Safety Expansion Unit SREC

Up to 3 additional safety contacts can be added with the safety expansion unit SREC. Thus an existing system can be expanded modularly by any number of additional contacts. The actuation is done by a safety contact of the basic emergency stop relay. The SREC provides auxiliary contacts for fault monitoring. The safety expansion units can be used in applications up to category 3 according to EN 954-1:1996.



- *Stop category: 0*
- *Up to safety category: 3*
- *Control: basic device of the SR series*
- *Force guided safety contacts: 3*
- *Modular expandable emergency stop system*
- *Fault monitoring by basic device*
- *Redundancy and earth fault monitoring*
- *According to EN60204-1, VDE0113-1, EN954-1*

4

Application / Installation

As many as desired SREC can be connected to a basic emergency stop relay, so the number of safety contacts can be customized to the individual needs.

The SREC in combination with a basic device was designed to comply with the requirements of EN 60204-1 for emergency stop devices, stop category 0, and the demands of EN 954-1, up to safety category 3.

A stand alone operating without a basic device is not possible. According to EN 60204-1 the unit is designed to be used in switch cabinets with a minimum environment protection of IP54. The mounting is made on a 35 mm DIN-rail.

Provided that the system has been installed properly, no maintenance is necessary.

Safety Warnings

- **Installation and operation must be carried out by qualified personnel only.**
- **The electrical installation must be performed after disconnecting the device and the machine from the mains supply.**
- **The wiring must be carried out according to the instructions of this operating manual, or the safety function may be lost.**
- **Opening the device, any manipulation of the device and the avoidance of the safety facilities are not permitted.**
- **All relevant safety regulations and standards must be attended to.**
- **Non-observance of the safety regulations may cause death, severe injuries or substantial damage to property.**

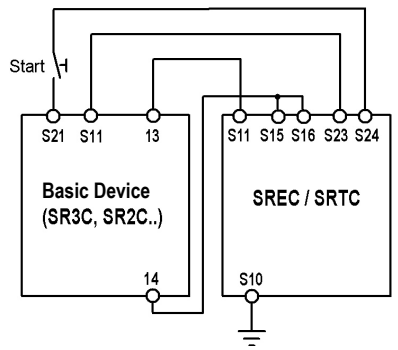
Technical Design

The SREC has got force guided safety contacts so that faults can be recognized by the basic emergency stop relay via the auxiliary contacts S23-S24. The relays are actuated via the terminals S15 and S16. A further component of the unit produces a control voltage of DC 24V at terminal S11 which is connected to the actuating safety contact of the basic device. The supply voltage is applied to terminals A1 and A2. The SREC is available for the supply voltages AC 230V, AC 115V and AC/DC 24V.

Connection of a SREC to a Basic Device

The connection of the expansion unit SREC to the basic device is made by only 4 lines: One safety contact of the basic device (e.g. 13-14) controls the relays of the SREC (S11 and S15/S16).

Two lines at S23 and S24 are needed for the feedback / fault monitoring. Through this a restart of the complete safety chain is inhibited if a fault in the SREC occurs. Besides of internal faults earth faults of the control lines are recognized, too.



Connection of one SREC to a basic device (e.g. SR3C, SR2C)

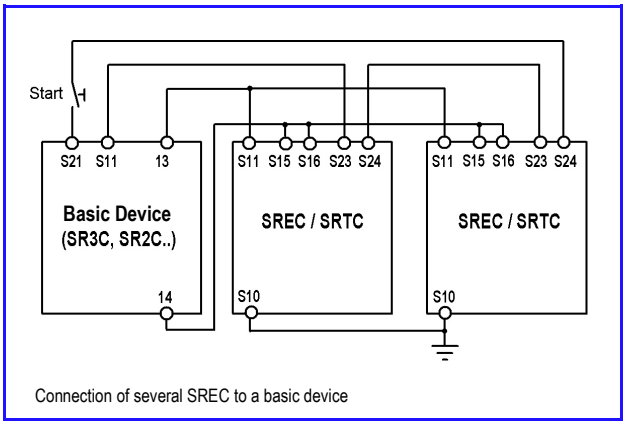
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Safety Expansion Unit SREC

Connection of several SREC to a Basic Device

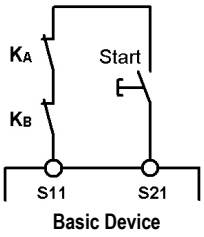
If more than one SREC shall be connected to a basic device, the terminals S11 of all expansion units must be connected in parallel as well as the terminals S15/S16.



Connection of several SREC to a basic device

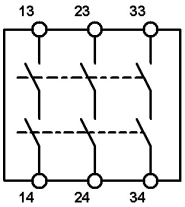
Feedback Circuit

Contactors connected to the SREC or the basic device are monitored via the feedback circuit. K_A , K_B are force guided contacts of the connected contactor or expansion module, up to category 3.

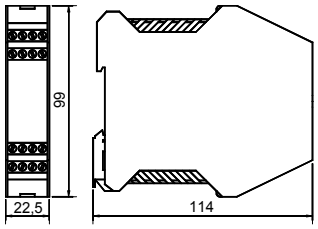


Safety Contacts

The SREC provides three force guided redundant safety contacts (13-14, 23-24, 33-34, NO).



Technical Data	
Conforms to standards	VDE 0113 part 1: 1998-11, EN 60204-1:1997, IEC 60204-1:1997, EN 954-1:1996
Operating voltage	AC 230V, AC 115V, AC/DC 24V At AC/DC 24V an insulating transformer acc. to EN 60742 must be used.
Allowable tolerance	+/-10%
Power consumption	approx. 4VA / 2W
Control voltage at S11	DC 24V
Control current	approx. 40mA
Safety contacts	3 NO
Auxiliary contacts	1 NC, only usable as a monitoring contact for the basic device
Switching voltage max.	AC 250V
Contact rating of safety contacts (13-14, 23-24)	AC: 250V, 1500VA, 6A for AC-12 230V, 4A for AC-15 Cumulating current through all 3 contacts: 10.5A/120V; 6A/250V DC: 24V, 30W, 1,25A for DC-12 24V, 30W, 2A for DC-13
Minimum current	24V/20mA
External fuses for safety cont.	4A slow-blow or 6A quick-blow
Wire width	max. 2,5mm²
Length of control lines	max. 1000m at 0,75mm²
Contact material	AgNi
Service life	mech. approx. $1x10^7$, elec. $1x10^5$ switching cycles
Rated impulse withstand voltage	2,5kV (control voltage/contacts)
Dielectric strength	4kV acc. to DIN VDE 0110-1:1997-04
Protection	IP20
Temperature range	DC 24V: -15°C to +60°C AC 230V/115V: -15°C to +40°C
Weight	approx. 230g
Mounting	DIN-rail acc. to EN 50022-35



Best-Nr	Artikel
472180	SREC, AC 230V
472181	SREC, AC 115V
472182	SREC, AC/DC 24V

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