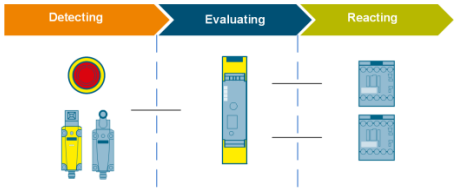
Protective door monitoring Simple and safe to implement

Basic information

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 connect 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

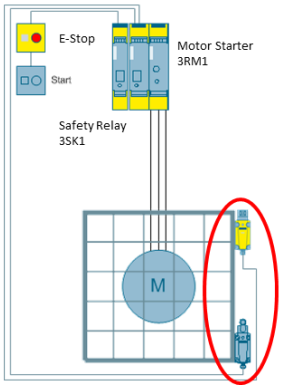
- Two safety contacts + 1 signaling contact (diagnostics option)
- Long service life due to wear-free switching
- Particularly suitable for areas exposed to contamination, cleaning and disinfecting

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

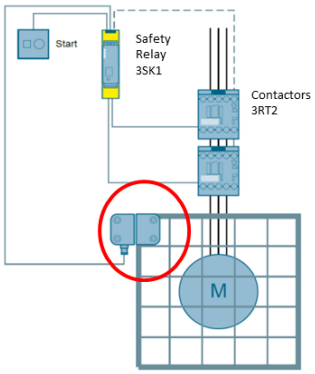
- Protection against tampering thanks to individual coding
- Extensive diagnostics functions provided by LEDs increase plant availability
- High IP69K degree of protection for use in extreme environmental conditions

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

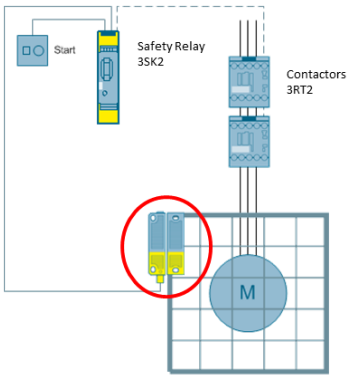
1. Mechanical protective door monitoring with electronic 3RM1 motor starter



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	3SU1851-0NB00-2AA2
Pushbutton, green, in gray enclosure, 1 NO	3SU1801-0AB00-2AB1
Standard position switch	3SE5212-0CK21
Safety position switch	3SE5212-0RV40
Actuator for safety position with transverse fixing	3SE5000-0AV03
3SK1 input extension, 24 V DC	3SK1220-1AB40
3SK1 device connector	3ZY1212-1BA00
3SK1 safety relay, basic unit Advanced	3SK1122-1AB40
3RM1 motor starter (direct-on-line starter) Safety, 24 V DC	3RM1101-1AA04
3SK1 device termination connector	3ZY1212-2FA00

2. Non-contact protective door monitoring with magnetically-operated switch and two 3RT2 contactors	
Pushbutton, green, in gray enclosure, 1 NO	3SU1801-0AB00-2AB1
3SK1 safety relay, basic unit Standard, 24 V 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

2. Non-contact protective door monitoring with RFID and two 3RT2 contactors	
Pushbutton, green, in gray enclosure, 1 NO	3SU1801-0NA00-2AA2
3SK2 safety relay, basic units, 24 V DC	3SK2112-1AA10
Non-contact RFID safety switch, family-coded	3SE6315-0BB01
Actuator for RFID switches	3SE6310-0BC01
Cable for RFID switch, 3 m	3SX5601-2GA03
2 contactors, 24 V DC, 1 NC, 3 kW	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 the subject of position switches: http://sie.ag/2d9cjKZ

Published by
Siemens AG
Smart Infrastructure
Control Products
Werner-von-Siemens-Str. 48-50
92224 Amberg, Germany

For the U.S. published by
Siemens Industry Inc.
100 Technology Drive
Alpharetta, GA 30005

United States

Subject to change without prior notice
05/19