



Dimmer kit

E-mail : patkitsrus@gmail.com

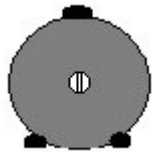
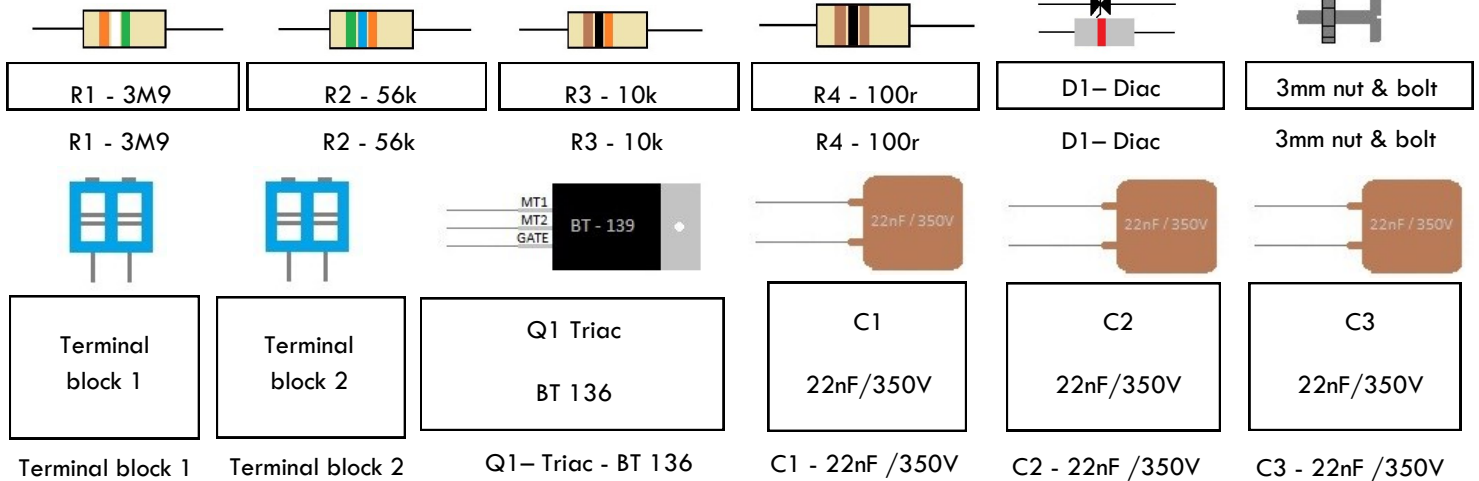
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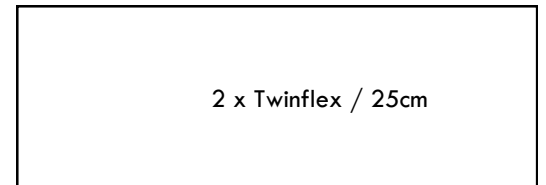
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VR1 - Pot / 1M

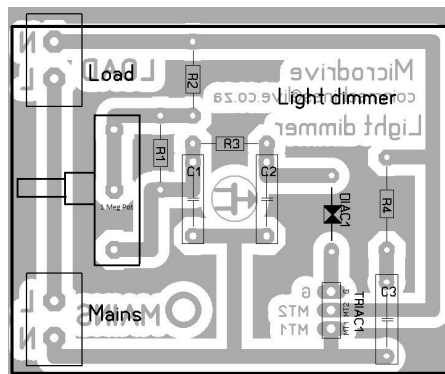


2 x Twinflex / 25cm

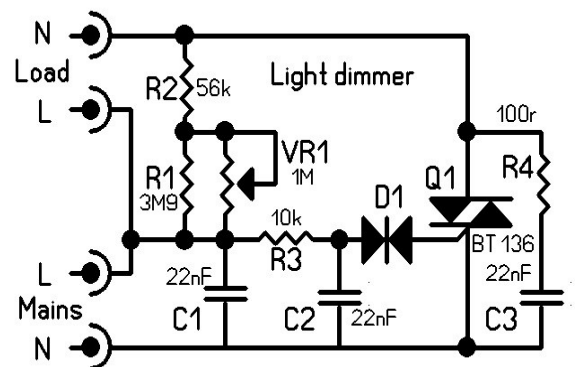


To 220
heatsink

To 220 heatsink



Pcb Overlay



Schematic

Assembly

Insert all of the components in the pcb as indicated on the overlay. Use a 40 - 60 Watt pencil point soldering iron. Make sure the tip of the iron is bright and shiny. A dirty tip will not work. Soldering is as much an art as it is a science. The four resistors and three capacitors can go in any way round and should be inserted first. The two terminal blocks must be mounted so that the openings for the cable faces to the outside. Save three pieces of the cut-off resistor legs and use them to secure the potentiometer to the pcb. Screw the triac on top of the heatsink (optional) through the hole provided in the pcb with the 3mm nut and bolt provided. Carefully recheck your soldering for bridged or poor connection before connecting the mains to the input and lamp to the load output. Enjoy!

Lethal mains voltage used in this project. Observe safety precautions.

Operation

Q1 is a triac that will conduct in both directions depending on the MT1 - gate voltage that has to be greater than about 2V. Since this gate voltage is derived from the phase shifting network comprising of R1, R2, R3, VR1, C1 and C2 it is possible to trigger Q1 over a wide spectrum of the 180 mains positive or negative cycle. Once switched on, Q1 will remain on until the mains voltage drops to zero during its polarity transition.