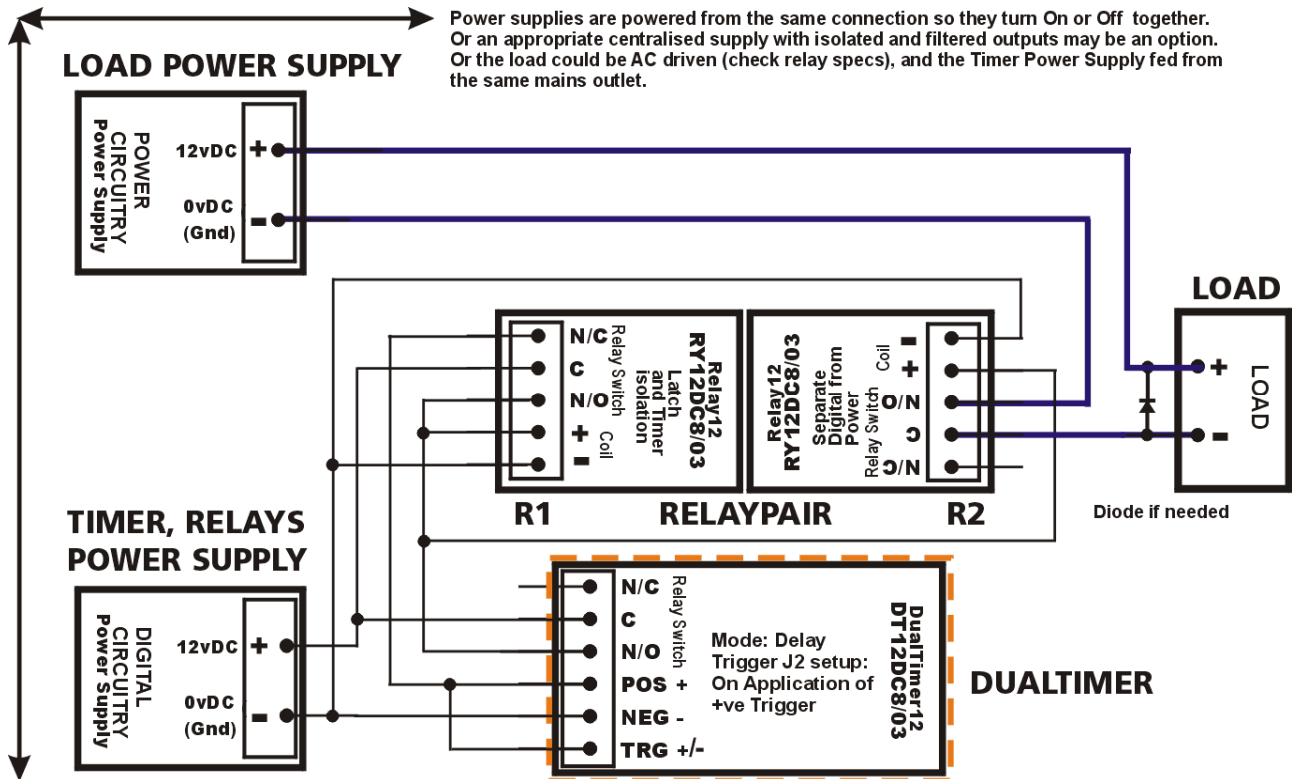


# Delay Turn-On After Power Up

**Two** Circuits: 1. Constant Use / Rugged Environment. 2. Fewest Components

## 1. CONSTANT USE / RUGGED ENVIRONMENT

- ❑ The DualTimer's POS and TRG terminals are both connected to its power supply's +ve terminal via the C and N/C terminals of the RelayPair's unit 1 (R1). This means the Timer can be simultaneously powered up and triggered when its power supply is turned on.
- ❑ When set up in Delay Mode with its J2 jumper set up to trigger on APPLICATION of a +ve voltage, the DualTimer can be used to delay Turn-On of a Load which receives its power from a supply that is linked to the Timer's supply, eg both powered from the same Mains connection.
- ❑ The use of a RelayPair module gives this circuit its ability to handle a rugged, constant use environment.
  - ⇒ R1 serves different purposes depending upon whether it is powered or not:
    - ◆ When not powered, it connects the DualTimer's POS terminal and its TRG terminal (via the connection between its C and N/C terminals) to their power supply's +ve terminal.
    - ◆ When powered (by operation of the DualTimer's relay) it latches itself (via the connection of R1's N/O and + terminals) and powers R2 by creating a connection between its C and N/O terminals. Most importantly, it also isolates the DualTimer from power by breaking the connection between R1's C and N/C terminals.
  - ⇒ The latch on R1 is reset when power is turn off, ready to be set again by the DualTimer when power is turned on.
  - ⇒ The isolation of The DualTimer after it has done its work, and the latch on R1 are what gives this circuit its rugged nature. The active part of the circuit is a minimum (just two relays) when powering the Load. And the DualTimer can be located separately from the relays eg in a less "dirty" mechanical or electrical environment.
  - ⇒ R2 is used to separate Digital electronics from Power electronics.
- ❑ Because the DualTimer is isolated from power for most of the time (ie is only connected when it is counting down the delay time) it may be possible under some circumstances to operate with just one power supply.
  - ⇒ If this was the case, R2 may not be required. The RelayPair could be replaced with a single relay (eg Basic12). Single relay operation with the DualTimer isolated from power would provide lower current draw than a DualTimer with its relay activated.

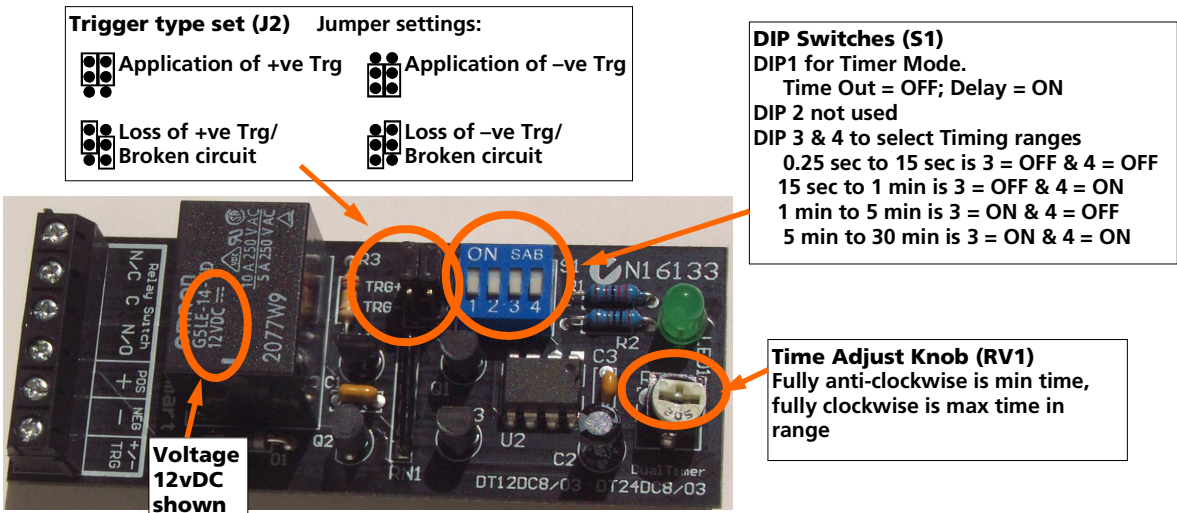
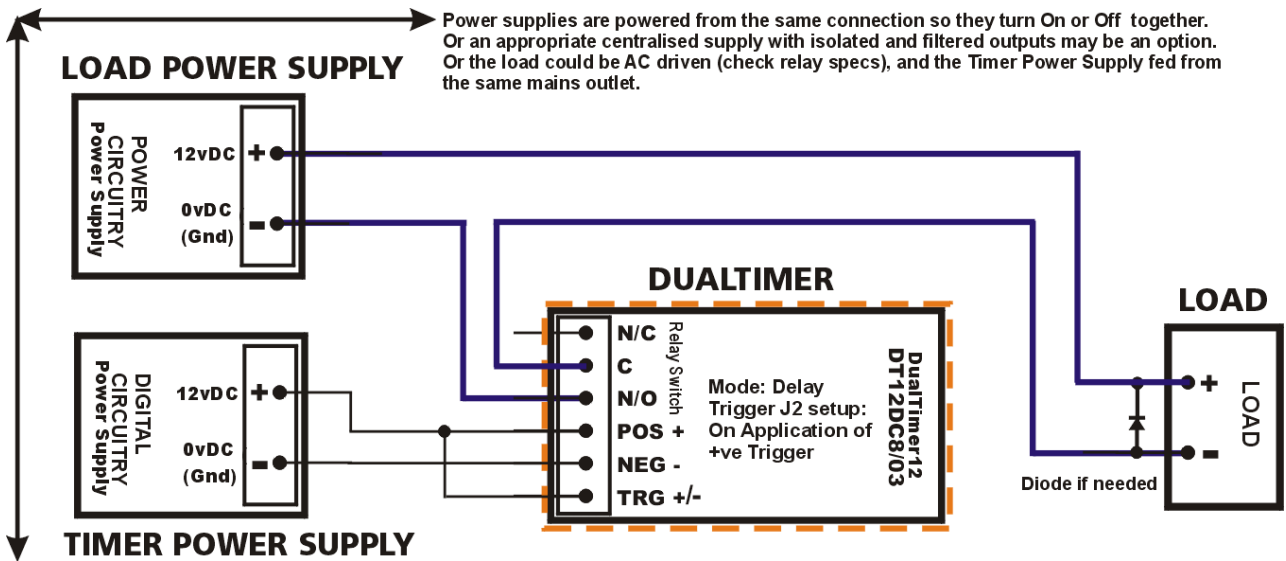


### Notes:

1. Refer to the Disclaimer at the bottom of page 2.
2. Refer also to Manual: *DualTimer12*.
3. Use the relay within OMRON's specifications. A copy can be found on the ULTRAsmart web site.
4. Colour and appearance of components of components may vary from that shown in pictures.

**2. FEWEST COMPONENTS**

- ❑ The DualTimer's POS and TRG terminals are both connected to its power supply's +ve terminal. This means the Timer can be simultaneously powered up and triggered when its power supply is turned on.
- ❑ When set up in Delay Mode with its J2 jumper set up to trigger on APPLICATION of a +ve voltage, the DualTimer can be used to delay Turn-On of a Load which receives its power from a supply that is linked to the Timer's supply, eg both powered from the same Mains connection.
- ❑ Once activated, because it is in Delay Mode, the DualTimer's relay stays switched until loss of +ve trigger (ie power from its power supply is turned off). This means that the Load is connected to its power supply's 0 vDC terminal (and hence is powered) via the Timer's C and N/O relay terminals as long as the DualTimer is powered.
- ❑ This setup requires the DualTimer to hold its trigger on for the full time that power is on, and to hold its relay switched for all this time (less the delay period).



The DualTimer12 (DT12DC8/03) is an ideal module for many 12 v DC timer applications. A 24 volt version, DualTimer24 (DT24DC8/03), is also available.

**Manual: Delay Turn-On After Power Up**

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