G-Linx Millisecond Timer
SKU : X317805

Operation instruction:

Manual Timing

Press the start button on the machine to start the timer and press "stop" button to stop timing.
Press the reset button for a new timing cycle

Electronic Triggering using external switches:

The timer can be triggered to start or to stop by using either pair of the timer input ("rising edge pair" and "falling edge pair" or both pairs.
Using the "rising edge pair" inputs:
When a switch is connected across the rising edge input pair, closing of switch represents that the red socket is "pulled" to a low level and represents a falling edge, this has no function on the timer.
When the switch is then opened, the red socket restores to high logic level, and thus represents a rising edge and starts the timer, the next rising edge will stop the timer.

You are required to press reset to prepare for another timing.

Using the "falling edge pair" inputs:

As opposed to the rising edge pair, the falling edge pair will respond only to the falling edge to start or stop the timer, for example, closing a mechanical switch connected to this pair will starts or stop the timer.

Using both pair of timer inputs:

It is sometimes required to use both pairs of input at the same time.
Connect the two pairs of inputs in parallel, red socket to red socket, black socket to black socket.
Whenever there is a change in input level, the timer will start and the next change in level will stop the timer.

Tips for working with mechanical switch:

When a mechanical switch is closed, it might bounce a few times before settle down , and might have created a sequence of closing and opening of switch within a very small time interval. There might be chance that the time interval is less than 1mS, and the timer is started and stopped quickly thus create zero reading and ends the measurement. To eliminate the problem, you may connect a small capacitor across the switch to "debounce" the switch. A suitable value of capacitor could be 0. 1uF or you can try out other value as suitable to your application.

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Light Gates Operation

Four DIN sockets are provided for light gate operation.
This sockets allow easy connection of light gates and the facility also power up the light gates
The feature comprises four 8-pin Din input sockets located at the back of the machine for direct connection to light gates, the four sockets are namely "input A+B" , "input B" and two "input A°

Input A is for rising edge detection, one or two gates can be used for these 2 input A° , if 2 gates are used,one gate can start the timing the other gate can stop the timing
Input B is for falling edge detection,

Input A+B is used to measure the time duration for a single light gate being blocked out.

G by free fall experiment:

Properly set up the solenoid unit and connect the solenoid unit and stopping plate to the millisecond timer
Adjust the height of the solenoid to allow for different steel ball flight distance
Power up the millisecond timer, the "Ball" LED should light up, if not, press the reset button.
Once the "Ball" LED light up, the solenoid unit is energized.

Carefully bring a 10mm diameter steel ball to the solenoid unit. The solenoid unit is providing just enough force to hold the ball, this will ensure prompt release of ball upon starts of the experiment.

Press the "Ball' button once, this will start the timer, and at the same time, the solenoid unit is not energized and the "Ball" LED goes off.

The timer is stopped upon the striking of the ball into the stopping plate, the time for the flight is thus registered.

A graph of distance against square of time can be worked out to determine g, the gravity acceleration.

Purchase information :

SKU :X317805
Millisecond timer alone :

SKU X317800
Millisecond timer with stopping plate and solenoid
(g by free fall apparatus)

SKU :X317400
Light Gate Only