

TimeCatcher





Prototype built September 2002 <http://pobox.com/~JasonHarper/TimeCatcher.html>





Inputs: 4, labelled A thru D. Available on both individual screw terminals, and a DB9F connector for convenient attachment of all inputs at once.

Measurements performed: 7 total: the duration of one event occurring on each of the four input channels (starting with an event on channel A), and the time difference from the event on channel A to the events on the other three channels.

Range: 0.0001 to 99.9999 seconds.

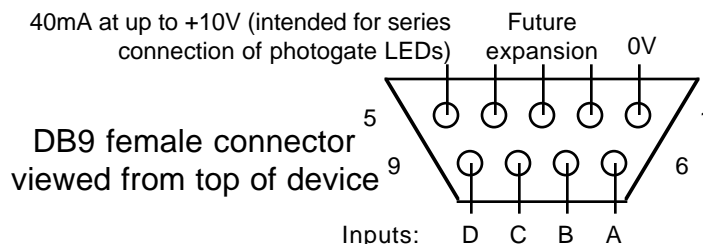
Accuracy: Roughly 0.05% (about 1 second error in a 30 minute period), ± 0.0001 second.

Operating modes: Five, stepped through by pressing the MODE button. These include four external input modes: inputs may be pulled down to 0V () or pulled up to +5V () by a 10K Ω resistor, and may be triggered by either rising () or falling () voltage. There is also a manual stopwatch mode which records up to four durations from a common starting point.


MODE:	USED FOR:
	Normally-open switches connected between inputs and +5V.
	Photogates, normally-closed switches connected between inputs and 0V.
	Normally-closed switches connected between inputs and +5V.
	Normally-open switches connected between inputs and 0V.

Stopwatch Manual timing using the PAGE 2 button. The first press starts all four timers, the next four presses stop them one by one.


Input connector pinout:



Supplied photogate unit #1: Four photogates with a 1.25" gap, on 20" wires going to a connector that plugs into the top of the TimeCatcher. This is basically what the photogates supplied with a commercial version of the device would look like.

Ensure that the input mode is set to , and that nothing is connected to the screw input terminals.

Supplied photogate unit #2: Two photogates with a fixed 1.125" spacing between them. The gap is about 0.75", but can be adjusted by replacing the wooden spacer, or bending the metal brackets. This is intended as an example of how a custom input device could be connected to the TimeCatcher.

Ensure that the input mode is set to , and that nothing is plugged into the connector on top. Connect the wires labelled 0V and 5V to the corresponding screw terminals. Connect the wires labelled 1 and 2 to input terminals A and B (the photogate that will be blocked first should be connected to input A).

Contact: Any questions or comments about the TimeCatcher can be directed to JasonHarper@pobox.com.