

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

Applications

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

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Specifications

Output

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

Minimum Load	Current 100 mA
Voltage Drop	≅ 2.0 V at rated current

Input

Voltage	120 or 230 V ac
Tolerance	±20%
AC Line	Frequency 50/60 Hz

Protection

Output Contact Rating-SPST	A300, 720VA @ 240 V ac (10 A max.)
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General Characteristics

Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100MΩ

Mechanical

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

Environmental

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

External Adjustment Potentiometer

120 V ac	100KΩ rated at 1W
230 V ac	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

UL Recognized	File E57310 UL508
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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.

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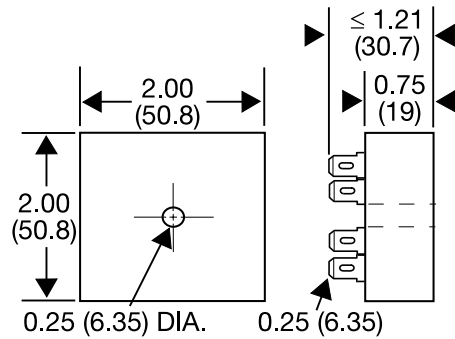
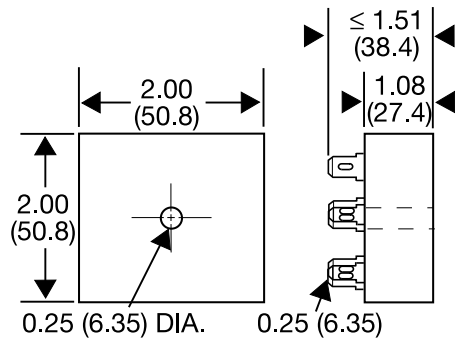
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Ordering Information

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

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Dimensions Inches (mm)

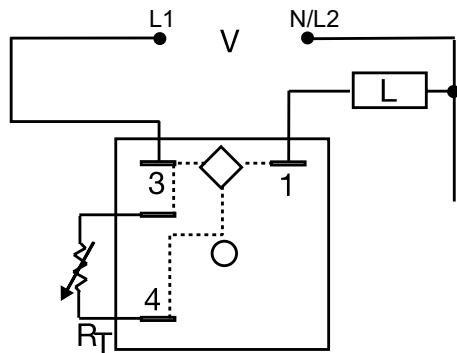


For units rated @ 1 A

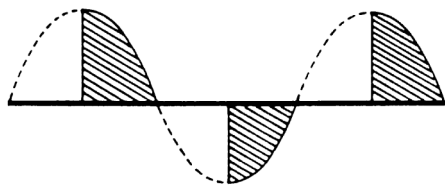
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Wiring Diagram



Typical Output Waveform



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