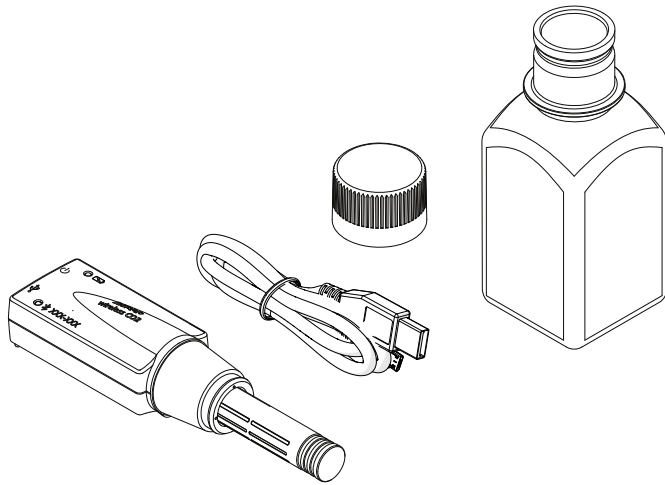


Wireless CO₂ Sensor

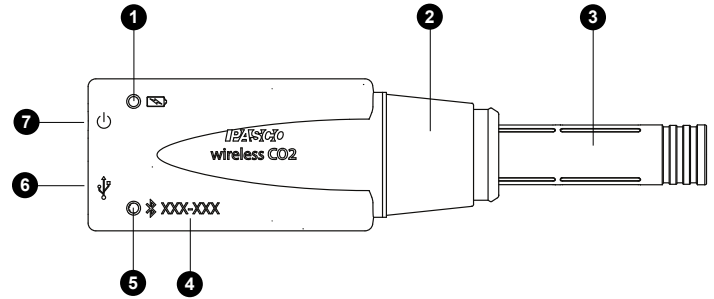
PS-3208

What's included



- Wireless CO₂ Sensor
- USB Cable
- Gas Sampling Bottle

Features



1 Battery Status Light

Indicates the battery level and charging status.

LIGHT	STATUS
Red, blink	Low battery level
Green, solid	Fully charged
Yellow, solid	Charging

2 Rubber collar

Used for creating an airtight seal when the probe is inserted into the sampling bottle.

3 Probe

Contains the CO₂ gas sensing element.

4 Device ID

Use to identify the sensor when connecting using Bluetooth.

5 Bluetooth Status Light

Indicates the status of the Bluetooth connection.

LIGHT	STATUS
Red, blink	Ready to pair
Green, blink	Paired
Yellow, blink	Remotely logging data

6 USB Port

Use with the USB cable to connect to a USB wall charger to charge the battery. Also use to send measurement data to software when connected to a USB port of a computer or mobile device (iOS devices not supported).



7 Power Button

Press and hold for one second to turn the sensor on or off.

Getting started

Perform the tasks in this section before using this device in the classroom.

Charge the battery

Connect the Wireless CO₂ Sensor USB port  to a USB charger using the included USB cable. The battery light  displays yellow while charging and changes to green when fully charged.

Get the software

You can use the Wireless CO₂ Sensor with SPARKvue or PASCO Capstone software. If you're not sure which app to use, visit [pasco.com/products/guides/software-comparison](https://www.pasco.com/products/guides/software-comparison) for help. SPARKvue is available as a free app for Chromebook, iOS, and Android devices. We offer a free trial of SPARKvue and Capstone for Windows and Mac.

WINDOWS AND MAC

CHROMEBOOK, iOS, AND ANDROID

Go to [pasco.com/downloads](https://www.pasco.com/downloads).

Search for **SPARKvue** in your device's app store.

If you already have the software, check that you have the latest update installed:

SPARKvue


Go to the **Main Menu**  then select **Check for Updates**.

PASCO Capstone

In the menu bar, click **Help** then select **Check for updates**.

Connect to the software


SPARKvue

1. Press and hold the power button  until the lights turn on.
2. Open SPARKvue.
3. Select **Sensor Data** on the Welcome Screen.

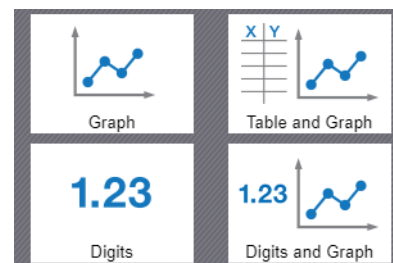


4. Select the Wireless CO₂ Sensor that matches its device ID.




 **Important:** You may be prompted to update the firmware if a new version is available. If so, click **Yes** to update the firmware.

5. Note that the **CO₂ Concentration** measurement is selected by default.
6. Select a template to display the data.




PASCO Capstone

1. Press and hold the power button  until the lights turn on.
2. Open PASCO Capstone.
3. Click **Hardware Setup**.

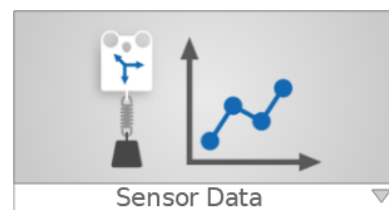


4. Select the Wireless CO₂ Sensor that matches its device ID.




 **Important:** You may be prompted to update the firmware if a new version is available. If so, click **Yes** to update the firmware.


5. Click **Hardware Setup** again to close the panel.
6. Click **Sensor Data** to display a graph of CO₂ Concentration versus Time.






Set up and collect data


SPARKvue

1. Insert the probe into the sampling bottle. Form an airtight seal with the rubber collar.
2. Allow the sensor to equilibrate for 3 minutes.
3. (Optional) Calibrate the sensor.
 - a. In the live data bar, click **CO2 Concentration** then select **Calibrate measurement**.
 - b. Click **Calibrate** then click **OK**.
4. Place a sample in the bottle then reseal the bottle with the sensor.
5. Click **Start**  to begin data collection.

 **Note:** If there is significant drift or the value is outside the expected range after performing the initial calibration, perform the procedure in the **Extended calibration** section.

PASCO Capstone

1. Insert the probe into the sampling bottle. Form an airtight seal with the rubber collar.
2. Allow the sensor to equilibrate for 3 minutes.
3. (Optional) Calibrate the sensor.
 - a. In the **Tools** palette, select **Calibration** .
 - b. Click **Next** then **Finish**. Click **OK** when calibration is complete.
 - c. Select **Calibration**  to close the panel.
4. Place a sample in the bottle then reseal the bottle with the sensor.
5. Click **Record**  to begin data collection.

 **Note:** If there is significant drift or the value is outside the expected range after performing the initial calibration, perform the procedure in the **Extended calibration** section.

Download an experiment

Download one of several student-ready activities from the PASCO Experiment Library. Experiments include editable student handouts and teacher notes. Go to [pasco.com/freelabs/PS-3208](https://www.pasco.com/freelabs/PS-3208).

If you want to explore on your own, check out the SPARKvue and PASCO Capstone help guides to search for specific topics.

SPARKvue

Software: Go to the **Main Menu**  then select **Help**.

Online: [pasco.com/help/sparkvue](https://www.pasco.com/help/sparkvue)


PASCO Capstone

Software: In the menu bar, click **Help** then select **PASCO Capstone Help**.

Online: [pasco.com/help/capstone](https://www.pasco.com/help/capstone)

Extended calibration

After performing the initial calibration, if there is significant drift or the value is outside the expected range, use the following procedure to improve sensor stability:

 **Tip:** This procedure can be performed with more than one sensor simultaneously.

1. Take your sensor and computing device outside in fresh air. You do not need the sampling bottle. Place in the shade away from CO₂ sources such as cars and people.
2. Connect the sensor to your device and create a Graph display.
3. Leave the sensor undisturbed and connected for about 25 minutes.
4. Return after 25 minutes and perform the standard calibration procedure.

Storage and maintenance

- Do not use or store the sensor in a highly dusty environment.
- Avoid direct sunlight or heat radiation.
- Do not let the sensor get wet.

Specifications and accessories

Visit the product page at [pasco.com/product/PS-3208](https://www.pasco.com/product/PS-3208) to view the specifications and explore accessories. Experiment files and support documents can also be found on the product page.

Technical Support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to provide assistance with this or any other PASCO product.

Phone (USA)	1-800-772-8700 (Option 4)
Phone (International)	+1 916 462 8384
Online	pasco.com/support

Regulatory information

Warranty, Copyright, and Trademarks

Limited Warranty

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

Copyright

This document is copyrighted with all rights reserved. Permission is granted to non-profit educational institutions for reproduction of any part of this manual, providing the reproductions are used only in their laboratories and classrooms, and are not sold for profit. Reproduction under any other circumstances, without the written consent of PASCO scientific, is prohibited.

Trademarks

PASCO and PASCO scientific are trademarks or registered trademarks of PASCO scientific, in the United States and/or in other countries. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of, their respective owners. For more information visit www.pasco.com/legal.

Product end of life disposal instructions



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.

Battery disposal instructions



Batteries contain chemicals that, if released, may affect the environment and human health. Batteries should be collected separately for recycling and recycled at a local hazardous material disposal location adhering to your country and local government regulations. To find out where you can drop off your waste battery for recycling, please contact your local waste disposal service, or the product representative. The battery used in this product is marked with the European Union symbol for waste batteries to indicate the need for the separate collection and recycling of batteries.

FCC statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE statement

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