

Safety Relays Type: SCR-7

OVERVIEW:

The SCR-7 is an all purpose Safety Monitoring Relay with 7 relay outputs that ensure the quick and safe deactivation of the moving parts of a machine in case of danger.

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

FEATURES:

- 7 Force guided safety output contacts
- 4 Auxiliary output contacts
- 2 Auxiliary transistor outputs
- 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
- Short circuit and earth fault monitoring
- 45mm Din Rail Mounting

FUNCTION:

The SCR-7 is designed in accordance with EN60204-1 for safety circuits and they may be applied for up to PLe ISO13849-1.

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.

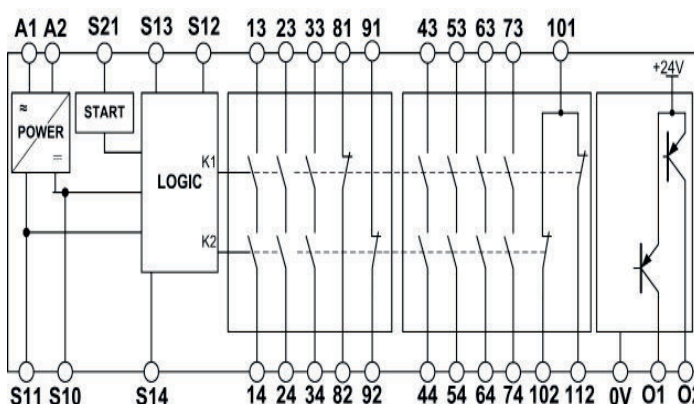
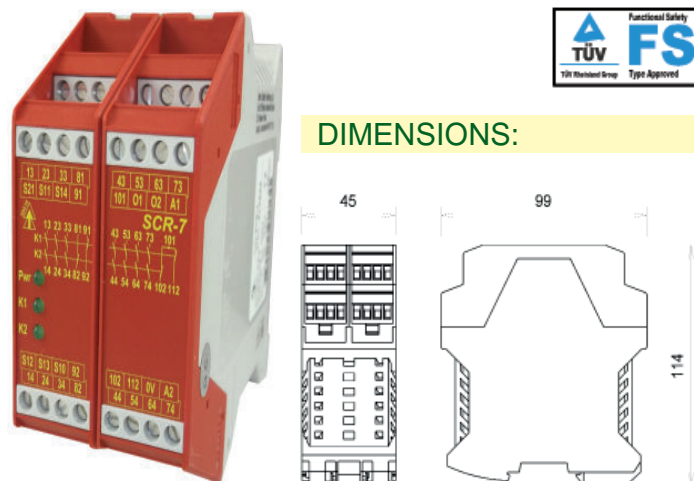
It is ensured that a single fault does not lead to the loss of the safety function and that cyclic monitoring means that any fault is detected no later than the next start up.

Standards: EN60204-1 ISO13849-1 EN62061

Monitored Safety Inputs Circuits	2NC or 1NC from Safety Switches
Safety Switching Outputs	7NC positively guided
Auxiliary Outputs	4NO
Auxiliary Transistor Outputs	2Vdc 30mA (over-current protection)
Operating Voltage	24Vac/dc
Supply Deviation	+/-10%
Control Voltage at S11	24Vdc
Control Current S11 to S14	250mA approx.
Monitored Reset Circuit Loop	Auto or Monitored Manual Reset
Maximum Line Conductor Cross Section	2.5 sq mm
Maximum Length of Control Line	2 x 500m with 0.75 sq mm
Contact Material	AgSnO ₂
Indication - Green	PWR Power ON
	LED1 internal relay K1 energised
	LED2 internal relay K2 energised
Contact Service Life	Mechanical 1x10 ⁷ Electrical 1x10 ⁵
Safety Contact Breaking Capacity	AC 250V, 2000VA, 8A, ohmic 230V, 3A for AC15 DC 24V, 3.0A DC-13 (Max. total current 20A)
Auxiliary Contact Breaking Capacity	AC 250V, 500VA, 8A, ohmic
External Fuse Protection - Safety Outputs	6A slow blow or 8A 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	300g approx.



DIMENSIONS:



Block Diagram and Electrical Connection

A1 A2	Power
S11	24Vdc Control Voltage
S21	Start Control Line
S10 S13 S14 S21	Control Lines
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2
33-34	Safety Output Contact 3
43-44	Safety Output Contact 4
53-54	Safety Output Contact 5
63-64	Safety Output Contact 6
73-74	Safety Output Contact 7
81-82	Auxiliary Output Contact
91-92	Auxiliary Output Contact
101-102	Auxiliary Output Contact
101-112	Auxiliary Output Contact
01 02	Auxiliary Outputs (Transistor)
0V	Reference Common 01 02

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

ISO13849-1	
Performance Level	e
Category (ISO13849-1)	4
MTTf	96 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	2.27 x 10 ⁻⁸

SALES NUMBER	TYPE	TERMINAL TYPE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
180040	SCR-7	Standard Screw Terminals	2NC	7NC 4NO
180040-P	SCR-7	Pluggable Screw Terminals	2NC	7NC 4NO