Safety Relays **Type: SCR-2**

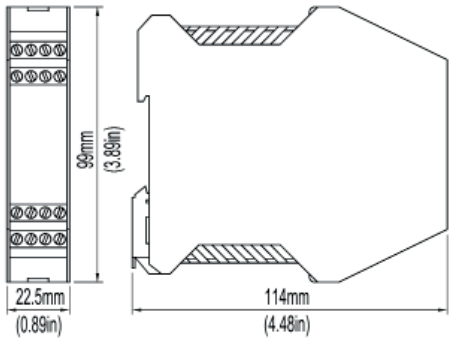
OVERVIEW:

The SCR-2 is an all purpose Safety Monitoring Relay that ensures the quick and safe deactivation of the moving parts of a machine in case of danger.

Applications include single and dual channel emergency stop circuits or dual channel safety guard monitoring using Tongue Switches or Non Contact Switches.

Safety Monitoring Relay
2NC Outputs

DIMENSIONS:



FEATURES:

- 2 Force guided safety output contacts
- Standards: EN60204-1, ISO13849-1, EN62061
- Stop Category: 0
- Up to PLe to ISO13849-1
- SILCL3 EN62061
- Single or Dual Channel input - LED indication of input status
- Redundancy and cycle monitoring
- Feedback loop for monitoring contactors or expansion modules
- Short circuit and earth fault monitoring
- 22.5mm Din Rail Mounting

FUNCTION:

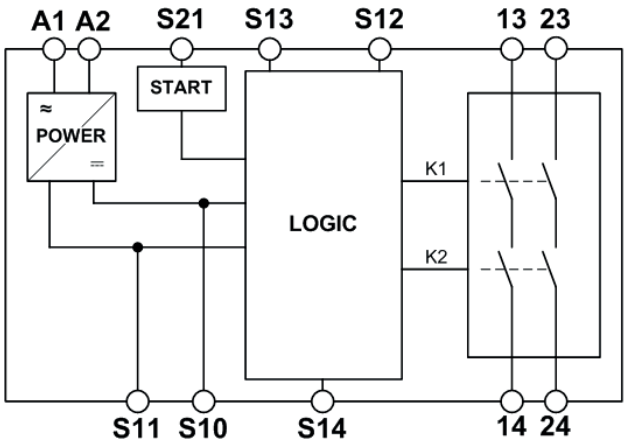
The SCR-2 is designed in accordance with EN60204-1 for safety circuits and they may be applied for up to PLe ISO13849-1 or SILCL3 to EN62061.

The internal logic system closes the relay safety outputs when the start button is pressed.

If the control lines are opened by operation of a Safety Switch or Emergency Stop button then the safety output contacts are opened and safely switch off the supply to the machine.

It is ensured that a single fault does not lead to the loss of the safety function and that cyclic monitoring means that any fault is detected no later than the next start up.

Safety-Out



Block Diagram and Electrical Connection

A1 A2	Power
S11	24Vdc Control Voltage
S10 S13 S14 S12	Control Lines
S21	Start Control Line
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2

Standards:	EN60204-1 ISO13849-1 EN62061
Monitored Safety Inputs Circuits	2NC or 1NC
Safety Switching Outputs	2NC positively guided
Operating Voltage	24Vac/dc
Supply Deviation	+/-10%
Control Voltage at S11	24Vdc
Control Current S11 to S14	40mA approx.
Monitored Reset Circuit Loop	Auto or Monitored Manual Reset
Maximum Line Conductor Cross Section	2.5 sq mm
Maximum Length of Control Line	1000m with 0.75 sq mm
Contact Material	AgNi
Indication - Green	LED1 internal relay K1 energised LED2 internal relay K2 energised LED1 and 2 OSSD closed
Contact Service Life	Mechanical $1x10^7$ Electrical $1x10^5$
Safety Contact Breaking Capacity	AC 250V, 1500VA, 6A, ohmic 230V, 4A for AC15 DC 24V, 30W, 1.25A, ohmic 24V, 30W, 2.0A for DC-13
External Fuse Protection - Safety Outputs	4A slow blow or 6A quick blow
Minimum Voltage and Current	24V, 20mA dc
Response Time on Output Opening	90ms
Rated Insulation Voltage	250V
Degree of Protection	IP20
Rated Impulse Withstand Voltage	4kV
Operating Temperature	-15C to +40C
IP Protection IEC529	Terminals IP20
Mounting	35mm DIN rail
Weight	170g approx.

Safety Classification and Reliability Data: Specified PL or SILCL were determined under worst case conditions

ISO13849-1	
Performance Level	e
Category (ISO13849-1)	4
MTTFd	848 years
DC (average)	99%
Proof Test Interval (Life)	20 years
Safety Data Annual Usage	365 days per year 24 hours per day Test cycle 3600 seconds/cycle Full load AC15

EN62061	
SILCL	3
Proof Test Interval (life)	20 years
Hardware Fault Tolerance	1
DC (average)	99%
PFHd	1.2×10^{-8}

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
180001	SCR-2	Standard Screw Terminals	24Vac/dc	2NC	2NC
180001-P	SCR-2	Pluggable Screw Terminals	24Vac/dc	2NC	2NC