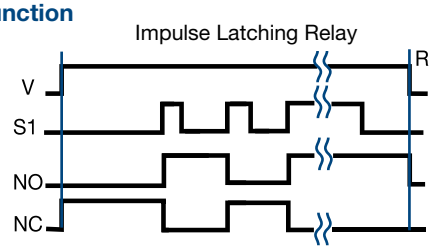
Impulse Latching Relay
NLF1/NLF2 Series
Solid State Relay

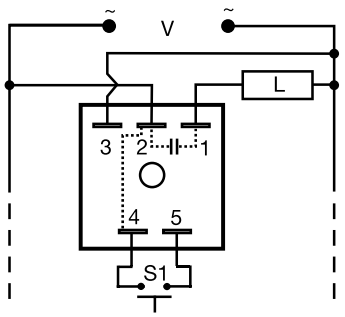
- Totally Solid State Latching Relay--Encapsulated
- Non-Isolation to Reduce Cost
- 1 ... 20 A with 200 A Inrush
- 24, 120, or 230 V AC Input Voltages
- NLF1--Random Switching for Inductive Loads
- NLF2--Zero Voltage Switching for Lamp and Resistive Loads

Description
The NLF1 and NLF2 provide a *Flip-Flop* latching function. Each time the control switch is closed, the solid state output changes state and latches. The NLF Series has no isolation between the control switch and the solid state output, which lowers cost and reduces the number of connections required. For use where the control switch is the same voltage source as the load. Zero voltage switching NLF2 extends the life of an incandescent lamp up to 10 times. Random switching NLF1 is ideal for inductive loads. When accessory 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 2, and can be ordered as either normally open or normally closed, when voltage is applied. When S1 is closed, the solid state output between terminals 1 and 2 closes (or opens). If S1 is opened and reclosed, the solid state output will open (or close).
Reset: Open and reclose S1. Reset is also accomplished by removing and reapplying input voltage.

Function


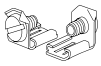
V = Voltage S1 = Control Switch
R = Reset NO = Normally Open Output
NC = Normally Closed Output
⊣⊢ = Undefined time

Connection


Internal connection between terminals 2 & 4.
Dashed lines are internal connections.
L = Load S1 = Control Switch

Accessories

Female quick connect P/Ns:
P1015-13 (AWG 10/12)
P1015-64 (AWG 14/16)
P1015-14 (AWG 18/22)



Quick connect to screw adaptor
P/N: **P1015-18**

See accessory pages for specifications.

Available Models-
NLF141A

Don't see what you need? Call us for a minimum quantity and price quote!

Ordering Table

X	X	X	X
Series	**Input**	**Output Rating**	**Output Form**
NLF1 (Random Switching)	**2** - 24 V AC	**1** A	**A** - Normally Open
NLF2 (Zero Voltage Switching)	**4** - 120 V AC	**6** A	**B** - Normally Closed
	6 - 230 V AC	**10** A	
		20 A	

Example P/N: **NLF1410A, NLF261B**

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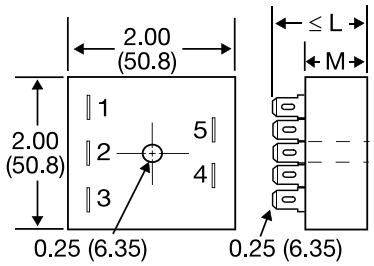
Solid state relays

Technical Data

Output			
Type	Non-isolated solid state		
Form	SPST, normally open or normally closed		
Ratings	**Steady State**	**Inrush***	**Output Device**
	1 A	10 A	SCR & Bridge Rectifier
	6 A	60 A	Triac
	10 A	100 A	Triac
	20 A	200 A	Triac
Minimum Load Current	50 mA		
Voltage Drop (at Rated Current)	≅ 2.0 V – 6, 10, & 20 A units; ≅ 2.5 V – 1 A units		
Leakage Current (Open State)	≤ 5 mA		
Input			
Type	Non-isolated, switch contact (customer supplied)		
Voltage	24, 120, or 230 V AC +/-20%		
Power Consumption	≤ 0.5 W		
Operations Per Second	≤ 5		
Protection			
Circuitry	Encapsulated		
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface		
Insulation Resistance	≥ 100 MΩ		
Mechanical			
Mounting *	Surface mount with one #10 (M5 x 0.8) screw		
Package 6, 10, 20 A units	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)		
1 A units	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)		
Termination	0.25 in. (6.35 mm) male quick connect terminals		
Environmental			
Operating Temperature	-20°C ... +60°C		
Storage Temperature	-40°C ... +85°C		
Humidity	95% relative, non-condensing		
Weight	1 A units: ≅ 2.4 oz (68 g); 6, 10, 20 A units: ≅ 3.9 oz (111 g)		

*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.

Mechanical View



	1A	6A+
L	1.21 (30.7)	1.51 (38.4)
M	0.75 (19.1)	1.08 (27.4)

Inches (Millimeters)

11

NLF02B01 09.10

• denotes a preferred product