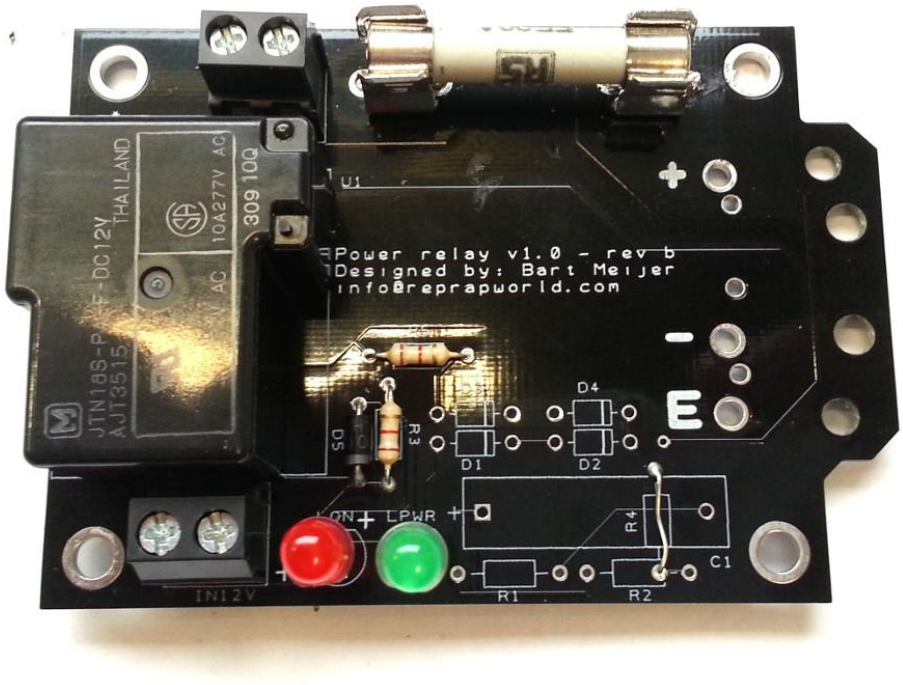
Power relay v1.0
Low voltage version



Assembly instructions

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Document version	1.0

INTRODUCTION

The power relay board is a DIY-kit, enabling you to safely control high currents from your electronics using a relay. This version can switch up to 24V with 15A current.

Safety warnings

Do not use this board outside a cover. Touching the wires may cause a shock.

The 25A fuse may get warm during operations. Do not touch until there is sufficient time to cool down.

Do not modify anything while powered. This may damage the board and/or cause injuries.

Features

- Switch up to 24V and 15A
- Relay is controlled using 12V input (12V Min and Max)
- LED's indicate power and status

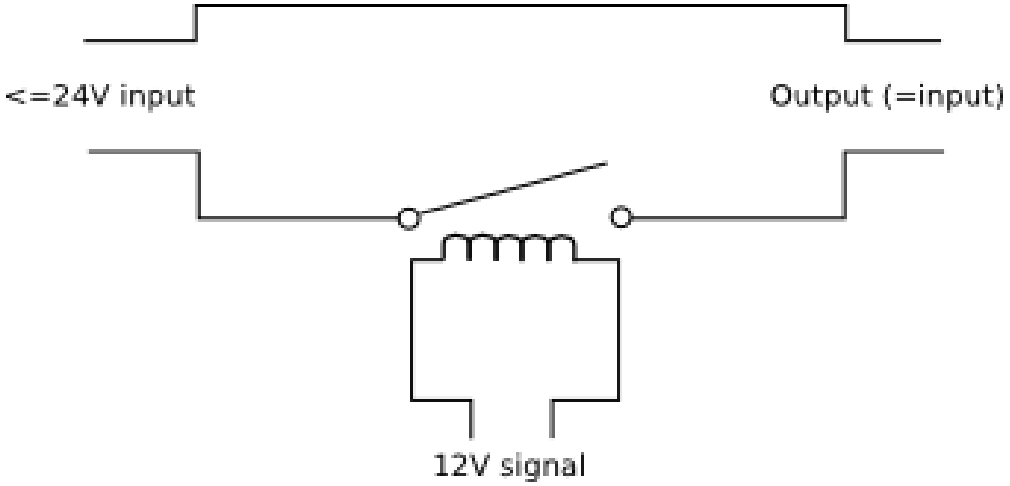
DOCUMENT CHANGE HISTORY

Version 1.0

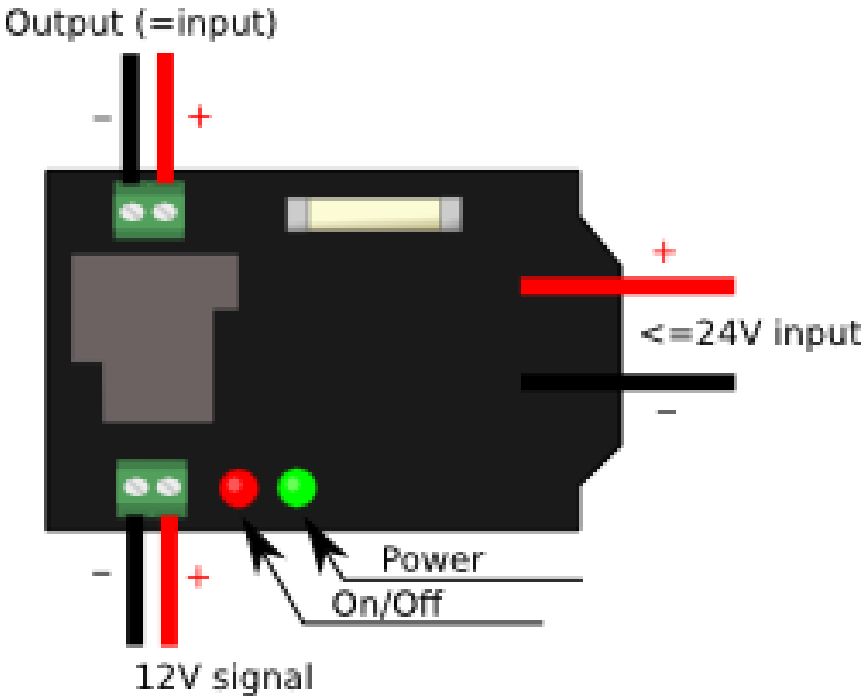
- Initial release

WIRING AND INSTALLATION

This is a simplified diagram of the PCB. The input power (<=24V) is outputted on the right when the switch (normally open) is closed. The switch will close when there is 12V applied to the relay.



This is a wiring diagram for the board. The input power (<=24V) is provided on the right. Once there is power the Power LED will turn on. The 12V signal voltage is put on the bottom. Once there is 12V on the signal input, the relay will switch and close the loop, causing voltage on the output (top). The red LED will lit up in that event.



KIT CONTENTS

Item

1x Relay JTN1ASPAF12T

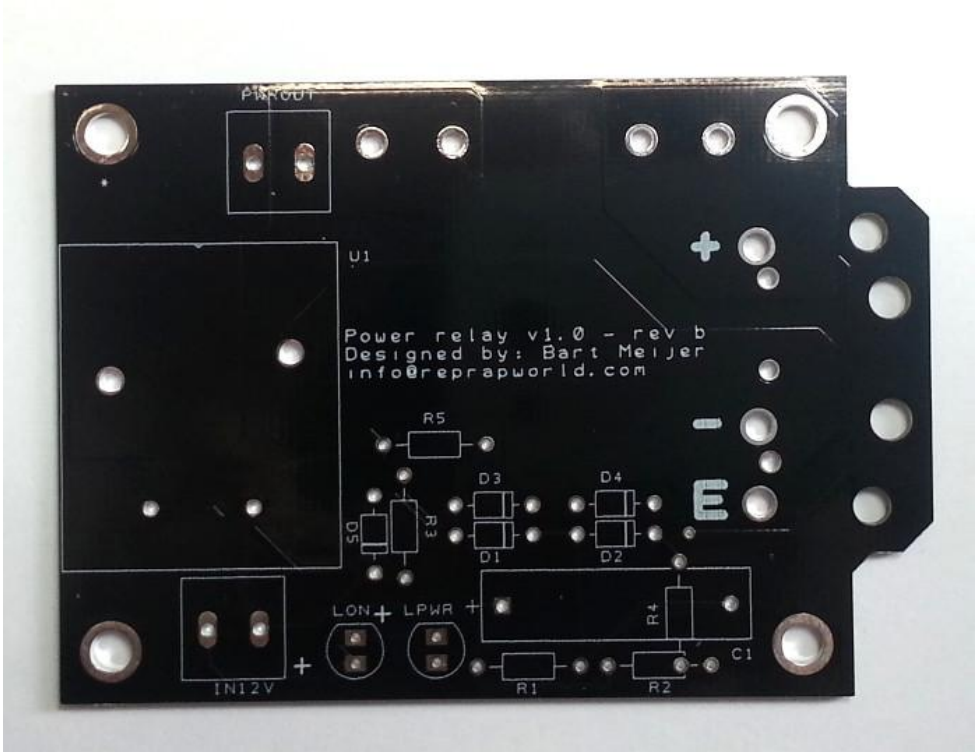
Coil voltage: 12V dc
Max current: 30A

1x Red 5mm LED
1x Green 5mm LED

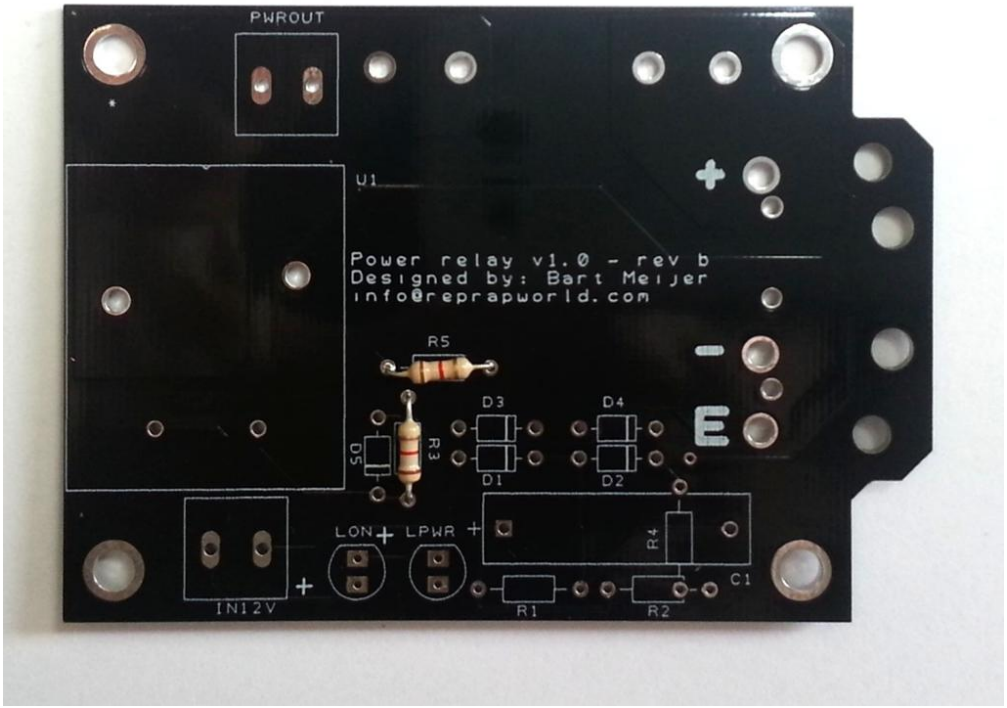
2x 1K8 resistor

1x 25A fuse
2x fuse clip
2x 20A terminal housing
1x power relay PCB
1x diode 1N4004

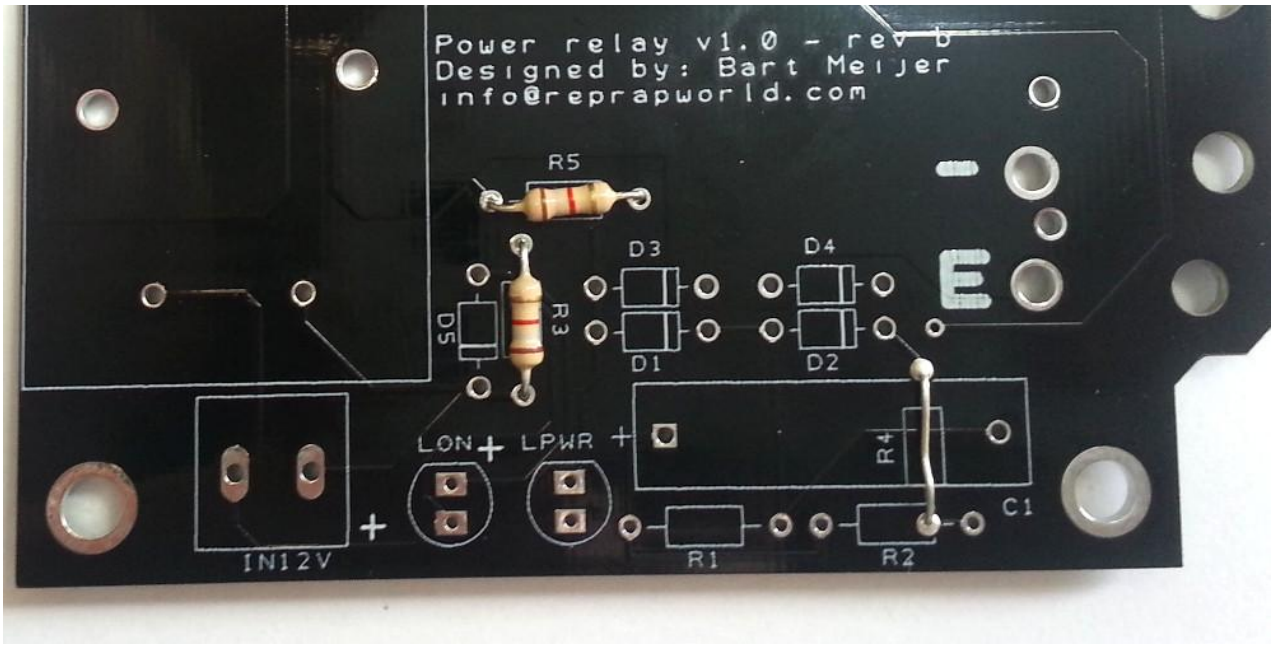
1. Review the PCB layout.



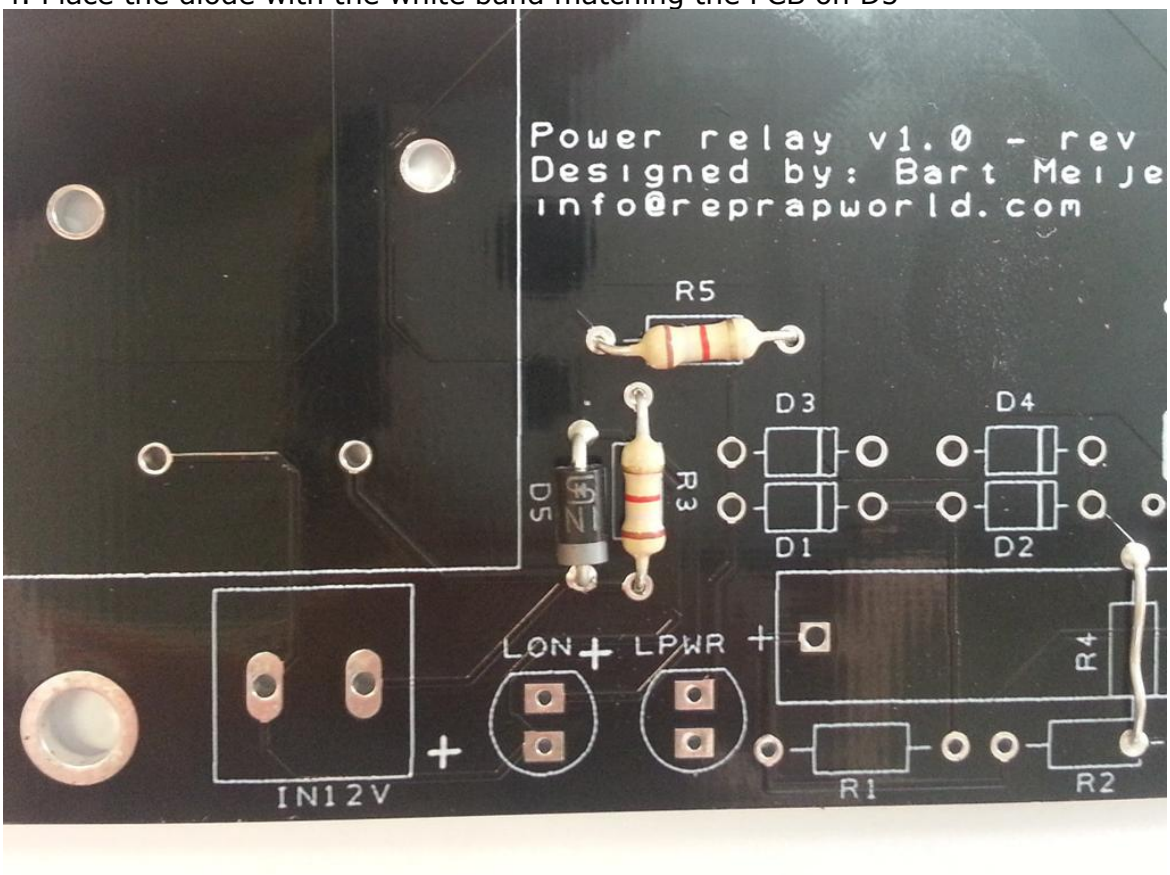
2. Place the 1K8 resistor on the place R3 and R5. Orientation doesn't matter



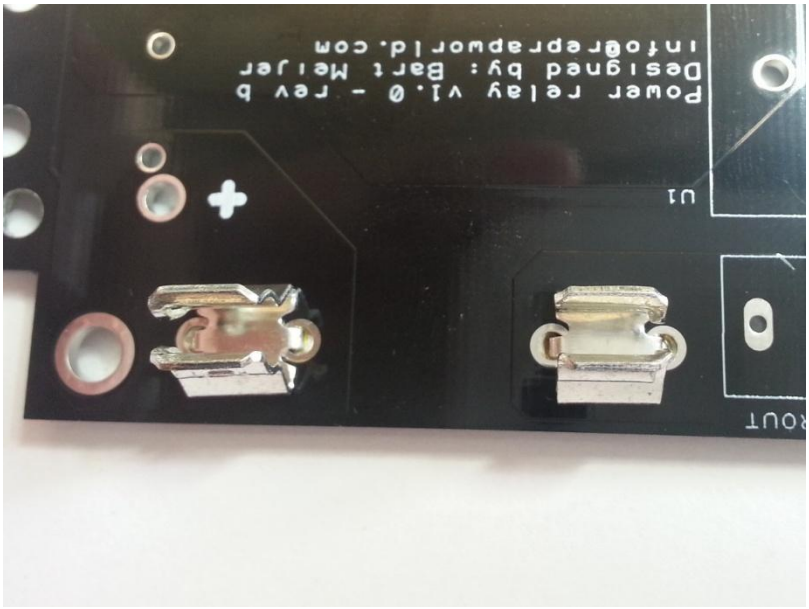
3. Use a lead cut from the resistors to bridge R4.



4. Place the diode with the white band matching the PCB on D5

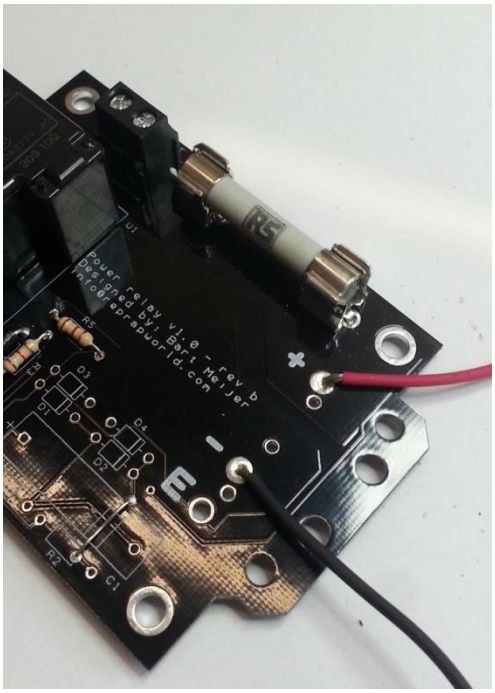


5. Place the fuse clip onto the appropriate positions. Make sure they are the right way around, allowing to insert the fuse.

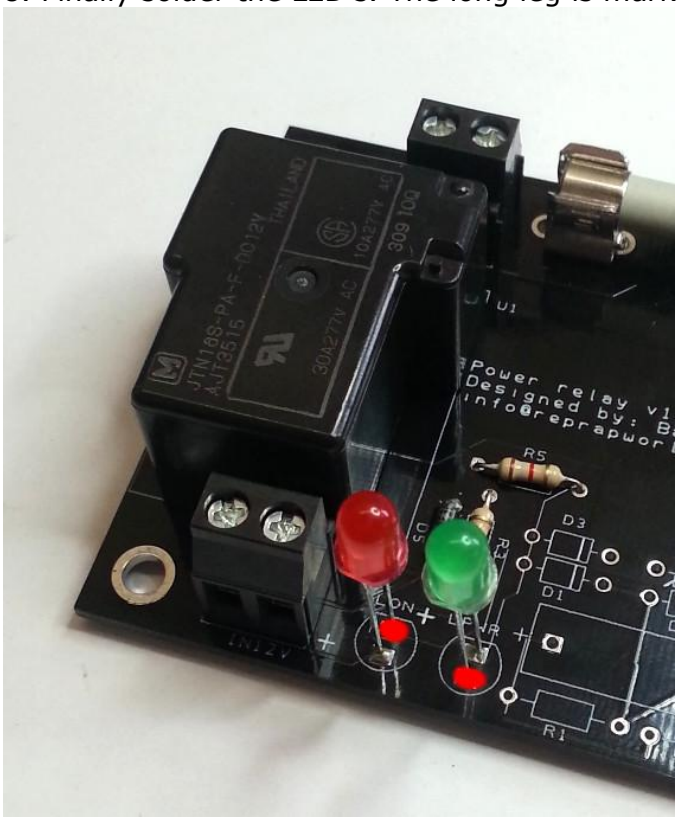


6. Solder the terminals and relay

7. Solder the wiring for the power input to the + and - pads



8. Finally solder the LED's. The long leg is marked with the red dot.



If you want to switch more current, you can omit the fuse and PWROUT terminal.

To support higher voltage than 24V, use a higher resistance for R5.