

R07409

millisecond Timer

NFU907



Purpose

The millisecond timer has similar functionality to the Unilab stop clock and offers a convenient way to measure time durations of 0- 9.999 s. It has built in logic to allow A – A and A – B timing modes using the two inputs provided. **The millisecond timer automatically adjusts for NO (Normally Open) and NC (Normally Closed) switches.** The millisecond timer is the perfect choice for use with the g by freefall apparatus, Unilab light gates and for other fast timing applications.

Apparatus Details

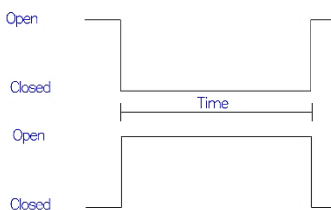
Resolution	0.001s
Battery	2 X AAA
Inputs	2 (A and B)

Operating Procedure

The milli-second timer has two modes of operation, A – A and A – B which are selected by means of the toggle switch.

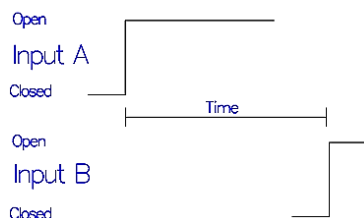
A – A mode

This is the simple mode where the starting and stopping of the timer is controlled by input A. Anything plugged into input B is ignored. The inputs have an internal pull up resistor, so if a normally open switch is used, the input will initially be high. When the switch closes, the input is pulled low, starting the timer. The timer stops when the A input goes high again. To make a new measurement, press the reset button to zero the timer. The millisecond timer can also be used when the switch contact is normally closed. In this case timing will start when the switch opens and stop when the switch closes once more.



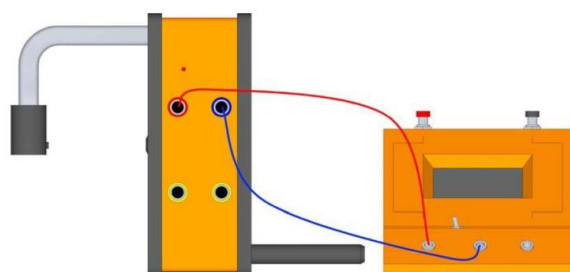
A – B mode

This mode is a little more complicated, as input from two devices is used to control the timer. Input A is used to start the timer and input B is used to stop the timer. This mode is ideal for use with the g by freefall apparatus. In this case both switches are normally closed. The timer starts counting when the switch is opened (when the ball is released) and the A input goes high. The timer is stopped when the landing switch is operated and the B input goes high. Just as with Input A, both inputs are compatible with normally closed or normally open switches



Use with a single light gate

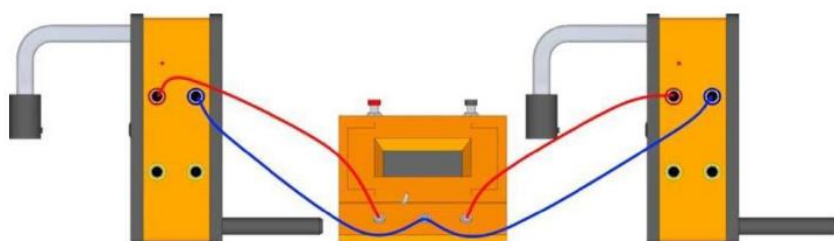
Timing will start when the light gate is “blocked” and stops again when the light gate is “un-blocked”.



This set up can be used to measure g by free fall if an object of known dimensions is dropped through the light gate. If the timer is started accidentally, just press the stop button to stop the timer and press reset to set the count back to zero. Please note that the mode switch must be in the A-A position

Power supply leads omitted for clarity

Use with two Light gates

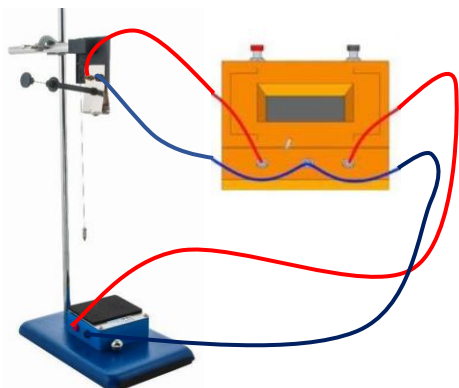


Power supply leads omitted for clarity

This mode is a little more complicated, as the input from two devices is used to control the timer. For example, a vehicle passes through one light gate, and then through another. The timer will start timing as soon as the vehicle blocks the first light gate, and stop timing as soon as the vehicle blocks the second light gate. Please note that the switch must be in the A-B position.

Use with the g by freefall apparatus

Both switches are of the normally closed type. The ball release mechanism uses the ball bearing to complete the circuit. Connect the ball release to the A input. When the ball is released, the timer will start as soon as the circuit is broken.



Connect the trip plate to input B. When the ball hits the trip plate, the switch will close causing the timer to stop.

Please note that a stackable 4mm lead will be required for the 0V connection.

Use as a stop clock

You can use the millisecond timer in exactly the same way as a Unilab stop clock, using the start/stop and reset buttons, but please note that the maximum time that can be measured is 9.999 s. When timing has been initiated by the start/stop button, the A and B inputs are disabled.

Warnings

For your safety, this product should be used in accordance with these instructions, otherwise the protection provided may be impaired.

EMC

This equipment is Class A according to the EMC standard EN 55011 and is intended for use in a non-domestic environment only.

This unit is intended for use in DRY conditions. Avoid spillage of water and other liquids on to the unit.

Cleaning

The millisecond timer may be wiped clean using a damp cloth, do not use any abrasive cleaners or organic solvents.

Disposal of Waste Electrical and Electronic Equipment (WEEE)



Do not dispose of this product with household waste

- For the proper treatment, recovery and recycling please take this product to an appropriate collection point.
- If you are unsure where this is, contact your Local Authority
- By disposing of this product correctly you will be providing positive help to the environment.

Warranty, repairs and spare parts

The millisecond timer is guaranteed for a period of one year from the date of delivery to the customer. This warranty does not apply to defects resulting from the action of a user such as misuse, improper wiring, any operations outside of its specification, improper maintenance or repair, or unauthorized modification.

Our liability is limited to repair or replacement of the product. Any failure during the warranty period should be referred to Customer Services or techsupport@unilab.co.uk

Supplier details

Unilab, 2 Gregory Street, Hyde, Cheshire, SK14 4TH

Orders and Information:

Tel: 0345 120 4521

Fax: 0800 138 8881

Repairs:

Tel: 01978 853555

E-mail : sales@techlabltd.co.uk

Technical Support:

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