

The SPM-002-XT64 is equipped with a Hamamatsu S11071-1106 back-thinned CCD detector for high sensitivity and resolution measurements in the UV to NIR region.

Overview:

The Photon Control SPM-002-XT64 family of spectrometers cover the ultraviolet, visible, and near-infrared spectrum from 190 nm to 1090 nm. The system features anti-blooming that minimizes the impact of saturated peaks. High sensitivity is achieved with the optical bench's wider CCD detector. The spectrometer includes a fiber-optic patchcord, a power supply, a USB cable along with operating software.

*Applications:

*Some applications require additional software that is not included.

- Plasma Monitoring
- Laser Characterization and Tuning
- Biophotonics
- Quantum Dot Analysis
- Thin Film Thickness Measurement
- Reflectance, Transmission, Absorption
- Gas Analysis
- Molar Concentration
- Optical Inspection
- Chemical Analysis
- Fluorescence
- Food inspection

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Photon Control is a leader in precision measurement solutions, specializing in customization and OEM manufacturing. Visit www.photon-control.com for more information, or contact us at info@photon-control.com with your measurement requirements for engineering guidance and a quote.



Features

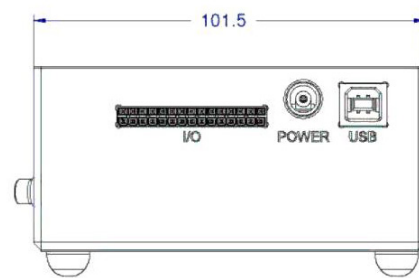
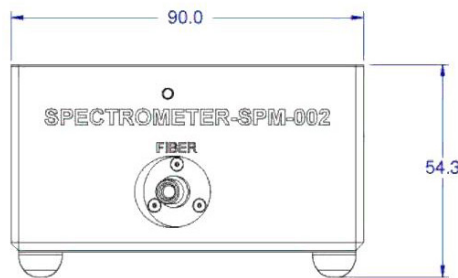
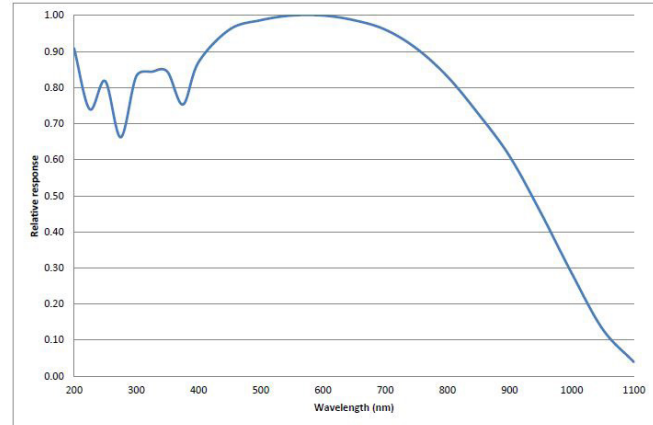
- 2048-pixel Hamamatsu S11070-1106 back-thinned CCD detector with high UV quantum efficiency
- Configurable slit width, diffraction grating, and filter
- 16-bit A/D converter
- Continuous hardware-triggered acquisition mode with user-settable delay
- USB 2.0 communication
- SPM-002-XT64 includes SpecSoft display and analysis software for data logging
- Compatible with the SPL family of light sources, accessories, software development kits and SpecSoft Pro from Photon Control

Technical Specifications

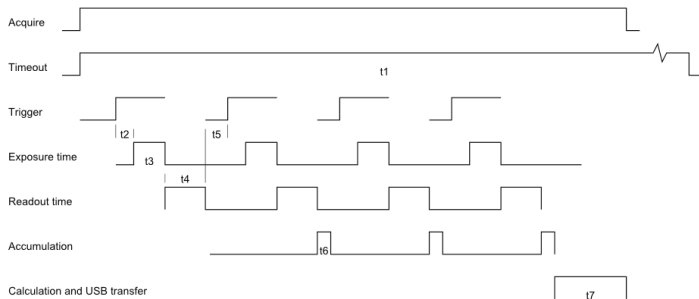
Common SPM-002-XT64 Specifications

Detector	Hamamatsu S11071-1106 back-thinned CCD
Pixels	2048 x 64
A/D Converter (bits)	16
Exposure Time Range	3.2 μ s to 3 s
Temperature Range ($^{\circ}$ C)	-10 to 40
Focal Length (mm)	70
Triggering	Hardware Trigger
Maximum Refresh Rate (Hz)	50
Interface	USB 2.0
Power Requirements	10-30 VDC
Dimensions (mm)	101.5 x 90.0 x 54.3
Weight (g)	500

Detector Response



Hardware-Triggering Mode



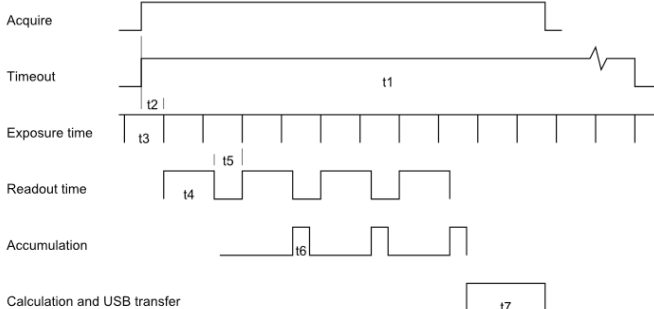
Hardware-Triggering Mode Timing

Minimum delay after trigger t2	Not measured
Readout time t4	7.3 ms
Minimum delay before trigger t5	Not measured
Accumulation time t6	1.2 ms
Calculation and transfer time t7	7.2 ms

Continuous Mode Timing

Readout time t4	7.3 ms
Accumulation time t6	1.2 ms
Calculation and transfer time t7	7.2 ms

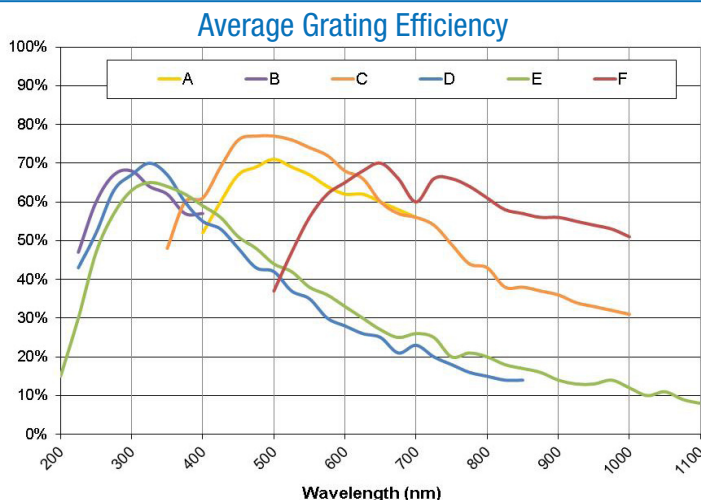
Continuous Mode



Timing

Data Acquisition

	Interface	USB 2.0 Hi-speed
Continuous frame rate		61 Hz at 3.2 ms integration without averaging
		50 Hz at 10 ms integration without averaging
		50 Hz at 20 ms integration without averaging
		96 Hz at 3.2 ms integration with 10 averages
		91 Hz at 10 ms integration with 10 averages
Hardware-triggered frame rate		67 Hz at 3.2 ms integration without averaging
		40 Hz at 10 ms integration without averaging
		79 Hz at 3.2 ms integration with 10 averages
		51 Hz at 10 ms integration with 10 averages


Model Specific Configurations: Spectral Range, Resolution, Diffraction Grating, and Filter Type

SPM-002:	Spectral Range (nm)	Resolution (center/outer) (nm)	Grating Blaze Wavelength (nm)	Grating Grooves (mm)	Filter Type
-BT64	190-400	10 µm slit: 0.5/0.7 25 µm (standard) slit: 0.8/1.0 50 µm slit: 1.1/1.2 100 µm slit: 1.4/1.5 200 µm slit: 2.8/2.9	250	1200	None
-CT64	350-1000	10 µm slit: 1.0/2.0 25 µm (standard) slit: 1.7/2.4 50 µm slit: 2.2/2.8 100 µm slit: 2.8/3.3 200 µm slit: 5.6/5.9	500	600	Order-sorting
-DT64	200-850	10 µm slit: 1.0/2.0 25 µm (standard) slit: 1.7/2.4 50 µm slit: 2.2/2.8 100 µm slit: 2.8/3.3 200 µm slit: 5.6/5.9	300	600	Order-sorting
-ET64	200-1090	10 µm slit: 1.5/2.7 25 µm (standard) slit: 2.5/3.4 50 µm slit: 3.3/4.0 100 µm slit: 4.2/4.8 200 µm slit: 8.4/8.7	300	400	Order-sorting

Product Options and Accessories

CWA-SMA-100-U-2	Fiber Optic Patch Cord - SMA 905 connector - 100 micrometer core - UV/VIS - 2m
CWA-SMA-200-U-2	Fiber Optic Patch Cord - SMA 905 connector - 200 micrometer core - UV/VIS - 2m (Standard with -A and -C)
CWA-SMA-400-U-2	Fiber Optic Patch Cord - SMA 905 connector - 400 micrometer core - UV/VIS - 2m
CWA-SMA-600-U-2	Fiber Optic Patch Cord - SMA 905 connector - 600 micrometer core - UV/VIS - 2m

Note: All spectrometers are shipped with a fiber optic patch cord, USB cable, user manual, external power adapter and SpecSoft display and analysis software. Software Development Kits and SpecSoft Pro are available at additional costs.