

# IDEM SCR31P Series Dual Channel Viper OSSD/Light Curtain Safety Relays



SCR31P-280003-P

The Viper Safety Relay series from IDEM is designed with enhanced LED diagnostics and simplified wiring. Applications include Output Signal Switching Device (OSSD) monitoring such as light curtains and other OSSD safety devices. The SCR31P series' internal logic uses force guided relays.



## Features

- Monitored manual or auto start /reset
- Up to three safety output contacts and 1 NC auxiliary output contact
- Easy diagnostics of status via 6 LEDs
- Compact 22.5 mm housing suitable for DIN rail mounting

## Safety Data per EN 13849-1

<b>Category</b>	<b>4</b>
<b>Performance level</b>	Ple
<b>MTTF<sub>d</sub></b>	142a (High)
<b>DC<sub>avg</sub></b>	99% (High)

## Safety Data per IEC/EN 62061, IEC/EN 61508

<b>Sil CL</b>	SIL CL 3
<b>Sil</b>	SIL3
<b>HFT</b>	1 (Dual channel)
<b>DC<sub>avg</sub></b>	99% (High)
<b>SFF</b>	90-99%
<b>PHD<sub>avg</sub> (T=20a)</b>	3.60E-05

## SCR31P Series Single/Dual Channel Safety Relays

Part Number	Price	Type	Voltage	Outputs	Connection	Dimensional Drawing
<b>SCR31P-280003</b>	\$209.00	OSSD / Light	24V	2 NO	Fixed screw terminals	<a href="#">PDF</a>
<b>SCR31P-280003-P</b>	\$256.00	Curtain	AC/DC	1 NC	Pluggable terminals	<a href="#">PDF</a>

## SCR21 Series Specifications

### General Specifications

<b>Temperature</b>	-20° to +55°C [-4° to +131°F]
<b>Altitude</b>	< 2,000m [6562ft]
<b>Vibration Resistance</b>	Tested to IEC 60068-2-6
<b>Degree Of Protection</b>	IP20
<b>Housing</b>	UL 94V-0 Thermoplastic
<b>Weight</b>	160g (5.64 oz)
<b>Agency Approvals and Standard</b>	cULus, CE, TUV
<b>Terminal Designation per EN 50 005</b>	1 x 4 mm <sup>2</sup> stranded ferruled (isolated) or 2 x 1.5 mm <sup>2</sup> stranded ferruled (isolated) or 2 x 2.5 mm <sup>2</sup> solid
<b>Wire Fixing</b>	M3.5 terminals with self-lifting wire protection or cage clamp terminals

### Input Specifications

<b>Nominal Voltage</b>	24V AC/DC
<b>Voltage Range</b>	85-110%
<b>Maximum Consumption</b>	2.5 W (24V AC/DC)
<b>Nominal Frequency</b>	50Hz-60Hz
<b>Control Voltage</b>	24VDC (S11)
<b>Control Current</b>	100mA (S11 through S14)
<b>Short Circuit Protection</b>	Internal PTC (Positive Temperature Coefficient resistor)
<b>Over Voltage Protection</b>	Internal VDR (Voltage Dependent resistor)

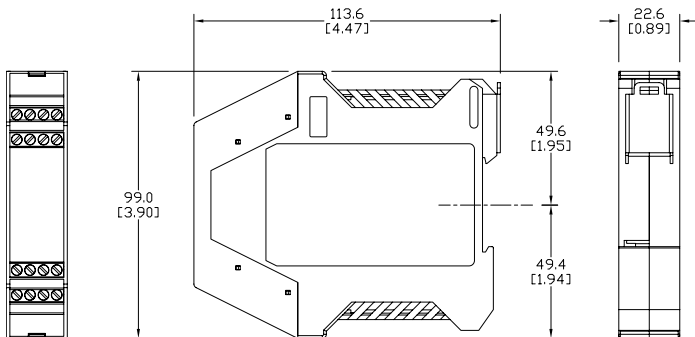
### Output Specifications

<b>Electrical Contact Life</b>	6A / 250VAC 100,000 cycles, 1A / 250VAC 1,000,000 cycles
<b>Mechanical Life</b>	10 x 10 <sup>6</sup>
<b>Contact Type</b>	3 NC positively driven and 1 NO auxiliary contacts
<b>Operate Delay</b>	100ms
<b>Release Delay</b>	25ms
<b>Nominal Output Voltage</b>	250VAC
<b>Thermal Current (I<sub>th</sub>)</b>	Max. 6A
<b>Short Circuit Strength</b>	Minimum Contact Fuses - 4A slow blow, 6A fast blow
<b>Switching Capacity</b>	AC-15 230VAC, 4A; DC-13 24VDC, 30W, 2A
<b>Switching Frequency</b>	Max. 360 switching cycles/hr

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## Dimensions

(mm [in])



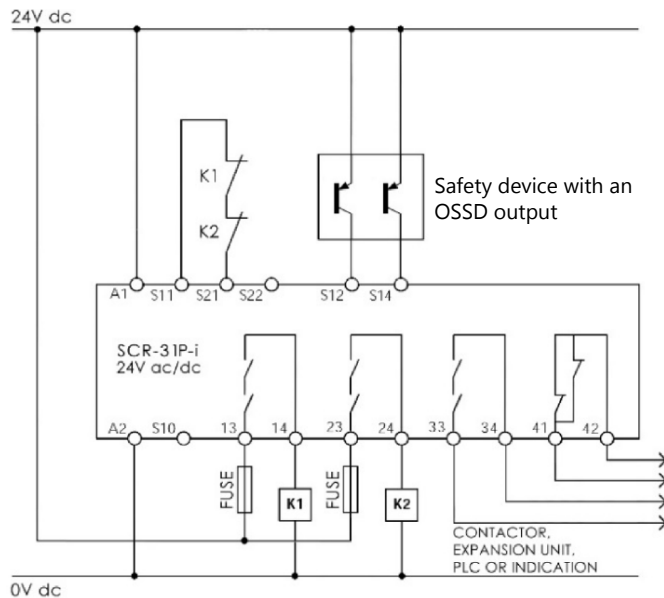
## LED Diagnostics

When Safety Relay In Operation	
Power	Power applied to device
Reset	Reset 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

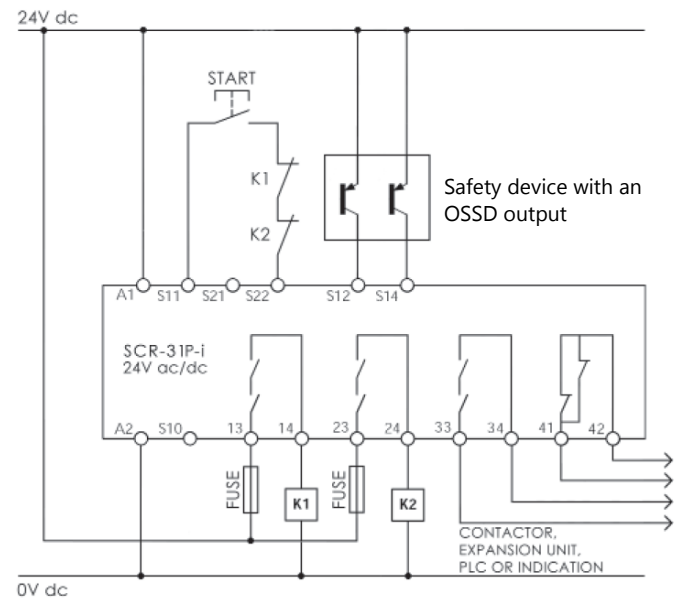
13	23	33	41
A1	S11	S21	S22
SCR-31P-i			
<input type="radio"/>	POWER		
<input type="radio"/>	RESET		
<input type="radio"/>	CH1		
<input type="radio"/>	CH2		
<input type="radio"/>	K1		
<input type="radio"/>	K2		
VIPER			
S12	S14	S10	A2
14	24	34	42

## Applications

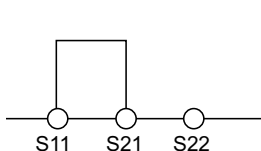
### Auto Restart (Dual Channel) OSSD (PNP) INPUTS



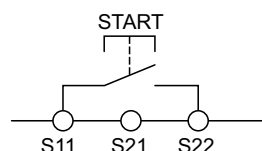
### Manual Restart (Dual Channel) OSSD (PNP) INPUTS



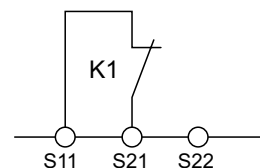
### Reset Wiring Options



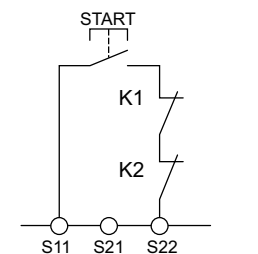
Auto Reset



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 exceed 300Ω.

# 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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