



Temperature Sensor

PS-2125



Sensor Specifications:

Sensor Ranges:	-35°C to +135°C -31°F to 275°F 238 K to 408 K
Accuracy:	±0.5°C, ±0.9°F, ±0.5 K
Resolution:	0.01°C or better
Max Sample Rate:	10 samples per second
Default Sample Rate:	2 samples per second
Response Time:	Wait 15 seconds for stable readings in liquid. Wait 30-60 seconds for stable readings in air.
Sensing Element:	Located inside the probe's tip.
Sensor Usage:	<ul style="list-style-type: none"> Use only in water or mildly acidic solutions. (See "Using the Temp. Probe in Liquids" on card 2.) DO NOT place sensor handle or cable in liquids. DO NOT place sensor in flame or on a hot plate.



800-772-8700 • 916-786-3800 • techsupp@pasco.com • www.pasco.com

012-07971D

Temperature Quick Start

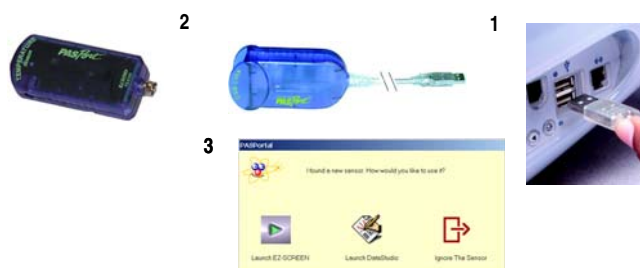
The PS-2125 Temperature Sensor measures temperature in degrees Fahrenheit, Celsius, or Kelvin.

Additional Equipment Needed

- PASPORT™ Link Device (USB Link, **Xplorer**, etc.)
- EZscreen or DataStudio™ software (version 1.6 or later)

Equipment Setup

- Connect the PASPORT Link Device to a USB port on your computer or USB hub.
- Connect the sensor plug to a PASPORT Link Device or to a PS-2000 Xplorer.
- The software launches when it detects a PASPORT sensor. From the PASPORTAL screen, select a point of entry:
 - An activity in the Workbook window,
 - EZscreen, or
 - DataStudio.



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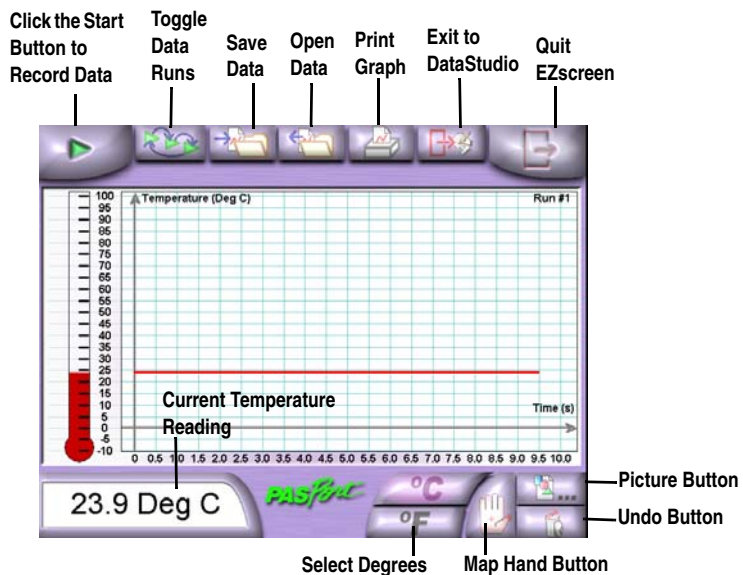
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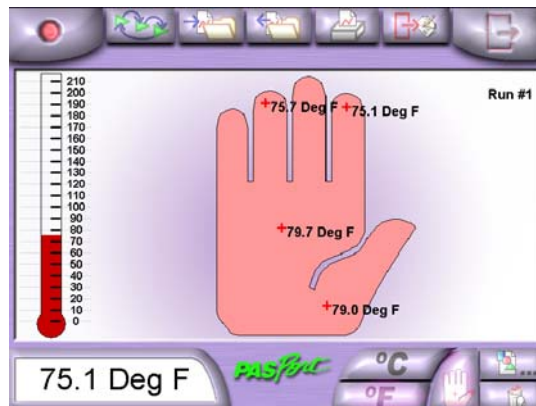




Temperature EZscreen

EZscreen Activity - Temperature Map

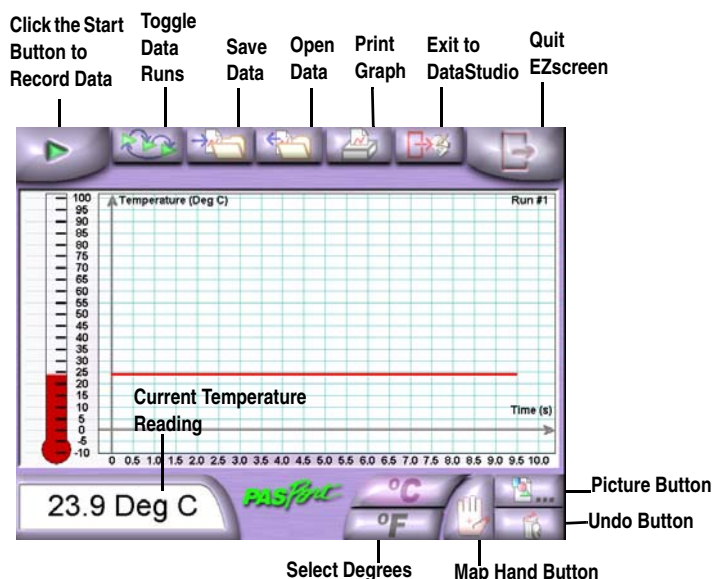
1. Click the **Map Hand** button.
2. Click the **Start** button.
3. Place the probe's tip on a selected area of your hand.
4. Wait 30–60 seconds for the digits display to stabilize.
5. Position the cursor over the hand map region that matches the spot on your hand and click to save the temperature.
6. If necessary, click the **Undo** button to remove data points in sequence from the last point recorded to the first. You must still be in record mode for the button to operate.
7. Click the **Stop** button.



Sample Hand Map Data

EZscreen Tasks:

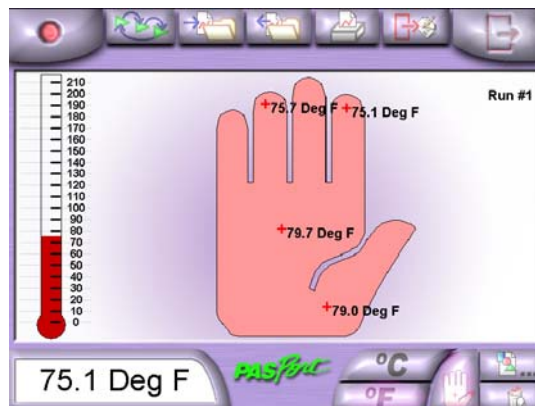
- | | |
|--|---|
| Record the temperature: | Click the Start button in the upper lefthand corner of the screen. You can record the temperature for up to two hours. |
| Change pictures:
(map mode only) | To use any picture in place of the hand, click the Picture button. Picture must be BMP (Windows) or PICT (Macintosh) format. |
| Scale to fit the data: | The graph autoscales to fit the current data. |
| Display the slope: | Drag cursor over graph to display X,Y coordinate and slope at a point. |
| Export to DataStudio: | Click the Exit to DataStudio button. |



Temperature EZscreen

EZscreen Activity - Temperature Map

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Setup and Calibration

Equipment required:

- Ice water
- Boiling water
- Thermometer (if desired)
- DataStudio™ software or a PS-2000 Xplorer

DataStudio Calibration

If using a computer, perform a two-point calibration using the DataStudio software:

1. In the PASPORT™ Setup window, click the **Calibrate** button.
2. The software is set to use 0°C and 100°C as the two points for calibration. You may choose to enter your own values and use a thermometer as a reference. This alternative may be desirable if you are looking at a very small temperature range.
3. Place the Temperature Sensor in the 0°C water (or your first point).
4. Click the **Set** button.
5. Repeat steps 2-4 for the 100°C water (or your second point).
6. Click **OK**.

PASPORT Xplorer Calibration

If you are using a PS-2000 Xplorer, do the following:

1. Turn on Xplorer and plug in a sensor.
2. Press **Display** until the calibrate screen appears.
3. Press the **Check** button.
4. The software is set to use 0°C and 100°C as the two points for calibration. You may choose to enter your own values and use a thermometer as a reference. This alternative may be desirable if you are looking at a very small temperature range.
5. Press the **Tab** button to move through the digits.
6. Use the - or + buttons to decrease or increase each digit until the display matches the value of the selected standard sample.
7. Place the Temperature Sensor in the 0°C water (or your first point).
8. Press the **Check** button.
9. Repeat steps 2-8 for the 100°C water (or your second point).

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3. Place the Temperature Sensor in the 0°C water (or your first point).
4. Click the **Set** button.
5. Repeat steps 2-4 for the 100°C water (or your second point).
6. Click **OK**.

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5. Press the **Tab** button to move through the digits.
6. Use the - or + buttons to decrease or increase each digit until the display matches the value of the selected standard sample.
7. Place the Temperature Sensor in the 0°C water (or your first point).
8. Press the **Check** button.
9. Repeat steps 2-8 for the 100°C water (or your second point).

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Using the Probe in Liquids

The probe of the PS-2125 Temperature Sensor's probe is made of stainless steel (#304) and was designed for use in water or mildly acidic solutions. If you want to use the PS-2125 sensor with other types of solutions, please refer to the Cole-Parmer web site (www.coleparmer.com/techinfo) to check the chemical compatibility of the solution you are using with stainless steel. If you plan to use the probe in strong acids or other solutions, cover the probe with an optional Teflon® sleeve to protect the probe from damage. (To order a pack of 10 Teflon covers from PASCO, use part no. CI-6549.)

NOTE: PASCO will not replace or cover the costs of a damaged probe due to negligent or improper use.



Figure 1: Temperature probe with plastic sleeve and stopper

Teflon is a registered trademark of DuPont.

Placing the Temperature Sensor Probe in a Stopper

The diameter of the Temperature Sensor stainless steel probe is slightly smaller than the 1/4-inch hole found in many rubber and cork stoppers. If an airtight seal in a stopper is required, the diameter of the stainless steel probe must be increased. Two 3-inch pieces of tubing are included with the Temperature Sensor for this purpose.

The tubing may be trimmed as required. A little bit of glycerin may be used on the tubing to assist in the process of slipping the tubing over the probe. For the best temperature response, place the tubing and stopper as close to the probe handle as is practical.

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