

Vu Timing Mats (pair)**Product No. 2332PK**

Timing mats are pressure sensitive switches designed to react to a person standing on the mat. They are digital switch-type sensors that have two states, ON and OFF. The mat is open (OFF), until someone stands on the mat and the switch is closed (ON).

The Timing mats are door mat size, approximately 720 mm long by 390 mm wide and 3 mm thick.

They are supplied as a pack of 2 and can be used singly or as a pair for timing and event monitoring.

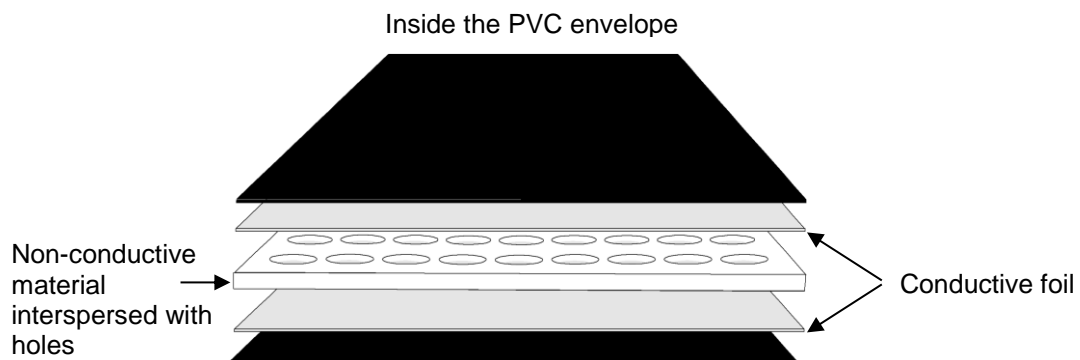
Connecting

When the mats are used for **Timing** operations, if only one is used, it must be connected to input **A**. If two are used they should be connected to input **A** and **B**.

- Connect the jack plug end of the jack to mini DIN sensor cable to the input socket on Vu.
- Connect the other end of the sensor cable to the Timing mat's female mini DIN socket.
- Vu will detect that a switch is connected and will either show as On/Off or as a percentage value, depending on the mode used.

Practical information

The switch element is made up from two foils separated by a sheet of non-conductive sponge-type material that is interspersed with holes. It is sealed into a welded PVC envelope and is normally open (OFF). When sufficient pressure is placed on the mat e.g. a child, the conductive surfaces (foils) are pushed together to make contact via the holes and the switch is closed (ON).



The Timing mats are designed for use on a flat even surface e.g. the floor. During use the Timing mat should be laid out and kept flat. The conductive foils must be protected from damage caused by the mat being distorted or pierced by sharp objects. If the surface under the mat is rough e.g. concrete, then protect by placing a smooth surface e.g. rubber mat under the Timing mat. The uppermost surface can be protected by covering the Mat with a conventional floor covering such as piece of carpet.

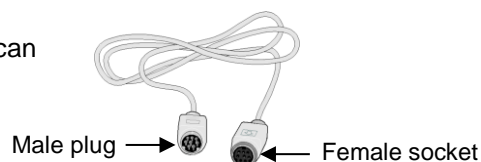
Note: The Timing mat is sensitive enough to detect a small child, but its sensitivity will decrease if thick floor covering is used so check for this effect before beginning an investigation.

The Timing mats have an operating temperature range of -5 to 45°C.

Maximum ratings: 25 V dc 250 mA.

Each mat is fitted with screened cable approximately 2 meters long, which connects to the Vu jack to mini DIN sensor lead (product no.2398) to give a total lead length of approximately 3.5 meters.

A 1.5 metre Sensor extension lead, part number 3017, can be used to further extend the distance between the switches.



Primary investigations



- Record the differences in time taken to walk, run or hop over the same distance e.g. How fast can I hop, walk, and run? Hops and Jumps. How many jumps can I do in a minute?
- Introducing the idea of the computer acting as a stopwatch e.g. starting and stopping timing (Time A – A). E.g. How long can I stay in the air when I jump?
- Introducing the fact that speed can be calculated directly if the distance between the mats is used. E.g. record speed when riding a bicycle (protect both under and over the top of the Timing mat). Speedy cars? What stops speedy cars going faster?

Note: Miles per hour (mph) can be selected in the EasySense software as a unit of speed measurement to make a comparison with current speed limits.

Using Timing mats to time an event

Timing mats are most often used to record the time and speed that an object/person takes to travel from the mat connected at input A to the mat connected at input B. Timing will start when the signal at input A changes and stops when the signal at input B changes. The calculation for speed from A to B makes use of the distance measurement between the connected switches.

Time and Speed from A to B

1. Connect one Timing mat to the input labelled A and another to input B. Make sure the mat that will be stood on first is connected to input A and the mat stood on second is connected to input B.

2. To record **Time** on Vu select **Timing ► Time ► Time A to B** then ► to select.

To record **Speed** measure the distance between the centres of the two mats (from A to B). Adjust the mats so they fit with the distance choices available on Vu (from 0.10 to 6.0 m in steps of 0.10 m).

3. On Vu select **Timing** ► **Speed** ► **Speed A to B** ► . Scroll to select the correct distance measurement then ► to select.
4. Timing starts when the mat at A is ON and stops when B is made ON.
5. Press ■ when you want to stop logging. Press ► to confirm.
6. Use **Review** to examine the collected data and work out an average.

Limited warranty

For information about the terms of the product warranty, see the Data Harvest website at: <https://data-harvest.co.uk/warranty>.

Note: Data Harvest products are designed for **educational** use and are not intended for use in industrial, medical or commercial applications.



WEEE (**W**aste **E**lectrical and **E**lectronic **E**quipment) Legislation

Data Harvest Group Ltd is fully compliant with WEEE legislation and is pleased to provide a disposal service for any of our products when their life expires. Simply return them to us clearly identified as 'life expired' and we will dispose of them for you.