

# Example Use: Security

## Door Open Too Long (also called "DOTL") Alarm<sup>(6, 7)</sup>

### 1. A "DOTL" SYSTEM DESCRIPTION

The DualTimer12 (DT12DC8/03) is ideal for creating a Door Open Too Long (DOTL) alarm. An example system follows<sup>(6, 7)</sup>:

- The **door is monitored** in some way (such as a reed switch) so that it can be determined if the door is open or closed.
- The Timer is setup on **Delay Mode**. Settings are described in the column to the right entitled *DOTL TIMER SETUP*.
- For example purposes only, we will assume the door is allowed to be **open continuously** for (say) a set time of 30 seconds.
- While the **door is open** the monitoring device/panel **continuously**<sup>(2)</sup> generates an output for the Trigger which is used as the input to the Dual Timer's Trigger terminal (labeled TRG+/-). A **positive** (+3<sup>(1)</sup> to +24 v DC) or **negative** (0 v DC, same voltage as applied at the Timer's NEG- terminal) Trigger may be used depending upon how the Timer has been set up. (See Item 2, *Positive or Negative Trigger* in the unit's manual.)
- If the door is **not closed before the set time** (eg 30 seconds), then the Timer's relay is activated. The relay may be wired up so as to activate an alarm. (Check specifications.)
- When the **door is closed** its monitoring device/panel (described above) ceases<sup>(4)</sup> to provide the Trigger voltage to the Timer's TRG+/- terminal.
- If the door was **closed before the set time expired**:
  - a) the Timer's relay is not switched (and therefore the alarm is not sounded), and
  - b) the next time the door is opened there is again a full set time (eg 30 seconds) allowed for it to remain open before the relay is switched .
- If the door was **closed after the set time expired**:
  - a) the Timer's relay is released (and therefore the alarm will stop sounding<sup>(5)</sup>), and
  - b) the next time the door is opened there is again a full set time (eg 30 seconds) allowed for it to remain open before the relay is switched .

### 2. TIMER MODE FOR "DOTL"

DIP Switch number 1 is used to set the Timer Mode. Set the switch to ON for Delay Mode.

#### 2.1 Delay Mode

- 1 To start and keep the timer counting, a **constant** Trigger is applied at the *TRIGGER* terminal<sup>(2)</sup>.
- 2 At the expiration of the set time, the Relay is switched.
- 3 The Relay is released when the *TRIGGER* is released

#### Notes:

1. A minimum Positive Trigger of +5 volt DC is recommended, especially in "dirty" electronic environments.
2. The Trigger has an in-built hysteresis time of about 0.05 seconds. This means it will continue to stay in its current state (either ON or OFF) unless a detected changed state continues for more than 0.05 seconds.
3. Only DIP Switches 3 and 4 are used for TIMING settings. DIP Switch 1 is used to set the Timer MODE, and DIP Switch 2 is not used for anything. Leave Switch 2 at the OFF setting.
4. When the TRIGGER is RELEASED or CEASES, the voltage at the trigger terminal (TRG+/-) should be set to the OPPOSITE voltage selected for the Trigger - eg a POSITIVE trigger, when not in use should be set to 0 volt DC.
5. If you wish the alarm to continue, then the Timer's relay can be used to activate a second Dual Timer set up in Time Out mode (or latching relay or similar device) which then is used to control an alarm.
6. This example is only a general approach to using the Dual Timer. Your application may be different. It is your responsibility to use the Dual Timer correctly and appropriately in your application.
7. This example should be read in conjunction with the generic manual instructions "DualTimer12".

### "DOTL" TIMER SETUP

- 1 Check the relay coil voltage. It should read 12VDC on the DualTimer12 if you are using the model that uses 12 volt DC supply.
- 2 Set up for either a positive or negative Trigger. (See Item 2, *Positive or Negative Trigger* on the unit's manual.)
- 3 Set the Timer Mode to Delay (See Item 2, *Timer Mode for DOTL* left.)
- 4 Set the Timing DIP switches 3 and 4 to select the relevant range of times that your required time falls into. (See *TIMING SETTING* below.)  
In the case of the example to the left, we chose 30 seconds. This time falls in the Time Adjust Knob range of 15 sec to 1 minute – so set Switch 3 to OFF, and Switch 4 to ON.
- 5 Roughly set the Time Adjust knob itself. In the case of the example we want 30 seconds which is about 1/3 of the time between 15 seconds (fully anti-clockwise) and 1 minute (fully clockwise). So using a small screw driver find the 15 second setting by turning the knob fully anti-clockwise, and then turn it about 1/3 of the way towards clockwise for the 30 second setting.
- 6 Connect the correct wires to the relevant terminals.
  - Relay outputs are via Relay Switch N/C, N/O and C
  - Power is via POS + and NEG -.
  - The Trigger is via TRG +/-.
- 7 Check the Time Adjust Knob setting by simulating the door being opened and manually timing when the relay switches. Fine tune the setting as required.

### TIMING SETTINGS

Time Adjust Knob		DIP Switches <sup>(3)</sup>	
Fully Anti-clockwise	Fully Clockwise	3	4
0.25 sec	15 sec	OFF	OFF
15 sec	1 min	OFF	ON
1 min	5 min	ON	OFF
5 min	30 min	ON	ON

Postal Address  
12 Torwood Drive  
Vermont South 3133  
Australia

Marketing Division  
ph 61 3 9884 4661  
fax 61 3 9803 6769  
market@ultrasmart.org

ULTRAsmart  
www.ultrasmart.org  
admin@ultrasmart.org  
ceo@ultrasmart.org

A business of:  
Jarvis (Australia) Pty Ltd  
ACN 070 481 524  
ABN 70 389 836 858

