PhotonControl

Offering versatility and high optical resolution at a great price, the SPM-002-X is the market standard model in Photon Control's SPM line of spectrometers.

Overview:

Measure within the ultraviolet, visible, and near-infrared wavelengths with the SPM-002-X. Our spectrometers run on powerful user software based on LabVIEW or alternatively with your integrated software using one of our software development kits.

*Applications:

*Some applications require additional software that is not included.

- Visible Spectrum/ Color Monitoring
- Biophotonics
- Transmission
- Laser/ Light Source Monitoring
- Absorption
- Fluorescence
- Molar Concentration
- Optical Inspection
- Chemical Analysis
- Reflection
- Scattering

Contact us

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

- Compact size
- Spectral ranges between 190 nm and 1090 nm
- Includes feature rich SpecSoft display and analysis software for data logging
- Convenient USB interface
- Compatible with the SPL family of light sources, accessories, software development kits and SpecSoft Pro from Photon Control

Certified System
ISO 9001:2008
QMI-SAI Global

Technical Specifications

| Common SPM-002-X Specifications	
Detector	Toshiba TCD1304
Pixels	3648
A/D Converter (bits)	12
Exposure Time Range	10 µs to 65 s
Temperature Range (°C)	-10 to 55
Focal Length (mm)	70
Triggering	Hardware Trigger
Maximum Refresh Rate (Hz)	20
Interface	USB 1.1
Power Requirements	10-30 VDC
Dimensions (mm)	101.5 x 90 x 54.3
Weight (g)	500
Grating Type	Ruled or holographic flat reflective
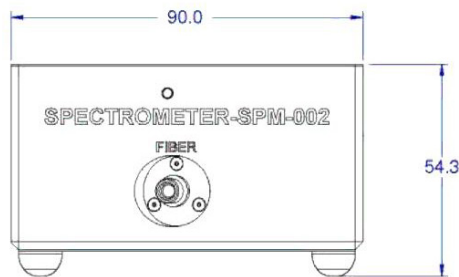
Detector Response
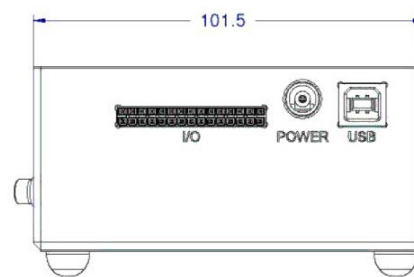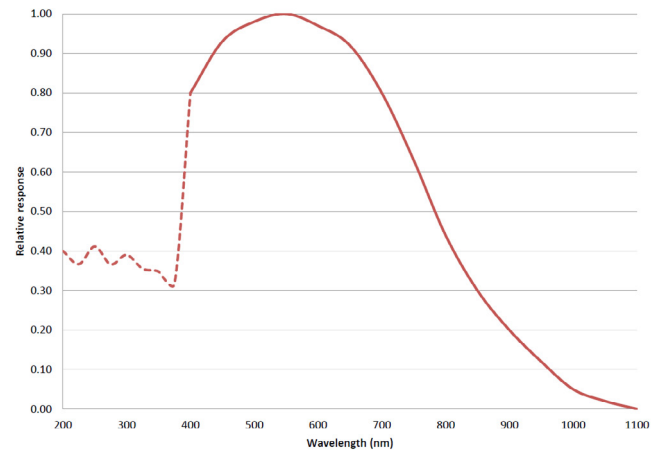
Hardware-Triggering Mode
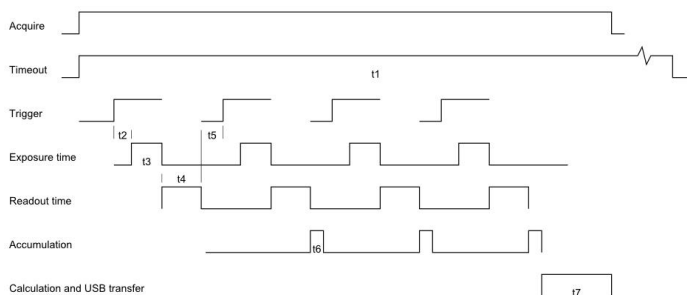
Continuous Mode
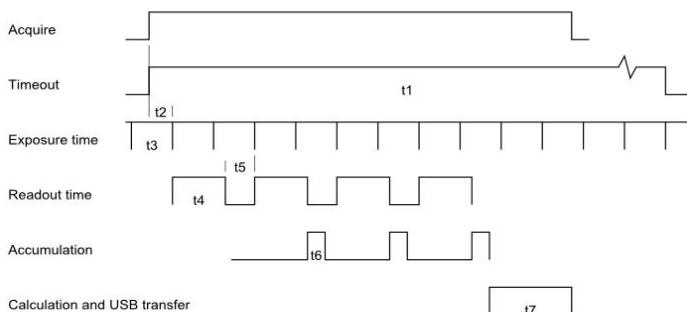
| Hardware-Triggering Mode Timing	
Delay after trigger t2	
Minimum delay	10 µs
Selectable delay resolution	1 µs
Readout time t4	5.2 ms
Minimum delay before trigger t5	1.8 ms
Accumulation time t6	2.9 ms
Calculation and transfer time t7	9.9 ms

Continuous Mode Timing	
Readout time t4	5.2 ms
Accumulation time t6	2.9 ms
Calculation and transfer time t7	9.9 ms

Timing

Data Acquisition	
Interface	USB 2.0 Hi-speed
Continuous frame rate	58 Hz at 1 ms integration without averaging
	50 Hz at 10 ms integration without averaging
	110 Hz at 1 ms integration with 10 averages
	91 Hz at 10 ms integration with 10 averages
Hardware-triggered frame rate	55 Hz at 1 ms integration without averaging
	37 Hz at 10 ms integration without averaging
	100 Hz at 1 ms integration with 10 averages
	53 Hz at 10 ms integration with 10 averages

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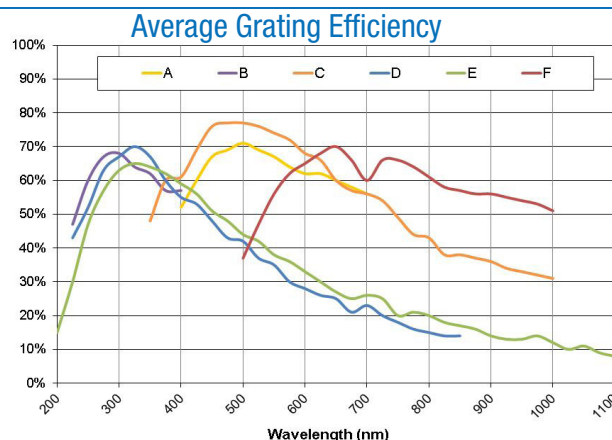
Model Specific Configurations: Spectral Range, Resolution, Diffraction Grating, and Filter Type

SPM-002:	Spectral Range (nm)	Resolution (center/outer) (nm)	Grating Blaze Wavelength (nm)	Grating Grooves (mm)	Filter Type
-A	400-700	10 µm slit: 0.4/0.8 25 µm slit (standard): 0.6/1.0 50 µm slit: 0.7/1.0 100 µm slit: 1.4/1.6 200 µm slit: 2.8/2.9	500	1200	None
-B	190-400	10 µm slit: 0.4/0.6 25 µm slit (standard): 0.6/0.8 50 µm slit: 0.7/0.9 100 µm slit: 1.4/1.5 200 µm slit: 2.8/2.9	250	1200	None
-C	350-1000	10 µm slit: 0.7/1.9 25 µm slit (standard): 1.2/2.1 50 µm slit: 1.4/2.2 100 µm slit: 2.8/3.3 200 µm slit: 5.6/5.9	500	600	Order-sorting
-D	200-850	10 µm slit: 0.7/1.9 25 µm slit (standard): 1.2/2.1 50 µm slit: 1.4/2.2 100 µm slit: 2.8/3.3 200 µm slit: 5.6/5.9	300	600	Order-sorting
-E	200-1090	10 µm slit: 1.1/2.5 25 µm slit (standard): 1.9/3.0 50 µm slit: 2.1/3.1 100 µm slit: 4.2/4.8 200 µm slit: 8.4/8.7	300	400	Order-sorting
-F	500-1000	10 µm slit: 0.7/1.4 25 µm slit (standard): 1.2/1.8 50 µm slit: 1.4/1.9 100 µm slit: 2.8/3.1 200 µm slit: 5.6/5.8	750	600	Long-pass

Product Options and Accessories

CWA-SMA-100-V-2	Fiber Optic Patch Cord - SMA 905 connector - 100 micrometepr core - VIS/NIR - 2m
CWA-SMA-200-V-2	Fiber Optic Patch Cord - SMA 905 connector - 200 micrometer core - VIS/NIR - 2m (Standard with -A and -C)
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 -B, -D, -E)

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.