

TIMER SWITCH 0-3HR.
CODE 406

LEVEL 2

The timer switch device can be connected to an appliance which is 220 volts and not more than 300 watts to set its turning of time from 0-3 hours related to adjustment of the potentiometer.

Technical specifications:

- power supply: 12VDC.
- consumption: 45mA. max.
- adj. timer: potentiometer
- maximum load: 10A@125VAC and 5A@220VAC
- PCB dimensions : 2.95 x 1.74 inches.

How to works:

When the circuit is connected to a power supply TR3 initially does not function so time is not set unit the switch is turned on resulting TR3 to transmit a current through the timer circuit. LED will light and the relay will attract the contact face to contact, TR2 will work related to passed current from R1 and R3 through the base. Therefore, TR3 can function althrough turn off the switch. IC1 of timer will set time that can possibly adjusted by VR1 which result TR1 to short the voltage at the base of TR2 so TR2 cannot work and TR3 will be disconnected. At this stage the relay will release the contact face so the LED will be unlighted. STOP switch is used to cancel the set time.

PCB assembly:

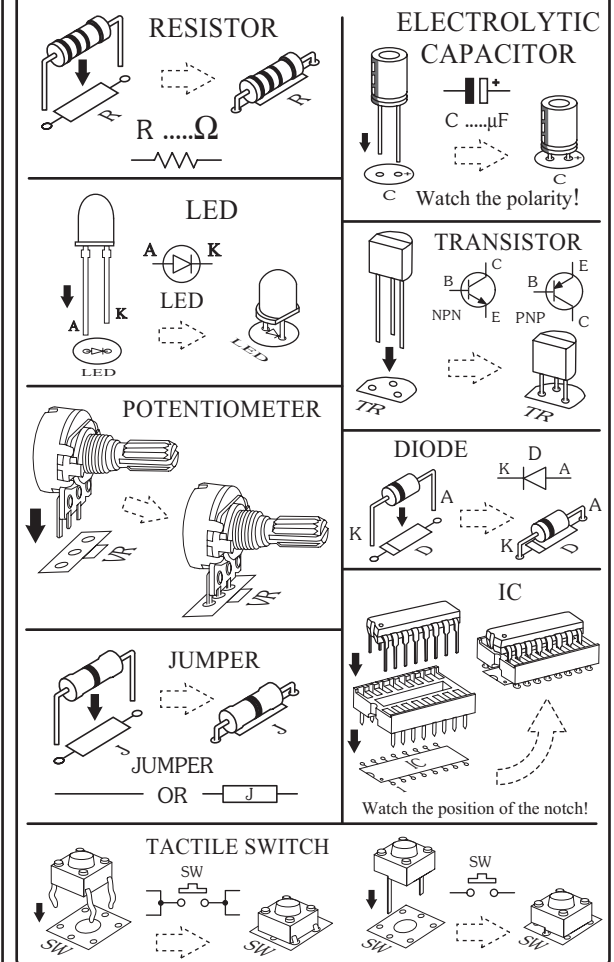
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. 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. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Jump the jumper J and connect power supply to circuit.

Adjust VR500K max. counterclockwise and turn on the switch, LED will light as the relay will work about a second. Then adjust VR500K max. clockwise and turn on the switch again, LED will light as the relay will work for 2.48 minutes. After that disjoint jumper J and adjust VR500K max. counterclockwise and turn on the switch, LED will light as the relay will function for 90 seconds. If press the START switch and LED light and when press the STOP switch, LED is unlighted, this proves to be practical. If jumper J is connected, time can set at about a second up to 2.48 minutes but even not connect jumper J, time can be set at 90 seconds up to 3 hours.

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.

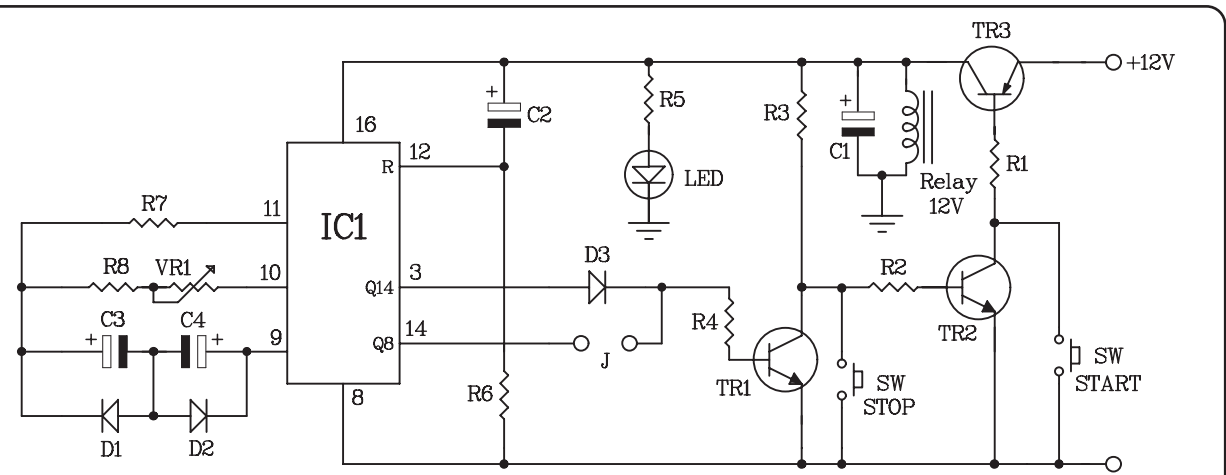
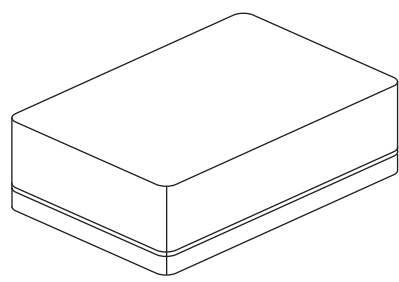
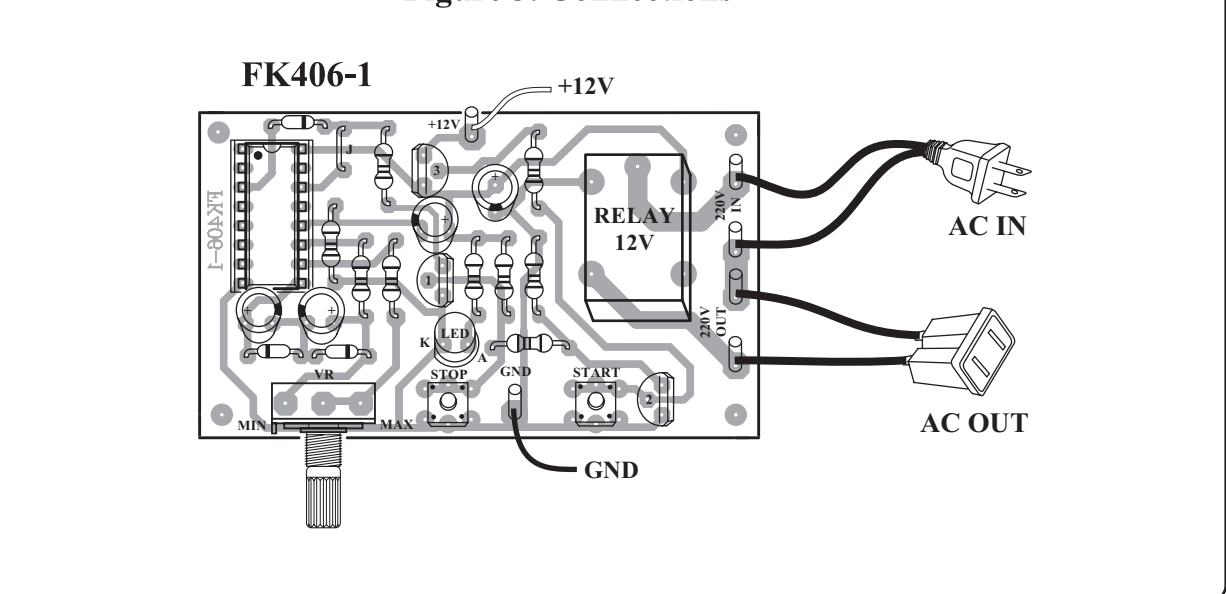


Figure 2. The timer switch 0-3 hr. circuit

Figure 3. Connections



NOTE:
FUTURE BOX FB04 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
161	FEELING FLASHER 14 LED	9-12VDC
162	SATURN'S RING FLASHER 31 LED	9-12VDC
163	UNIVERSAL FLASHER 10 LED	9VDC
164	XENON TUBE FLASHER (STRAIGHT TYPE)	220VAC
165	SOUND ACTIVATED XENON FLASHER (STRAIGHT TYPE)	220VAC
166	LIGHT ACTIVATED XENON FLASHER (STRAIGHT TYPE)	220VAC