



Operating Parameters

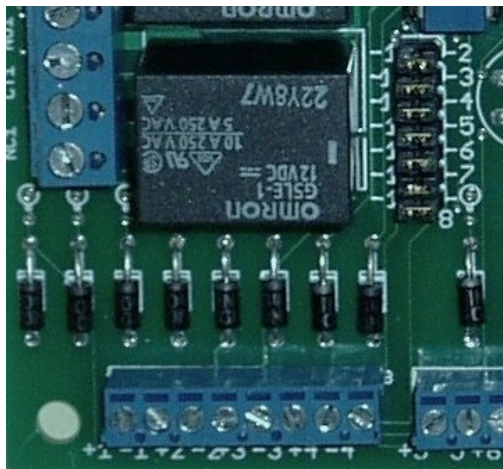
	Parameter	Min	Typ	Max	Unit
V _{cc}	Supply Voltage	15		48	Volt
I _{cc}	Supply Current All Relays ON	0.4	0.45	0.5	Amp
I _{cc}	Supply Current All Relays OFF		10		milliAmp
V _{in-high}	Input Voltage High Level	3.5		48	Volt
V _{in-low}	Input Voltage Low Level	-48	0	1.0	Volt
I _{in-high}	Input High Current	0.5	1	5	milliAmp
I _{output}	Relay current on resistive load: 30 Volt DC 48 volt DC 125 Volt AC 250 Volt AC			8 3 10 5	Amp
I _{load}	+5Volt and +12Volt power output			50	milliAmp

Application Information

The RB-8R-48V board accepts a power voltage from 15 to 48 volt; it has opto-insulated inputs so it can be used:

- With all inputs loops separate and independent from each other.
- With all inputs sharing connection - 1 as an independent common reference.
- With all inputs sharing a common ground reference.
- With any mix of separate loops and common reference loops.

Some or all input returns can be joined together by setting jumpers, which will short selected return inputs to the return of input 1, sharing return -1 as a common reference.



Jumpers allow connecting terminals from -2 to -9 to terminal -1.

Terminal -1 therefore acts as a common reference return path.

Fig-1 Jumpers

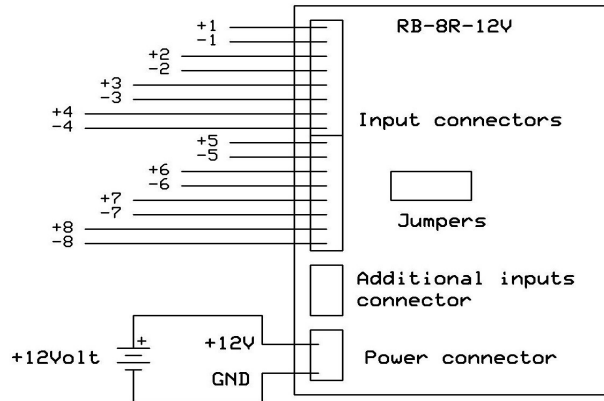


Fig-2 Eight independent input loops(board RB-8R-12V shown)

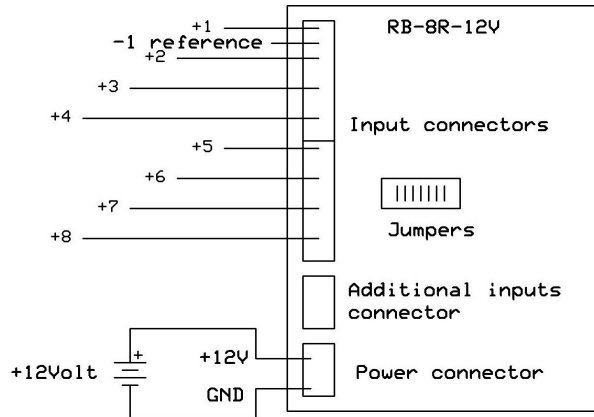


Fig-3 Eight inputs sharing a common reference (return input -1) (board RB-8R-12V shown)

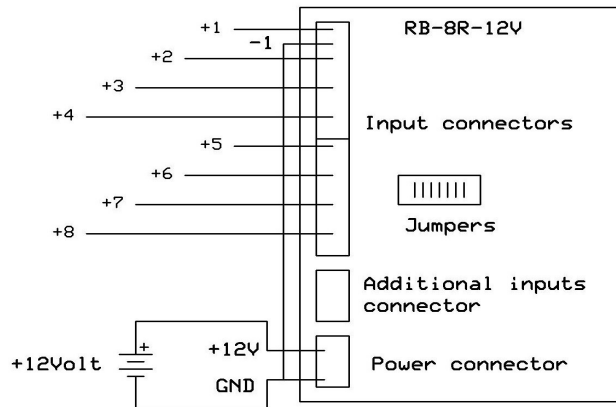


Fig-4 Eight inputs sharing a common ground (board RB-8R-12V shown)

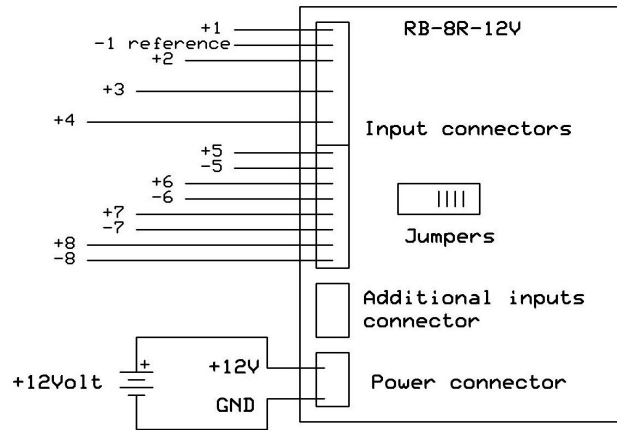


Fig-5 Four common reference inputs (1 to 4) and four independent (5 to 8) (board RB-8R-12V shown)

Additional inputs connector

Four additional inputs numbered 9 to 12 are provided. They can be wired on the board to inputs 1, 2 and 3 in any combination to provide additional inputs. The additional inputs are OR'ed, that is they energize the corresponding relay if either input is High. See figures 2 to 5.

Logic levels

The input voltage is considered logic High if higher than 3.5 Volt and logic Low if lower than 1.0 Volt.

Negative input voltages are acceptable up to -48 Volt and considered logic Low.

Positive input voltages between 1.0 and 3.5 Volt need to be avoided, since they cannot be interpreted neither High or Low.

In order to enhance noise immunity, each input loop has a resistance of 12 k Ohm, so the input drive needs to be able to supply the relevant input current (0.5 to 5 milliAmp according to the value of the input voltage).

A High input will energize the relevant relay; a green LED will visually indicate it..

Each relay is has a SPDT (Single Pole Double Through) configuration and it is connected to a three terminals screw-in connector, which poles are indicated NC (Normally closed), CT (Center Tap) and NO (Normally Open).

Due to the double insulation (opto and magnetic) the power output loops are separate from the controlling input loops and the relay control circuitry.

Power connector

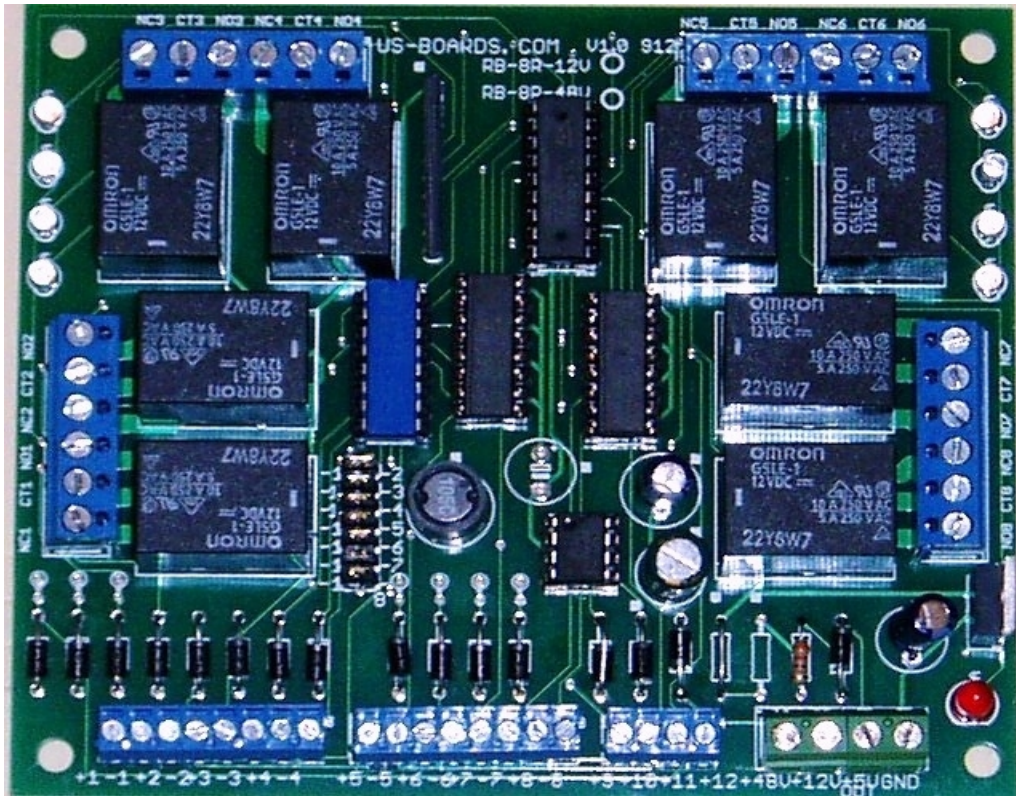
The Vbb input (marked +48V on the board) is protected by a diode against wrong battery connection (inverted battery connection).

Two auxiliary power outputs are provided, +5Volt/50 milliAmp (marked +5V OUT on the board) and +12Volt/50 milliAmp (marked +12V on the board) for use such as providing a 5/12 Volt supply to logic (loss of opto-isolation possible).

Mechanical

Dimensions: 5 x 4.3 inches / 127 x110 millimeters

Weight: 0.5 lbs / 220 grams



Input connector 1 to 4	Input connector 5 to 8	Additional 9 to 12	Power connector +48V+12V+5V GND
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Fig-6 Relay board RB-8R-48V

Ordering instructions

Part number: **RB-8R-48V**.

Shipping: boards are shipped with all eight jumpers installed so with all return paths are connected together as common return path -1. Remove jumpers as needed to implement other input configurations.