SIEMENS

SIRIUS 3SK Safety Relays

Safety is a SIRIUS business

Safety Relays for compact safety applications

siemens.com/safety-relays

Safety is a SIRIUS business

Machines can be dangerous. Personnel need to be protected. At the same time, the profitability of a machine is also dependent on its availability. For these reasons, safety in automation is always a serious subject. Which is why machine manufacturers need simple solutions for functionally reliable safety systems. Siemens is offering these solutions with its range of SIRIUS safety products.

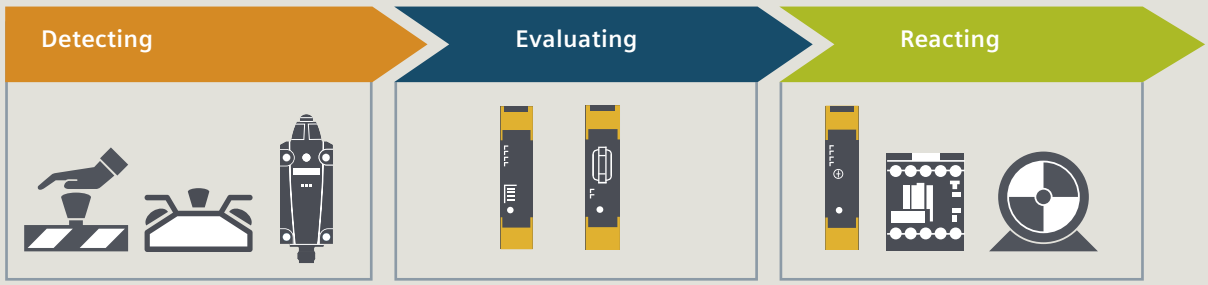
Detecting, evaluating and reacting – all from a single source

SIRIUS is the name given to the range of industrial controls developed by Siemens – and includes everything you will need to efficiently create a standardized, cost-effective safety sequence of simple safety functions: All the elements needed to detect, evaluate and react.

SIRIUS 3SK plays a central role in applications of this kind. With the new range of safety relays, implementation of local safety functions has never been easier.

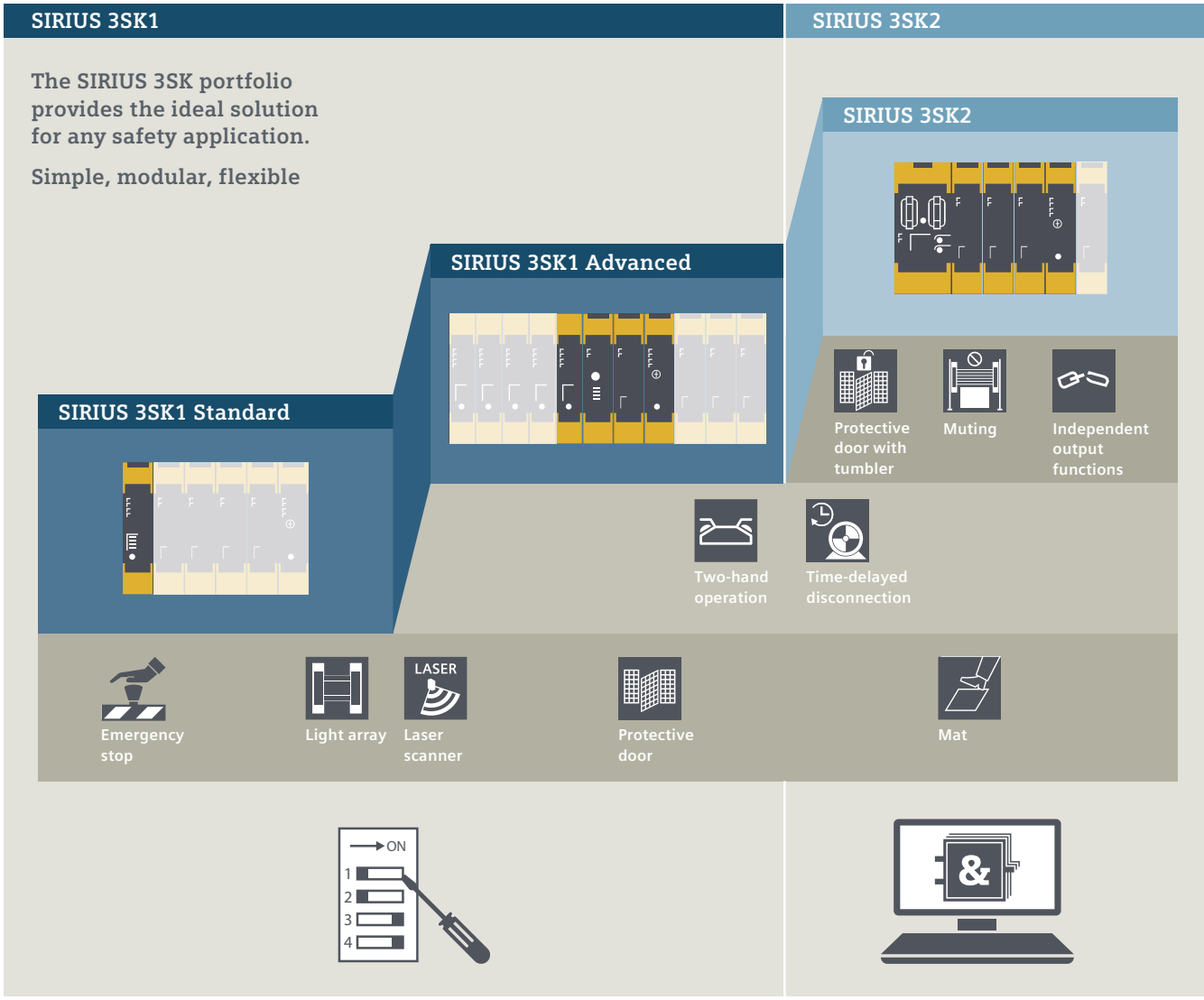
The perfect interaction between safety relays, sensors and actuators makes it possible to create complete safety sequences that are not only exceptionally reliable, but also significantly faster, simpler and more economical. SIRIUS 3SK Safety Relays are of course certified according to IEC 62061 (SIL 3) and EN ISO 13849-1 (PL e).

With all these benefits on offer, why not place your trust in our new SIRIUS 3SK Safety Relays?



There are many facets to machine safety. And SIRIUS 3SK can always provide a solution.

SIRIUS 3SK is a highly streamlined product portfolio. The 3SK1 range has been developed to allow fast, simple implementation of the most common safety functions. More complex safety systems can be created using basic units from the new 3SK2 series.

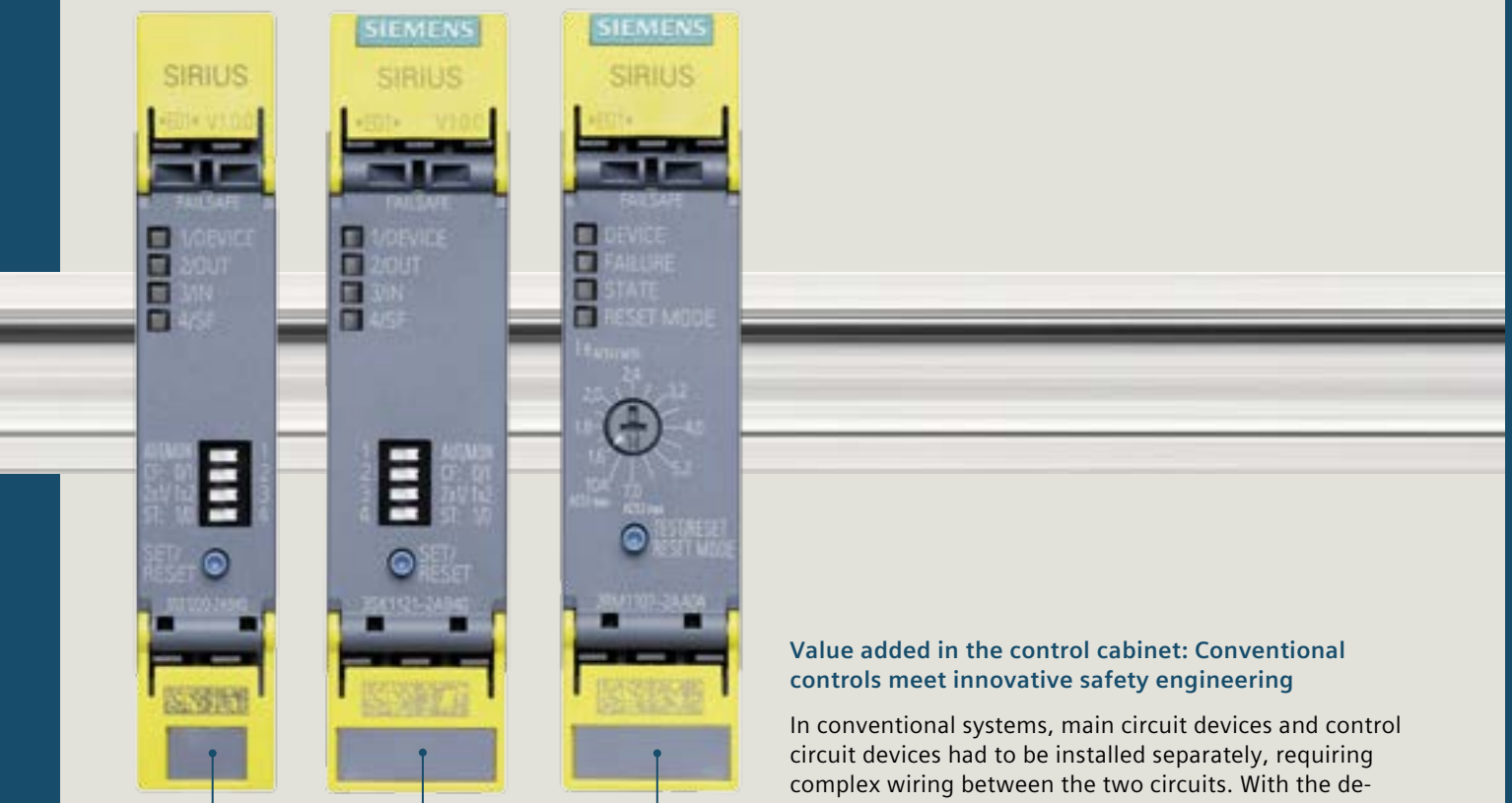


Easy to parameterize – using DIP switches or a PC

Parameterizing safety functions with SIRIUS 3SK Safety Relays is an exceptionally simple process: you can use four DIP switches on the front panel (3SK1 units), or software (3SK2 units).

Software benefits at a glance

- **Easy setup** of complex safety applications using the drag and drop method
- **Efficient commissioning** using test mode, forcing and extensive diagnostics
- **Faster preparation of documentation**



Expansion unit

3SK1
basic unit

3RM1
Motor Starter

GIT SECURITY AWARD 2014 WINNER

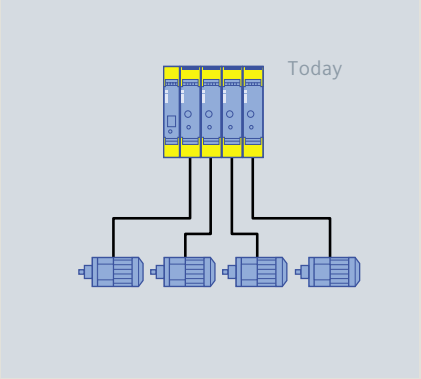
Simply safe: SIRIUS 3SK1

Simplicity and flexibility in field applications: This combination is the hallmark of SIRIUS 3SK1 devices. Thanks to the modular structure of the product range, individual safety applications can be implemented simply and inexpensively.

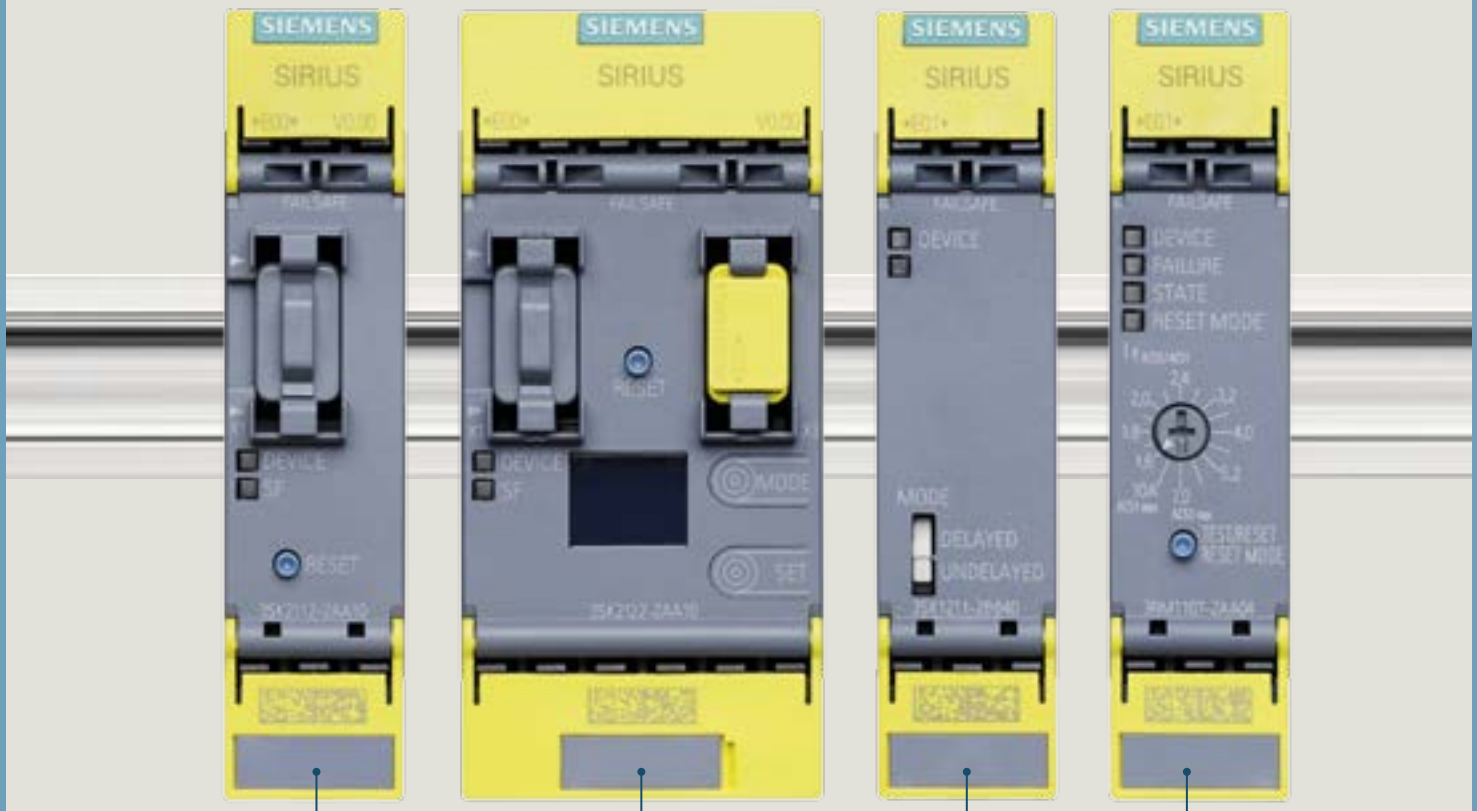
Value added in the control cabinet: Conventional controls meet innovative safety engineering

In conventional systems, main circuit devices and control circuit devices had to be installed separately, requiring complex wiring between the two circuits. With the development of SIRIUS 3SK, it has been possible to merge these circuits for the first time. Because SIRIUS 3RM1 failsafe Motor Starters can be seamlessly connected to the control circuit, helping to reduce wiring complexity and so minimize potential for errors.

- **Integrated unit:** seamless integration of SIRIUS 3RM1 Motor Starters
- **More space:** fewer basic units and main circuit components
- **Extremely compact:** narrow overall width and multifunctionality
- **Less wiring:** device connectors and infeed system for SIRIUS 3RM1 Motor Starters



Further information about the diverse applications of SIRIUS 3RM1



3SK2 basic unit 22.5 mm | **3SK2 basic unit 45 mm** | **Output expansion** | **3RM1 Motor Starter**

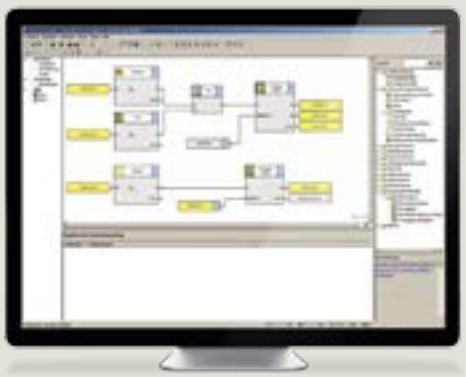
Simply advanced: SIRIUS 3SK2

SIRIUS 3SK2 Safety Relays are the result of systematic further development of the 3SK1 range – and the ideal solution for complex safety applications.

- **Maximum functionality** with a minimum footprint. Slimline unit with large number of inputs and outputs
- **Selective tripping** by independent outputs

More cost-effective and modular: 3SK1 output expansions can be added using device connectors (less wiring required)

- **Integrated unit:** seamless integration of SIRIUS 3RM1 Motor Starters using device connectors
- **Extremely flexible:** can be parameterized with simple software
- **Individually selectable time functions**



Simple and convenient: SIRIUS Safety ES

- Simple parameterization by drag and drop method
- Engineering, commissioning and documentation processes are fully supported by functions such as consistency check, online diagnostics, forcing and engineering documentation

Trial Version of SIRIUS Safety ES
free to download at:

https://support.industry.siemens.com/cs/ww/en/ps/21192

Machine safety doesn't have to be visible. But it must be transparent.

SIRIUS 3SK1 Standard, Advanced and 3SK2 basic unit

	Inputs	Outputs	Delayed	Voltage	Article number	Optional device connector
SIRIUS 3SK1	2 F-DI	3 F-RQ	–	AC/DC 110 – 240 V	3SK1111- □AW20	–
	2 F-DI	3 F-RQ	–	AC/DC 24 V	3SK1111- □AB30	–
	3 F-DI	2 F-DQ	–	DC 24 V	3SK1112- □BB40	–
	3 F-DI	3 F-RQ	–		3SK1121- □AB40	3ZY1212-2BA00 or 3ZY1212-2DA00
	3 F-DI	2 F-RQ	2 F-RQ		3SK1121- □CB4□	
	3 F-DI	1 F-DQ	–		3SK1120- □AB40	3ZY1212-1BA00
	3 F-DI	3 F-DQ	–		3SK1122- □AB40	3ZY1212-2BA00 or 3ZY1212-2DA00
	3 F-DI	2 F-DQ	2 F-DQ		3SK1122- □CB4□	
SIRIUS 3SK2	10 F-DI	2 F-DQ	Individual time functions	DC 24 V	3SK2112- □AA10	3ZY1212-2GA00
	20 F-DI	4 F-DQ			3SK2122- □AA10	3ZY1212-4GA01

Screw-type terminals: 1
Spring-type terminals: 2

Adjustable OFF delay:
1 0.05 – 3s
2 0.5 – 30s
4 5.0 – 300s

Accessories for SIRIUS 3SK series

SIRIUS 3SK	Inputs	Outputs	Voltage	Article number	Optional device connector	3SK1 Standard	3SK1 Ad-vanced	3SK2
Sensor expansion	2 F-DI	–	–	3SK1220- □AB40	3ZY1212-1BA00	–	yes	–
Output expansion	–	4 F-RQ with 5 A	AC 24 V	3SK1211- □BB00	–	yes	yes	yes*
			DC 24 V	3SK1211- □BB40	3ZY1212-2BA00 or 3ZY1212-2DA00			
			AC/DC 110 – 240 V	3SK1211- □BW20	–			
	–	3 F-RQ with 10 A	DC 24 V	3SK1213- □AB40	3ZY1212-0FA01			
			AC 115 V	3SK1213- □AJ20	–			
			AC 230 V	3SK1213- □AL20				
Power supply	–	–	AC/DC 110 – 240 V	3SK1230- □AW20	3ZY1212-2BA00	hard-wired	yes	–

* DC 24 V devices only

Screw-type terminals: 1
Spring-type terminals: 2

SIRIUS 3RM1 fail-safe motor starters

Rated current and electrical overload release	Voltage	Direct-on-line starter	Reversing starter	Optional device connector
0.1 ... 0.5 A	DC 24 V	3RM1101-□AA04	3RM1301-□AA04	3ZY1212-2EA00 or 3ZY1212-2FA00
0.4 ... 2.0 A		3RM1102-□AA04	3RM1302-□AA04	
1.6 ... 7.0 A		3RM1107-□AA04	3RM1307-□AA04	

Screw terminals: 1
Spring-type terminals: 2
Screw terminals for main circuit and spring-type terminals for control circuit: 3

Diagnostics display

Diagnostics display		3RK3611-3AA00
Connecting cable	1 m	3UF7937-0BA00-0
	2.5 m	3UF7933-0BA00-0

Software

SIRIUS Safety ES	USB PC cable	Memory module
3ZS1316-*C*10-0Y*5	3UF7941-0AA00-0	3RK3931-0AA00

* various product and license variants

Machine safety is an absolute must. But mustn't necessarily be complicated.

Perfectly coordinated sensors, new fail-safe evaluation units and actuators – for easy implementation of a cost-effective, extremely efficient safety sequence.

1 ***Emergency stop***

You only need a single SIRIUS 3SK basic unit for this application: Simply connect up the emergency stop and actuator, parameterize by DIP switches and you're ready to go.

2 ***Safety applications involving more than one safety function***

If your safety functions require several sensors, e.g. emergency stop and a magnetically-operated switch for a protective door, you can simply expand the SIRIUS 3SK1 Advanced basic units: by adding the appropriate number of input and output expansions.

3 ***Access monitoring by muting***

Sophisticated safety applications such as contact-free access monitoring by muting are simple to implement with the new 3SK2 basic unit. The system is parameterized by means of intuitive PC software (incl. certified blocks) that does not require any programming knowledge.

Find out more:

siemens.com/safety-relays

Play it safe with SIRIUS 3SK:

- Discover how flexible it is in application
- Find out how easy it is to parameterize
- Use it to set up inexpensive, extremely efficient safety sequences

SIRIUS 3SK – at a glance!

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