Power up to four 1W or two 3W high-power LEDs.
### Features:
- delivers accurate constant current required by most high-power LEDs
- high efficiency due to switch mode principle
- built-in rectifier for easy connection to AC source
- compact size
- short-circuit protected
- no heatsink required
- also suited as fixed current NiCd/NiMH battery charge circuit
- for home, disco, stage, education, architectural lighting, science projects, ...

### Specifications:
- 350mA or 700mA constant current source
- input voltage: 6..12VAC / 9-18VDC
- power consumption: 650mA max.
- dimensions: 45x30x16mm / 1.8x1.2x0.64"
Assembly hints

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

Oh, 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, the 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
DO NOT BLINDLY FOLLOW THE ORDER OF THE COMPONENTS ONTO THE TAPE. ALWAYS CHECK THEIR VALUE ON THE PARTS LIST!

REMOVE THEM FROM THE TAPE ONE AT A TIME!
If 700mA output is desired, mount R7:

1. Metal film resistors

2. Schottky diode. Watch the polarity!

3. IC sockets. Watch the position of the notch!


5. Vertical metal film resistors

6. Vertical resistors

7. Transistors.

Bend transistor T2 away from IC socket IC1.
### 8. Voltage regulator
- VR1 : UA78L05

### 9. Diodes. Watch the polarity!
- D1 : 1N4007
- D2 : 1N4007
- D3 : 1N4007
- D4 : 1N4007

### 10. PCB tabs
- AC (2x)
- C
- + (A)

### 11. Electrolytic Capacitor. Watch the polarity!
- C5 : 10µF/35V
- C6 : 470µF/25V

### 12. Coil
- L1 : 330µH / 1A

### 13 IC. Watch the position of the notch!
- IC1 : LM393

### 14. Power Mosfet T1
- T1 : IRF9520

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Bend the electrolytic capacitor away from diode D1.

Bend the power mosfet toward IC1.
15. Connection

Maximum 4 x 1W power LED

Functioning with:
6 - 14VAC 
or
9 - 18VDC

Maximum 2 x 3W power LED
16. Schematic diagram.
17. PCB

input:
6-14VAC
9-18VDC
650mA max.
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