

EN UNIVERSAL TIMER MODULE WITH
USB INTERFACE

NL UNIVERSELE TIMERMODULE MET
USB-INTERFACE

FR MODULE MINUTEUR UNIVERSEL
AVEC INTERFACE USB

DE UNIVERSAL-TIMER MIT USB-
SCHNITTSTELLE

ES TEMPORIZADOR UNIVERSAL CON
INTERFAZ USB

WMT206



Introduction



To all residents of the European Union

Important environmental information about this product

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

If in doubt, contact your local waste disposal authorities.

Thank you for choosing Whadda! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

Safety Instructions



Read and understand this manual and all safety signs before using this appliance.



For indoor use only.

- This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.

General Guidelines

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorised way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Nor Velleman nv nor its dealers can be held responsible for any damage (extraordinary, incidental or indirect) – of any nature (financial, physical...) arising from the possession, use or failure of this product.
- Keep this manual for future reference.

What is Arduino®

Arduino® is an open-source prototyping platform based on easy-to-use hardware and software. Arduino® boards are able to read inputs – light-on sensor, a finger on a button or a Twitter message – and turn it into an output – activating of a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so, you use the Arduino programming language (based on Wiring) and the Arduino® software IDE (based on Processing). Additional shields/modules/components are required for reading a twitter message or publishing online. Surf to www.arduino.cc for more information

Product overview

No timer is universal, except this one!

Two reasons why this timer is truly universal:

1. The timer comes with a wide variety of operating modes.
2. If the built-in modes or delays don't suit your application, you can simply tailor them according to your needs using the supplied PC software.

Features:

- 10 operating modes:
 - toggle mode
 - start/stop timer
 - staircase timer
 - trigger-at-release timer
 - timer with turn on delay
 - timer with turn off delay
 - single shot timer
 - pulse/pause timer
 - pause/pulse timer
 - custom sequence timer
- wide timing range
- buffered inputs for external START / STOP buttons
- heavy duty relay
- PC software for timer configuration and delay setting

Specifications:

- power supply: 12 VDC (100 mA max.)
- relay output: 8 A / 250 VAC max.
- minimum event time: 100 ms
- maximum event time: 1000 h (over 41 days)
- dimensions: 68 x 56 x 20 mm (2.6" x 2.2" x 0.8")

Example program

First, you will need to plug your VM206 into an available USB port on your computer so Windows can detect your new device.

Then download the latest software version for the VM206 on www.velleman.eu via these simple steps:

1. go to: <http://www.vellemanprojects.eu/support/downloads/?code=VM206>
2. download the VM206_setup.zip file
3. unzip the files in a folder on your drive
4. double click the "setup.exe" file

An install wizard will guide you through the complete installation procedure. Shortcuts to the VM206 software can now be installed.

Starting the software

1. locate the VM206 software shortcuts
(programs > VM206 > ...).
2. click on the icon to start the main program
3. then click on the 'Connect' button,
the "Connected" label should now be displayed



You are now ready to program the timer!

Timer operation modes

- 1: on delay - relay turns on after delay t1
- 2: off delay - relay turns off after delay t1
- 3: one shot - a single pulse of length t2, after delay t1
- 4: repeat cycle - after delay t1, relay turns on for t2 ; then repeats
- 5: repeat cycle - relay turns on for time t1, off for t2; then repeats
- 6: toggle mode
- 7: start/stop timer
- 8: staircase timer
- 9: trigger-at-release timer
- 10: programmable timing sequence

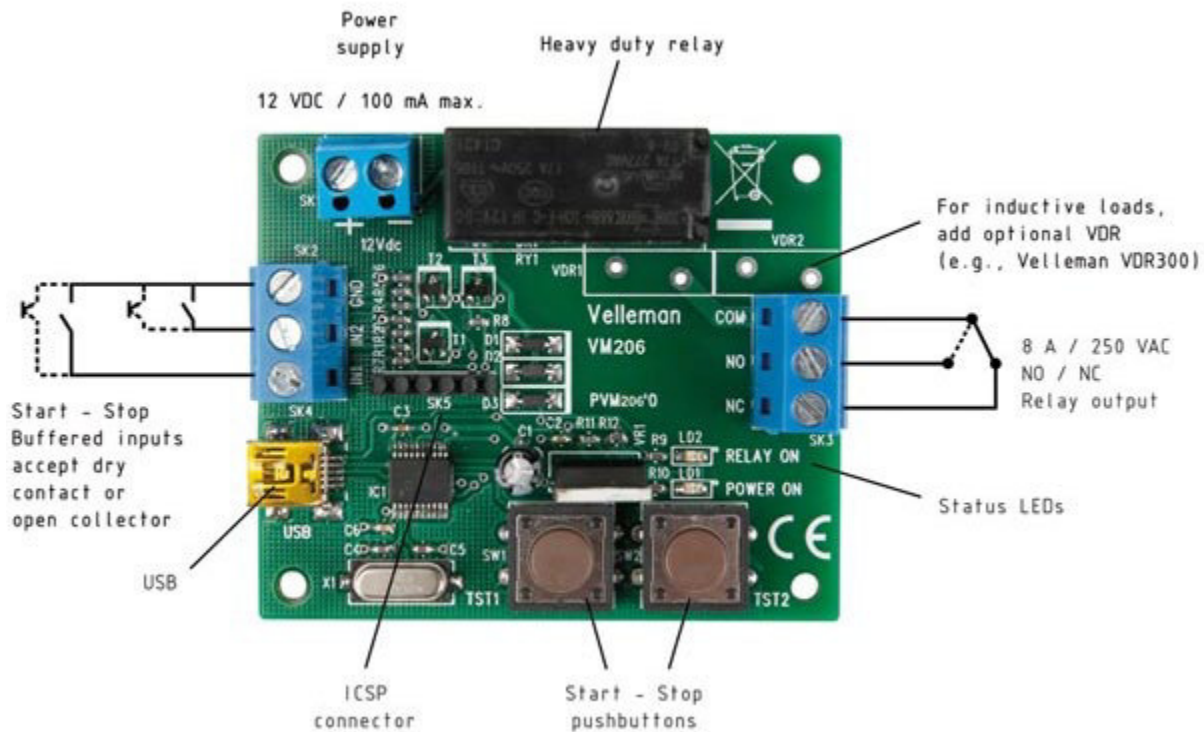
Now you can set up your first timing program for the VM206:

1. select any of the options from 1 to 9
2. enter the time or use the default 2sec and 1sec
3. now click the 'Send' button

The VM206 is now programmed!

You can check the operation by pressing the TST1(Start)button. The 'RELAY ON' LED indicates the operation. You can stop the timer operation by pressing the TST2(Reset)button.

To get the relay functioning as well, you need to connect the 12 V supply to the SK1 screw connector.



You can disconnect the USB cable and test the timer operation as a stand-alone device with the 12 V supply.

There are two inputs on the board; IN1 and IN2 for remote switches or NPN transistors to control the timer operation. The switch or transistor connected between IN1 and GND acts as the Start button (TST1) and the switch or transistor connected between IN2 and GND acts as the Reset button (TST2).

Relay output

The relay contacts are connected to the SK3 connector:

- COM: Common
- NO: Normally Open
- NC: Normally Closed

Space is provided on the board for a transient suppressor (option) to reduce contact wear. Mount VDR1 for suppression of the NC contact. Mount VDR2 for suppression of the NO contact.

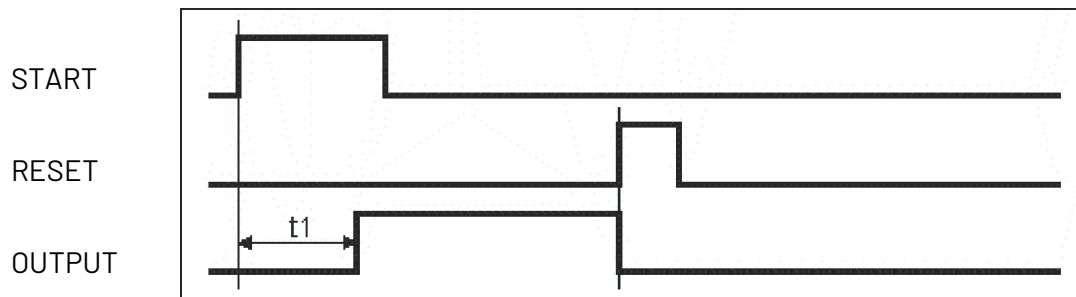
Description of the timer operation

1: On delay – relay turns on after delay t_1

Timing begins on the leading edge of the Start signal.

When the set time (t_1) has elapsed, the relay contacts transfer to the ON state.

The contacts remain in the ON state until the Reset signal is applied or power is interrupted.

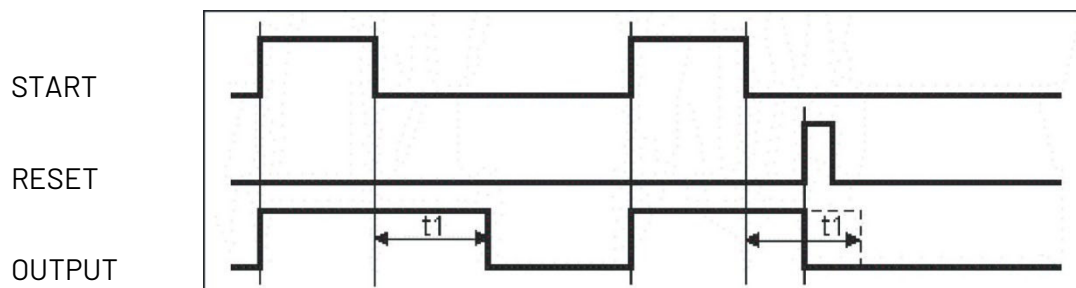


2: Off delay – relay turns off after delay t_1

When a Start signal is supplied, the relay contacts transfer immediately to the ON state. Timing begins on the trailing edge of the Start signal.

When the set time (t_1) has elapsed, the relay contacts transfer to the OFF state.

The timer is reset by applying the Reset input or by interruption of power.

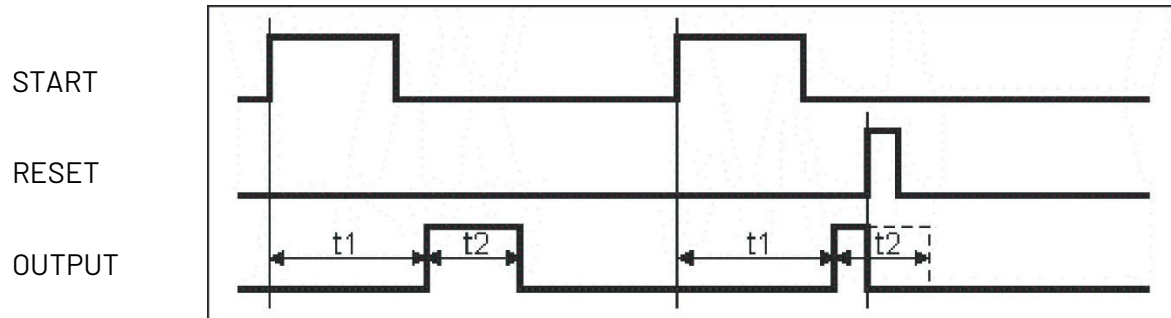


3: One shot - a single pulse of length t_2 , after delay t_1

Timing begins on the leading edge of the Start signal.

When the first set time (t_1) has elapsed, the relay contacts transfer to the ON state.

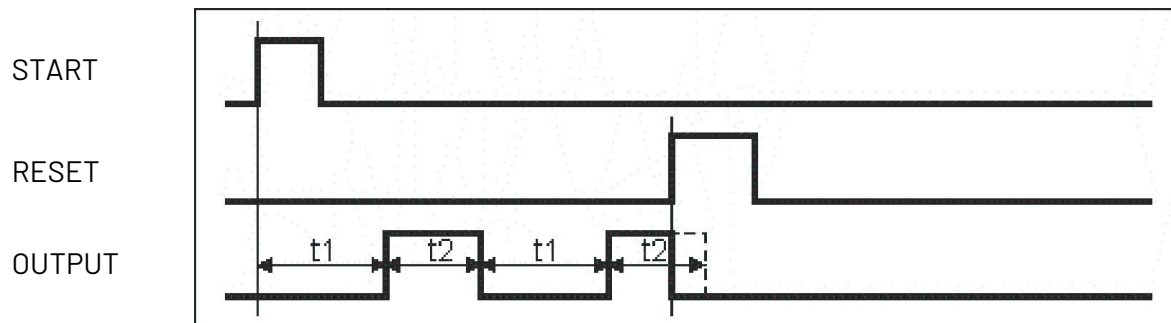
The contacts remain in the ON state until the second set time (t_2) has elapsed or the Reset signal is applied or power is interrupted.



4: Repeat cycle - after delay t_1 , relay turns on for t_2 ; then repeats

Timing begins on the leading edge of the Start signal.

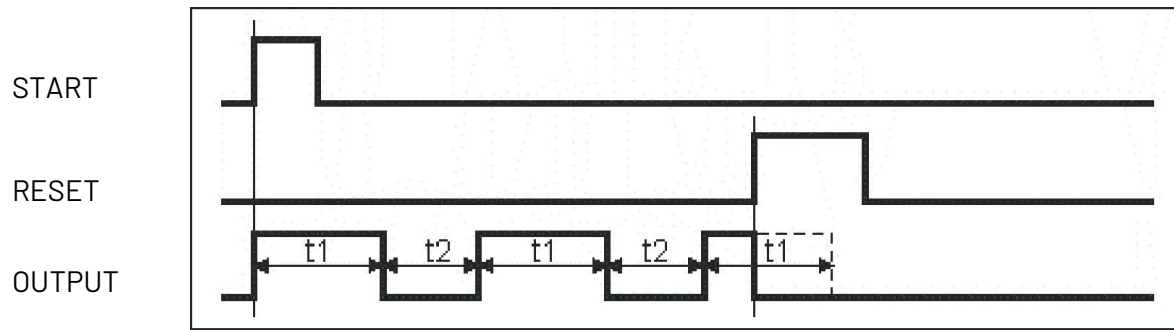
A cycle is initiated when the output will be OFF for the first set time (t_1), then ON for the second set time (t_2). This cycle will continue until the Reset signal is applied or power is interrupted.



5: Repeat Cycle - relay turns on for time t_1 , off for t_2 ; then repeats

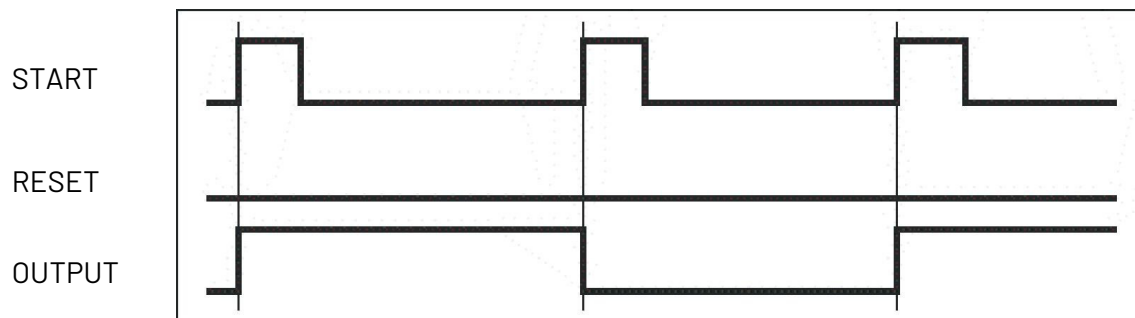
Timing begins on the leading edge of the Start signal.

A cycle is initiated where the output will be ON for the first set time (t_1), then OFF for the second set time (t_2). This cycle will continue until the Reset signal is applied or power is interrupted.



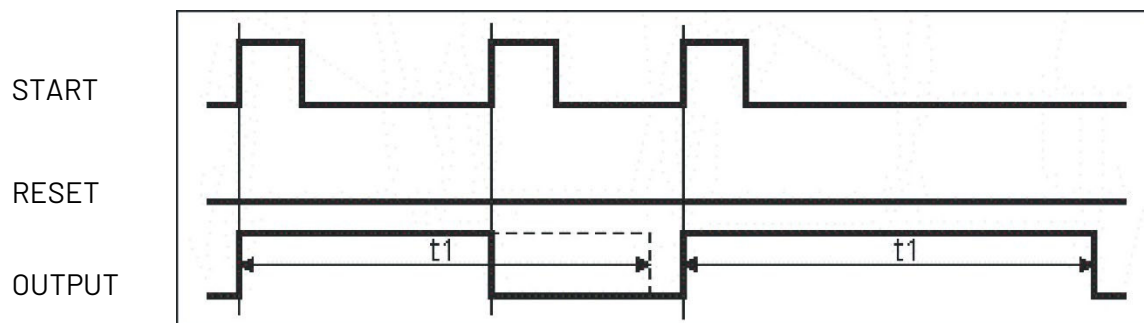
6: Toggle mode

When a Start signal is supplied, the relay contacts transfer immediately to the ON state. When the Start signal turns ON again, the relay contacts transfer to the OFF state and on the next Start signal to ON state etc.



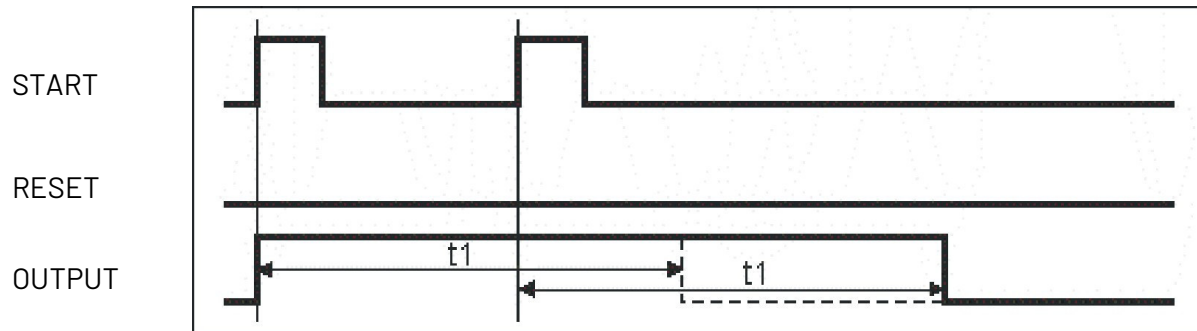
7: Start/Stop timer

When a Start signal is supplied, the relay contacts transfer immediately to the ON state and the set time (t_1) begins. When the set time (t_1) has elapsed, the relay contacts transfer to the OFF state. The timer is reset by applying the Start signal before the set time (t_1) has elapsed.



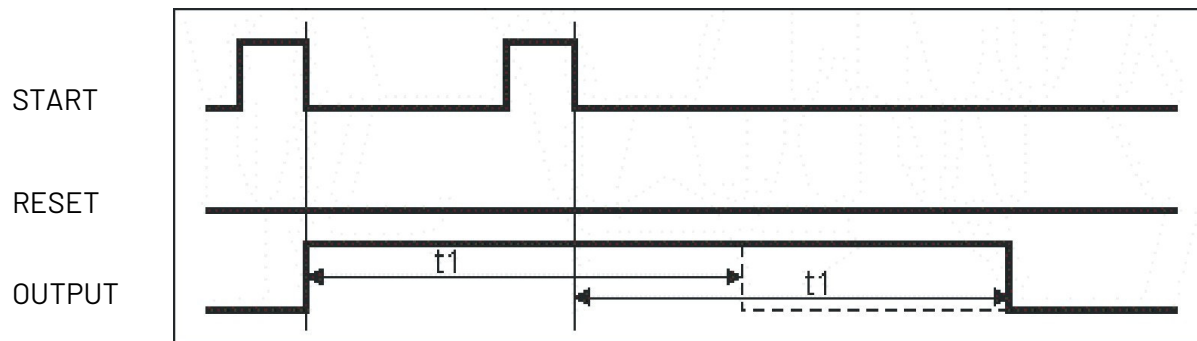
8: Staircase timer

When a Start signal is supplied, the relay contacts transfer immediately to the ON state and the set time (t_1) begins. When the set time (t_1) has elapsed, the relay contacts transfer to the OFF state. The timer is reactivated by applying the Start signal before the set time (t_1) has elapsed.



9: Trigger-at-release timer

On the trailing edge of the Start signal the relay contacts transfer to the ON state and the timing begins. When the set time (t_1) has elapsed, the relay contacts transfer to the OFF state. The timer is reactivated by applying the next trailing edge of the Start signal before the set time (t_1) has elapsed.



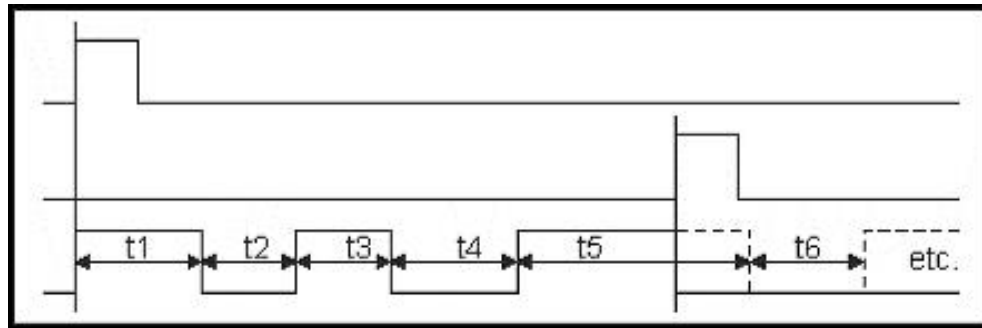
10: Programmable timing sequence

In this mode you can program a sequence of up to 24 timing events. You can specify the relay state ON or OFF and the duration of each timing event. The programmed sequence can be repeated. You can save the timing sequence to file.

START

RESET

OUTPUT



Relay state

Time fields

Timing event list

Timing Sequencer

File

Relay: Off

h: 0 min: 0 sec: 1 ms: 0

Insert Timing>>

Delete Timing

Send

<<Copy Timing

☐ Repeat

☐ Sustain the first state until start signal OFF

☐ Auto Start & Repeat

Timing Sequence

Timing	Relay	h	min	sec	ms
t1	On	0	0	1	0
t2	Off	0	0	1	0
t3	On	0	0	1	0

More >>

Relay

On

Off

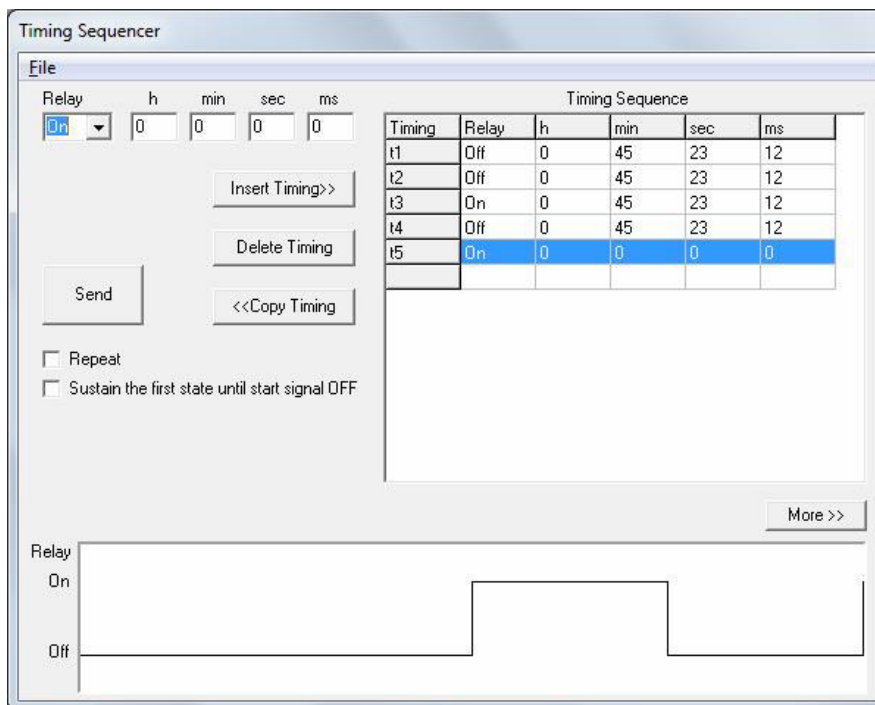
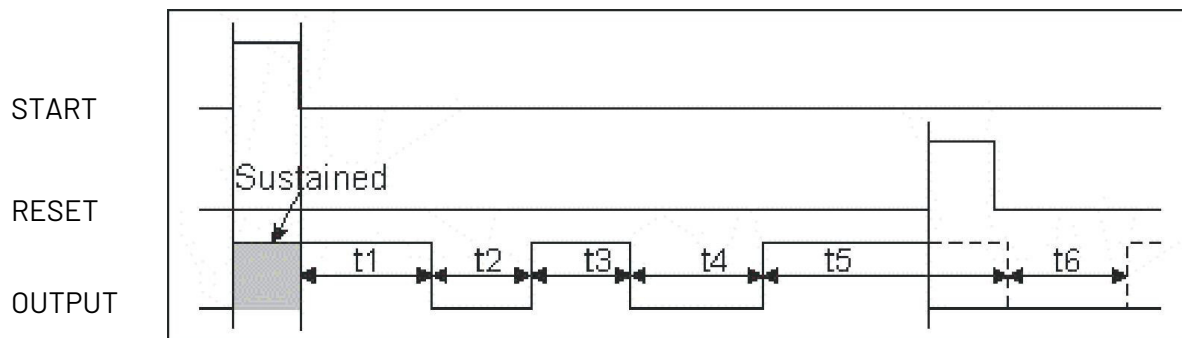
The diagram shows the relay state (On/Off) over time, corresponding to the timing sequence table. The relay is On for t1, Off for t2, and On for t3.

Timing sequence user interface

Options:

- add timing / insert timing
- delete timing
- copy timing
- repeat
- sustain the first state until Start signal is OFF
- auto start & repeat

By selecting the option 'Sustain ...', the relay state of the first timing event is sustained as long as the Start signal is ON or the Start button is kept pressed down.



By selecting the option 'auto start & repeat', the timing sequence restarts automatically when the power supply is connected or when there has been a power outage.

Normally the relay will be OFF after the last timing event of the sequence.

The relay can be forced to stay ON by setting the time of the last 'ON' action to zero.



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