

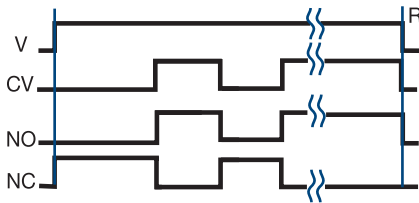
Designed for industrial applications requiring rugged reliable operation. Provides an optically isolated, high capacity, solid-state output, with power switching capability up to 20A steady state, 200A inrush. Zero voltage switching SIR2 extends the life of an incandescent lamp up to 10 times. Random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

For more information see:
Appendix B, page 165, Figure 4 for dimensional drawing.
Appendix C, page 172, Figure 37 for connection diagram.

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

Features:

- SIR1 - Random switching for inductive loads
- SIR2 - Zero voltage switching for resistive & incandescent loads
- Normally open or normally closed output
- 3 - 20A with up to 200A inrush
- Encapsulated circuitry
- Optically isolated output
- 0.25 in. (6.35 mm) terminals with single hole mounting

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:

SIR1A10A6	SIR1B6B4
SIR1A6A2	SIR1C20B6
SIR1B10A4	SIR2A20A4
SIR1B10B4	SIR2B20A4
SIR1B20A4	SIR2B20B4

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

Order Table:

X Series
 -SIR1 - Random Switching
 -SIR2 - Zero Voltage Switching

X Control Voltage
 -A - 9 - 30VAC or DC
 -B - 90 - 150VAC or DC
 -C - 190 - 290VAC or DC

X Rating
 -1 - 3A
 -6 - 6A
 -10 - 10A
 -20 - 20A

Solid-state Output Contact

X Form
 -A - Normally Open
 -B - Normally Closed

X Voltage
 -2 - 24VAC
 -4 - 120VAC
 -6 - 230VAC

Specifications

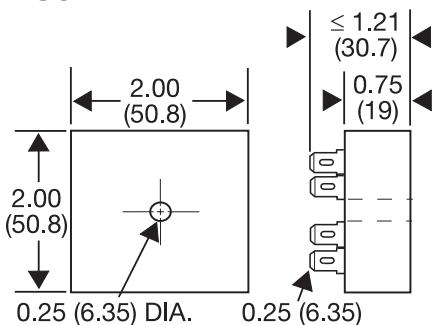
Output	Optical isolation, totally solid state		
Type	SPST, NO or NC		
Form	24, 120, or 230VAC		
Voltage	±20%		
Tolerance	Steady State	Inrush*	Output Device
Ratings	3A	30A	Triac
	6A	60A	Triac
	10A	100A	Triac
	20A	200A	Triac
Minimum Load Current	≅ 50mA		
Voltage Drop	≅ 2.0V at rated current		
Leakage Current (Open State)	≅ 6mA		
Input	Optical isolation LED/photo transistor		
Type	9 to 290VAC/DC in 3 ranges		
Control Voltage	≅ 0.5W		
Power Consumption			

Protection	Encapsulated
Circuitry	≥ 2000V RMS terminals to mounting surface
Dielectric Breakdown	≥ 100 MΩ
Insulation Resistance	
Mechanical	
Mounting*	Surface mount with one #10 (M5 x 0.8) screw
Dimensions	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
Environmental	
Operating / Storage Temperature	-20° to 60°C / -40° 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.

Appendix B - Dimensional Drawings

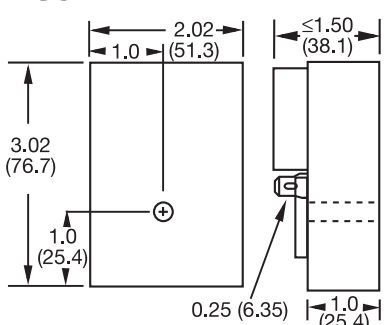
FIGURE 1



0.25 (6.35) DIA. 0.25 (6.35)

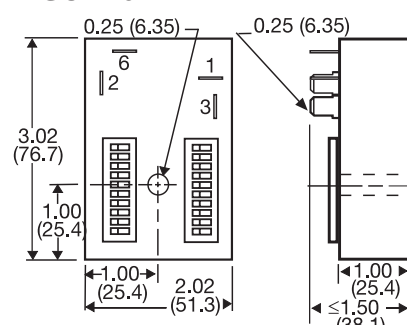
CT; ESD5; ESDR; FS100; FS200; FS300; KR3; KR9;
KRDB; KRDI; KRDM; KRDR; KRDS; KRPD; KRPS;
KSD1; KSD2; KSD3; KSD4; KSDB; KSDR; KSDS;
KSDU; KSPD; KSPS; KSPU; KVM; T2D; TA; TAC1;
TAC4; TDU; TDUB; TDUI; TDUS; TL; TMV8000;
TS1; TS2; TS4; TS6; TSB; TSD1; TSD2; TSD3; TSD4;
TSD6; TSD7; TSDB; TSDR; TSDB; TSS;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

FIGURE 2



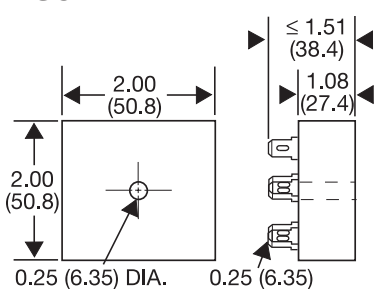
HLV; HRD3; HRD9; HRDB; HRDI;
HRDM; HRDR; HRDS; HRID; HRIS;
HRIU; HRPD; HRPS; HRPD; HRV; RS

FIGURE 3



HSPZ

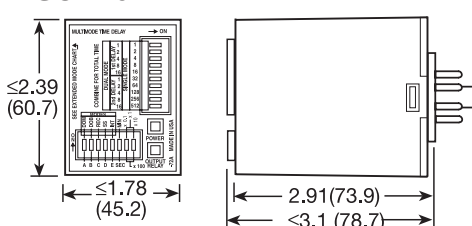
FIGURE 4



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

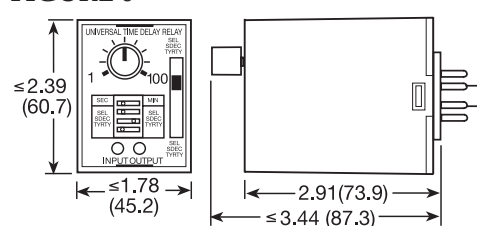
*If unit is rated @ 1A, see Figure 1

FIGURE 5



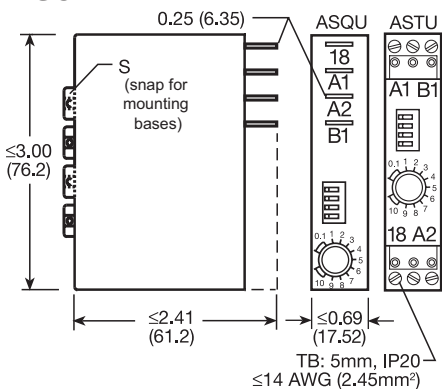
TRDU

FIGURE 6



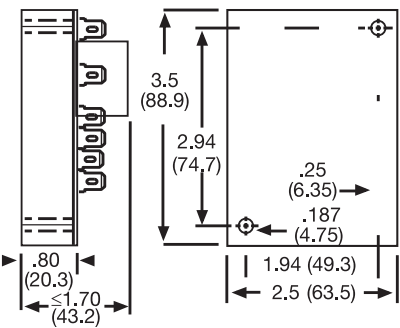
TRU

FIGURE 7



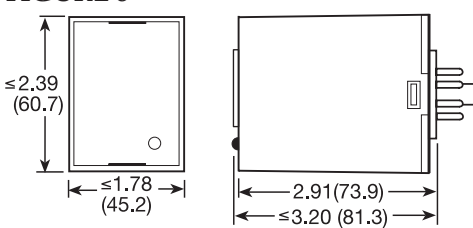
ASQU; ASTU; DSQU; DSTU

FIGURE 10



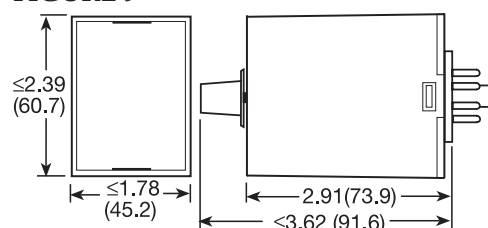
ERD3; ERDI; ERDM

FIGURE 8



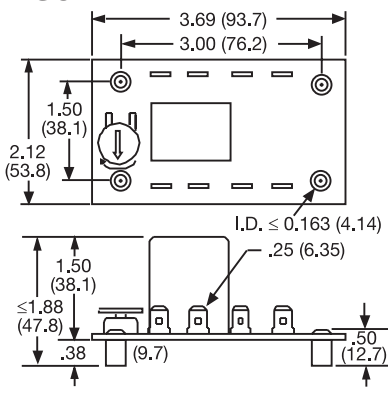
PLM; PLR; TDB; TDBH; TDBL; TDI; TDIH;
TDIL; TDM; TDMB; TDMH; TDML; TDR;
TDS; TDSH; TDSL

FIGURE 9



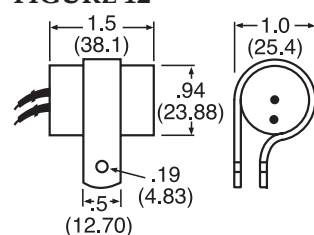
FS500; PRLB; PRM; PRLS; TRB; TRM; TRS

FIGURE 11



ORB; ORM; ORS

FIGURE 12

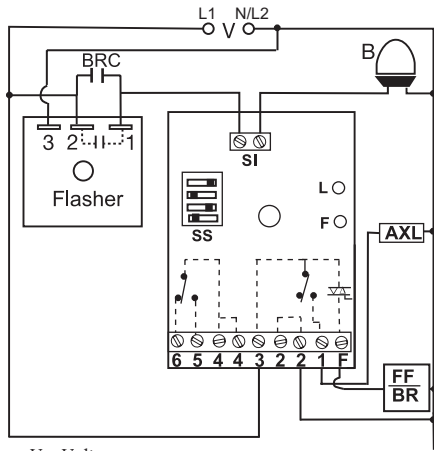


FS100; FS400

inches (millimeters)

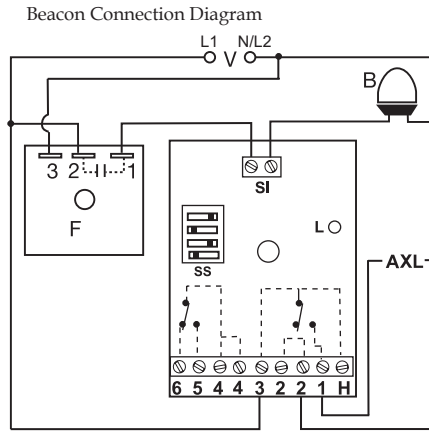
Appendix C - Connection Diagrams

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

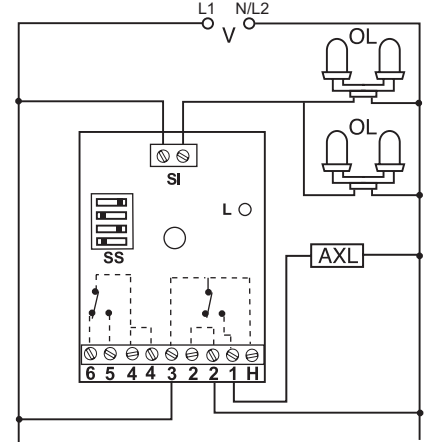
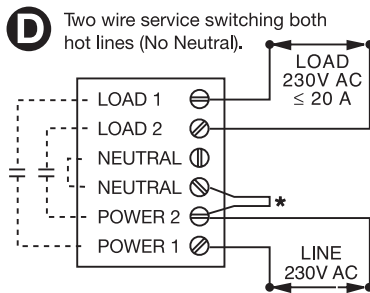
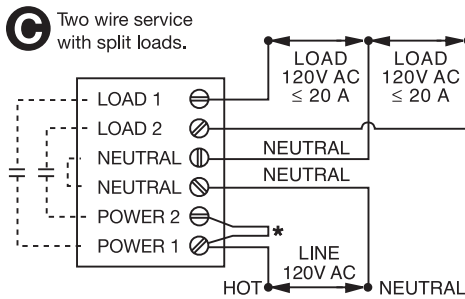
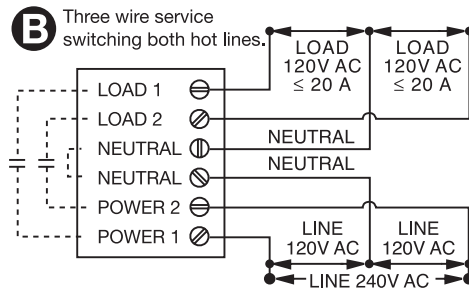
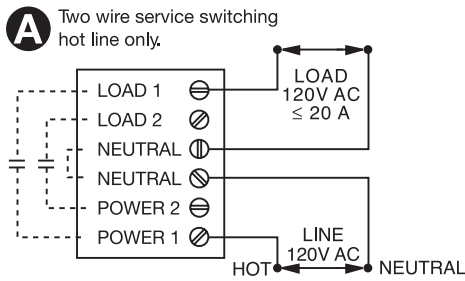
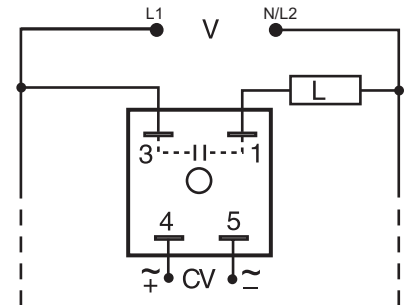


FIGURE 36 - PCR Series



* Customer Supplied Jumper - - - - Internal Connection

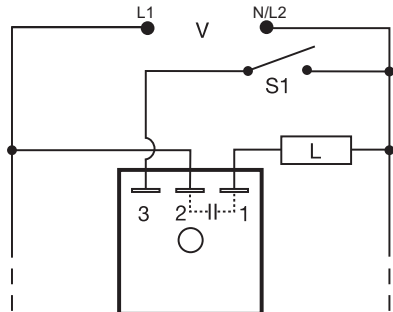
FIGURE 37 - SIR1/SIR2 Series



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

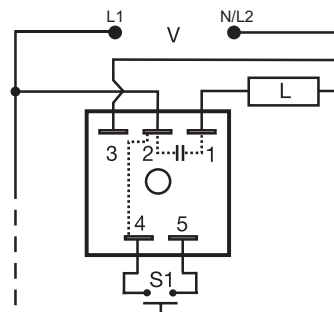
Load may be connected to terminal 3 or 1.
 Note: Normally open output is shown. Normally closed output is also available.

FIGURE 38 - SLR Series



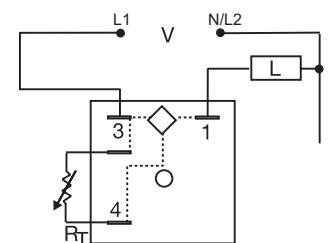
L = Load
 S1 = Initiate Switch
 Note: Normally open output is shown. Normally closed output is also available.

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_r = External Adjustment