

# Protection Relays

Single Function Relays and Controls



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## SIR SERIES

### Solid-State Relay - Isolated



### Description

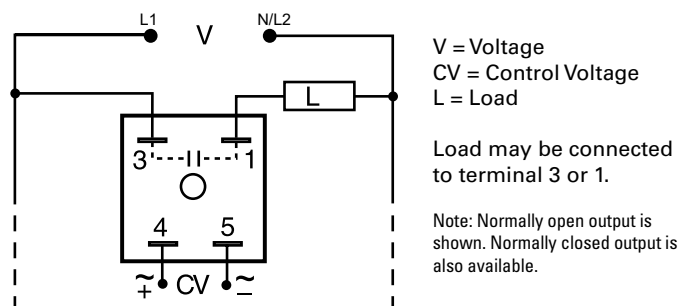
The SIR Series is designed for industrial applications requiring rugged reliable operation. Provides an optically isolated, high capacity, solid-state output, with power switching capability up to 20A steady state, 200A inrush. Zero voltage switching SIR2 extends the life of an incandescent lamp up to 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.

### Wiring Diagram



### Features & Benefits

FEATURES	BENEFITS
<b>Compact design measures 2 in. (50.8mm) square</b>	Perfect for OEM applications where space is limited
<b>Totally solid state and encapsulated</b>	No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration and humidity
<b>Up to 20A, 200A inrush output rating</b>	Provides direct control of heavy inductive, incandescent or resistive loads
<b>Switching output is optically isolated from the control input</b>	Provides the ability to interface between 2 different electrical circuits
<b>SIR1 models provide random switching</b>	Designed for use with resistive and incandescent loads, extending lamp life up to 10 times
<b>SIR2 models provide zero voltage switching</b>	Perfect for resistive and incandescent loads
<b>Metalized mounting surface</b>	Facilitates heat transfer in high current applications

### Ordering Information

MODEL	SWITCHING	CONTROL VOLTAGE	RATING	OUTPUT FORM	OUTPUT VOLTAGE
SIR1A1A4	Random	9 to 30VAC or DC	3A	Normally open	120VAC
SIR1A20A4	Random	9 to 30VAC or DC	20A	Normally open	120VAC
SIR1B6B4	Random	90 to 150VAC or DC	6A	Normally closed	120VAC
SIR1C20B6	Random	190 to 290VAC or DC	20A	Normally closed	230VAC
SIR2A20A4	Zero voltage	9 to 30VAC or DC	20A	Normally open	120VAC
SIR2B20A4	Zero voltage	90 to 150VAC or DC	20A	Normally open	120VAC
SIR2B20B4	Zero voltage	90 to 150VAC or DC	20A	Normally closed	120VAC

If you don't find the part you need, call us for a custom product 800-843-8848

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### Accessories

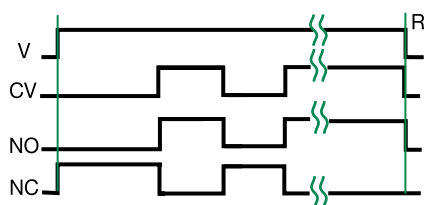



**P1015-13** (AWG 10/12), **P1015-64** (AWG 14/16),  
**P1015-14** (AWG 18/22) **Female Quick Connect**  
 These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



**P1015-18 Quick Connect to Screw Adapter**  
 Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

### Function Diagram



V = Voltage  
 CV = Control Voltage  
 NO = Normally Open Contact  
 NC = Normally Closed Contact  
 R = Reset  
 = Undefined Time

### Specifications

#### Output

#### Type

Optical isolation, totally solid state

#### Form

SPST, NO or NC

#### Voltage

24, 120, or 230VAC

#### Tolerance

±20%

#### Ratings

Steady State	Inrush*	Output Device
3A	30A	Triac
6A	60A	Triac
10A	100A	Triac
20A	200A	Triac

#### Minimum Load Current

≈ 50mA

#### Voltage Drop

≈ 2.0V at rated current

#### Leakage Current (Open State)

≈ 6mA

#### Input

#### Type

Optical isolation LED/photo transistor

#### Control Voltage

9 to 290VAC/DC in 3 ranges

#### Power Consumption

≤ 0.5W

#### Protection

#### Circuitry

Encapsulated

#### Dielectric Breakdown

≥ 2000V RMS terminals to mounting surface

#### Insulation Resistance

≥ 100 MΩ

#### Mechanical

#### Mounting\*

Surface mount with one #10 (M5 x 0.8) screw

#### Dimensions

**H** 50.8 mm (2.0"); **W** 50.8 mm (2.0");**D** 38.4 mm (1.51")

0.25 in. (6.35 mm) male quick connect terminals

#### Termination

#### Environmental

#### Operating/Storage

#### Temperature

-40° to 60°C / -55° to 85°C

#### Humidity

95% relative, non-condensing

#### Weight

≈ 3.9 oz (111 g)

\*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 16ms.