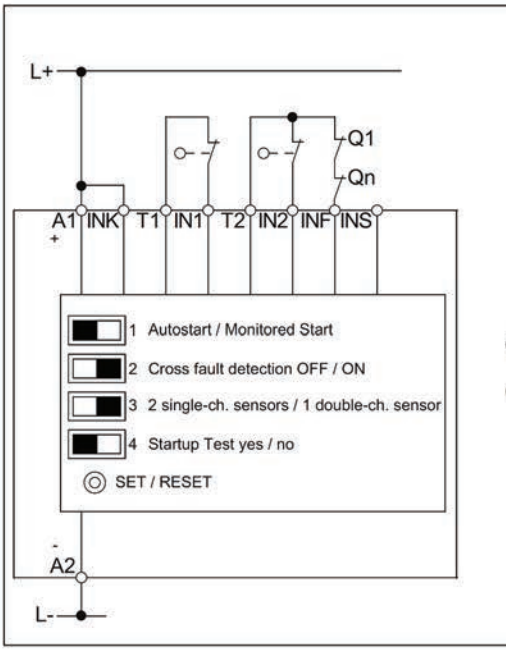


- Monitored start
- With cross-circuit detection
- 1 x two-channel
- Sensor: 2 NC contacts
- 3SK1112 Standard solid-state and 3SK112 / 3SK122 Advanced

DIP switch			
1	**2**	**3**	**4**
ON right	ON right	ON right	—

Up to PL in accordance with ISO 13849-1	e
Up to Safety Integrity Level (SILCL) to IEC 62061	3

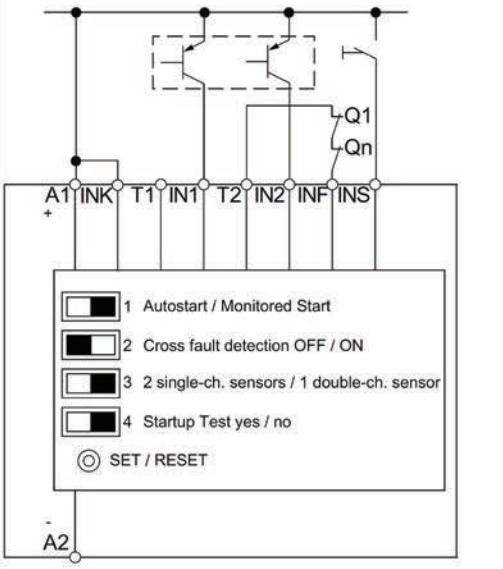
Typical circuit 9: Two-channel, with cross-circuit detection, with autostart



- Autostart
- With cross-circuit detection
- 1 x two-channel
- Sensor: 2 NC contacts
- 3SK1112 Standard solid-state and 3SK112 / 3SK122 Advanced

DIP switch			
1	2	3	4
OFF left	ON right	ON right	—
Up to PL in accordance with ISO 13849-1			e
Up to Safety Integrity Level (SILCL) to IEC 62061			3

Typical circuit 10: Electronic sensor, 2-channel, without cross-circuit detection, with monitored start

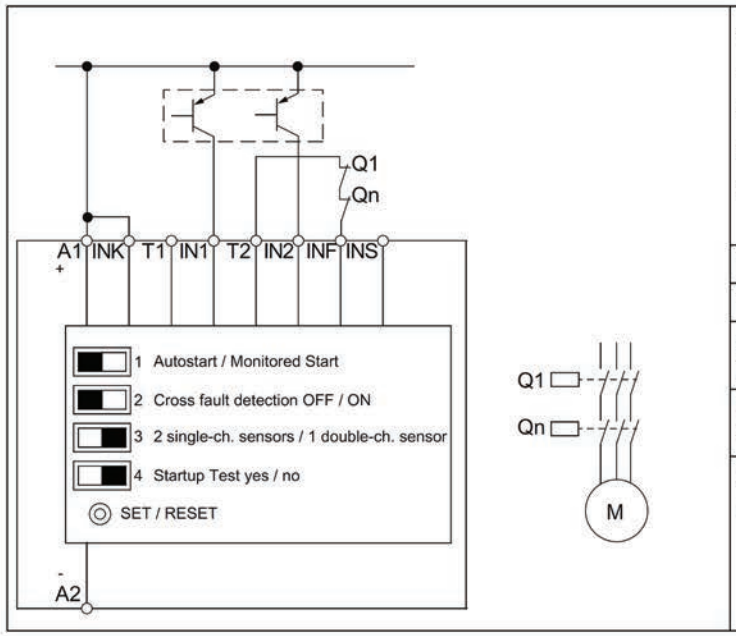


- Monitored start
- Without cross-circuit detection
- 1 x two-channel
- Sensor: 2-channel non-floating
- 3SK1112 Standard solid-state and 3SK112 Advanced

DIP switch			
1	2	3	4
ON right	OFF left	ON right	—
Up to PL in accordance with ISO 13849-1			e
Up to Safety Integrity Level (SILCL) to IEC 62061			3

Typical circuits

Typical circuit 11: Electronic sensor, two-channel, without cross-circuit detection, with autostart

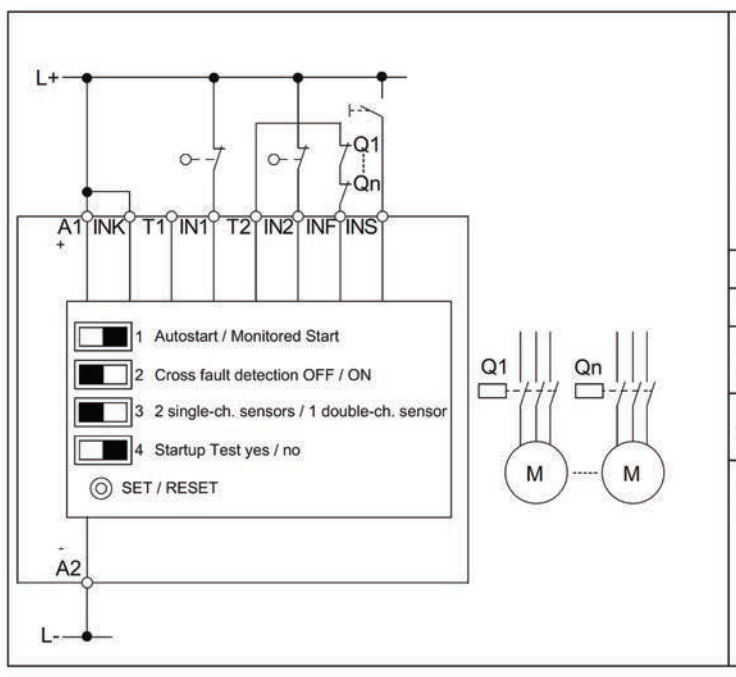


- Autostart
- Without cross-circuit detection
- 1 x two-channel
- Sensor: 2-channel non-floating
- 3SK1112 Standard solid-state and 3SK112 Advanced

DIP switch			
1	2	3	4
OFF left	OFF left	ON right	—
Up to PL in accordance with ISO 13849-1			e
Up to Safety Integrity Level (SILCL) to IEC 62061			3

Note: Single-channel connection - If only one single-channel sensor is used, the other sensor circuit must be jumper

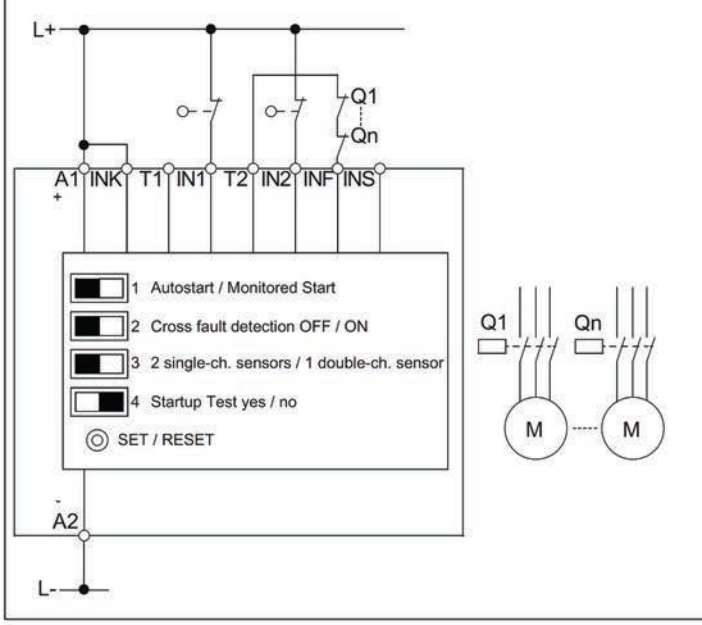
Typical circuit 12: 2 x single-channel, without cross-circuit detection, with monitored start



- Monitored start
- Without cross-circuit detection
- 2 x single-channel
- Sensor: two single-channel NC sensors
- 3SK1112 Standard solid-state and 3SK112 Advanced

DIP switch			
1	2	3	4
ON right	OFF left	OFF left	—
Up to PL in accordance with ISO 13849-1			c
Up to Safety Integrity Level (SILCL) to IEC 62061			1

Typical circuit 13: 2x single-channel, without cross-circuit detection, with autostart

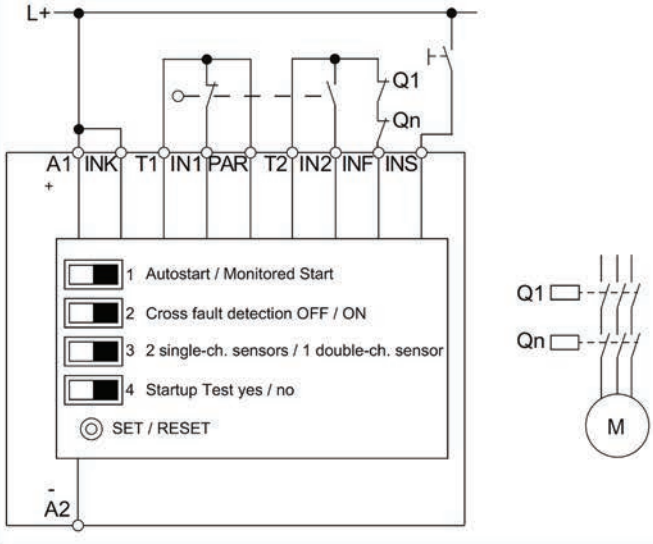


- Autostart
- Without cross-circuit detection
- 2 x single-channel
- Sensor: two single-channel NC contacts
- 3SK1112 Standard solid-state and 3SK112 Advanced

DIP switch			
1	2	3	4
OFF left	OFF left	OFF left	—
Up to PL in accordance with ISO 13849-1			c
Up to Safety Integrity Level (SILCL) to IEC 62061			1

Typical circuits for 3SK1 Advanced basic units only

Typical circuit 14: 1NC/1NO sensor, with cross-circuit detection, with monitored start

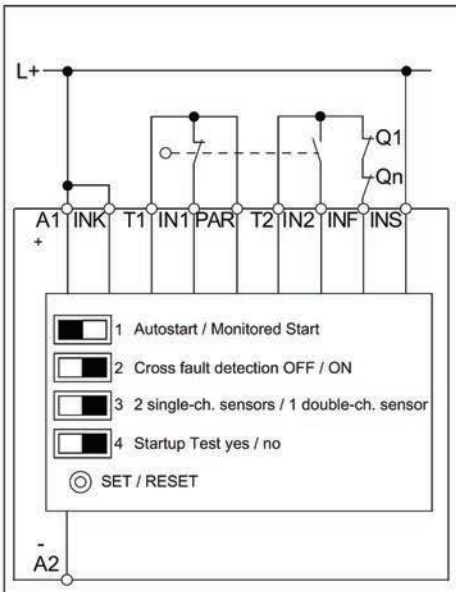


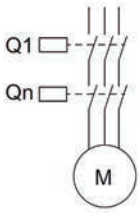
- Monitored start
- With cross-circuit detection
- 1 x two-channel
- Jumper T1/PAR for NC/NO evaluation
- Sensor: NC/NO sensor
- 3SK112 Advanced

DIP switch			
1	2	3	4
ON right	ON right	ON right	—
Up to PL in accordance with ISO 13849-1			e
Up to Safety Integrity Level (SILCL) to IEC 61508			3

Typical circuits

15 Typical circuit 15: 1NC/1NO sensor, with cross-circuit detection, with autostart

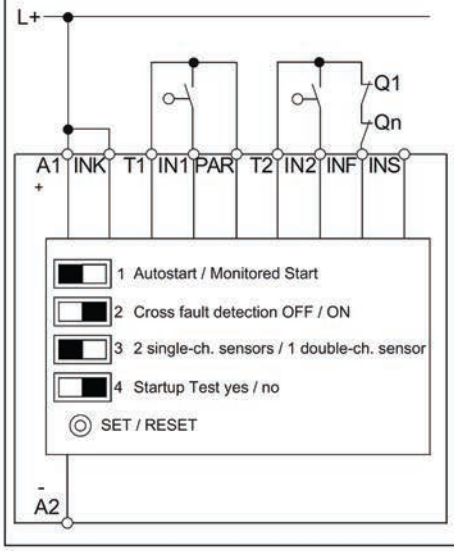


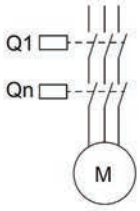


- Autostart
- With cross-circuit detection
- 1 x two-channel
- Jumper T1/PAR for NC/NO evaluation
- Sensor: NC/NO sensor
- 3SK112 Advanced

DIP switch			
1	2	3	4
OFF left	ON right	ON right	—
PL in accordance with ISO 13849-1			e
Safety Integrity Level (SILCL) to IEC 61508			3

16 Typical circuit 16: Two-hand operation, with cross-circuit detection, with autostart





- Autostart
- With cross-circuit detection
- 2 x single-channel
- Jumper T1/PAR for NC/NO evaluation
- Sensor: Two-hand NO/NO sensor
- 3SK112 Advanced

DIP switch			
1	2	3	4
OFF left	ON right	OFF left	—
PL in accordance with ISO 13849-1			e
Safety Integrity Level (SILCL) to IEC 61508			3

SIRIUS 3TK2 to 3TK1 conversion chart

SIRIUS 3TK2 to 3TK1 conversion chart

Previous Article No. 3TK28	New Article No. of the successor type 3SK1, only 22.5 mm wide	
	Standard version	Advanced version
3TK282...		
3TK2820-1CB30	3SK1111-1AB30	3SK1121-1AB40
3TK2821-1CB30	3SK1111-1AB30	3SK1121-1AB40
3TK2821-2CB30	3SK1111-2AB30	3SK1121-2AB40
3TK2822-1CB30	3SK1111-1AB30	3SK1121-1AB40
3TK2823-1CB30	3SK1111-1AB30	3SK1121-1AB40
3TK2824-1AL20	3SK1111-1AW20	3SK1121-1AB40 + 3SK1230-1AW20
3TK2824-1BB40	3SK1111-1AB30	3SK1121-1AB40
3TK2824-1CB30	3SK1111-1AB30	3SK1121-1AB40
3TK2825-1AJ20	3SK1111-1AW20	3SK1121-1AB40 + 3SK1230-1AW20
3TK2825-1AL20	3SK1111-1AW20	3SK1121-1AB40 + 3SK1230-1AW20
3TK2825-1BB40	3SK1111-1AB30	3SK1121-1AB40
3TK2825-2BB40	3SK1111-2AB30	3SK1121-2AB40
3TK2827-1BB40	--	3SK1121-1CB42
3TK2827-1BB41	--	3SK1121-1CB41
3TK2828-1BB40	--	3SK1121-1CB42
3TK2828-1BB41	--	3SK1121-1CB41
3TK283...		
3TK2830-1AL20	3SK1211-1BW20	3SK1211-1BB40
3TK2830-1CB30	3SK1211-1BB40	3SK1211-1BW20
3TK2830-2CB30	3SK1211-2BB40	3SK1211-2BB40
3TK2834-1BB40	--	3SK1121-1AB40
3TK284...		
3TK2840-1BB40	3SK1112-1BB40	3SK1122-1AB40
3TK2841-1BB40	3SK1112-1BB40	3SK1122-1AB40

Functional Safety

Safety Lifecycle Services for the Manufacturing Industry*

Our support

At Siemens we offer you an effective means right from the start of preventing faults inherent in processes and of keeping an efficient, verified record of functional & operational safety. Through inspections, documentation, consulting and defining remedial measures, we assist you in meeting the current safety requirements most effectively.

- Verification
- Hazard and risk assessment
- Design and engineering
- Installation and startup
- Operation and maintenance
- Modernisation and upgrade

Support from Design to Upgrade

At Siemens we know the topic of functional safety involves much more than just installing SIL certified hardware and software components. It requires expert knowledge that is up-to-date with the latest technologies, standards and guidelines:

- Before creating a machine, the machine manufacturer carries out a risk analysis while observing all of the relevant standards. This shows what risks the machine poses and how they must be countered
- The risk analysis reveals which components are needed for making the hazardous zones safe. The safety must be verified so that the machine receives its CE marking
- The operator must observe the occupational health & safety guidelines – as well as the documentation for following the machinery directive (supply of machinery safety regulations) that the machine manufacturer must produce
- If maintenance is required, it must be performed quickly in order to keep downtimes and standstills as short as possible. If a fault does occur, it must be eliminated as soon as possible or with only the shortest possible interruptions
- In order to bring existing plants up to the state of the art of safety engineering, expansion or modernisation measures are necessary

Our Range of Services

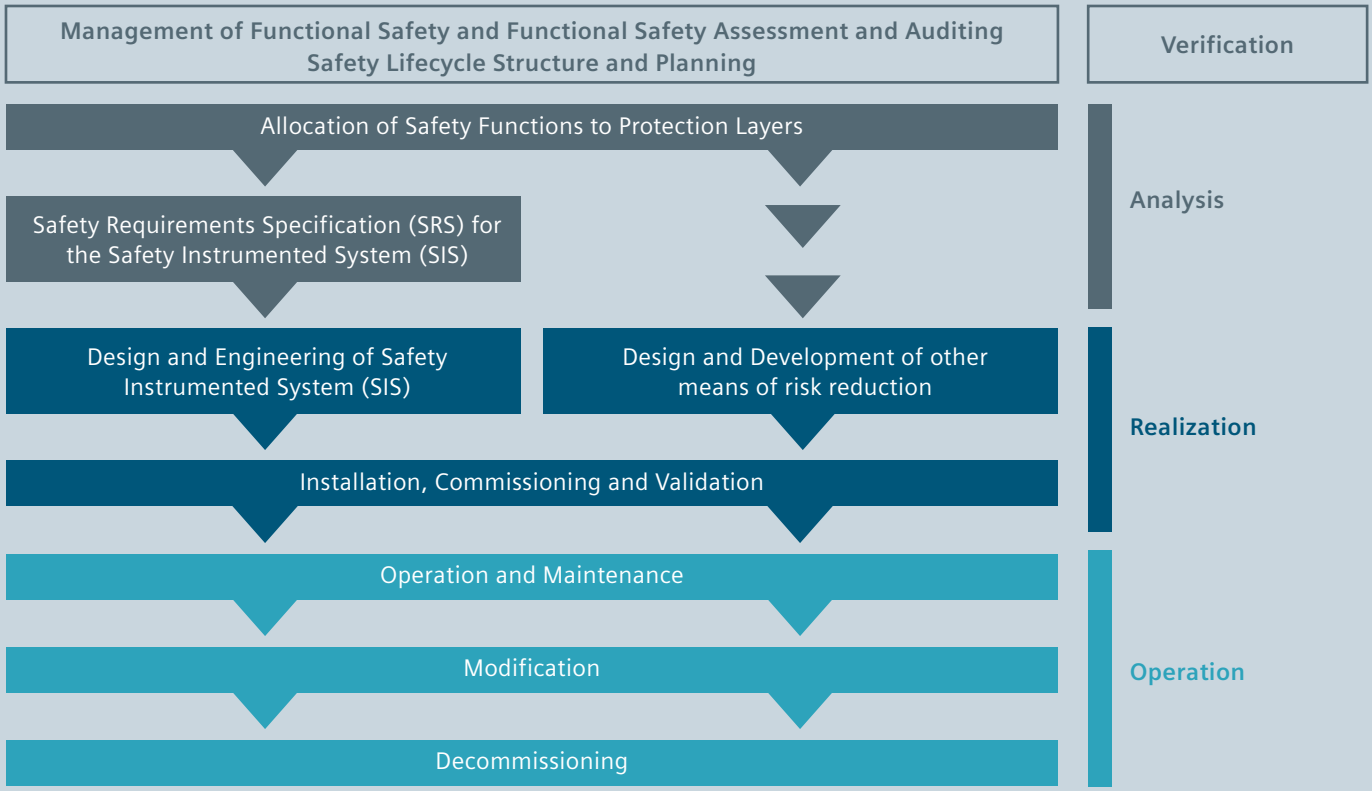
- Management and assessment of functional safety and audits
- Planning and design of the SLC (safety plan)
- Hazard and risk assessment (EN ISO 12100)
- SIL /PL assessments
- Safety Requirements Specification (SRS)
- Support in planning and design of controls
- Assessment of safety logic programming against best practice
- Verification (e.g. SIL verification, H/W & S/W audit)

Benefits

- Standardised processes for faster and safer project implementation and commissioning
- Comprehensive package of services from risk identification and verification to plant start-up and modernisation.
- Uniform verification and validation documentation
- Independent competent team
- Detailed safety application examples

**For more information contact us at safetyintegrated.uk.gb@siemens.com*

Safer Plants are more Profitable Plants*



At Siemens, we recognise that Functional safety is about more than just installing SIL-certified hardware and software components. It requires expert knowledge that is up-to-date with the latest technologies, standards and guidelines.

Plant operators who use Safety Instrumented Systems (SIS) to help reduce risk – including chemical plants, refineries and combustion facilities – must implement a system for the management of functional safety, to ensure that they have reduced risk to and acceptable level.

We understand the importance of effective Functional Safety Management (FSM). By ensuring that all Safety Lifecycle phases are properly planned, undertaken and verified we can be certain that the desired safety integrity level (SIL) targets are met. We can provide a range of services to help you implement a functional safety management system or to identify and address gaps in your existing systems. We can also provide additional technical expertise to help identify hazards, analyse risk and assess SIL requirements.

Our Range of Services

- Management and assessment of functional safety and audits
- Planning and design of the Safety Lifecycle (safety planning)
- Hazard and safety assessment facilitation (HAZID, HAZOP)
- Allocation of safety functions to protection layers
- SIL Assessments (Risk Graph, LOPA)
- Safety Requirement Specifications (SRS)

Benefits

- Standardised processes for faster and safer project implementation and commissioning
- Uniform verification and validation documentation
- Interdisciplinary team of experts with process and automation know-how leading to reduced development time and costs.
- Tailor-made safety concepts giving accelerated plant acceptance

Errors which are not identified in the early stages of a project are often very complex and expensive to correct later on. We can help you avoid systematic errors in all project phases with our standardised engineering guidelines and verification templates.

**For more information contact us at safetyintegrated.uk.gb@siemens.com*

Failsafe products

AS-interface - ASIsafe machine safety*

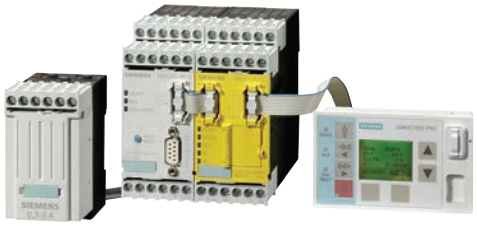
AS-interface: Simple, safe and uniform

- Industrial communication with the AS interface field bus IO system
- Waterproof system solutions (IP65/67)
- Easy assembly
- Failsafe technology integrating seamlessly up to PL e/ SIL 3 / Cat.4

Designs and comprehensive technical information about AS interface and ASIsafe can be found:

- In the Industrial Communication catalogue: IKPI 2012, section 6
- In the Safety Integrated catalogue: SI 10 2014
- On the internet: www.siemens.nl/AS-interface

Failsafe motor management system*



SIMOCODE-pro V 3UF7: Complete motor management system with integrated failsafe technology

- Motor control
- Thermal overload protection
- Integration of failsafe technology for safe motor disconnection up to PL e / SIL 3 / Cat.4

Designs and comprehensive technical information about SIMOCODE can be found:

- In the Industrial Control catalogue: **IC 10 2014**

SIMATIC failsafe controllers*

SIMATIC automation system with integrated failsafe technology:

- Standard and failsafe automation in one PLC up to PL e/ SIL 3
- Failsafe HMI panels
- Failsafe communication, even via WLAN
- Use of open-standard field buses PROFIBUS and PROFINET

Designs and comprehensive technical information can be found:

- In the Safety Integrated catalogue: **SI 10 2014**

SINAMICS failsafe drives*

SINAMICS drive technology with integrated failsafe functionality

- Failsafe functionality fully integrated in drive up to PL d/ SIL 2
- Sensorless/encoderless measuring principle
- Single or multi-axis control
- Use of open-standard field buses PROFIBUS and PROFINET

Designs and comprehensive technical information can be found:

- In the Safety Integrated catalogue: **SI 10 2014**

**For the latest information, visit the Industry Mall: www.siemens.com/industrymall/gb*

Safety tool, functional examples & B10 values

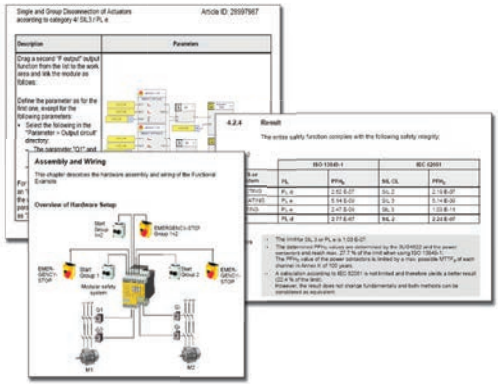
Safety Evaluation Tool: Safe machine concepts without detours

Safety Evaluation Tool: Online SIL (EN 62061) and PL (EN ISO 13849) calculation for safety functions

Siemens offers you, as an engineer and plant manager, a free online tool with which you can calculate the safety of your machine's safety functions in accordance with **EN 62061** and **EN ISO 13849-1**. At the same time, this TÜV-certified online tool allows you to comprehensively document the calculated data.

For more information, or to get going immediately with the Safety Evaluation Tool, go to: **www.siemens.com/safety-evaluation-tool**

Functional connection examples for machine safety applications (Functional Examples)



Siemens makes designing easy with fully worked-out examples of machine safety applications

The Functional Examples comprise of:

- Description of the safety function
- Hardware structure and software program
- Connection diagrams
- Fully worked-out and motivated SIL and PL calculations of the safety function.

For further functional connection examples (downloadable) please visit our machine safety website: **www.siemens.co.uk/safety** and look under 'Functional Examples'.

B10 values of SIRIUS components

Comprehensive information about machine safety standards can be found in the brochure: "Functional safety of machines and production plants - Simple implementation of the European Machine Directive". For more information about standards, you can also visit our special site for machine safety: **www.siemens.co.uk/safety**

SIRIUS – standard B10 values of electromechanical components

Electromechanical components are subject to wear and tear. The risk of failure of electromechanical components can be calculated with the B10 value and the operating cycle. The B10 value is expressed in the number of switching cycles. This is the number of switching cycles during which 10% of the specimens failed during a durability test.

In accordance with ISO 13849-2 (annex D), ISO/FDIS13849-1:2005 (annex C) and EN62061 (annex D, failure rates of electrical/electromechanical components) the B10 values must be defined for electromechanical components.

Siemens SIRIUS product group Electromechanical components)		Normal B10 values (switching cycles)	Percentage dangerous failure
Emergency stop switches (with mechanically forced break contacts)	Turn to unlatch	100,000	20%
	Pull to unlatch	30,000	20%
Cable-operated switches for emergency stop function (with mechanically forced break contacts)		1,000,000	20%
Standard position switches (with mechanically forced break contacts)		10,000,000	20%
Position switches with separate actuator/key switch (with mechanically forced break contacts)		1,000,000	20%
Position switches with electromagnetic locking (with mechanically forced break contacts)		1,000,000	20%
Hinge switches (with mechanically forced break contacts)		1,000,000	20%
Pushbutton switches (with mechanically forced break contacts)		10,000,000	20%
Contactors/motor starters (with mechanically linked or mirrored contacts)		1,000,000	20%

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Industry Automation and Drive Technologies
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Manchester
M20 2UR

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