

## **INSTRUCTIONAL GUIDE**

### **Contents**

- BeeSpi V timer and photogate
- Instructional Guide

#### **Specifications:**

- Dimensions: 60 (I) x 50 (w) x 50 (h) mm
- Opening: 40 x 30 mm
- Measurement Range:
  - o Speed: 0-99.99 km/h, 0-99.99 m/s, 0-999.9 cm/s
  - o Lap Time: 0-99.99 s
- Batteries (not included) 2x AAA
- 5 memory slots



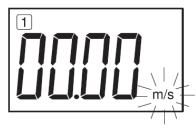
#### Introduction

The BeeSpi timer and photogate is a great resource for any physics toolbox. It serves as a compact and easy-to-use alternative where large photogate setups are unnecessary and cumbersome. A simple track and toy car can become an in-depth investigation into speed, velocity, and acceleration. Since the BeeSpi contains two photogates, velocity can be found from the object's front edge, and no length measurement is needed.

#### Instructions

Press the "start" button to turn on the BeeSpi. To switch from speed to lap time measurements, press and hold the "start" button. When measuring speed, hold down the "select" button to change the units of measurement. The display will flash the unit being selected while the button is being pressed.

To begin measurements, press "start." The display will begin flashing the unit symbol (top diagram). When an object breaks the beams of the photogate, the measurement will be displayed (bottom diagram). The memory function will record up to 5 measurements. The stored measurements can be accessed by pressing the "select" button. The measurement is indicated by a boxed number (1-5) above the main display. "1" is the most recent measurement and "5" is the earliest measurement. The memory is cleared by changing units or switching modes.





To change or install the batteries, simply slide off the back cover and install new batteries, being sure to observe proper polarity.

# **Related Products**

**Introductory Energy and Motion Lab (P4-1350)** Middle school students love to get to work fast, and this complete motion lab lets them quickly get to the task of experimenting with velocity, acceleration, energy, gravity, forces, friction, and more!

**Timer and Photogates (P4-1450)** No computer required for this simple, intuitive data collection device. Complete set includes Timer, two photogates with cords, AC adaptor, user's manual, and hard carrying case.

PocketLab Voyager 2 (P4-1001) PocketLab connects with a single button to a smartphone, tablet, Chromebook or computer and instantly streams data that you can see and record. Using the FREE PocketLab app, you can easily analyze your data, create graphs and integrate your data with other software.