

# 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

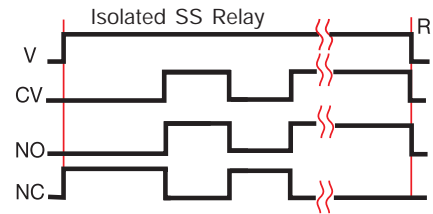
Designed for industrial applications requiring rugged reliable operation. Provides an optically isolated high capacity solid state output, with power switching capability up to 20 A steady state, 200 A inrush. Zero voltage switching SIR2 extends the life of an incandescent lamp up to 10 times. Random 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.

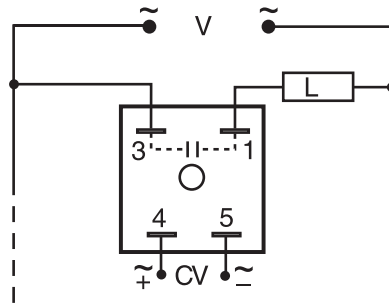
**Reset:** Removing control voltage resets the output. The unit is also reset if output voltage is removed.

## 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.

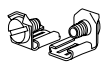
Dashed lines are internal connections. Load may be connected to terminal 3 or 1.

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

See accessory pages for specifications.

## Ordering Table

Series		Control Voltage		Solid State Output Contact		
X	X	X	X	X	X	X
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)						

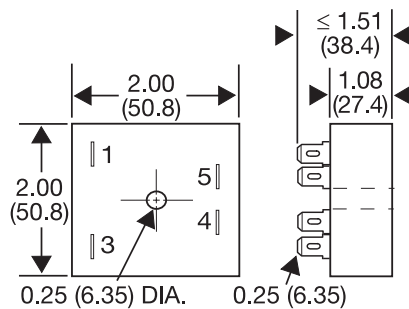
Example P/N: SIR1A10A6, SIR2B10B6

# Isolated SIR1/SIR2 Series Solid State Relay

## Technical Data

<b>Output</b>				
Type	Optical isolation, totally solid state			
Form	SPST, normally open or normally closed			
Voltage	24, 120, or 230 V AC			
Tolerance	+/-20%			
Ratings	<b>Steady State</b>	<b>Inrush*</b>	<b>Output Device</b>	*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.
	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			
<b>Input</b>				
Type	Optical isolation LED/photo transistor			
Control Voltage	9 ... 290 V AC/DC in 3 Ranges			
Power Consumption	≤ 0.5 W			
<b>Protection</b>				
Circuitry	Encapsulated			
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface			
Insulation Resistance	≥ 100 MΩ			
<b>Mechanical</b>				
Mounting*	Surface mount with one #10 (M5 x 0.8) screw			
Package	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)			
Termination	0.25 in. (6.35 mm) male quick connect terminals			
<b>Environmental</b>				
Operating Temperature	-20°C ... +60°C			
Storage Temperature	-40°C ... +85°C			
Humidity	95% relative, non-condensing			
Weight	≅ 3.9 oz (111 g)			

### Mechanical View



Inches (Millimeters)