

Isolated SIR1/SIR2 Series Solid State Relay



- SIR1 - Random Switching for Inductive Loads
- SIR2 - Zero Voltage Switching for Resistive & Incandescent Loads
- Normally Open or Normally Closed Output
- 3 ... 20 A with up to 200 A Inrush
- Encapsulated Circuitry
- Optically Isolated Output
- 0.25 in. (6.35 mm) Terminals with Single Hole Mounting

Approvals:

Description

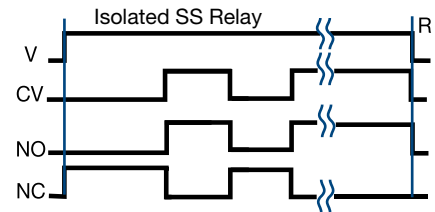
Designed for industrial applications requiring rugged reliable operation. Provides an optically isolated high capacity solid state output, with power switching capability up to 20 A steady state, 200 A inrush. Zero voltage switching SIR2 extends the life of an incandescent lamp up to 10 times. Random switching SIR1 is ideal for inductive loads. When fully insulated female terminals are used on the connection wires, the system meets the requirements for touch-proof connections.

Operation

The solid state output is located between terminals 1 and 3, and is normally open or normally closed without control voltage applied to terminals 4 and 5. When control voltage is applied to terminals 4 and 5, the solid state output opens or closes respectively.

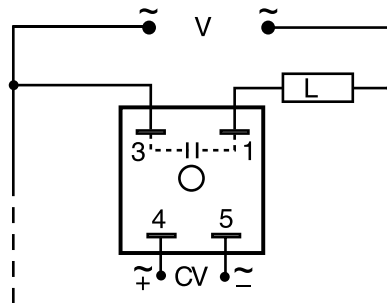
Reset: Removing control voltage resets the output. The unit is also reset if output voltage is removed.

Function



V = Voltage CV = Control Voltage
R = Reset NC = Normally Closed Output
NO = Normally Open Output
—/— = Undefined time

Connection



Note: Normally open output is shown. Normally closed output is also available.

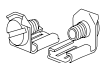
Dashed lines are internal connections. Load may be connected to terminal 3 or 1.

L = Load CV = Control Voltage

Accessories



Female quick connect P/Ns:
P1015-13 (AWG 10/12)
P1015-64 (AWG 14/16)
P1015-14 (AWG 18/22)



Quick connect to screw adaptor P/N: P1015-18

Available Models-

SIR1A10B2	SIR1A1A4	SIR1A20A4
SIR1A6A2	SIR1B20A4	SIR1B6A4
SIR1B6B4	SIR2A1B2	SIR2A20A4
SIR2A20B6	•SIR2B20A4	•SIR2B20B4

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Ordering Table

		Solid State Output Contact		
X	X	X	X	X
Series	Control Voltage	Rating	Form	Voltage
SIR1 (Random Switching)	A - 9 ... 30 V AC or DC B - 90 ... 150 V AC or DC C - 190 ... 290 V AC or DC	1 - 3 A 6 - 6 A 10 - 10 A 20 - 20 A	A - Normally Open B - Normally Closed	2 - 24 V AC 4 - 120 V AC 6 - 230 V AC
SIR2 (Zero Voltage Switching)				

Example P/N: SIR1A10A6, SIR2B10B6

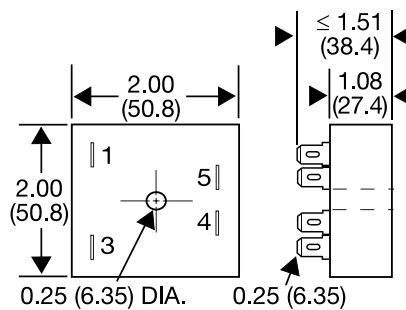
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Solid
state
relays

Technical Data

Output	Optical isolation, totally solid state	
Type	SPST, normally open or normally closed	
Form	24, 120, or 230 V AC	
Voltage	+/-20%	
Tolerance		
Ratings	Steady State	Inrush*Output Device
	3 A	30 A Triac
	6 A	60 A Triac
	10 A	100 A Triac
	20 A	200 A Triac
Minimum Load Current	≅ 50 mA	
Voltage Drop	≅ 2.0 V at rated current	
Leakage Current (Open State)	≅ 6 mA	
		*Must be bolted to a metal surface using the included heat sink compound. The maximum mounting surface temperature is 90°C. Inrush: Non-repetitive for 16 ms.
Input	Optical isolation LED/photo transistor	
Type	9 ... 290 V AC/DC in 3 Ranges	
Control Voltage	≤ 0.5 W	
Power Consumption		
Protection	Encapsulated	
Circuitry	≥ 2000 V RMS terminals to mounting surface	
Dielectric Breakdown	≥ 100 MΩ	
Insulation Resistance		
Mechanical	Surface mount with one #10 (M5 x 0.8) screw	
Mounting*	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)	
Package	0.25 in. (6.35 mm) male quick connect terminals	
Termination		
Environmental	-20°C ... +60°C	
Operating Temperature	-40°C ... +85°C	
Storage Temperature	95% relative, non-condensing	
Humidity	≅ 3.9 oz (111 g)	
Weight		

Mechanical View



Inches (Millimeters)