

## SM241

### NIR Laser Spectrometer

- *Less expensive alternative to Germanium or InGaAs systems.*
- *Compact system, can be handheld or securely mounted.*
- *Flexible optical input direct to slit or via fiber.*
- *High performance electronics.*
- *Allows spectral measurements between 900nm and 1700nm.*
- *USB 2.0 interface with 16-bit dynamic range available!*

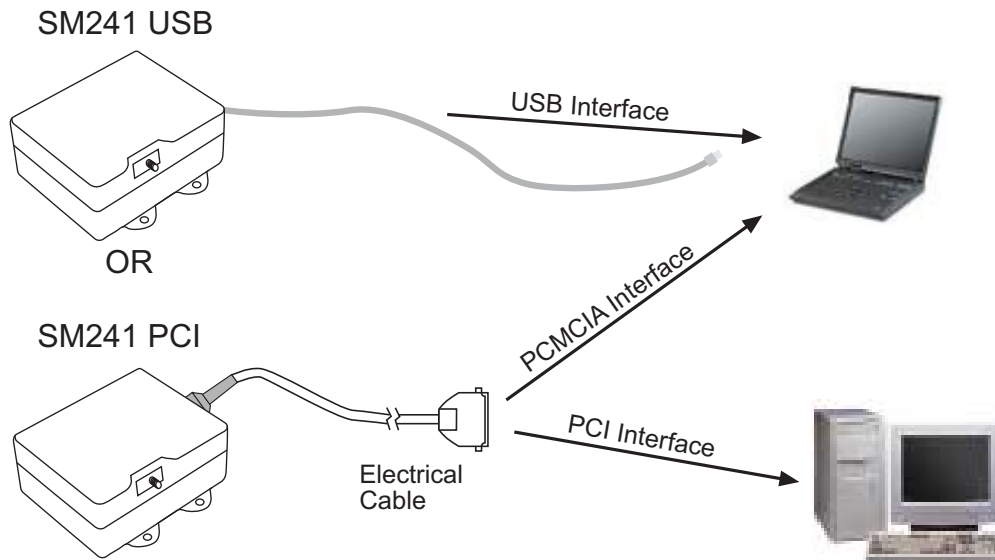


## The Choice for Spectral NIR Laser Applications

The SM241 is a compact CCD based Spectrometer designed for NIR laser applications. Spectral Product's IR up-conversion phosphor CCD coating breaks the standard Silicon-based CCD detectors array sensitivity barrier of 1100nm to allow spectral measurements up to 1700nm. This technology makes the SM241 a lower cost alternative to Germanium or InGaAs systems. The SM241 optical bench includes oversized gold plated mirrors and gratings to accommodate NIR light collection and analysis. Maximum spectral coverage with this spectrometer is 900 nm to 1700 nm (reduced coverage window size within 900-1700nm will increase spectral resolution and light sensitivity).

Standard interfaces include a USB 2.0 interface with a 16-bit extended dynamic range and a PCI card interface with a 12-bit dynamic range. Custom interfaces and legacy ISA and PCMCIA interfaces are also available. Software support includes a SDK and DLLs for dedicated applications development and our **SM32Pro** windows based spectral acquisition and analysis software. Both standard and legacy interface designs provide support for advanced acquisition programming and external triggering.

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## Specifications:

<b># of CCD Pixels:</b>	2048
<b>CCD Pixel Size:</b>	14 $\mu$ m by 200 $\mu$ m
<b>CCD Sensitivity:</b>	30 V/mJ/cm <sup>2</sup>
<b>Grating:</b>	300 to 1800 grooves per mm
<b>Spectral Response:</b>	900nm to 1600nm
<b>Spectral Resolution:</b>	5nm with standard slit configuration
<b>Available Gratings:</b>	See Appendix A
<b>Entrance:</b>	
<b>Slit</b>	10 $\mu$ m - 100 $\mu$ m
<b>Fiber</b>	SMA fiber coupler, NA = 0.2
<b>Stray Light Rejection:</b>	better than 10 <sup>-3</sup>
<b>Analog to Digital:</b>	USB 16 bit standard, PCI optional.
<b>Digitizer Resolution:</b>	12-bit, 4096 to 1 or 16 bit, 65536 to 1

## Computer Interface:

<b>USB Bus</b>	16 bit 500KHz
<b>PCI bus</b>	NI-PCI 12 bit 200 KHz PCI interface board

**Call SP for other interface options**

<b>Dimensions (inches):</b>	5.5 x 2.9 x 0.99
<b>Weight:</b>	0.5 lbs.
<b>Software:</b>	SM32Pro

Ordering Information: Please indicate product number plus description when ordering.

<b>SM241 USB</b>	Near Infrared Enhanced Hand-held Spectrometer, USB
<b>SM241 USB</b>	Near Infrared Enhanced Hand-held Spectrometer, USB

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