

Which dual-channel spectrometer should you choose



Overview

When selecting a multi-channel spectrometer, it's essential to consider factors like wavelength range, resolution, and sensitivity. g, UV-Vis-NIR) offers versatility for diverse applications. Fig 2 Photograph of the compact spectrometer constructed in accordance with the proposed design However, spectrometers need to measure more than one light signals at the same time in some situations, Conventional detector measurement in different time intervals will suffer from the time-related. Important criteria to consider when selecting a proper spectrophotometer/spectrometer: What is the difference between single beam, double beam (dual-beam), and split beam spectrophotometers?

A single beam spectrophotometer has only one beam of light, while a double beam spectrophotometer has two. Sometimes a single-channel spectrometer is not enough, for example, when you want higher resolution or perform two redundant measurements simultaneously. After testing and comparing numerous models across different price ranges and applications, I've compiled this comprehensive guide to help you make an informed decision. Each unit includes 100% fully computer controlled vacuum measurement, variable detector bias supply (switchable positive or negative), preamplifier, test pulse generator with variable amplitude, and a leakage current monitor.

Article Content

Jun 01, 2026

(PDF) Calibration of Dual-Channel Raman Spectrometer

Therefore, to satisfy the calibration requirements of a dual-channel portable Raman spectrometer with a wide spectral range, this study designed a

Jan 16, 2026

A High-Performance Spectrometer with Two Spectral Channels

In this work, we present a two-channel spectrometer with a pixel resolution of better than 0.1 nm/pixel in the wavelength range of 200 to 950 nm and an acquisition speed of approximately 25 spectra per

May 29, 2026

Dual-Channel Spectrometers

Sometimes a single-channel spectrometer is not enough, for example, when you want higher resolution or perform two redundant measurements simultaneously. The AvaSpec dual-channel spectrometers

Aug 31, 2025

Spectral Imaging with a Dual-Channel BSI-CMOS

Dual-channel spectrometer based on a shared BSI-CMOS detector — 200–950 nm coverage, sub-0.1 nm resolution — ideal for multi-source spectral analysis.

May 29, 2026

Single Beam vs. Double Beam Spectrophotometer

Spectrophotometers measure light's wavelength distribution by providing the percentage of reflectance from an object, detecting the color of the

Sep 21, 2025

Dual-channel spectrometer

Find your dual-channel spectrometer easily amongst the 5 products from the leading brands (Avantes, CIQTEK, Shimadzu, ...) on DirectIndustry, the industry

Apr 03, 2026

10 Best Spectrophotometers (May 2026) Expert Reviews

Whether you need a professional-grade UV-Vis spectrophotometer for research, a portable color matcher for paint analysis, or an educational tool for students, the best spectrophotometers

Feb 12, 2026

Spectrophotometers – scanning, single-beam, dual

Spectrophotometers are instruments for measuring the wavelength-dependent transmittance or reflectance of solutions or solid objects.

Jul 21, 2025

Multi-channel spectrometer

Find your multi-channel spectrometer easily amongst the 41 products from the leading brands (Shimadzu, Bruker, Malvern Panalytical, ...) on DirectIndustry, the industry specialist for your

Aug 26, 2025

What is a Multi-Channel Spectrometer and How to Choose the

When selecting a multi-channel spectrometer, it's essential to consider factors like wavelength range, resolution, and sensitivity. For example, a spectrometer with a broader wavelength range (e.g, UV

Dec 02, 2025

What Is a Dual-Beam Spectrophotometer?

A dual-beam spectrophotometer measures granules, liquids, powders, pellets and opaque solids and gives you a fast and precise spectrophotometric

Mar 13, 2026

Dual Channel Spectrometer | StarLine | Avantes

Sometimes a single-channel spectrometer is not enough, for example, when you want higher resolution or perform two redundant measurements simultaneously.

Apr 28, 2026

Compact two-channel spectrometer S150 Duo • SOL

Two-channel spectrometer S150 Duo is designed for spectral analysis of electromagnetic radiation and wavelength measurements of lasers.

Mar 26, 2026

Navigating the Spectrum: A Guide to Choosing the Right ...

Choosing the right spectrophotometer is a journey that involves understanding your unique requirements, considering industry-specific needs,

Nov 23, 2025

AvaSpec Dual-Channel Fiber-optic Spectrometer

Sometimes a single channel spectrometer is not enough, for example when you want higher resolution or to do two redundant measurements at the same time. The AvaSpec dual channel spectrometers

Feb 23, 2026

Compact two-channel spectrometer S150 Duo • SOL

Spectrometer S150 Duo is an excellent solution for recording Raman spectra. Two channels of the device can be optimized for simultaneous operation with two

Nov 20, 2025

Choosing the Right Spectrometer

A spectrometer is a measuring device that allows you to decompose and analyze the elementary components that make up the spectrum of a radiation or ion beam.

May 18, 2026

An Introduction to Spectrophotometers

Spectrophotometers are vital for optical analysis, measuring light behavior in materials to enhance research in chemistry, physics, and biomedical

Sep 27, 2025

Spectroscopy Applications Selection Guide

How do I choose a spectrophotometer? Spectrometers, or spectrophotometers, are analytical instruments used to identify or confirm the chemical species, chemical structure, or

Mar 27, 2026

Alpha Suite Alpha Spectrometers | Radionuclide

Benchtop dual alpha spectrometer with two alpha spectroscopy channels. Each unit includes a vacuum gauge, variable detector bias supply (switchable positive or

Sep 06, 2025

A High-Performance Spectrometer with Two Spectral Channels

Optical spectrometers play an important role in modern scientific research. In this work, we present a two-channel spectrometer with a pixel resolution of better than 0.1 nm/pixel in the wavelength range

Mar 05, 2026

Which Benchtop Spectrometer Is Right For My Lab?

It can be challenging to choose just which benchtop spectrometer is right for your workflow because of the variety of options. To help you make your

Jan 25, 2026

Tech Compare: Single vs. Double Beam

The cost-effectiveness of single beam spectrometers is the largest benefit, as well as a smaller footprint compared with other spectrophotometers.

Aug 21, 2025

Dual Channel | Anglia Instruments | Spectrometers & Fibre Optics

Sometimes a single channel spectrometer is not enough, for example when you want higher resolution over a wider range, or maybe when you need to constantly monitor to reference signal at the same

Sep 13, 2025

Gamma-ray spectrometer

The gamma-ray spectrometer used on the Odyssey spacecraft consists of four main components: the gamma sensor head, the neutron spectrometer, the high energy

Jun 03, 2026

What Is a Double Beam Spectrophotometer? A Guide to

Learn what a double beam spectrophotometer is and how its dual-beam design provides superior stability and accuracy for kinetics, scanning, and high-precision

Aug 12, 2025

A High-Performance Spectrometer with Two Spectral

Therefore, for an application in which two spectra are to be measured simultaneously, the total cost of a spectrometer with two spectral channels

Nov 10, 2025

Two-channel compact spectrometer SL40 Duo

Compact spectrometer SL40 Duo is a two-channel spectrum analyzer allowing to adjust the detected spectral range and the obtained resolution.

Apr 05, 2026

How to Choose the Right Spectrometer for You

Spectrometers are a great tool for helping your students explore important scientific concepts across a range of biology, chemistry, and physics courses—and Vernier

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://elagage-lorrain.fr>

Email: sales@elagage-lorrain.fr

Phone: +33 6 47 82 19 35

Address: 15 Rue de la République, 69002 Lyon, France

This document is for informational purposes only. Specifications subject to change without notice.

