

2 DIGIT COUNT DOWN TIMER

2 Digit Count Down Timer is a utility Count Down timer project for upto 99 seconds of countdown time. This project can find many uses in your shack and home. The relay output remains on during the Count Down period, allowing you to interface load or alarm that you want to keep it on for a certain amount of time (in seconds).

- Microcontroller based design for greater accuracy and control
- Power supply input 12 VDC 200 mA
- Two 0.5" display segments to display time
- 12V SPDT (Single Pole Double Throw) relay for alarm use
- Single key start and dual key alarm time set function
- Power and Relay-On LED indicator
- Terminal connector for connecting power supply input and relay output to the PCB
- Onboard regulator for regulated supply
- Crystal resonator based design for better accuracy
- PCB dimensions 72 mm x 81 mm

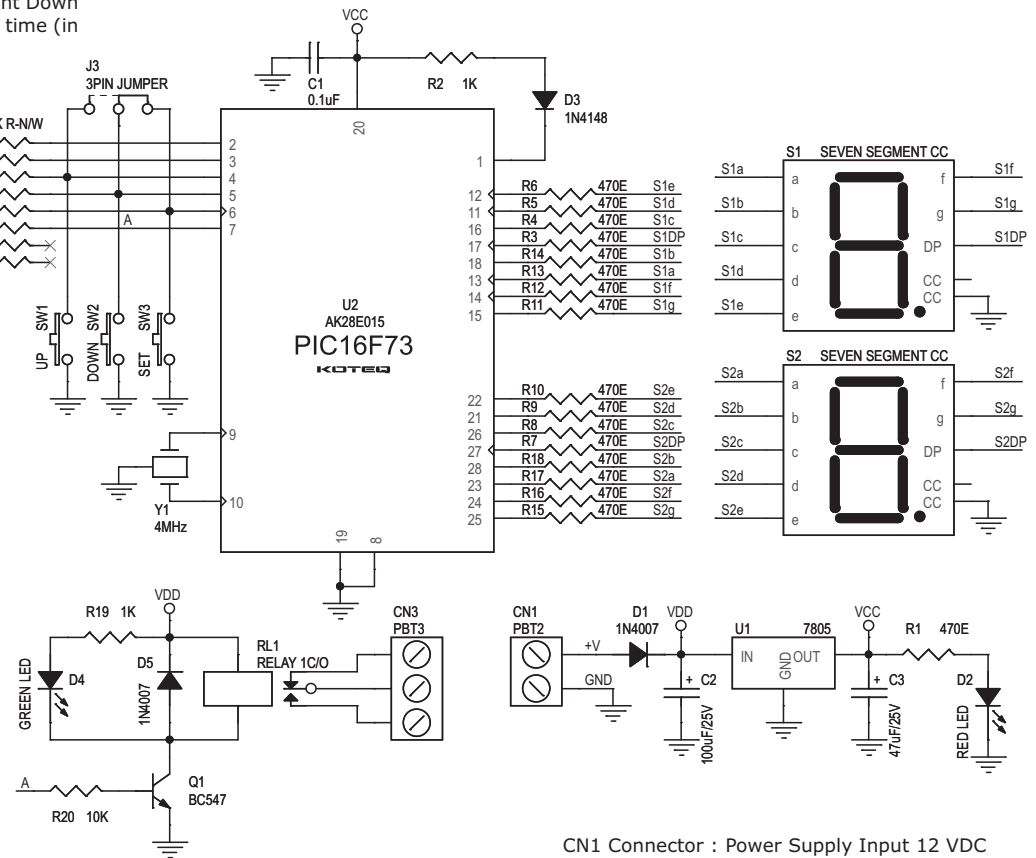


This is a microcontroller based 2 Digit (99 Seconds) Count Down Timer. This Count Down Timer is very easy to use and easy to configure. This kit can find a lot of application areas where you need a device to remain ON (or OFF) for a certain period of time (upto 99 Seconds). Power to the circuit is applied at CN1 (12 VDC). D1 provides the reverse polarity protection to this kit. LED D2 confirms DC Power Supply to the board. S1 and S2 displays Count Down time. J3 provide an easy way of connecting external switches to this board. LED D4 confirms the relay status.

Operating Instructions :

The setting up of countdown period and START Function for this kit is accomplished with the help of 3 tactile switches shown as SW1, SW2 and SW3 in the schematic and labeled as UP, DOWN and SET on the PCB respectively.

- I. Setting Time : The default value is shown on display S1 and S2 respectively. You can change this value by simply pressing the UP and DOWN key.
- II. Start : You can start the Count Down by pressing SET key. When the Count Down starts the relay is energized, indicated with the glow of LED D4. Once the Display (S1 and S2) reaches 0 the relay is de energized.



CN1 Connector : Power Supply Input 12 VDC
D2 LED : Power-On Indication
CN3 Connector : Relay Output



| SR. | QTY. | REF. | DESCRIPTION |
|-----|------|--|------------------------------------|
| 1 | 1 | CN1 | 2 PIN TERMINAL CONNECTOR |
| 2 | 1 | CN3 | 3 PIN TERMINAL CONNECTOR |
| 3 | 1 | C1 | 0.1uF |
| 4 | 1 | C2 | 100uF/25V |
| 5 | 1 | C3 | 47uF/25V |
| 6 | 2 | D1,D5 | 1N4007 |
| 7 | 1 | D2 | RED LED |
| 8 | 1 | D3 | 1N4148 |
| 9 | 1 | D4 | GREEN RED |
| 10 | 1 | J3 | 3 PIN JUMPER |
| 11 | 1 | Q1 | BC547 |
| 12 | 1 | RL1 | 12V RELAY |
| 13 | 1 | R1 | 470E |
| 14 | 2 | R2,R19 | 1K |
| 15 | 16 | R3,R4,R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15,R16,R17,R18 | 470E |
| 16 | 1 | R20 | 10K |
| 17 | 3 | SW1,SW2,SW3 | TACT SWITCH |
| 18 | 2 | S1,S2 | 7 SEGMENT DISPLAY - COMMON CATHODE |
| 19 | 1 | U1 | 7805 |
| 20 | 1 | U2 | PIC16F73 AK28E015 |
| 21 | 1 | Y1 | 4 MHz RESONATOR |
| 22 | 1 | 10K1 | 9 PIN 10K R-N/W |
| 23 | 1 | SOCKET | 28-N PIN DIP IC SOCKET |
| 24 | 1 | SCREW | SC02905 |
| 25 | 1 | NUT | NT02900 |

