Safety Emergency Stop Relay SRLC

SRLC is the low cost emergency stop relay for all applications where there is only the chance of slight injury or where access to the danger zone is negligible. The switch-off of the safety contacts results in the disconnection of the supply voltage. Internal error monitoring is done by the reconnection via the start button.

- *STOP category: 0*
- *Up to safety category: 3*
- *Control: single or dual-channel*
- *Force guided safety contacts: 2*
- *Redundancy and cyclical monitoring*
- *According to EN 60204-1, IEC 60204-1, EN 954-1*



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Application / Installation

The device is designed according to EN 60204-1 (IEC 60204-1) for safety circuits and it may be applied up to safety category 3 according to EN954-1. The force guided safety contacts will be opened by pressing the emergency stop button and so the machine is switched off safely. It is ensured that the occurrence of a single fault does not result in a loss of the safety function and that every internal fault will be recognized by the cyclical self monitoring at the latest when the device is switched off and shall be switched on again. Only a fault in the emergency stop switch will not be recognized. The switch must be checked periodically as prescribed in a maintenance plan.

According to EN 60204-1 the unit is designed to be used in switch cabinets with a minimum environmental protection of IP54. The mounting is made on a 35 mm DIN-rail.

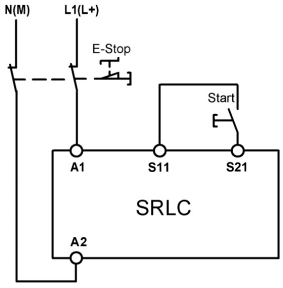
Provided that the system has been installed properly, no maintenance at the device is necessary.

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.**

Dual-Channel Emergency Stop (without fault monitoring of the emergency stop button and the supply lines)

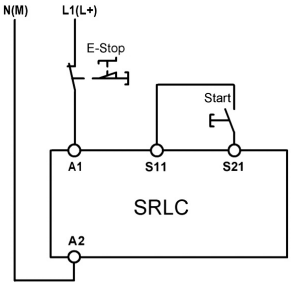
The emergency stop button, equipped with two NC contacts, is looped into the supply lines A1 and A2. A single fault does not lead to a loss of the safety function, however, not every fault is recognized by the SRLC. This behaviour is admissible up to safety category 3 according to EN954-1. The start button for the controlled reconnection of the device is looped into S11 and S21.



Dual-channel emergency stop application

Single-Channel Emergency Stop (up to Category 1)

In accordance with EN 954-1, the SRLC can be used with a single-channel emergency stop button for applications up to safety category 1. The supply voltage to A1 is disconnected by pressing the emergency stop button. The start button for the controlled reconnection of the device is looped into S11 and S21.



Single-channel emergency stop application

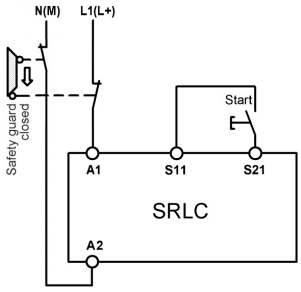
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Safety Guard Monitoring

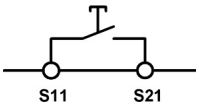
This application conforms to the dual-channel emergency stop, however, the emergency stop button is replaced by one or two limit switches which monitor the guard door. The limit switches must have positive opening NC contacts, i.e. in case of need they must cut off the electric connection by forcibly opening the switching contacts.



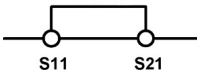
Safety guard application

Start Performance

SRLC provides an input for a start push-button. When the start button is pressed the safety contacts are closed. Depending on the application it can be wired as follows:



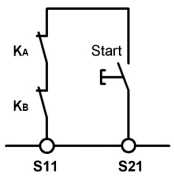
Manual start



Automatic start (e.g. for safety gate application).

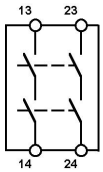
Feedback circuit

The feedback circuit monitors contactors or the extension modules SREC or SRTC which are connected to the emergency stop relay. K_A, K_B are force guided contacts of the connected contactor or extension module, up to category 3.

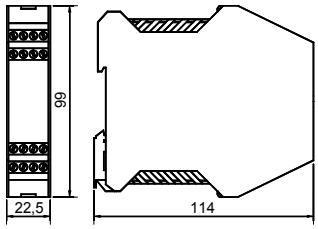


Safety Contacts

SRLC provides two force guided, redundant safety contacts (13-14, 23-24, 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	2 NO
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 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. 2,5mm^2
Length of control lines	max. 1000m at 0,75mm^2
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



Order No.	Type
472160	SRLC, AC 230V
472161	SRLC, AC 115V
472162	SRLC, AC/DC 24V

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