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**MILLISECOND
TIMER**

LA30-897

INSTRUCTIONS FOR USE

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INTRODUCTION

The Lascells Millisecond Timer provides an accurate instrument suitable for all mechanics applications. It may be used with manual switched inputs or logic (TTL) inputs. Its input characteristics make it extremely simple to use.

DISPLAY

A 4 digit, high brightness, 7 segment LED displays the recorded time in seconds up to a maximum of 9,999. The resolution changes as the time increases by means of a moving decimal point.

RESET SWITCH

Pressing the reset switch zeros the display and stores the current state of the inputs resetting the instrument for another measurement.

INPUT GATES

The 4mm sockets are used to start and stop timing. Connections to gate one are made to the green and black sockets and to gate two via the red and black sockets. (The black socket is common to both gates.)

Two 3.5mm sockets are provided for directly connecting Lascells light gates – do not attempt to connect any other equipment to these sockets.

MODE

The instrument has two settings: Gate one start/stop or gate one start gate two stop. Selection is via the toggle switch on the front panel.

INPUT CHARACTERISTICS

The characteristics of both gates are identical. Their state is stored once the reset button is pressed and they then respond to change. This change can take the following forms.

- 1) A normally open switch closing.
- 2) A normally closed switch opening.
- 3) A voltage level of +5V (relative to 0V on the black socket) on the green or red socket changing to 0V. This equates to logic 1 changing to logic 0.
- 4) A voltage level of 0V (relative to 0V on the black socket) on the green or red socket changing to +5V. This equates to logic 0 changing to logic 1.

If voltage triggering is used care must be taken that the inputs on the green and red sockets are positive with respect to the black one. Voltages must not exceed 5V and can be in the range 3-5V. If in any doubt use only switch type inputs.

In addition two 3.5mm jack sockets are provided to allow the Lascells timer light gates to be connected.

POWER SUPPLY

The instrument is supplied with a 5V D.C. power supply which plugs into the socket at the rear. Use only a 2.1mm centre positive regulated D.C. supply.

USING LIGHT GATES

Lascells timer light gates may be connected to the two 3.5mm jack sockets on the front panel.

MODE 1 Single input socket use.

A Lascells light gate is connected to Gate 1 socket. RESET is pressed to ready the timer. Timing starts when the light gate beam is broken and stops when the beam is reinstated. The display records the time for which the light gate beam is broken.

The above process records the length of time taken by a vehicle or interrupt card passing through the gate. The speed can be approximated by measuring the length of the card (s) and using the equation:

$$v = \frac{s}{t}$$

MODE 2 Dual input socket use.

A Lascells light gate connected to Gate 1 and a second unit to Gate 2. Timing starts when gate 1 is operated and continues until gate 2 is operated.

The display records the length of time taken by a vehicle to pass from the first gate to the second.

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