

# Safety Relay 2 Hand Type: SCR-2H

## OVERVIEW:

The SCR-2H is a compact, universal 2 hand control safety relay. It complies with EN574, Type IIIC and is intended for use in safety circuits designed in accordance with EN60204-1.



## FEATURES:

- 2 Force guided safety output contacts
- Standards: EN574, EN60204-1, ISO13849-1, EN62061
- Stop Category: 0
- Up to IIIC EN574
- Up to PLe to ISO13849-1
- SILCL3 EN62061
- Redundancy and cycle monitoring
- Short circuit monitoring
- 22mm Din Rail Mounting
- Choice of 24Vac/dc, 110Vac or 230Vac supply (by Sales No.)

## PRINCIPLE OF OPERATION:

The SCR-2H is suitable for connection of two hand buttons with one normally closed contact and one normally open contact. When the operating voltage is applied to A1 and A2 and the feedback loop X1 and X2 is closed the SCR-2H is ready for use.

The output contacts only close when the 2 hand buttons T1 and T2 are operated simultaneously (within 0.5s). The output contacts do not close if only one button is operated or the feedback loop is open. Short or open circuits are detected. In order to trigger a new operation both buttons must have been released and the feedback loop closed.

It is important to arrange the buttons such that accidental operation or easy bypass cannot be achieved, and in accordance with EN574 and EN999.

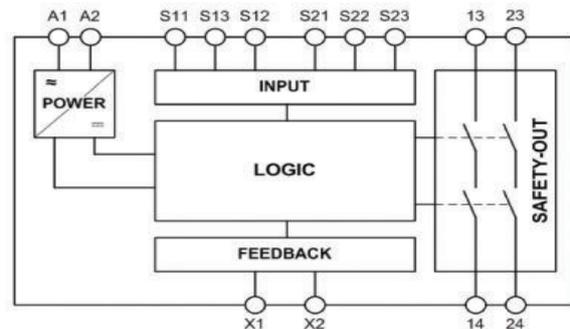
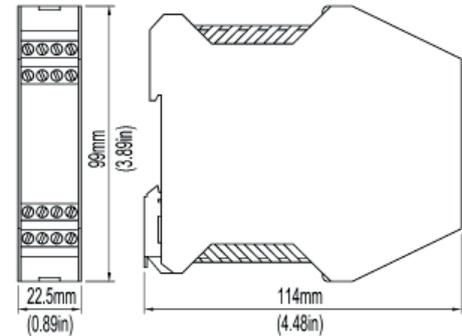
EN574 - the buttons must be arranged such that operation of both buttons using one hand is prevented i.e. a minimum distance apart of 260mm but also so as to prevent actuation by other parts of the body (forearm, elbow, hip, etc.).

EN999 - it is necessary to maintain a minimum distance between the 2 hand buttons and the hazard on the machine.

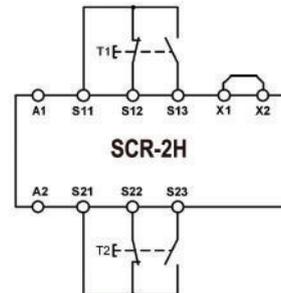


Safety Monitoring Relay  
2 Hand Control

## DIMENSIONS:



Block Diagram and Electrical Connection SCR-2H



<b>Standards:</b>	EN60204-1 ISO13849-1 EN574 EN62061
Safety Switching Outputs	2NC positively guided
Operating Voltage	24Vac/dc 110Vac or 230Vac
Supply Deviation	+/-10%
Control Voltage at S11	24Vdc
Control Current S11 to S14	20mA approx.
Release Time for the NC Contacts after Release of Buttons	<20ms
Synchronisation Time	<0.5s
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 <sup>7</sup> Electrical 1x10 <sup>5</sup>
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
Auxiliary Contact Breaking Capacity	AC 250V, 500VA, 2A DC 50V, 30W, 1.25A ohmic
External Fuse Protection - Safety Outputs	4A slow blow or 6A quick blow
Minimum Voltage and Current	24V, 20mA dc
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	200g approx.

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

<b>ISO13849-1</b>	
Performance Level	e
Category (ISO13849-1)	4
MTTFd	96.6 years
DC (average)	99%
Proof Test Interval (Life)	10 years
Safety Data Annual Usage	261 days per year 16 hours per day Test cycle 7.6 seconds/cycle Low load AC1

<b>EN62061</b>	
SILCL	3
Proof Test Interval (life)	10 years
Hardware Fault Tolerance	1
DC (average)	99%
PFHd	1.2 x 10 <sup>-8</sup>

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	OUTPUT CONTACTS
180030	SCR-2H	Standard Screw Terminals	24Vac/dc	2NC
180031	SCR-2H		230Vac	2NC
180032	SCR-2H		110Vac	2NC
180030-P	SCR-2H	Pluggable Screw Terminals	24Vac/dc	2NC
180031-P	SCR-2H		230Vac	2NC
180032-P	SCR-2H		110Vac	2NC