

Impulse Latching Relay

NLF1/NLF2 Series

Solid State Relay



10 YEAR WARRANTY

- 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

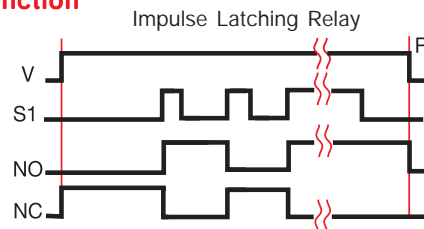
The NLF1 and NLF2 provide a *Flip-Flop* latching function. Each time the control switch is closed, the solid state output changes state and latches. The NLF Series has no isolation between the control switch and the solid state output, which lowers cost and reduces the number of connections required. 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).

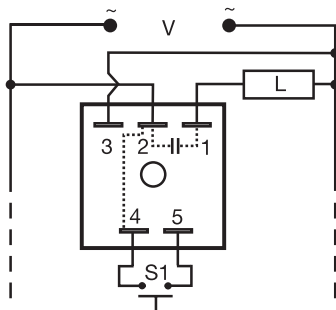
Reset: Open and reclose S1. Reset is also accomplished by removing and reapplying input voltage.

Function



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

Connection



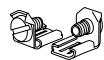
Internal connection between terminals 2 & 4.
 Dashed lines are internal connections.

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.

Ordering Table

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

Example P/N: NLF1410A, NLF261B

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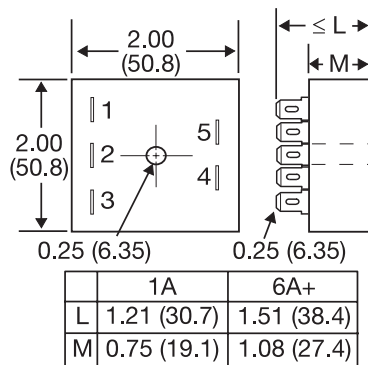
NLF1/NLF2 Series

Solid State Relay

Technical Data

Output																
Type	Non-isolated solid state															
Form	SPST, normally open or normally closed															
Ratings	<table border="1" style="display: inline-table; vertical-align: top;"> <tr> <th>Steady State</th> <th>Inrush*</th> <th>Output Device</th> </tr> <tr> <td>1 A</td> <td>10 A</td> <td>SCR & Bridge Rectifier</td> </tr> <tr> <td>6 A</td> <td>60 A</td> <td>Triac</td> </tr> <tr> <td>10 A</td> <td>100 A</td> <td>Triac</td> </tr> <tr> <td>20 A</td> <td>200 A</td> <td>Triac</td> </tr> </table>	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
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 1 A units	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm) 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm) 0.25 in. (6.35 mm) male quick connect terminals														
Termination	*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.															
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)															

Mechanical View



Inches (Millimeters)