IDEM SCR3142TD Series Dual Channel Viper Safety Relays w/Configurable Delay

SCR3142TD-280006

The SCR3142TD Viper Safety Relays series from IDEM are designed with simplified wiring, configurable delay function and 8 LEDs for easy diagnostics. Applications include guard door monitoring, emergency stop devices and sensors. The SCR3142TD 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.

Note: Not for use with safety light curtains

Features

- Emergency stop and guard interlock monitoring
- Monitored manual or automatic start/reset
- Time delay contacts
- Easy diagnostics of status via 8 LEDs
- 45mm housing suitable for DIN rail mounting

Safety Data per EN 13849-1		
	Instant	***Delayed***
Category	4	3
Performance level	Ple	Ple
$MTTF_d$	134a (High)	134a (High)
DC_{avg}	95% (High)	95% (High)
Safety Data per IEC/EN 62061, IEC/EN 61508		
Sil CL	SIL CL 3	SIL CL 3
Sil	SIL3	SIL3
HFT	1 (Dual channel)	1 (Dual channel)
DC_{avg}	95% (High)	95% (High)
SFF	90-99%	90-99%
PFH_d (t-20a)	$2.00E^{-04}$	$2.00E^{-04}$

SCR3142TD Series Dual Channel Relays with Configurable Delay					
Part Number	***Price***	***Type***	***Voltage***	***Outputs***	***Connection***
SCR3142TD-280006	$446.00	Dual channel operation	24V AC/DC	3 N0 / 1 NC 4 delayed NO 2 delayed NC	Fixed screw terminals
SCR3142TD-280006-P	$531.00				Pluggable terminals

SCR3142TD Series Specifications	
General Specifications	
Temperature	-20° to +55°C [-4° to +131°F]
Altitude	< 2,000 meters
Vibration Resistance	Tested to IEC 60068-2-6
Degree Of Protection	IP20
Housing	UL 94V-0 Thermoplastic
Weight	300g (10.5 oz)
Agency Approvals and Standard	cULus file E258676, CE, TUV
Terminal Designation per EN 50 005	1 x 4 mm^2 stranded ferruled (isolated) or 2 x 1.5 mm^2 stranded ferruled (isolated) or 2 x 2.5 mm^2 solid
Wire Fixing	M3.5 terminals with self-lifting wire protection or cage clamp terminals
Input Specifications	
Nominal Voltage	24V AC/DC
Voltage Range	85-110%
Maximum Consumption	5W (24VDC)
Nominal Frequency	50Hz-60Hz
Control Voltage	24VDC (S11)
Control Current	100mA (S11)
Short Circuit Protection	Internal PTC (Positive Temperature Coefficient resistor)
Over Voltage Protection	Internal VDR (Voltage Dependent resistor)
Output Specifications	
Electrical Contact Life	6A / 250VAC 100,000 cycles, 1A / 250VAC 1,000,000 cycles
Mechanical Life	10×10^6
Contact Type	3 NO positively driven and 1 NC auxiliary contacts. Delayed: 4 NO and 2 NC
Operate Delay	100ms
Release Delay	25ms
Nominal Output Voltage	250VAC
Thermal Current (I_{th})	Max. 6A
Short Circuit Strength	Minimum Contact Fuses - 4A slow blow, 6A fast blow
Switching Capacity	AC - 250V, 1500V, 6A, Ohmic 230V, 4A for AC-15; DC - 24V, 30W, 1.25 A, Ohmic
Switching Frequency	Max. 360 switching cycles/hr

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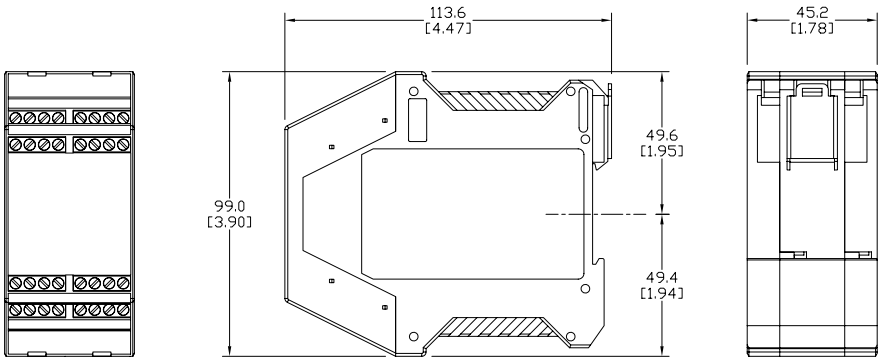
Dimensions

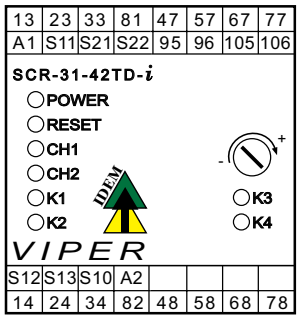
mm [in]



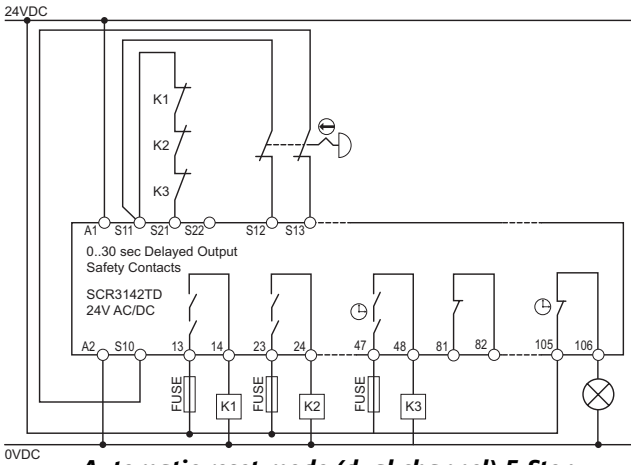
LED Diagnostics

When safety relay in operation

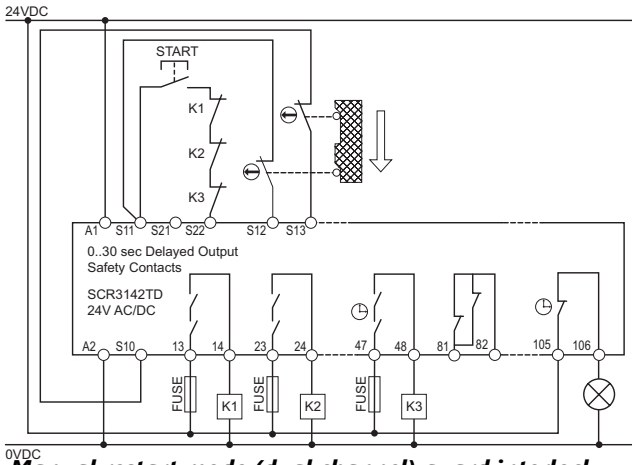
Power	Power applied to device
Reset	Reset loop S11-S21 or S11-S22 is closed
CH1	Channel 1 - S11-S12 is closed
CH2	Channel 2 - S13-S10 is closed
K1	Power to internal relay K1
K2	Power to internal relay K2
K3	Power to internal relay K3
K4	Power to internal relay K4



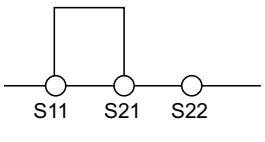
Applications



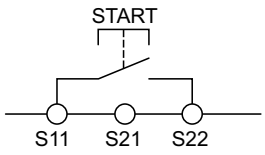
Automatic reset mode (dual channel) E-Stop



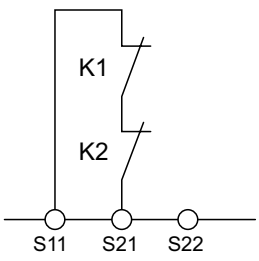
Manual restart mode (dual channel) guard interlock



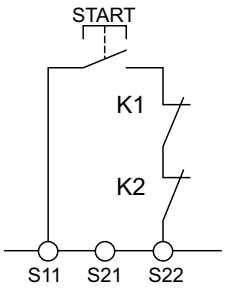
Auto Reset



Manual Reset



Contactor Auto Feedback



Contactor Manual Feedback

Note: A power supply unit with electrical isolation from the mains supply must be connected. External fusing of each safety output contact is necessary, a 4A slow-blow or 6A (quick action) must be provided.The maximum cabling and connecting resistance of control lines must not be exceed 300 Ohms.

Safety Products

Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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