

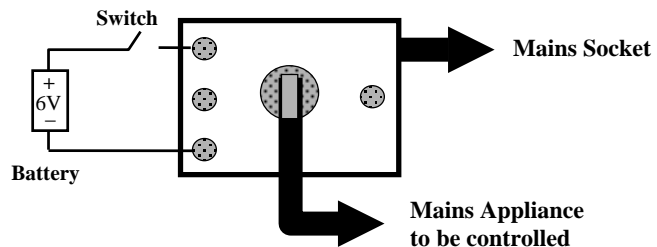
Mains Controller

General Description

The mains controller allows mains appliances such as lamps etc., (up to a maximum power rating of 1200 watts) to be safely controlled by a low voltage dc source. This allows mains appliances to be controlled from computer driven control boxes, battery circuits, transistor switching circuits etc. Input voltages in the range 5-8V dc will cause the mains appliance to be switched on. In order to pre-test circuits, the input trigger voltage is monitored by a green led which illuminates when the trigger voltage is present and the mains appliance to be triggered may be tested by depressing the 'Test' button which applies mains voltage direct to the appliance.

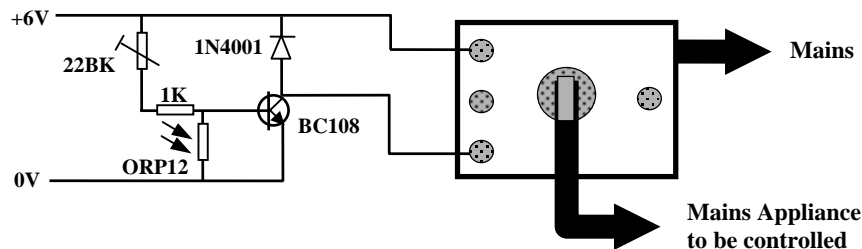
The controller is supplied fitted with 2m of mains cable terminated in a moulded 5A fused 13A mains plug.

Operating the Controller from a Battery



Connect the circuit as shown. Operating the switch in the battery circuit will turn the mains appliance on and off.

Operating the Controller from Transistor Circuitry



The demonstration circuit shown operates a mains lamp when the light falling onto a Light Dependent Resistor (LDR) falls below a pre-set level. (a night light circuit).

N.B. The circuit above shows a protection diode in the transistor collector circuit. This is not strictly necessary as the Mains Controller has back emf quenching circuitry, but is shown in the diagram for completeness.

Operating from a Computer Control Box

If adjustable, the control box should be set to 6V dc output. The output of the control box should then be connected to the input of the mains controller. Output polarity must be observed - the red terminal of the control box must be connected to the red terminal of the mains controller and black to black. If the polarity is reversed, the control box will be presented with a short circuit across its output due to the mains controller's protection diode circuitry.

N.B. The mains controller requires smooth dc to operate. If unsmoothed dc is used, a buzzing sound will be heard and the unit will not operate correctly.

Specification		
Mains supply		240V ac 50Hz
Mains current		5A max. (switched)
Mains isolation		4KV ac
Trigger voltage		4.5-8V smoothed dc
Trigger current		100mA
Nominal low voltage power consumption		420mW
Trigger response time		<5mS