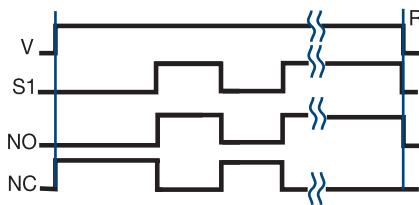


The SLR Series has no isolation between the control switch input and the solid-state output. Select the SLR for applications where the control switch is the same voltage source as the load. Provides the noiseless, reliability and long life of a solid-state relay, without the cost of isolation circuitry. Zero voltage switching SLR2 can extend the life of an incandescent lamp up to 10 times its normal life. Random switching SLR1 is normally used for inductive loads. When fully insulated female terminals are used on the connection wires, the system meets the requirements for touch-proof connections.

For more information see:  
Appendix B, page 165, Figure 4 for dimensional drawing.  
Appendix C, page 172, Figure 38 for connection diagram.

## Function:



V = Voltage  
S1 = Initiate Switch  
R = Reset  
NO = Normally Open Output  
NC = Normally Closed Output  
— = Undefined time

## Operation

The solid-state output is located between terminals 1 and 2 and can be ordered as either normally open or normally closed, when voltage is applied and S1 is open. When S1 is closed, the solid-state output between terminals 1 and 2 closes (or opens). If S1 is opened, the solid-state output will open (or close).

Reset: Opening S1 resets the output to its original state. Reset is also accomplished by removing input voltage.

## Features:

- SLR1 - Random switching for inductive loads
- SLR2 - Zero voltage switching for resistive & incandescent loads
- Normally open or normally closed output
- 1 - 20A with up to 200A inrush
- 0.25 in. (6.35 mm) termination with single hole mounting
- Noiseless switching, reliability, and long life

Approvals:   

## Auxiliary Products:

- **Quick connect to screw adaptor:**  
P/N: P1015-18
- **Female quick connect:**  
P/N: P1015-13 (AWG 10/12)  
P/N: P1015-64 (AWG 14/16)  
P/N: P1015-14 (AWG 18/22)

## Available Models:

SLR1410B  
SLR1420A  
SLR1610A

If desired part number is not listed, please call us to see if it is technically possible to build.

## Order Table:

<b>X</b> Series	<b>X</b> Voltage	<b>X</b> Output Rating	<b>X</b> Output Form
-SLR1 - Random Switching -SLR2 - Zero Voltage Switching	-2 - 24VAC -4 - 120VAC -6 - 230VAC	-1 - 1A -6 - 6A -10 - 10A -20 - 20A	-A - Normally Open -B - Normally Closed

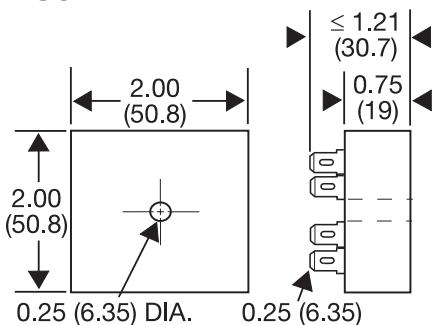
## Specifications

Output (Contact)	Non-isolated solid state			Protection	Encapsulated
Type	SPST, NO or NC			Circuitry	≥ 2000V RMS terminals to mounting surface
Form	24, 120, or 230VAC			Dielectric Breakdown	≥ 100MΩ
Voltage	±20%			Insulation Resistance	≥ 100MΩ
Tolerance	Steady State			Mechanical	
Ratings	Inrush*	Output Device	Mounting*	Surface mount with one #10 (M5 x 0.8) screw	
	1A	SCR & Bridge Rectifier	Dimensions	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)	
	6 A	Triac	Termination	0.25 in. (6.35 mm) male quick connect terminals	
	10A	Triac	Environmental		
	20A	Triac	Operating / Storage Temperature	-20° to 60°C / -40° to 85°C	
Minimum Load Current	≥ 50mA			Humidity	95% relative, non-condensing
Voltage Drop (at Rated Current)	≥ 2.0V - 6, 10, & 20A units; ≥ 2.5V - 1A units			Weight	1A units: ≥ 2.4 oz (68 g); 6, 10, 20A units: ≥ 3.9 oz (111 g)
Leakage Current (Open State)	≤ 5mA				
Initiate Switch Voltage	Same as the output voltage				
Power Consumption	≤ 0.5W				

\*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.

# Appendix B - Dimensional Drawings

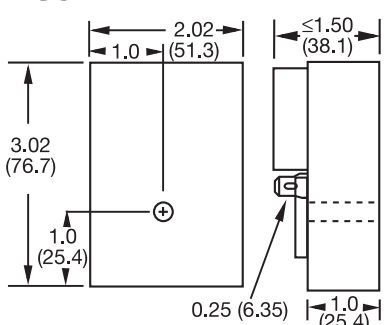
**FIGURE 1**



0.25 (6.35) DIA. 0.25 (6.35)

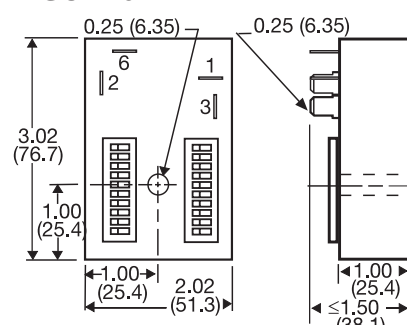
CT; ESD5; ESDR; FS100; FS200; FS300; KR3; KR9;  
KRDB; KRDI; KRDM; KRDR; KRDS; KRPD; KRPS;  
KSD1; KSD2; KSD3; KSD4; KSDB; KSDR; KSDS;  
KSDU; KSPD; KSPS; KSPU; KVM; T2D; TA; TAC1;  
TAC4; TDU; TDUB; TDUI; TDUS; TL; TMV8000;  
TS1; TS2; TS4; TS6; TSB; TSD1; TSD2; TSD3; TSD4;  
TSD6; TSD7; TSDB; TSDR; TSDB; TSDS; TSS; TSU2000

**FIGURE 2**



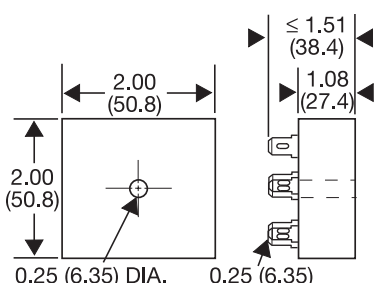
HLV; HRD3; HRD9; HRDB; HRDI;  
HRDM; HRDR; HRDS; HRID; HRIS;  
HRIU; HRPD; HRPS; HRPD; HRV; RS

**FIGURE 3**



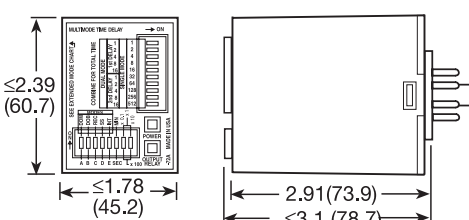
HSPZ

**FIGURE 4**



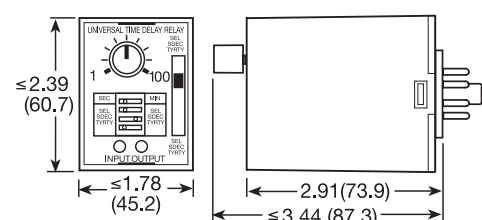
FA; FS; FSU1000\*; NHPD; NHPS; NHPD;  
NLF1\*; NLF2\*; PHS\*; PTHF\*; SIR1; SIR2;  
SLR1\*; SLR2\*; TH1; TH2; THC; THD1;  
THD2; THD3; THD4; THD7; THDB; THDM;  
THDS; THS

**FIGURE 5**



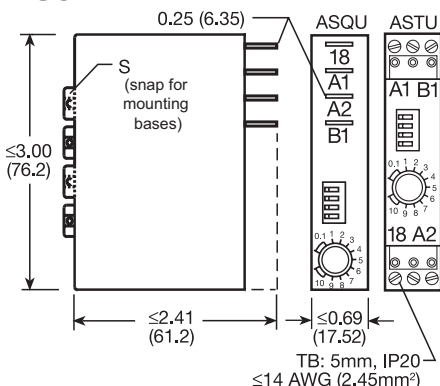
TRDU

**FIGURE 6**



TRU

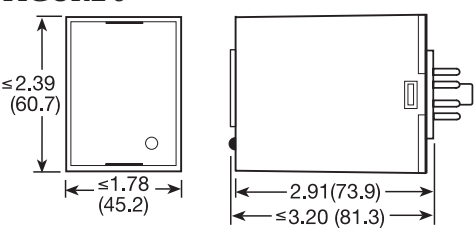
**FIGURE 7**



ASQU; ASTU; DSQU; DSTU

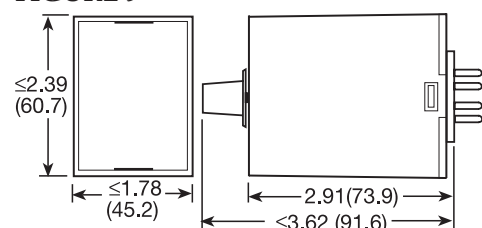
TB: 5mm, IP20  
≤14 AWG (2.45mm<sup>2</sup>)

**FIGURE 8**



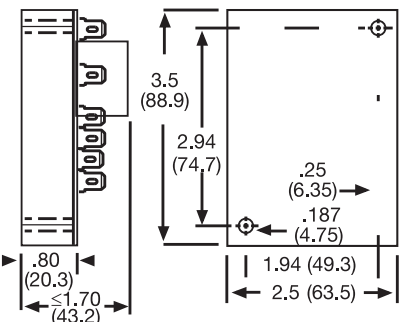
PLM; PLR; TDB; TDBH; TDBL; TDI; TDIH;  
TDIL; TDM; TDMB; TDMH; TDML; TDR;  
TDS; TDSH; TDSL

**FIGURE 9**



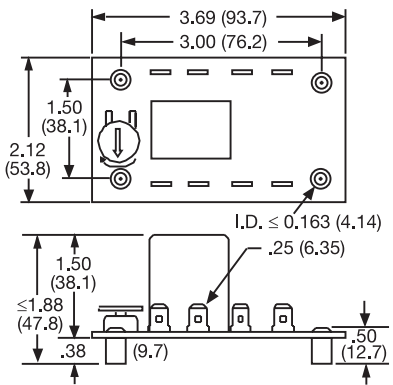
FS500; PRLB; PRM; PRLS; TRB; TRM; TRS

**FIGURE 10**



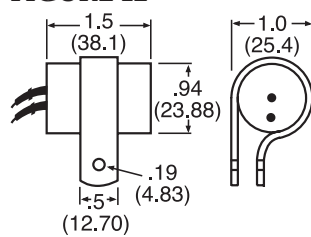
ERD3; ERDI; ERDM

**FIGURE 11**



ORB; ORM; ORS

**FIGURE 12**

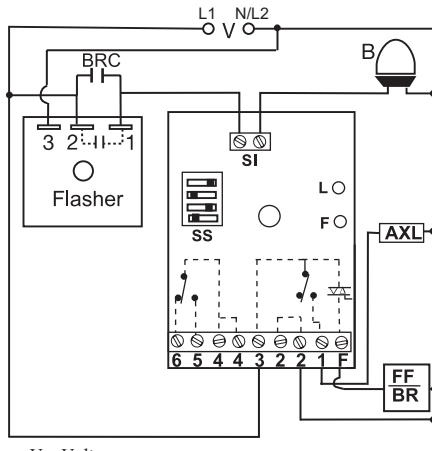


FS100; FS400

inches (millimeters)

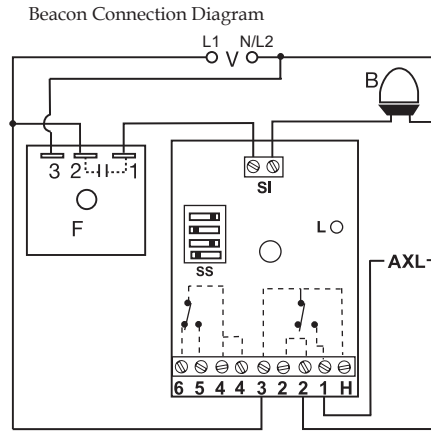
# Appendix C - Connection Diagrams

FIGURE 34 - FB9L



V = Voltage  
 B = LED Beacon  
 SS = Selector Switch  
 SI = Sensor Input  
 L = Indicator  
 F = Flasher Failure LED  
 AXL = Auxiliary Load/Alarm  
 FF = Flasher Failure/Bypass Relay  
 BR = Bypass Relay Contacts

FIGURE 35 - SCR9L



V = Voltage  
 B = Beacon Lamps  
 SS = Selector Switch  
 L = LED Indicator  
 F = Flasher  
 AXL = Auxiliary Load/Alarm  
 OL = Obstruction Lamps  
 SI = Sensor Input  
 H = "3" Spare AC Hot Connection (2A max.)

Obstruction Lamp Connection Diagram

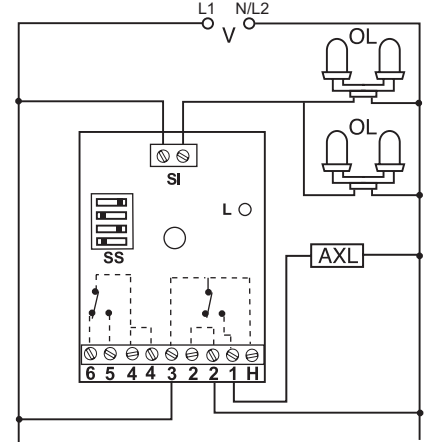
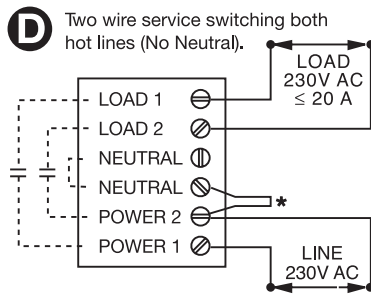
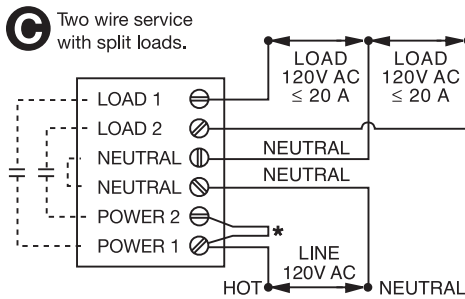
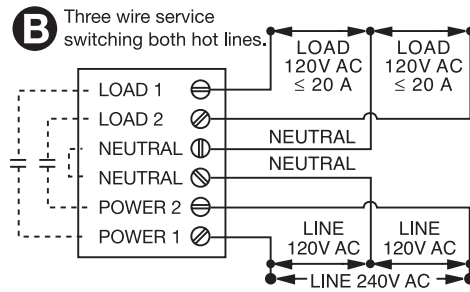
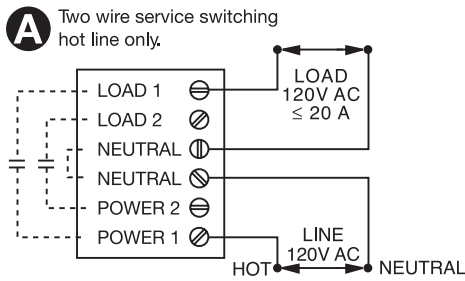
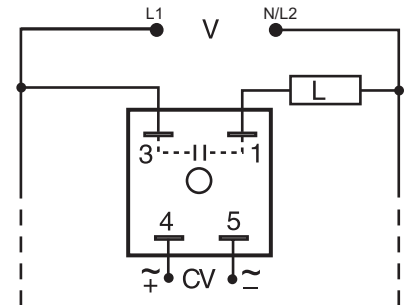


FIGURE 36 - PCR Series



\* Customer Supplied Jumper    - - - - Internal Connection

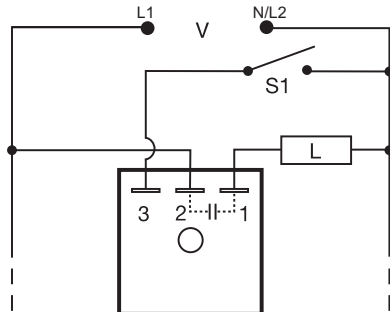
FIGURE 37 - SIR1/SIR2 Series



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

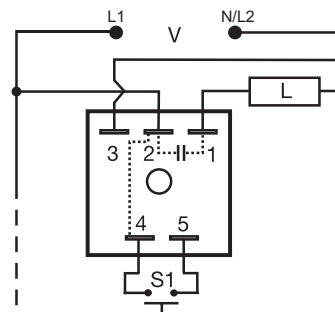
Load may be connected to terminal 3 or 1.  
 Note: Normally open output is shown. Normally closed output is also available.

FIGURE 38 - SLR Series



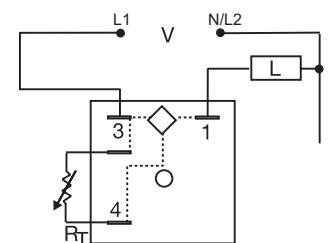
L = Load  
 S1 = Initiate Switch  
 Note: Normally open output is shown. Normally closed output is also available.

FIGURE 39 - NLF1/NLF2 Series



L = Load  
 S1 = Control Switch  
 Internal connections between terminals 2 & 4.

FIGURE 40 - PHS Series



Triac Output Device  
 V = Voltage  
 L = Load  
 R<sub>r</sub> = External Adjustment