

AUTOMATIC "NI-CD" CHARGER
(AA SIZE 2-12 UNIT)
CODE 806 **LEVEL 3**

This recharging battery automatic circuit is used for AA battery with 500 and 1,000 mA. This circuit also can set as timer.

Technical specifications:

- need transformer: 12-6-0-6-12VAC/300mA.
- charge current: from 50mA, 100mA (selectable).
- usable battery: 2 to 12 cells.
- LED function indication.
- PCB dimensions : 3.20x2.21 inches.

How to works:

When first giving power supply, circuit does not work and battery is not charged get. When pressing SW3, TR1, TR2, TR3 will conduct current, LED display, IC1 starts timer battery is charged. When set time arriving, there will be current at pin 3 of IC1 that makes TR4 shorted the base to ground, then TR1 and TR2 will stop conducting current and IC1 will also stop working. LED stop displaying accordingly LED acts 2 functions which are presenting charging status and warning in case of wrong battery placement.

PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

Testing:

Jumping J1 on PC board. Connecting battery to "BAT" position, make sure you connect the right pole. Adjusting SW1 and selecting number of battery to be charged. There are 3 positions which as:

"A" position for 2 to 4 cells battery charging.

"B" position for 5 to 8 cells battery charging.

"C" position for 9 to 12 cells battery charging. When selecting SW1 according to number of battery. Slide SW2 to "1" position and then giving power supply to circuit, LED does not display yet. pressing SW3 then LED will display for 2 minutes.

Application:

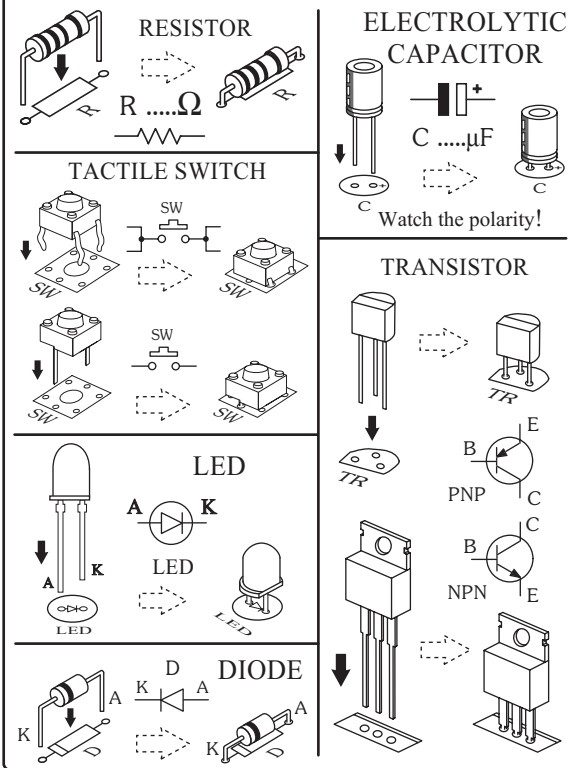
Taking J1 off if the circuit is run smoothly. For actual application, selecting SW1 according to no of battery, selecting charge current and fine by selecting SW2. There are 3 positions as per following:

Position 1 charge for 500mA. battery 100mA. current within 7 hours, fast speed.

Position 2 charge for 1000mA. battery 100mA. current within 14 hours, fast normal.

Position 3 charge for 500mA. battery 50mA. current within 14 hours, fast normal.

Figure 1. Installing the components



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

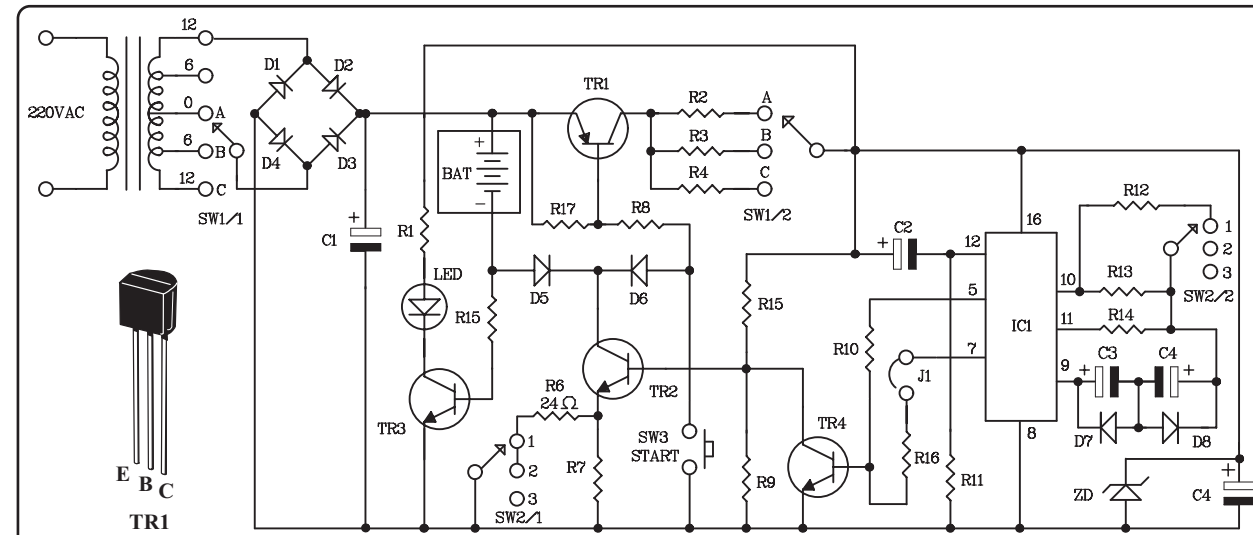


Figure 2. Automatic "Ni-Cd" charger circuit

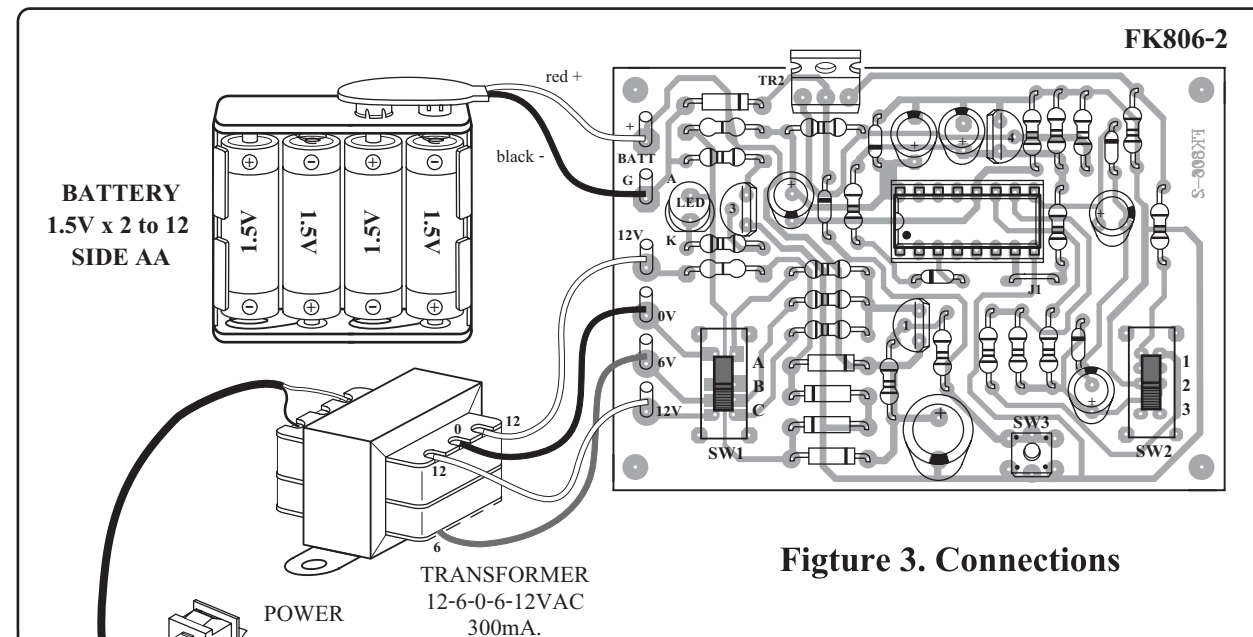


Figure 3. Connections

NEW KIT SET

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC
169	DANCING ROBOT FLASHER 33 LED	9-12VDC
170	DANGER FLASHER 42 LED	9-12VDC
171	TWO LAMP FLASHER	3VDC
172	THREE STEP FLASHER 19 LED	9-12VDC
173	HALLOWEEN PUMPKIN FLASHER 23 LED	9-12VDC

NOTE:
FUTURE BOX FB04
is suitable for this kit.