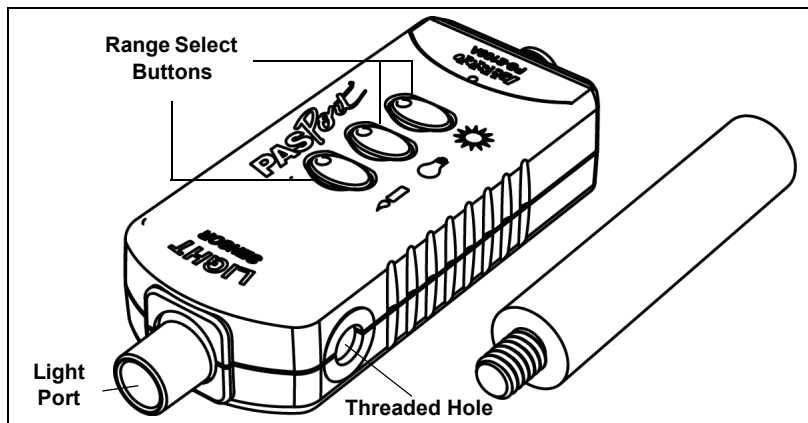


Light Sensor

PS-2106A



Included Items
Light Sensor
Sensor Mounting Stud

Required Items*
PASCO Interface
PASCO Data Acquisition Software

*See the PASCO catalog or the PASCO web site at www.pasco.com for more information.

Recommended Item*
Sensor Extension Cable (PS-2500)

Introduction

The PS-2106A Light Sensor measures illuminance in units of lux. Illuminance is a measure of how much the incident light illuminates a surface, and is the total luminous flux per unit area. The lux is a lumen per square meter. The lumen (Systeme International (SI) unit) is defined in relation to the candela, one of the SI base units.

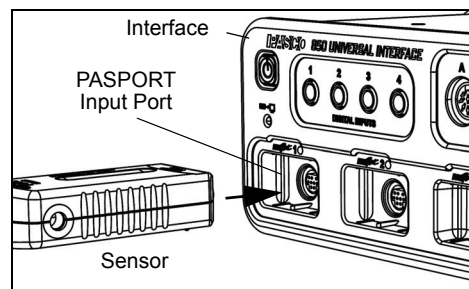
The sensor is designed to work with a PASPORT-compatible interface (such as the UI-5100 850 Universal Interface) and PASCO data acquisition software (such as PASCO Capstone) to measure illuminance.

The sensor includes a sensor mounting stud that can be screwed into the threaded hole on the side of the sensor. The sensor mounting stud can then be attached to a support rod using a clamp.

The Light Sensor has a three ranges which are represented by the icons next to the range select buttons. The candle range is 0 to 2.6 lux, the light bulb range is 0 to 260 lux, and the sun range is 0 to 26,000 lux.

Setup the Light Sensor

- Plug the sensor into one of the PASPORT input ports of a PASCO PASPORT-compatible interface.



NOTE: If more distance is needed between the sensor and the interface, plug the sensor into the included Sensor Extension Cable, and then plug the cable into the interface.

- Start the PASCO data acquisition software.

Using PASCO Capstone Software

- Click the “Hardware Setup” icon in the Tools palette to open the “Hardware Setup” panel. Confirm that the Light Sensor icon appears with the interface’s icon.

- Click one of the display templates in the Capstone workbook page, or double-click an icon in the “Displays” palette to open a data display of Light Intensity (lux).

Using SPARKvue Software

- Connect the sensor to a SPARKvue-compatible interface and start the software. The sensor parameter screen opens and shows the list of measurements for the sensor.
- In the sensor parameter screen, touch the measurement, and then touch ‘Show’ to open a graph display of Light Intensity (lux) versus Time (s).

Record Data

- Click “Record” or touch ‘Start’ to begin recording data.

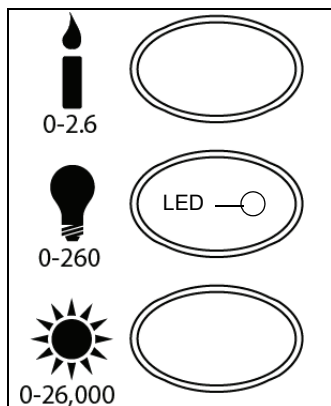
More Information

For more information about collecting, recording, displaying and analyzing data, refer to the User’s Guide or Online Help System for the data acquisition software.

Select a Range

To select a range, press one of the Range Select Buttons on the sensor. The green light emitting diode (LED) for that button will shine.

The sensor continuously monitors light input, even if data are not being recorded. It detects when the light input is too high for the selected range. When this occurs, the LED for the selected range will blink, and the LED in the button for the next higher range flashes. Press the button with the flashing LED to select the proper range.



Specifications

Item	Value
Ranges:	0 to 2.6 lux 0 to 260 lux 0 to 26,000 lux
Accuracy:	Better than ± 1 decibel of maximum value of selected range
Resolution:	0.01% of maximum value of selected range
Operating Temperature:	0 to 40° C

Suggested Activity

Inverse Square Relationship of Light and Distance

- Tape a meter stick to a table top.

- Place strips of opaque tape over the end of the flashlight leaving a 1 cm opening for light to pass through.
- Place the flashlight so the covered end lines up with the 0 cm mark of the meter stick.
- Place the Light Sensor on the meter stick and line up the opening of the flashlight with the Light Sensor.
- Press the Light Bulb button on the Light Sensor.
- Position the end of the Light Sensor at the 10-cm line and turn on the flashlight.
- Begin recording data.
- When the light intensity reading stabilizes, record the light intensity and distance.
- Repeat the steps at 5-cm intervals through 40 cm.

More Information

For the latest information about the Light Sensor, visit www.pasco.com and enter “PS-2106A” in the Search window.

Technical Support

For assistance with any PASCO product, contact PASCO at:

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Web www.pasco.com

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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/disposal service, or the place where you purchased the product.

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

