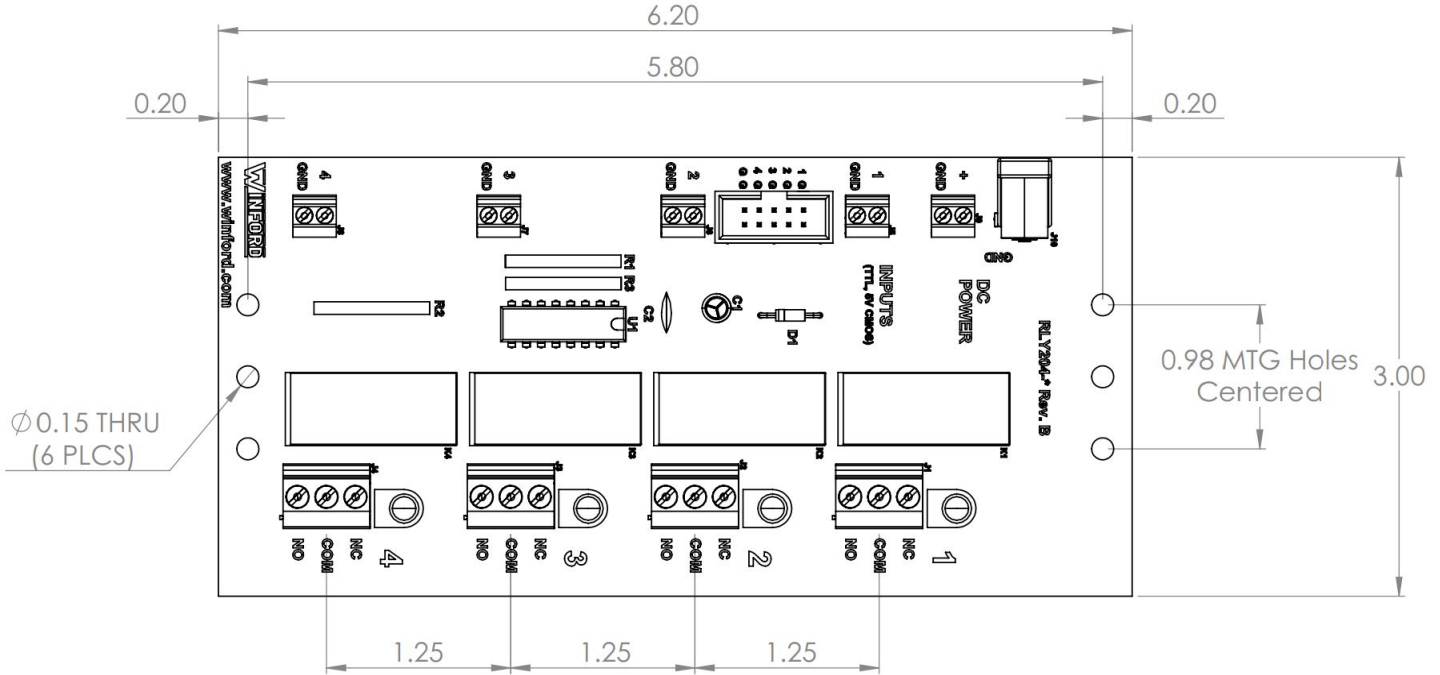


**RLY204 Datasheet
Rev B**



Overview

The RLY204 provides four 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 (in contrast to the RLP104 which does not include driver circuitry). LEDs provide visual indication on the status of each relay.

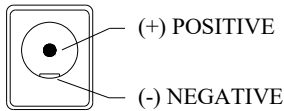
RLY204 is very similar to legacy device RLY104, except that RLY204 uses an updated relay driver IC. As a result, a few of the entries in the Electrical Characteristics section have been updated as well.

RLY204 Rev A and Rev B are essentially identical (form / fit / function), with the only change being the addition of a small resistance in series with each control signal input to provide some protection against unexpected transients.

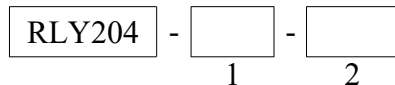
Note that drawings and CAD models are available on the RLY204 web page.

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.



Part Number Ordering Information

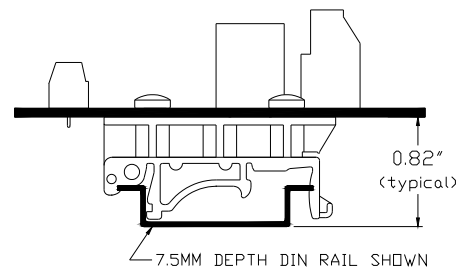


1. Relay Coil Voltage (DC)

- 5V
- 12V
- 24V

2. Mounting Option

- **FT** Rubber Feet on bottom side of PCB
- **DIN** DIN Rail Mounting Clips



DIN Clip Mounting Option

RLY204 Stocked Part Numbers

The following part numbers represent standard options and are stocked:

- RLY204-5V-FT
- RLY204-12V-FT
- RLY204-24V-FT
- RLY204-5V-DIN
- RLY204-12V-DIN
- RLY204-24V-DIN

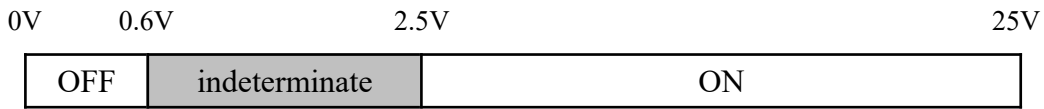
Electrical Characteristics

Specifications at 25°C

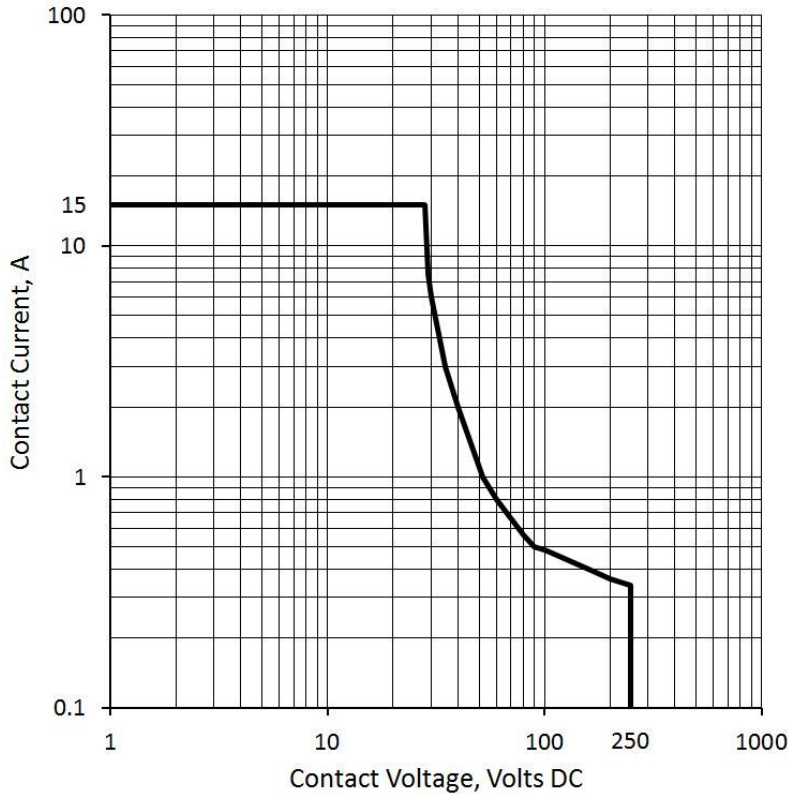
<i>Specification</i>	<i>RLY204-5V</i>	<i>RLY204-12V</i>	<i>RLY204-24V</i>	<i>Unit</i>
DC Power Supply Input Range	4.8 - 6.5	11 – 15.5	20 - 28	V
Nominal supply current per activated relay (coil current + LED current) (Power supply: RLY204-5V=5.0V, RLY204-12V=12.0V, RLY204-24V=24.0V)	80	35	20	mA
Maximum leakage current (power supply current with no relays activated)	0.1			mA
Minimum turn-off threshold for input control signals (see diagram)	0.6			V

<i>Specification</i>	<i>RLY204-5V</i>	<i>RLY204-12V</i>	<i>RLY204-24V</i>	<i>Unit</i>
Maximum turn-on threshold for input control signals (see diagram)	2.5			V
Maximum allowable input control signal voltage	25			V
Input control signal current requirement, typical (per channel)				mA
Input signal @ 2.7V	0.35			
Input signal @ 5.0V	0.6			
Input signal @ 12V	1.9			
Input signal @ 24V	4.2			
Relay contact rating @ 250 V AC	15			A

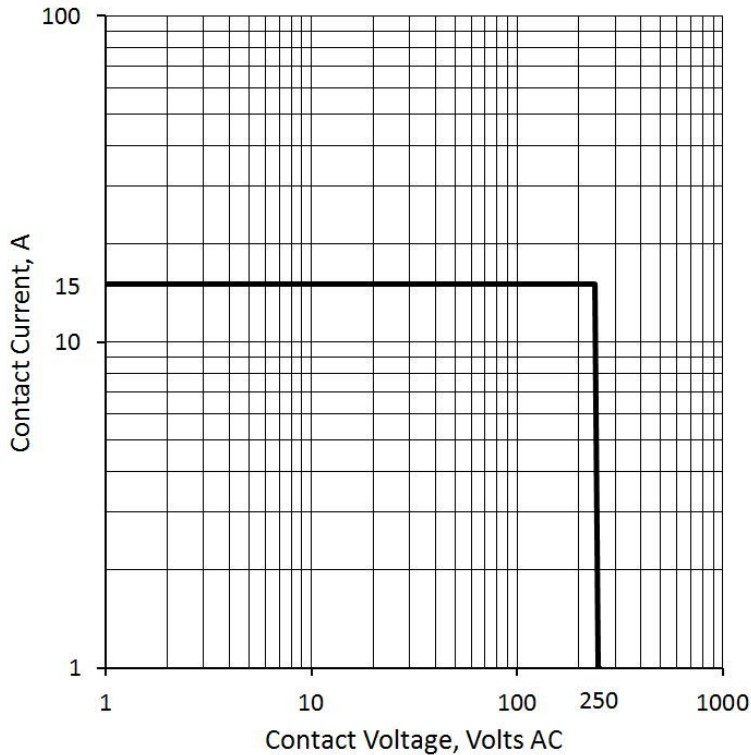
Input Control Signal Thresholds Diagram



Max Switching Power – DC (resistive)



Max Switching Power – AC (resistive)



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: Toshiba TBD62064APG

Note About Inductive Loads

It is of primary importance to ensure that the relay used in a given application is rated for the given load type (e.g., resistive, inductive) as well as the load current. This device (RLY204) is rated for resistive loads and small AC motor loads, and has a TV-5 high inrush current rating, as indicated in the electrical characteristics section of this document.

If the relay board is used to switch an inductive load, such as a solenoid coil or motor or a larger relay, it may be helpful to reference Winford Application Note “Relays and Motor Loads.”

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