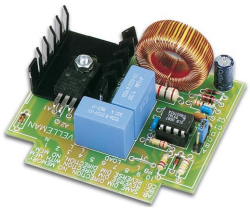
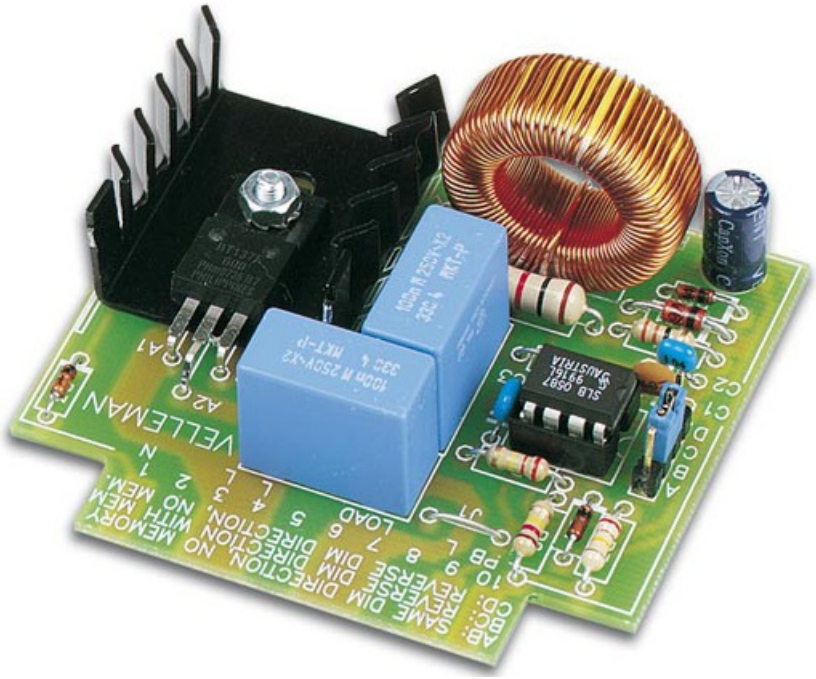


velleman K8007 Dimmer Module User Manual

Contents

velleman K8007 Dimmer Module

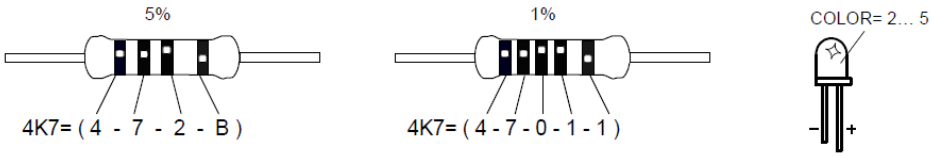


Features

- Easy pushbutton up/down control of light sources
- A brief push toggles on/off, while continued pushing engages dimming action
- Memory function maintains preferred level
- Soft start function
- Suitable for low voltage halogen lighting
- For use with K8006 Base unit for home modular light system

Specifications

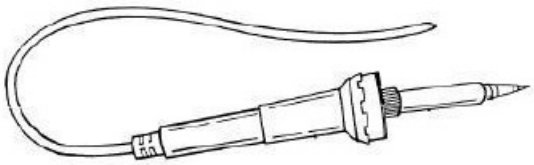
- **Operating voltages :** 110-125 or 220-240VAC 50/60Hz
- **Max. load :** 2.5A (550W/220V; 275W/110V)
- Transient suppressor to avoid radio/TV interference
- **Dimming speed :** approx. 3.5s
- **Dimensions pcb (wxdxh):** 65 x 57 x 25mm
  modifications reserved



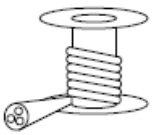
Assembly

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

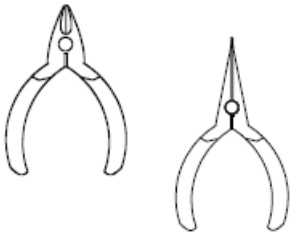
Make sure you have the right tools:



- 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 en-ables you to make good connections. When solder rolls off the tip, it needs cleaning.

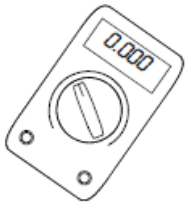


- Thin raisin-core solder. Do not use any flux or grease.



- 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.

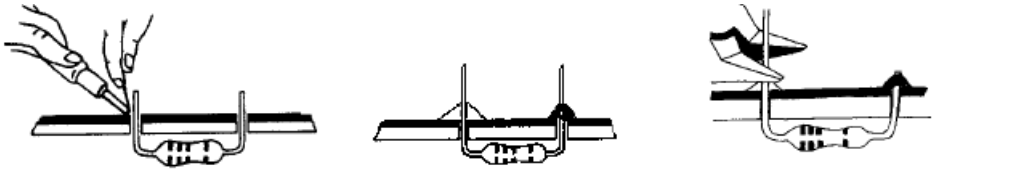
For some projects, a basic multi-meter is required, or might be handy



Assembly Hints :

- Make sure the skill level matches your experience, to avoid disappointments. þ 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. þ 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.

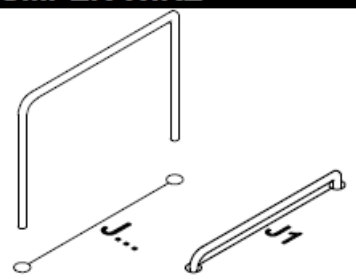
1.3 Soldering Hints :



Mount the component against the PCB surface and carefully solder the leads	Make sure the solder joints are cone-shaped and shiny	Trim excess leads as close as possible to the solder joint

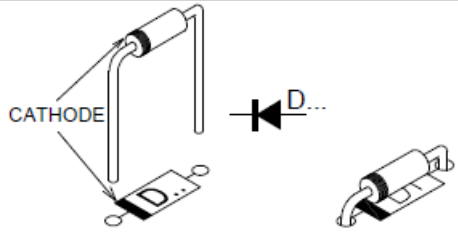
AXIAL COMPONENTS ARE TAPED IN THE CORRECT MOUNTING SEQUENCE

1. JUMPER WIRE



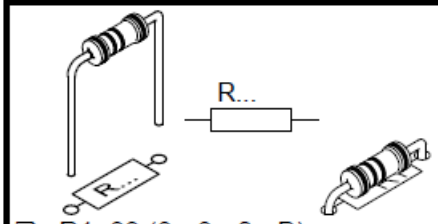
- ❑ J1

2. DIODES (Watch the polarity!)



- ❑ D1: 1N4148
- ❑ D2: 1N4148
- ❑ D3: 1N4148

3. ¼W RESISTORS

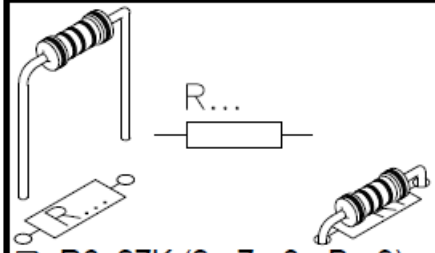


- ❑ R1: 33 (3 - 3 - 0 - B)
- ❑ R2: 120K (1 - 2 - 4 - B)
- ❑ R3: 330K (3 - 3 - 4 - B)
- ❑ R4: 330K (3 - 3 - 4 - B)

Choose operating voltage :

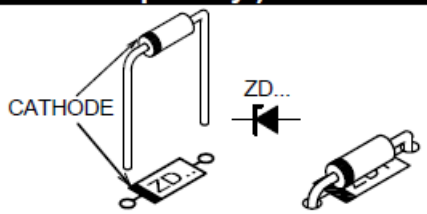
- ❑ 220-240VAC➡ R5: 1M5 (1-5-5-B)
- ❑ 110-125VAC➡ R5: 680K (6-8-4-B)

4. ½W RESISTORS



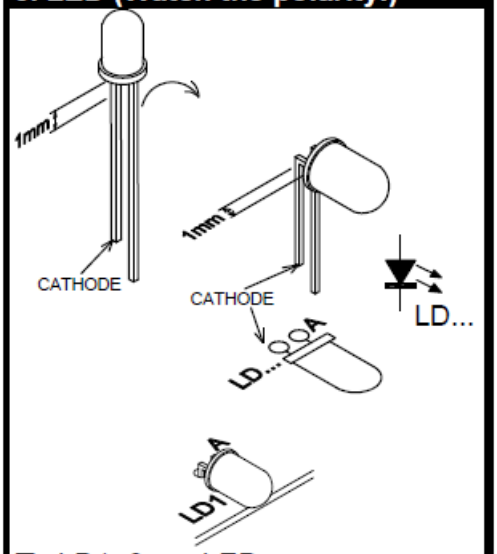
- ❑ R6: 27K (2 - 7 - 3 - B - 9)
- ❑ R7: 27K (2 - 7 - 3 - B - 9)

5. ZENERDIODE (Watch the polarity!)



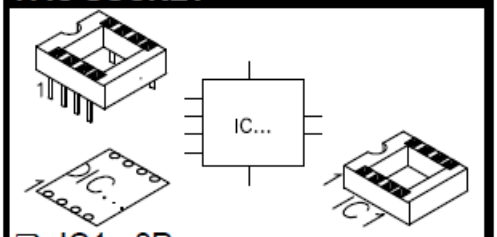
- ❑ ZD1: 5V6/1.3W

6. LED (Watch the polarity!)



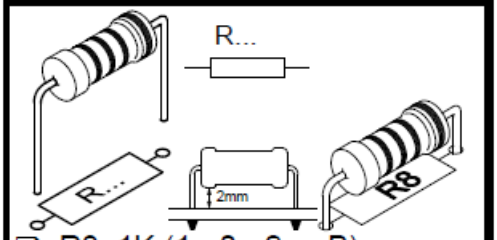
❑ LD1: 3mm LED

7. IC SOCKET



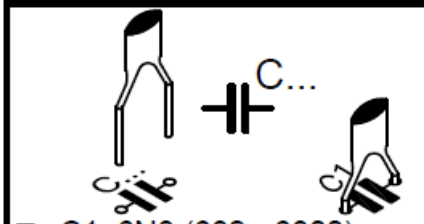
❑ IC1 : 8P

8. 1W RESISTORS



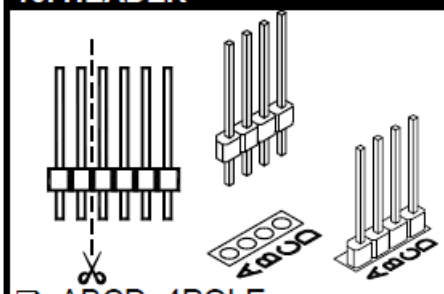
❑ R8: 1K (1 - 0 - 2 - B)

9. CAPACITORS



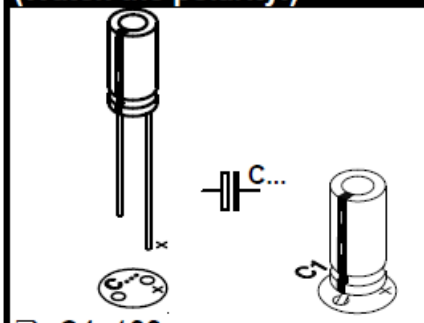
- ❑ C1: 6N8 (682 - 6800)
- ❑ C2: 100n (104 - µ1)
- ❑ C3: 100n (104 - µ1)

10. HEADER



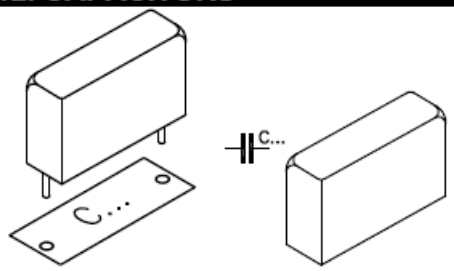
- ❑ ABCD: 4POLE

11. ELECTROLYTIC CAPACITOR (Watch the polarity!)



- ❑ C4: 100µ

12. CAPACITORS

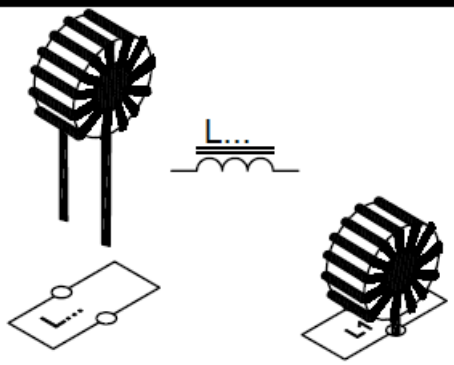


- ❑ C5: 100n/250V~ (104 - µ1)

Choose operating voltage :

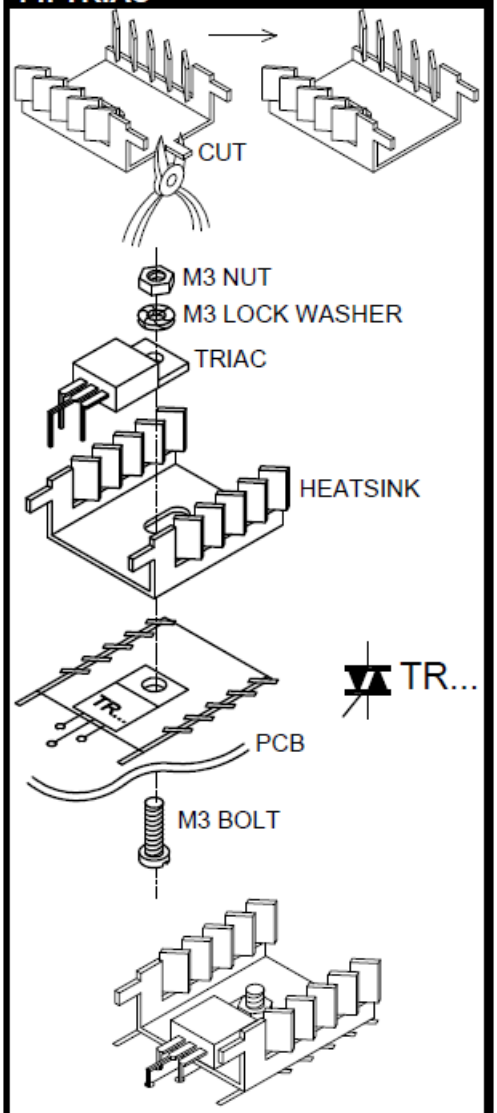
- ❑ 220-240VAC➡ C6: 100n/250V~ (104 - µ1)
- ❑ 110-125VAC➡ C6: 220n/160V~ (224 - µ22)

13. CHOKE



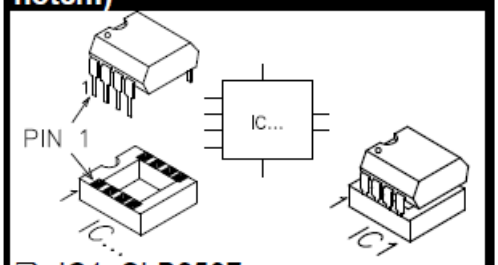
- ❑ L1: 50µH/2.5A

14. TRIAC



❑ T7: BT137F, TIC206M or EQ.

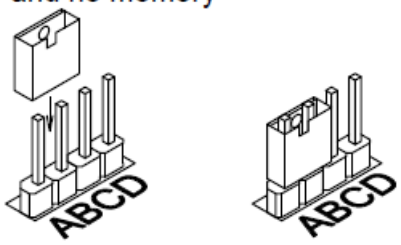
15. IC (Watch the position of the notch!)



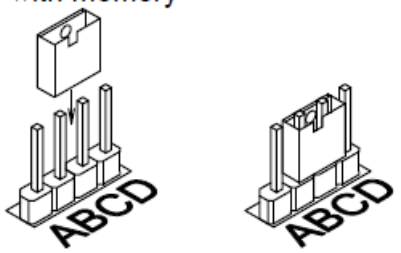
❑ IC1: SLB0587

16. SHUNT for MODE SELECT

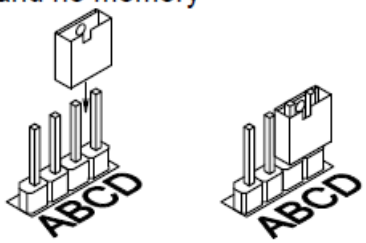
❑ AB: same dimming direction and no memory



❑ BC: reversed dimming direction with memory



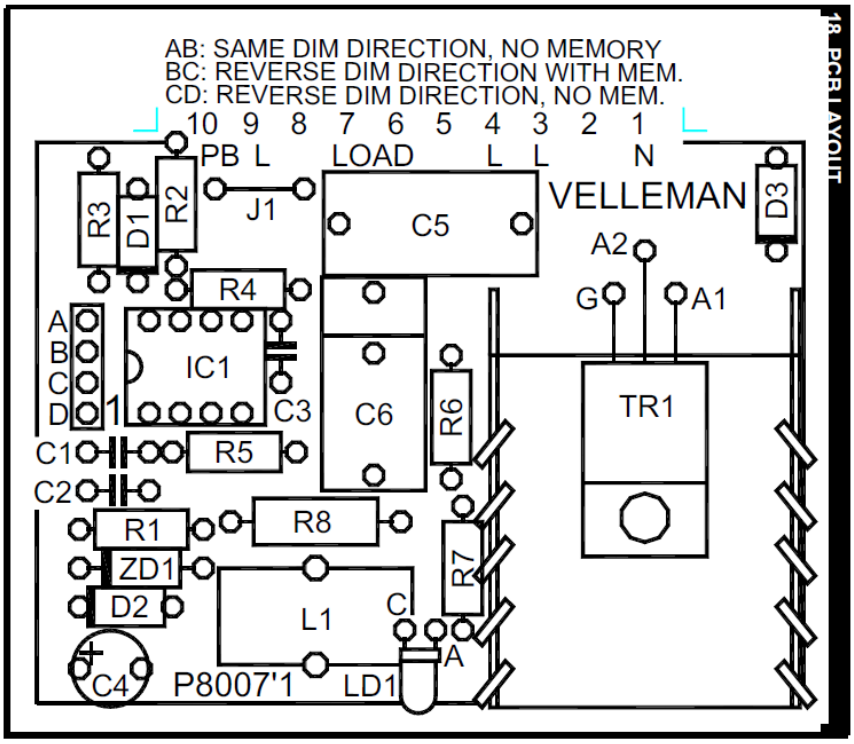
❑ CD: reversed dimming direction and no memory



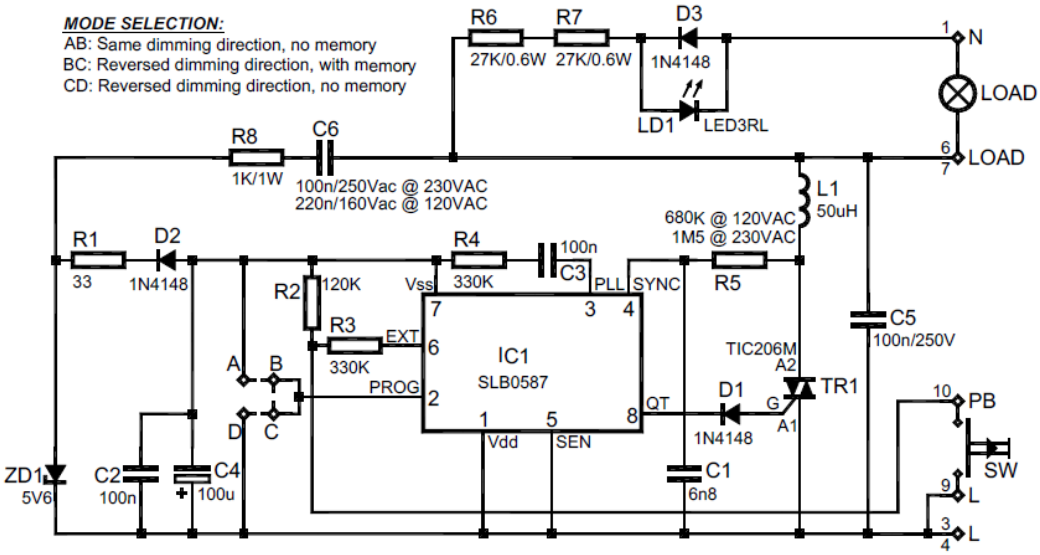
TESTING

For the hook-up diagram and the test procedure, please turn to the illustrated part list of the K8006, Base unit for home modular light system (H8006P), section 12.

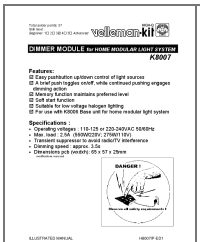
PCB LAYOUT



DIAGRAM



Documents / Resources



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K8007 Dimmer Module, K8007, K8007 Module, Dimmer Module, Module