

USB Series Spectrometers

Extended Range XR Spectrometers

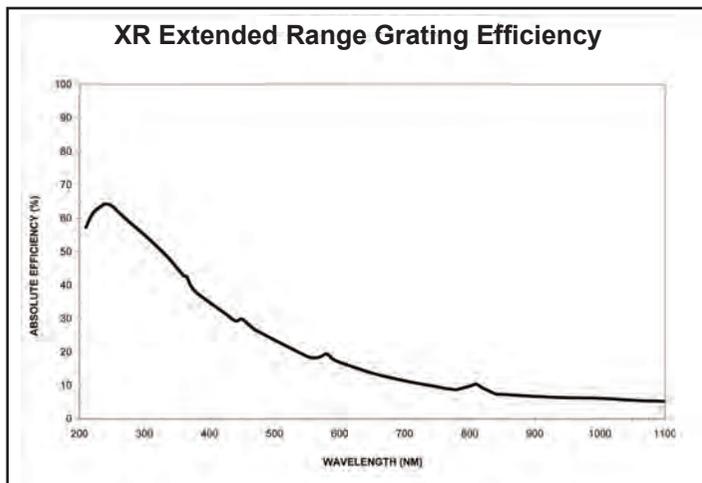


Our XR-Series USB Spectrometers are responsive across a wide spectral range and provide you optical resolution of ~ 2.0 nm (FWHM) with the convenience of a single, monolithic unit that covers wavelengths from ~ 200 -1050 nm.

The XR option is now available for our USB2000+ (USB2000+XR1) and USB4000 (USB4000-XR1) Spectrometers and can be configured into custom systems (specify GRATING_#XR1). The extended-range grating is also available in a portable Jaz Spectrometer configuration (see JAZ-EL200-XR1 in the Jaz section).

With the XR Series, there's no more need to daisy-chain multiple spectrometers to enable UV-NIR coverage. Thanks to the XR's 500-lines/mm groove density grating, you have the advantage of broader spectral coverage as well as good optical resolution.

This grating delivers 850 nm of spectral range and is blazed at 250 nm. And, because their optical bench designs are not affected, the USB2000+ and USB4000 experience no trade-off in performance with the new grating.



Specifications	USB2000+XR1	USB4000-XR1
Spectrometer type:	USB2000+ advanced electronics spectrometer	USB4000 general-purpose spectrometer
Grating:	Grating #31, 500 l/mm, blazed at 250 nm	Grating #31, 500 l/mm, blazed at 250 nm
Spectral range:	200-1050 nm	200-1050 nm
Entrance slit:	25 μ m	25 μ m
Optical resolution (FWHM):	~ 1.7 -2.1 nm	~ 1.7 -2.0 nm
Order-sorting filter:	Yes	Yes
Detector collection lens:	No	No

Note: Dimensions, detector and electronics specifications are comparable to the specifications for the USB2000+ Spectrometer and its application-ready versions.



Technical Tip

What applications are XR-Series Spectrometers best for?

Solar irradiance measurements, atomic emission line analysis, plasma analysis, process applications and more.

How are you able to provide the extended range option in USB-series Spectrometers?

The diffraction grating provides coverage from 200-1050 nm, but that's only part of the story. The broad range doesn't do you much good if you are unable to manage higher-order spectral sorting. So we developed a proprietary order-sorting filter that is applied directly to the detector to eliminate second- and third-order effects.

Why select a 25 μ m slit as the standard option in the XR-series Spectrometers?

Selecting a 25 μ m slit allows us to maintain good optical resolution across the entire spectral range. Also, unless your application involves low levels of light, the slit width is appropriate.