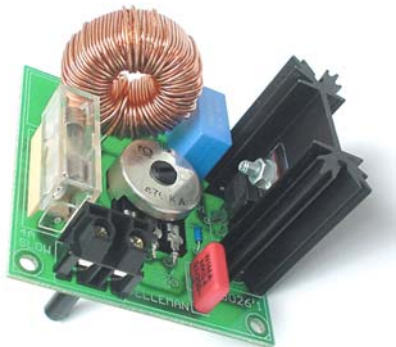


Total solder points: 29

Difficulty level: *beginner* 1  2  3  4  5  *advanced*

## 3,5A SUPPRESSED DIMMER



# K8026

Dimmer for incandescent  
light bulbs and collector motors



**Features:**

- ☑ Dimmer for incandescent lightbulbs and collector motors.
- ☑ protected against induction voltage peaks.
- ☑ Suppressed according to EN55015.

**Specifications:**

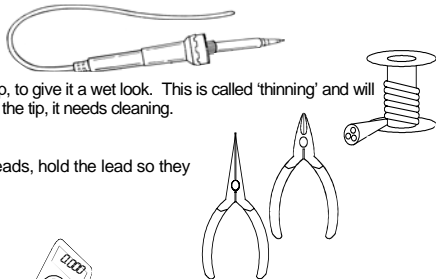
- AC power : 110-125 or 220-240VAC 50/60Hz.
- Max. load : 3.5A (750W/220V; 375W/110V).
- Dimensions: 60x60x40 mm (2.4"x2.4"x1.6").

### 1. Assembly (Skipping this can lead to troubles !)

Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.

#### 1.1 Make sure you have the right tools:

- A good quality soldering iron (25-40W) with a small tip.
- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'thinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
- Thin raisin-core solder. Do not use any flux or grease.
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
- Needle nose pliers, for bending leads, or to hold components in place.
- Small blade and Phillips screwdrivers. A basic range is fine.



**For some projects, a basic multi-meter is required, or might be handy**

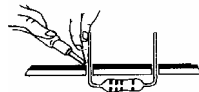


#### 1.2 Assembly Hints :

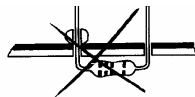
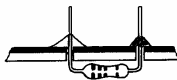
- ⇒ Make sure the skill level matches your experience, to avoid disappointments.
  - ⇒ Follow the instructions carefully. Read and understand the entire step before you perform each operation.
  - ⇒ Perform the assembly in the correct order as stated in this manual
  - ⇒ Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
  - ⇒ Values on the circuit diagram are subject to changes.
  - ⇒ Values in this assembly guide are correct\*
  - ⇒ Use the check-boxes to mark your progress.
  - ⇒ Please read the included information on safety and customer service
- \* Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

**1.3 Soldering Hints :**

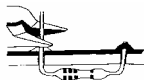
1- Mount the component against the PCB surface and carefully solder the leads



2- Make sure the solder joints are cone-shaped and shiny

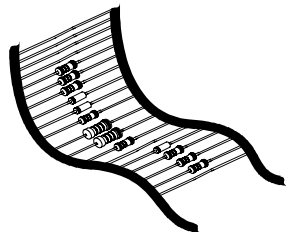


3- Trim excess leads as close as possible to the solder joint

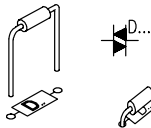


**REMOVE THEM FROM THE TAPE ONE AT A TIME !**

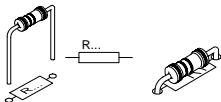
**AXIAL COMPONENTS ARE TAPED IN THE  
CORRECT MOUNTING SEQUENCE !**



 You will find the colour code for the resistances and the LEDs in the HALG (general manual) and on our website: <http://www.velleman.be/common/service.aspx>

**1. Diac.**

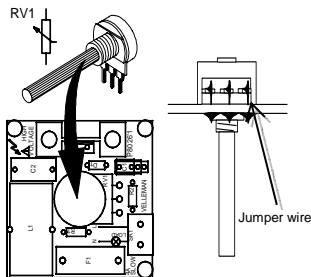
- D1 : D0200 or eq.

**2. Resistor**

- R1 : 5K6 (5 - 6 - 2 - B)

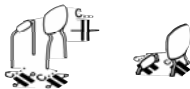
**FOR 110/125V ONLY :**

- R2 : 220K (2 - 2 - 4 - B)

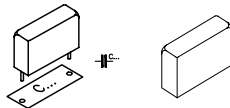
**3. Potentiometer**

- RV1 : 470K

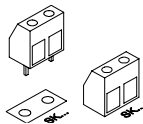
Use supplied jumper wire to connect as shown.

**4. Capacitors**

- C1 : 100nF (104)

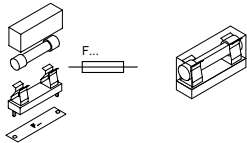


- C2 : 100nF / 250VAC

**5. Terminal block**

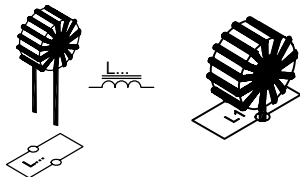
- SK1

### 6. Fuse holder + fuse



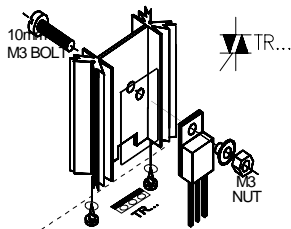
F1 (4A T)

### 7. Coil



L1 : 1,5mH / 1KHz. - 4A

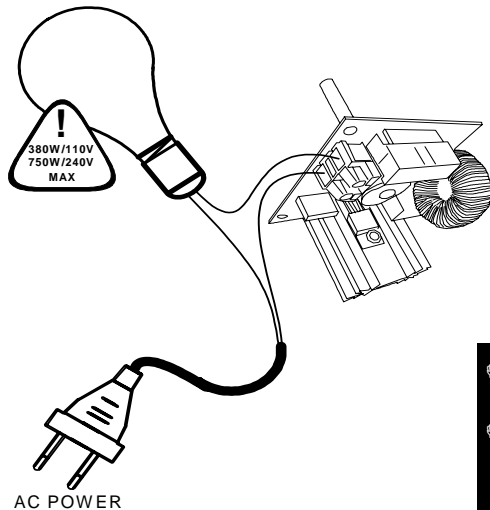
### 8. Triac



TR1 : TIC225M or eq.

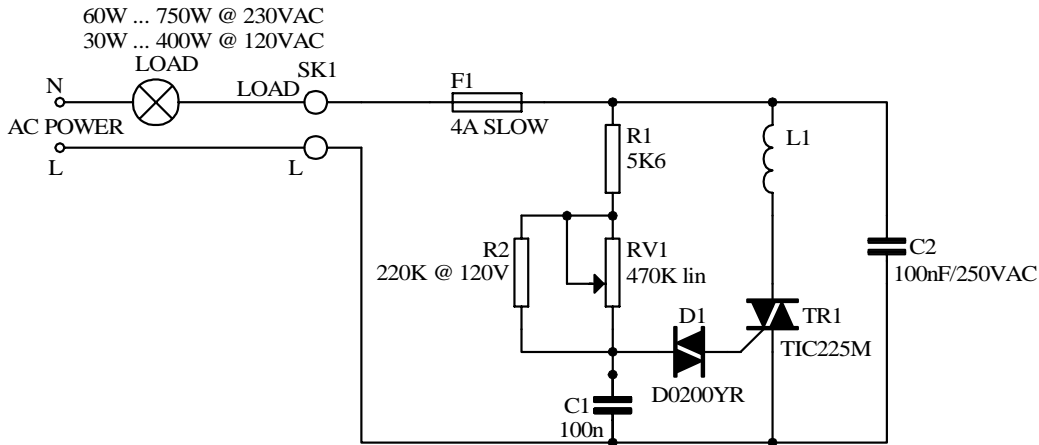
**Important :** Put an extra layer of solder on all pre-thinned PCB tracks, to improve their current handling capabilities.

## 9. Hook-up example

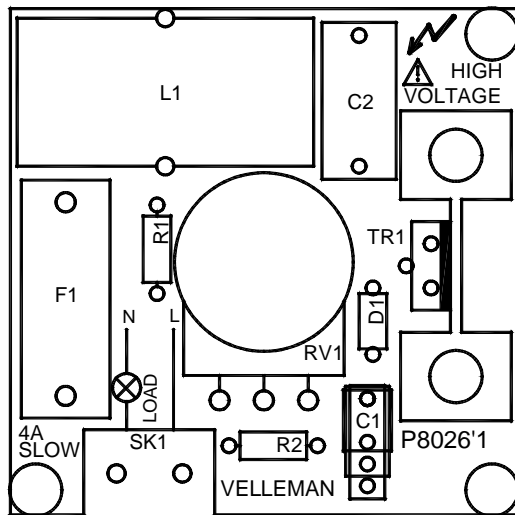


- ⚠ **WARNING : All parts carry lethal voltages!**
- ⚠ **Do not touch while operating. Use an isolated enclosure knob.**

10. Schematic diagram.



## 11. PCB







Modifications and typographical errors reserved  
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H8026IP - 2004 - ED1

