

Geiger-Müller Counter (SN-7927A)

Introduction

The SN-7927A Geiger-Müller Counter is a sensor with a Tip-Ring-Sleeve type plug that can be connected to a PASCO Interface. The Geiger-Müller Counter can sense alpha, beta, and gamma radiation when used with PASCO Capstone or SPARKvue. (If your Interface has only PASPORT input ports, use a Digital Adapter (PS-2159) to connect the sensor to the Interface.) Features include the following:

- Audible feedback (the device beeps when it registers a count)
- Detachable connecting cable



- 1 Power Indicator (LED)
- 2 Detachable Cable
- 3 Protective Plastic Cap

Equipment

The Geiger-Müller Counter is equipped with a built-in Geiger-Müller tube and integral power supply. The light emitting diode (LED) Power Indicator lights when an operating voltage is supplied to the sensor. The unit has a buzzer that emits an audible signal for each pulse that is recorded. The sensor includes a plastic cap that provides protection for the delicate mica membrane. (The cap has a small venting hole to prevent the creation of a vacuum or high pressure when the cap is removed or replaced.)

Included Equipment

- Geiger-Müller Counter (SN-7927A)

Required Equipment

- PASCO Interface, such as 850 Universal Interface (UI-5000) or 550 Universal Interface (UI-5001)
- PASCO Capstone or SPARKvue

Recommended Equipment

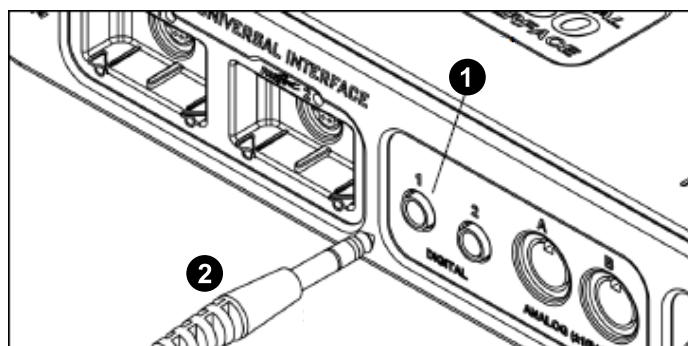
- Radioactive Sources (SN-8110; set of 3)



IMPORTANT: The mica window is extremely delicate. DO NOT cover the small venting hole of the plastic cap when you are removing or replacing the cap. Leave the cap in place except when alpha radiation is being measured. **Never touch the mica window!**

Setup

1. Connect the sensor plug to a DIGITAL input port on the PASCO Interface.
2. Connect the interface to a computer; turn on the interface.
3. Start PASCO Capstone or SPARKvue. Set up a display.



- 1 DIGITAL Port
- 2 Sensor Plug

For more information on selecting and configuring the sensor, refer to the PASCO Capstone or SPARKvue online help.

If you are using a PASCO Interface that does not have a DIGITAL input port, use a Digital Adapter (PS-2159) to connect to the Interface. See the illustration.



To connect to a Digital Adapter:

- Connect the sensor to port 1 on the Digital Adapter.
- Connect the Digital Adapter to a PASPORT input port on the interface.



NOTE: The Geiger-Müller counter displays the number of counts in a given period of time. To change this period of time, adjust the sampling rate in the data collection software.

Nuclear safety

Many of the radioactive sources available to educators are very low-level isotopes, referred to as "license free" sources. However, always observe the following guidelines:

- Eating, drinking, and the application of cosmetics in the laboratory are not permitted.
- Pipetting by mouth is never permitted. (Use pipette fillers.)
- Wear gloves and lab coats when working with all liquid radioisotopes.
- Wash your hands thoroughly before leaving the lab.
- Pour radioactive liquid waste into an approved liquid waste container - **NEVER** into a sink.
- Report all spills, wounds, and other emergencies to the instructor.
- Maintain good housekeeping at all times.
- Store radioactive materials only in the designated storage area, and do not remove sources from the lab.

Specifications and accessories

Visit the product page at [pasco.com/product/SN-7927A](https://www.pasco.com/product/SN-7927A) to view the specifications and explore accessories. You can also download experiment files and support documents from the product page.

Experiment files

Download one of several student-ready activities from the PASCO Experiment Library. Experiments include editable student handouts and teacher notes. Visit [pasco.com/freelabs/SN-7927A](https://www.pasco.com/freelabs/SN-7927A).

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

Before calling PASCO Technical Support, please have the apparatus, this user's guide, and the following information available:

- Product name, model number, and serial number.
- Approximate age of the apparatus.
- Detailed description of the problem or sequence of events required to duplicate the problem.

Regulatory information

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 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



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.