



# THE DATASHEET OF SIR1C20B6



# Single Function Relays

## PHS Series

### Phase Control



### Description

The PHS series relays are designed for changing lamp intensity, varying the speed of a fan, or controlling the temperature of a heater. The effective output voltage is adjusted with an accessory external potentiometer suitable for line voltage applications.

### Operation

Upon application of input voltage, effective output voltage can be adjusted by changing the external resistance value. As the external resistance increases, the effective output voltage decreases, and the inverse is also true.

### Features & Benefits

| FEATURES   | BENEFITS                             |
|--|--------------------------------------|
| <b>External adjustment – potentiometer rated at 230 V ac</b> | Allows direct control of heavy loads |
| <b>Up to 20 A steady state – 200 A inrush</b>                | Allows direct control of heavy loads |
| <b>Single hole surface mounting</b>                          | Provides quick and easy installation |
| <b>Solid-state design</b>                                    | Longer life                          |

### Applications

- Protection, control and/or monitoring of generators and other devices

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### Specifications

#### Output

|               |                                      |                |
|---------------|--------------------------------------|----------------|
| <b>Type</b>   | Variable voltage phase angle control |                |
| <b>Rating</b> | <b>Steady State (at 100 % On)</b>    | <b>Inrush*</b> |
|               | 1 A                                  | 10 A           |
|               | 6 A                                  | 60 A           |
|               | 10 A                                 | 100 A          |
|               | 20 A                                 | 200 A          |

|                     |                          |
|---------------------|--------------------------|
| <b>Minimum Load</b> | Current 100 mA           |
| <b>Voltage Drop</b> | ≅ 2.0 V at rated current |

#### Input

|                  |                    |
|------------------|--------------------|
| <b>Voltage</b>   | 120 or 230 V ac    |
| <b>Tolerance</b> | ±20%               |
| <b>AC Line</b>   | Frequency 50/60 Hz |

#### Protection

|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>Output Contact Rating-SPST</b> | A300, 720VA @ 240 V ac (10 A max.) |
|-----------------------------------|------------------------------------|

#### General Characteristics

|                              |  |
|------------------------------|--|
| <b>Dielectric Breakdown</b>  | ≥ 2000 V RMS terminals to mounting surface |
| <b>Insulation Resistance</b> | ≥ 100MΩ                                    |

#### Mechanical

|                    |  |
|--------------------|--|
| <b>Mounting *</b>  | Surface mount with one #10 (M5 x 0.8) screw                            |
| <b>Dimensions</b>  | <b>H</b> 50.8 mm (2"); <b>W</b> 50.8 mm (2"); <b>D</b> 38.4 mm (1.51") |
| <b>Termination</b> | 0.25 in. (6.35 mm) male quick connect terminals                        |

#### Environmental

|                                      |   |
|--------------------------------------|---|
| <b>Operating/Storage Temperature</b> | -20 °C to 60 °C / -40 °C to 85 °C                       |
| <b>Humidity</b>                      | 95% relative, non-condensing                            |
| <b>Weight</b>                        | 1 A: ≅ 2.4 oz (68 g)<br>6, 10, & 20 A: ≅ 3.9 oz (111 g) |

#### External Adjustment Potentiometer

|                 |  |
|-----------------|--|
| <b>120 V ac</b> | 100KΩ rated at 1W  |
| <b>230 V ac</b> | 200KΩ rated at 2W; Must have insulation resistance suitable for line voltage applications. |

\*Units rated ≥ 6 A 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.

### Certification & Compliance

|                      |                   |
|----------------------|-------------------|
| <b>UL Recognized</b> | File E57310 UL508 |
|----------------------|-------------------|

### Accessories

**P1004-174** (100kΩ 1W), **P1004-175** (200kΩ 2W) **Versa-Pot**  
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.

**P0700-7 Versa-Knob**  
Designed for 0.25 in. (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.

**P1015-64** (AWG 14/16) **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.

# Single Function Relays

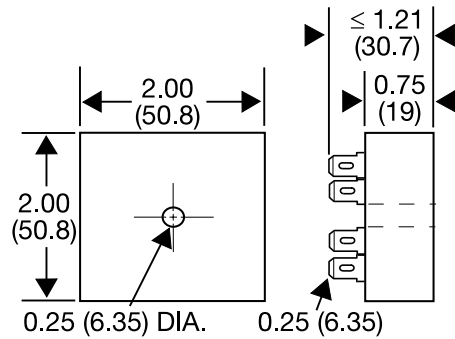
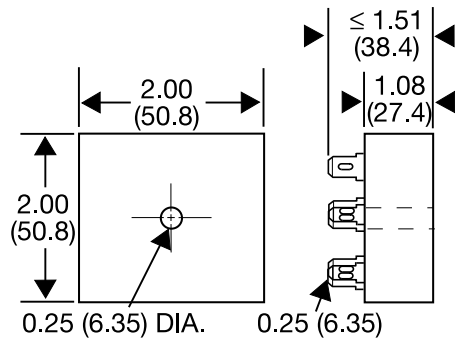
## PHS Series

### Ordering Information

| MODEL     | INPUT VOLTAGE | RATING |
|-----------|---------------|--------|
| PHS120A10 | 120 V ac      | 10 A   |
| PHS120A20 | 120 V ac      | 20 A   |
| PHS120A6  | 120 V ac      | 6 A    |
| PHS230A10 | 230 V ac      | 10 A   |
| PHS230A20 | 230 V ac      | 20 A   |
| PHS230A6  | 230 V ac      | 6 A    |

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

### Dimensions Inches (mm)

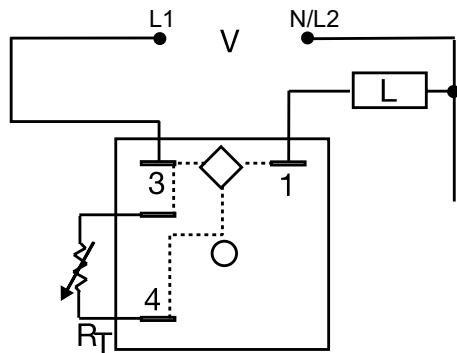


For units rated @ 1 A

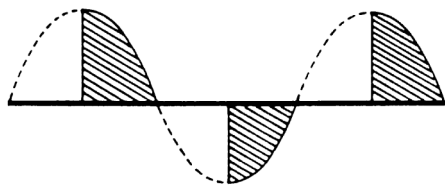
# Single Function Relays

## PHS Series

### Wiring Diagram



### Typical Output Waveform



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