

# RED100



Relay Driver

Rev 1.0 (2003-01Jan-05)

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# RED100 – Users Manual

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## General Description

The RED100 (Relay Driver 100) is an integrated double pole double throw relay and relay driver on a single printed circuit board designed to allow a 2.7V to 5V digital logic circuit to turn on and off a single relay with minimal effort on the part of the implementer of a digital design.

## Using the RED100

This is achieved by supplying relay power, a common ground between the RED1 and your digital circuit and a control signal. The RED100 will energize the coil of its relay when an active high signal is applied to the signal input.

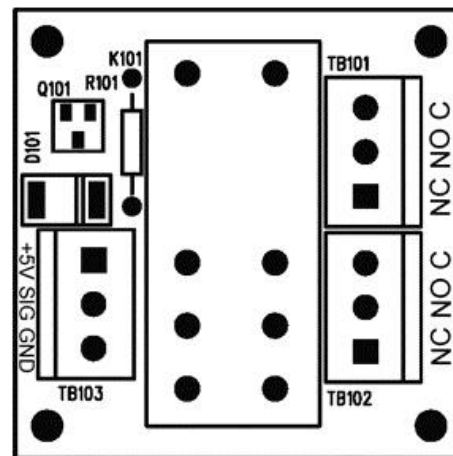
## Connections

The RED100 has three terminal blocks (labeled TB101, TB102 and TB103), which provide all the necessary connections to use the board.

### *TB101, TB102*

Terminal Blocks TB101 and TB102 provide the contact connections to the DPDT relay on the RED100. TB101 and TB102 are isolated from each other. When the RED100 relay coil is not energized (SIG logic LOW) there is continuity between C-NC and NO is floating. When the RED100 relay coil is energized (SIG logic HIGH) there is continuity between C-NO and NC is floating.

NO: Normally Open (when relay not energized)  
NC: Normally Closed (when relay not energized)  
C: Common connection between NO and NC.



# RED100 - Specifications

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## TB103

Terminal Block TB103 contains the following connections to the RED100: +5V, SIG, GND.

+5V: This pin is the +5V required power connection for the RED100. The RED100 requires approximately 100mA when the relay coil is energized.

SIG: This connection is the digital input to the RED100. When this pin is logic low the relay coil is not energized. When this pin is logic high the relay coil is energized.

GND: This connection is a combination signal and power ground for the board.

## Specifications

Vsig: Voltage applied to the SIG input relative to the GND input.

R101: Value of base resistor

Vr101: Voltage drop across R101 with applied Vsig voltage.

Isig: Source current required at SIG input.

Vactive: Minimum Vsig voltage required to activate the relay coil.

Vdeactivate: Maximum Vsig voltage required to deactivate the relay coil.

### RED100 Specs

<b>Vsig</b>	1.656	2.252	2.700	3.300	5.00	<b>V</b>
<b>R101</b>	510000	510000	510000	510000	510000	<b>Ohms</b>
<b>Vr101</b>	0.474	1.032	1.438	2.017	3.704	<b>V</b>
<b>Isig</b>	0.93	2.02	2.82	3.95	7.26	<b>uA</b>

	Min	Typ	Max	
<b>Vactive</b>		2.252		<b>V</b>
<b>Vdeactivate</b>		1.656		<b>V</b>

# RED100 – Warranty and Copyrights

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## **Warranty**

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If you discover a defect, ProLinear/PONTECH, Inc. will, at its option, repair, replace or refund the purchase price. To exercise warranty, please contact ProLinear/PONTECH, Inc. at either our toll free number or by way of e-mail using the address [warranty@pontech.com](mailto:warranty@pontech.com). You will also need to return the product with a description of the problem and a copy of your invoice (if you do not have a copy of your invoice, please include your name and telephone number).

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