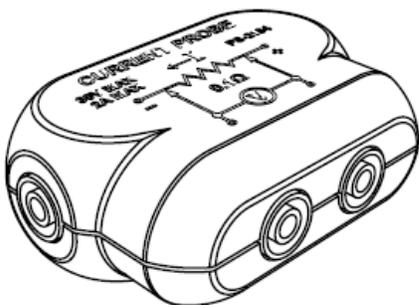


Current Probe (PS-2184)



Included Equipment

- Current Probe (PS-2184)

Additional Equipment Required

- Voltage Sensor, shrouded (UI-5100) **OR** unshrouded (UI-5110)

Introduction

The Current Probe attaches to a PASCO voltage sensor to enable the measurement of current between -4 A and +4 A. The probe contains a 0.10 Ω resistor. Current to be measured flows through the resistor; the voltage sensor measures the resulting potential across the resistor, which can be easily converted into current measurements using PASCO Capstone or SPARKvue, or using simple calculations.

Component Set-up

1. Insert the probe into a circuit where you want to measure current. Positive current will flow from the red terminal on one side of the probe to the black terminal on the opposite side.



IMPORTANT: The voltage applied across the probe should not exceed 0.4 V. The maximum absolute voltage of the circuit should not exceed 10 V.

2. Connect the voltage sensor to the side-by-side red and black terminals.
3. Plug the voltage sensor into one of the Analog Inputs on the Universal Interface.

If you are using the UI-5100 or UI-5110 Voltage Sensor, current is selectable in software as one of the sensor's measurements. For any sensor, multiply the measured voltage (in volts) by 10 to find the current (in amps).

Measurement Set-up

Before using the current probe to measure current, it is important to properly set up the voltage and current sensor. Failure to do so may cause the system to display inaccurate measurements of current.



1. Connect the voltage sensor to the current probe and Universal Interface. Ensure that current is **not** flowing through the current probe at this time.
2. Open PASCO Capstone, then select **Hardware Setup**. The system should automatically identify the Universal Interface plugged into your computer.
3. Click on the port corresponding to the Analog Input where your voltage sensor is plugged in; from the dropdown menu, select "Voltage Sensor".
4. Click on the  icon next to the voltage sensor's name to open the Properties menu for the voltage sensor.
5. Adjust the Gain for the voltage sensor from the Properties menu. It is recommended that you set the gain to 1000x for this setup in order to decrease noise in the data; however, make sure to set the gain back to 1x after setup unless you are measuring very small currents.
6. Close the Properties menu, then double-click the "Graph" icon in the Displays toolbar on the right.
7. Set up the graph so that the y-axis is measuring the voltage from the voltage probe; the x-axis should then automatically be set to measure time.
8. Press the start button to begin recording data.
9. While data is being collected, press "Zero Sensor Now"  on the lower toolbar to zero the sensor. (*Note: you may need to repeat this step a couple times in order to ensure your measurement is accurate.*)

You will know the sensor is properly set up when the voltage measurement forms a straight line on the x-axis.



1. Connect the voltage sensor to the current probe and Universal Interface. Ensure that current is **not** flowing through the current probe at this time.
2. Open SPARKvue, then select **Sensor Data**. The system should automatically recognize the PASCO Universal Interface.
3. For the channel your voltage sensor is plugged into, click the gear icon to open the "Assign Analog Adapter" menu.
4. Select "Voltage Sensor" from the dropdown list. It is recommended that you set gain to "High (100x)" for the setup to reduce noise; however, make sure to set the gain back to 1x after setup is complete unless you are measuring very small currents.

5. Select "OK", then select "Graph" from the list of templates to create a new graph, which should autofill with Voltage on the y-axis and time on the x-axis.
6. Press the start button to begin recording data.
7. While data is being collected, press "Zero Sensors"  on the lower toolbar to zero the sensor. (*Note: you may need to repeat this step a couple times in order to ensure your measurement is accurate.*)

You will know the sensor is properly set up when the voltage measurement forms a straight line on the x-axis.

Specifications and accessories

Visit the product page at [pasco.com/product/PS-2184](https://www.pasco.com/product/PS-2184) to view the specifications and explore accessories. You can also download support documents from the product page.

Technical Support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to answer your questions or walk you through any issues.

-  Chat [pasco.com](https://www.pasco.com)
-  Phone 1-800-772-8700 x1004 (USA)
+1 916 462 8384 (outside USA)
-  Email support@pasco.com

Limited Warranty

For a description of the product warranty, see the Warranty and Returns page at www.pasco.com/legal.

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Product end-of-life disposal



This electronic product is subject to disposal and recycling regulations that vary by country and region.

It is your responsibility to recycle your electronic equipment per your local environmental laws and regulations to ensure that it will be recycled in a manner that protects human health and the environment.

To find out where you can drop off your waste equipment for recycling, please contact your local waste recycle or disposal service, or the place where you purchased the product.

The European Union WEEE (Waste Electronic and Electrical Equipment) symbol on the product or its packaging indicates that this product must not be disposed of in a standard waste container.

CE statement

This device has been tested and found to comply with the essential requirements and other relevant provisions of the applicable EU Directives.