

8045-24: Dual SPDT 5A Mains Relay Board (24V Version)

General Information

This handy little board has a pair of independently operated mains rated SPDT relays with Normally Open and Normally Closed connection options. It is available in 6V, 12V and 24V dc input versions.

Diodes are included that provide a discharge path for the back-emf generated by the collapsing magnetic field of the relay coil when the dc power is removed.

Application Limitations

Electrical isolation is provided solely by the relay coil /contact interface (see relay datasheet for specifications). If your application requires a greater degree of electrical isolation then we recommend you use one of our opto-isolated relay boards instead.

The **maximum output load per relay is 240Vac or 28Vdc @ 5A maximum current** (even though the relay supplied might exceed this rating the PCB tracks are the limiting factor).

24V Version Information

This version has mains rated relays with 24V coils so the input voltage at X1(X2) should be 24Vdc (although it should switch the corresponding relay from about 18V). Use the "DC POWER" legend box on the PCB to indicate the correct input voltage.

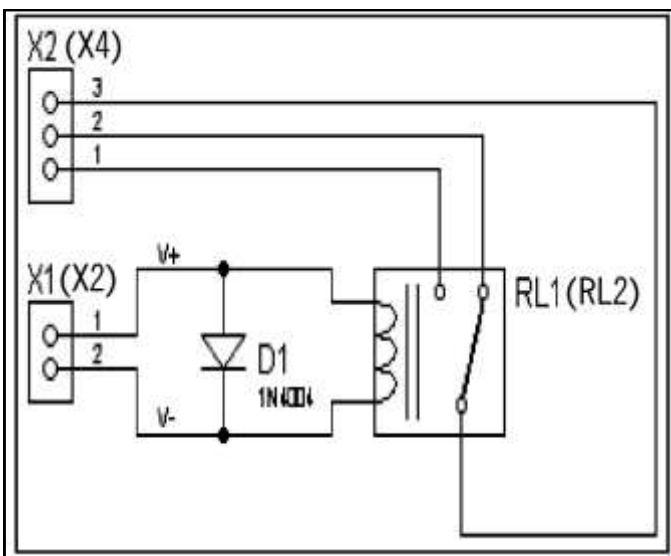
Assembly

Assembly is very easy. Make sure you get the diode around the correct way. The bar on the diode should match the bar on the overlay. Ensure solder joints are clean, tidy and to a good standard. Crop long relay leads. Clean board and check for assembly errors before use.

PCB LEGEND ERROR WARNING!

The relay connection labels for C and NC have been mixed up. C (Common) is the CENTRE terminal.

Circuit Diagram



Component Listing

ITEM	DESCRIPTION	QTY
D1, 2	1N4004 Diode	2
RL1, 2	24Vdc SPDT Relay	2
X1, 3	2 Pole Terminal Block	2
X2, 4	3 Pole Terminal Block	2
PCB	8045	1

General Guidelines for Electronic Kits and Assembled Modules



Thank you for choosing one of our products. Please take some time to carefully read the important information below concerning use of this product. The assembly and operating instructions are on the following pages. Help with component identification can be found on our website at www.quasarelectronics.co.uk/componentid.htm. If you are unsure about any aspect of the assembly or use of this product please contact our Support Team before proceeding.



WEEE Directive (Waste Electrical and Electronic Equipment)

Notice To All European Union Citizens. Important environmental information about this product. The crossed out wheeled bin symbol on this product, package or documentation indicates that disposal of this product after its lifecycle could harm the environment. Do not dispose of this product (or batteries if used) as unsorted municipal waste. It should be disposed by a specialized company for recycling. The unit should be returned to your distributor or to a local recycling service. Please respect the local environmental rules. If in doubt contact your local authorities about waste disposal rules.

Safety: General rules concerning safe use of our Kits or Modules

To ensure your safety, please observe these safety measures. In no way are these complete. As safety requirements vary, please check with your local authorities, in order to comply with local requirements. If in doubt, seek the help of a qualified person.

Battery or wall-adaptor operated devices are safe devices. They do not require special attention unless mains voltage is connected to an output e.g. a relay.



To ensure electrical safety, and also protection from fire or personal injury, make sure your mains operated equipment complies with these safety hints:

- Use a suitable plastic enclosure. If a metal enclosure is used, make sure it is properly earthed.
- Use a power switch if the device consumes more than 10W. Use a double pole switch for mains operated, transformer-less kits.
- Mount a fuse in series with the mains switch. Use a slow blow (T) 50mA fuse for transformers up to 10W and a 100mA fuse for transformers up to 20W.
- Use a mains input connector, or a robust power cord with a clamp.

Internal wiring carrying mains voltages must have a minimum cross-sectional area of 0.5mm².

If supplied, attach the power rating label near the power cord of the device and fill-out the mains voltage, frequency, power consumption and fuse values.

Troubleshooting and Support

90% of non working kits are due to poor soldering.

We operate a Get-You-Going service for non-working kits but there is a charge based on the time and components needed to complete the repair. Quite often it is not economically viable for us to repair and it is cheaper to supply a new ready made product at full cost.

Disclaimer

Quasar Electronics reserves the right to change product specifications or to discontinue products without notice. Quasar Electronics cannot be held responsible for any loss or damage, direct or indirect, which might occur from the use of a product. Quasar Electronics Kits or Modules are intended for educational and demonstration purposes only. They are not intended for use in commercial applications. If they are used in such applications the purchaser assumes all responsibility for ensuring compliance with all local laws. In addition, they are not suitable for use as or as a part of life support systems, or systems that might create a hazardous situation of any kind.