

RCD/GFCI TESTER PARTS LIST

Please be aware this circuit uses high voltage AC & DC power. Please exercise caution when the circuit is powered & take appropriate safety precautions. Don't be reckless with High voltage! It can lead to damage to property, injury or even a fatal shock. If you choose to build or replicate what you see in the video you are doing so at your own risk/responsibility!

PCB Components:

- C1: 100nF 630VDC Polyester Capacitor. Pitch: 14mm
- C2: 10uF 16vdc Electrolytic Capacitor. Pitch: 2mm
- D1: FULL BRIDGE RECTIFIER! Package: DF04M
- J1: 3x 2way Screw Terminals. Pitch 5.08mm
- J2: 3x 2way Screw Terminals. Pitch 5.08mm
- R1: 2W Carbon Film Resistor. 220~240vac = 15k ohm, 100 ~ 120vac = 7.5k ohm
- R2: 2W Carbon Film Resistor. 220~240vac = 6.8k ohm, 100 ~ 120vac = 3.3k ohm
- R3: 2W Carbon Film Resistor. 220~240vac = 3.9k ohm, 100 ~ 120vac = 2.2k ohm
- R4: 1/2W Metal Film Resistor. 220~240vac = 220k ohm, 100 ~ 120vac = 100k ohm
- R5: 1/2W Metal Film Resistor 4.7k ohm
- R6: 1/2W Metal Film Resistor 10k ohm
- R7: 1/2W Metal Film Resistor 10k ohm
- U1: PC817 OptoCoupler. Package: DIP-4
- U2: ATtiny85-20PU. Package: DIP-8
- DIP-8 Socket for ATtiny

Other Components:

- LCD Display, 16x02, I2C interface
- 3 Position Rotary Switch. Rated for a minimum of 100 ma (Rated for mains power)
- Momentary switch to initiate TEST (Rated for mains power)
- Momentary switch for RESET button
- Red Banana/Binding Socket (Search term on ebay: Multimeter binding socket) (Rated for mains power)
- Green Banana/Binding Socket (Search term on ebay: Multimeter binding socket) (Rated for mains power)
- 5x20mm Fuse holder panel mount (Rated for mains power) (recommend 100ma fuse)
- 1x PCB board (Recommend ordering from JLCPCB as they are really good quality boards and they support my channel which helps make projects like this possible) Upload the gerber zip file to their website, to order your own PCB's

Optional parts I used in my build:

- USB micro panel mount cable (to connect my power bank to supply 5v to power the LCD and ATtiny)
- Enclosure Jiffy Box - 158 x 95 x 53mm
- 8x Brass M3 Standoffs
- 8x Countersunk M3x6mm Screws

- 8x M3 nuts

If you choose to have an internal battery, I'd recommend using a quality 18650 Lithium Battery. With a module that offers the following features:

- Charges battery
- Over & Under voltage protection
- Boosted 5v regulated output
- And you'll also want an on/off power switch

By using this search term on ebay I found plenty of options: Battery Charger Board Protection Boost Module 18650