

VIPER Safety Relays: SCR-31-42TD-i (added diagnostics)

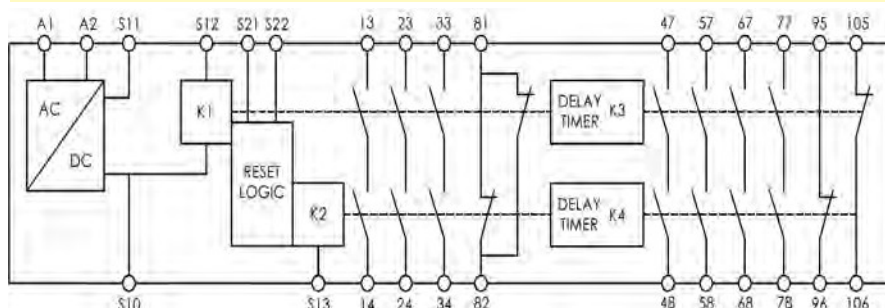
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors. The SCR-31-42TD-i internal logic uses force guided relays to achieve cross monitoring, this ensures that a single fault does not lead to the loss of the safety function and that all faults are detected at or before the next safety demand.

FEATURES:

- Output contacts: 3NC 1NO Delayed contacts: 4NC and 2NO (0-30 seconds).
- Feedback circuit to monitor external contacts - used for reinforcement of contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM:



Electrical Connection

A1 A2	Power 24Vac/dc	13-14	Safety Output Contact 1	57-58	Delayed Safety Output Contact 2
S11	Control Output	23-24	Safety Output Contact 2	67-68	Delayed Safety Output Contact 3
S10 S13 S12	Control Inputs	33-34	Safety Output Contact 3	77-78	Delayed Safety Output Contact 4
S21	Auto Reset Input	81-82	Auxiliary Output Contact K1/K2	95-96	Delayed Auxiliary Output Contact K3
S22	Manual Reset Input	47-48	Delayed Safety Output Contact 1	105-106	Delayed Auxiliary Output Contact K4

SPECIFICATIONS:

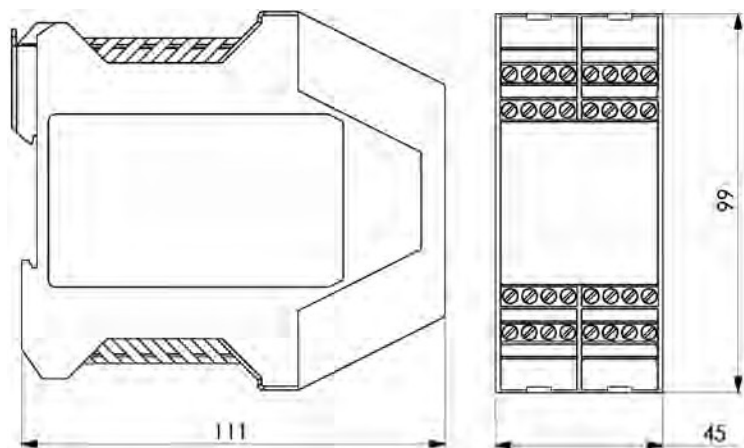
STANDARDS			
EN ISO13849-1	EN62061	EN60204-1	EN ISO12100
POWER SUPPLY CIRCUIT			
Operating Voltage	24V AC/DC		
Operating Voltage Tolerance	85-110%		
Rated Supply Frequency	50Hz-60Hz		
Power Consumption	5W (24V AC/DC)		
CONTROL CIRCUITS			
Rated Output Voltage	24V DC (S11)		
Output Current	100mA (S11)		
Response Time	100ms		
Release Time	25ms		
Recovery Time	1s approx.		
OUTPUT CIRCUITS			
Rated Output Voltage	250V AC		
Maximum Current per Output	6A		
Maximum Total Current all Outputs	8A		
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15		
	DC 24V, 30W, 1.25A, Ohmic		
Minimum Contact Load	10V 10mA		
Minimum Contact Fuses	4A slow blow, 6A fast blow		
Contact Material	AgSnO ₂		
Contact Service Life	10 x 10 ⁶		
GENERAL DATA			
Rated Impulse Withstand Voltage	4kV		
Rated Insulation Voltage	250V		
Degree of Protection	IP20		
Temperature Range	-20C to +55C		
Degree of Contamination	2		
Overvoltage Category	III		
Weight	300gr (10.5 oz.)		
Mounting	35mm DIN Rail		

SAFETY CHARACTERISTICS	
EN62061	SIL3
ISO13849-1	Ple Category 4 (instant contacts)
	Ple Category 3 (delayed contacts)
PFH	2.3E-9 1/h (2.3% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	2.0E-04 (20% of SIL3 (1 E-03))
MTTFd	134a (High)
DC Av.	95% (Medium)

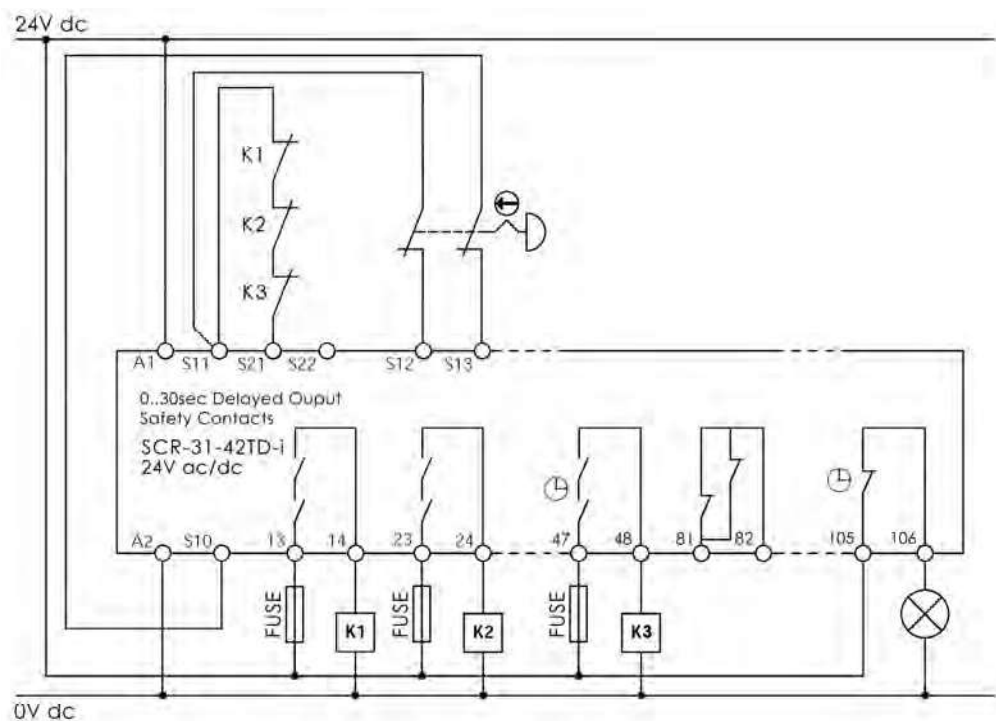


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DIMENSIONS:



AUTOMATIC RESTART MODE (Dual Channel) E-STOP:



LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

- Power Power applied to device
- Reset Reset Circuit is closed.
- CH1 External switch input 1 closed.
- CH2 External switch input 2 closed.
- K1 Internal relay safety output contacts closed.
- K2 Internal relay safety output contacts closed.
- K3 Internal relay safety output contacts closed.
- K4 Internal relay safety output contacts closed.



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS	DELAYED CONTACTS
280006	SCR-31-42TD-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO	4NC 2NO
280006-P	SCR-31-42TD-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO	4NC 2NO