

BASIC INFORMATION

Simple and safe to implement Protective door monitoring

Reliable protective door monitoring is one of the most common safety requirements that has to be provided for machines: hazardous machine movements must be reliably brought to a standstill when a protective door is opened. SIRIUS 3SK safety relays from Siemens provide the perfect solution for every safety application on the basis of standard DIN EN ISO 14119: mechanical protective door monitoring with standard and safety position switches, non-contact protective door monitoring with magnetically operated switches, protective door monitoring with non-contact RFID safety switches for the ultimate protection against tampering.

Customer benefits / application

Mechanical protective door monitoring with SIRIUS 3SE5 position switches

- Modular design for versatile use (different actuator heads)
- Quick connection system and simple plug-in installation
- Suitable for higher currents
- Safe shutdown without action by the machine controller
- Absolute protection against electromagnetic interference
- 3D-coded actuators rule out the possibility of simple tampering

Non-contact protective door monitoring with coded 3SE6 magnetically operated switches

- Two safety contacts + 1 signaling contact (diagnostics option)
- Long service life due to wear-free switching
- Particularly suitable for areas exposed to contamination, cleaning and disinfecting

Non-contact protective door monitoring with 3SE63 RFID safety switches offer *additional* benefits:

- Protection against tampering thanks to individual coding
- Extensive diagnostics functions provided by LEDs increase plant availability
- High IP69K degree of protection for use in extreme environmental conditions

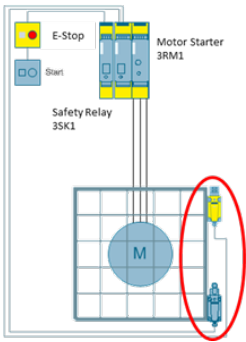


Highlights

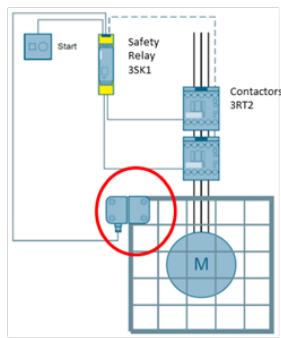
- Mechanical and non-contact solution
- In connection with the 3SK safety relays perfect solution according to DIN standard
- Solutions for high demands (ultimate protection against tampering, rough environmental conditions)

Overview of options for protective door monitoring, tamper-proof, up to SIL3/PL e

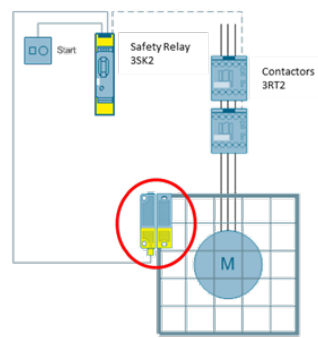
1. Mechanical protective door monitoring with electronic 3RM1 motor starter



2. Non-contact protective door monitoring with 3SE66/67 magnetically-operated switch.



3. Non-contact protective door monitoring with 3SE63 RFID switch



Example of product selection for implementing protective door monitoring

1. Mechanical protective door monitoring with 3RM1 motor starter

Article number

EMERGENCY STOP mushroom pushbutton in enclosure, 2 NC
Pushbutton, green, in grey enclosure, 1NO

3SU1851-0NB00-2AA2

3SU1801-0AB00-2AB1

Standard position switch

3SE5232-0HK21

Safety position switch

3SE5232-0RV40

Actuator for safety position with transverse fixing

3SE5000-0AV03

3SK1 input extensions, 24V DC

3SK1220-1AB40

3SK1 device connector, 17.5 mm

3ZY1212-1BA00

3SK1 safety relay, basic unit Advanced

3SK1122-1AB40

3SK1 device connector, 22.5 mm

3ZY1212-2BA00

3RM1 motor starter (direct-on-line starter) Safety, 24V DC

3RM1101-1AA04

3SK1 device termination connector

3ZY1212-2FA00



2. Non-contact protective door monitoring with magnetically operated switch and two 3RT2 contactors

Article number

Pushbutton, green, in grey enclosure, 1 NO

3SU1801-0AB00-2AB1

3SK1 safety relay, basic unit Standard, 24V AC/DC

3SK1111-1AB30

Switching component, right-hand door hinge, 3m cable

3SE6627-2CA04

Solenoid, right-hand door hinge

3SE6714-2CA

2 contactors, 24 V DC, 1 NC, 3 kW

3RT2015-1BB42



3. Non-contact protective door monitoring with RFID and two 3RT2 contactors

Article number

Pushbutton, green, in grey enclosure, 1NO

3SU1801-0NA00-2AA2

3SK2 safety relay, basic units, 24V DC

3SK2112-1AA10

Non-contact RFID safety switch, family-coded

3SE6315-0BB01

Actuator for RFID switches

3SE6310-0BC01

Cable for RFID switch, 3m

3SX5601-2GA03

2 contactors, 24 V DC, 1 NC, 3kW

3RT2015-1BB42



More Information

- SIRIUS Safety Integrated application manual: <https://support.industry.siemens.com/cs/ww/de/view/81366718>
- Example application for RFID switches: <https://support.industry.siemens.com/cs/ww/de/view/109485646>
- Podcast on position switches: <http://sie.ag/2d9cjKZ>
- Questions also regarding position switches answered in a video: <http://www.siemens.com/sirius-explained>

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