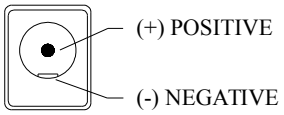
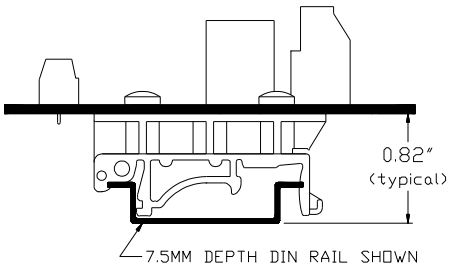
Overview

The RLY2 provides two SPDT relays with convenient screw terminal connections for the inputs and contacts. It includes active driver circuitry allowing lower current input signals (such as 5V TTL) to be used. LEDs provide visual indication on the status of each relay.

DC Power Jack

The DC power jack accepts connectors with a 2.1mm inside diameter and 5.5mm outside diameter. The jack requires a center-positive supply.





DIN Clip Mounting

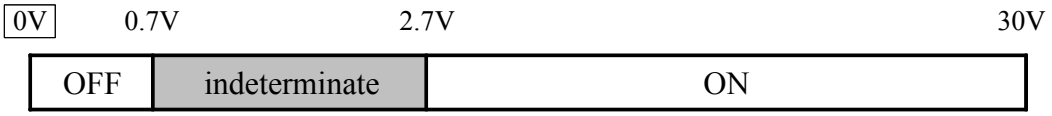
Relay Coil Voltage (DC) ◦ 12V

Electrical Characteristics

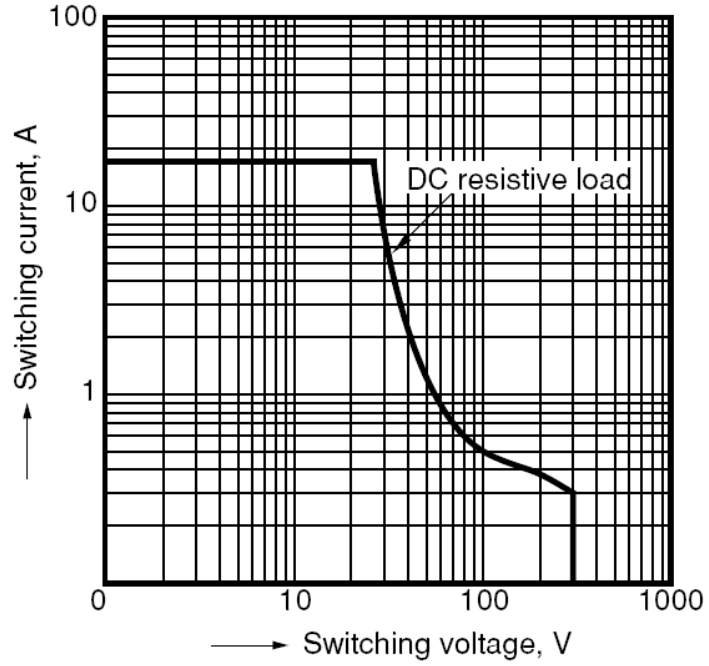
Specifications at 25°C

Specification		*RLY102-12V*		*Unit*
DC Power Supply Input Range		11 - 16		V
Nominal relay coil current per activated relay (Power supply: RLY102-5V=5.0V, RLY102-12V=12.0V, RLY102-24V=24.0V)		37		mA
Maximum leakage current (power supply current with no relays activated)		0.1		mA
Minimum turn-off threshold for input control signals (see diagram)		0.7		V
Maximum turn-on threshold for input control signals (see diagram)		2.7		V
Maximum allowable input control signal voltage		30		V
Input control signal current requirement, typical (per channel) Input signal @ 2.7V Input signal @ 5.0V		0.78 1.95		mA
Relay contact rating @ 250 V AC		15		A

Input Control Signal Thresholds Diagram



DC Breaking Capacity of Relay Contacts



Operating Conditions

Ambient Temperature Range	–25°C to 75°C
Relative Humidity Range - not freezing or condensing	5% to 85% RH

Screw Terminal Wire Sizes

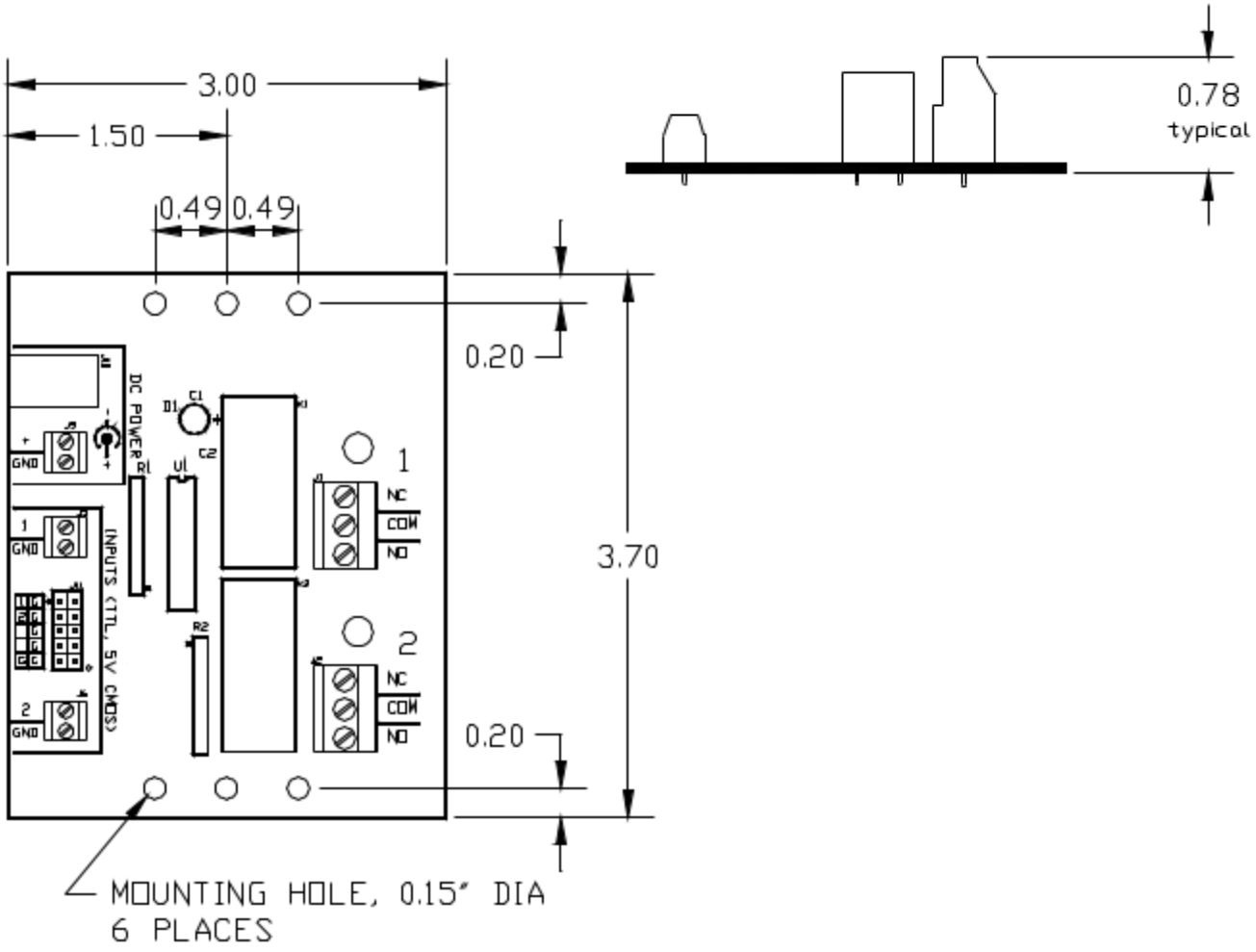
- Input control signals and Power: 16-26 AWG
- Relay contacts: 12-24 AWG

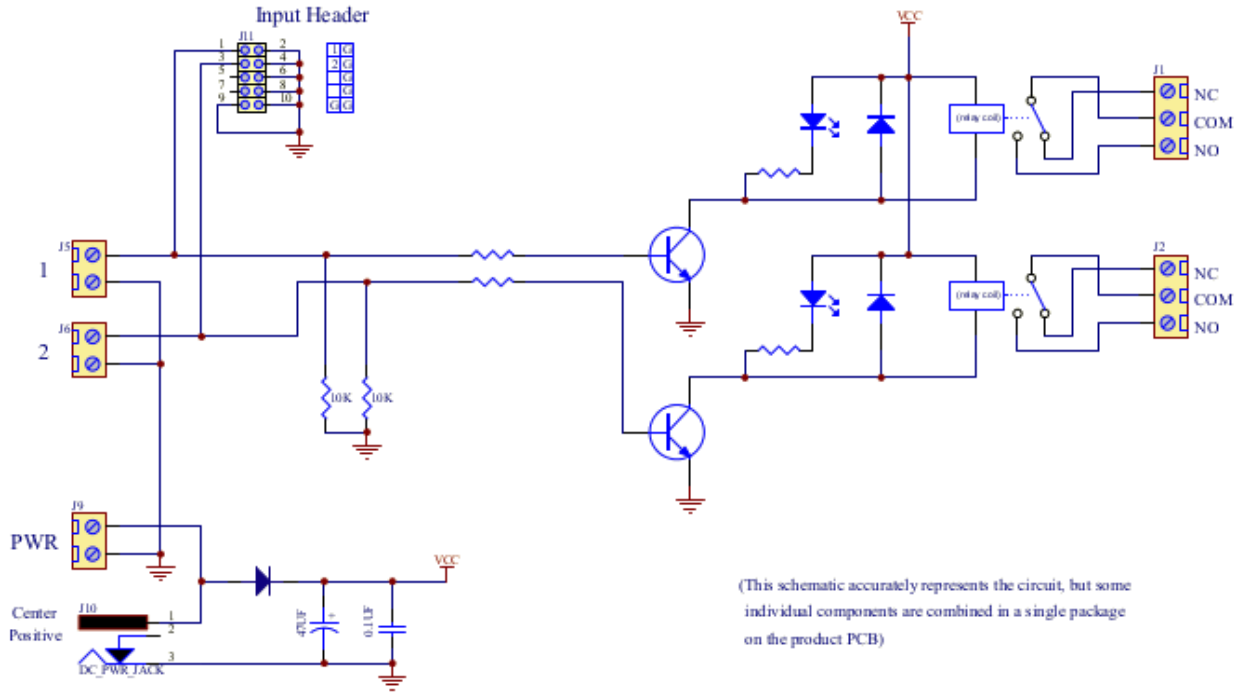
Component Part Numbers

- Relays: Panasonic Electric Works ALZ12Fxx (xx=voltage)
- Relay driver: ULN2803A

Note About Inductive Loads

If the relay board is used to switch an inductive load, such as a solenoid coil or a larger relay, it is recommended that a "snubber" circuit be implemented to reduce electromagnetic interference with nearby electronics and reduce possible arcing across the relay contacts as they open. For example, if a DC solenoid coil is being controlled, each time the coil is switched off, the magnetic field around the coil collapses and creates a high-voltage reverse-polarity spike. If this is not absorbed, it may cause arcing as the relay contacts open as well as create an electromagnetic pulse that could interfere with nearby electronics. The appropriate snubber circuit will vary widely depending on the type of load and supply current utilized. In order to remain general-purpose, no snubber circuits are included on the relay board for the loads. For a DC inductive load, typically a diode is placed across the load such that the reverse-polarity spike is conducted and absorbed. Care should be taken to research and select an appropriate snubber circuit for each situation.


3.00
1.50
0.49
0.49
0.78
typical
0.20
3.70
0.20
DC POWER
INPUTS (TTL, 5V CMOS)
GND
NC
COM
NO
1
2
MOUNTING HOLE, 0.15" DIA
6 PLACES


Input Header
VCC
NC
COM
NO
PWR
Center
Positive
10K
10K
(This schematic accurately represents the circuit, but some individual components are combined in a single package on the product PCB)