

## SM642

### Low Noise Non TE-Cooled Backthinned Spectrometer

Low Cost and High Performance Backthinned CCD Spectrometer

Low Dark Current Noise and Stray Light for Spectrophotometer / Spectroradiometer

High Signal to Noise Ratio

High Ultra-Violet Quantum Efficiency

High Speed Data Acquisition

**Dark Option (Auto Shutter)**



### The Choice for Low Signal Level Applications

Spectral Products is offering the new SM642 non TE cooled back-thinned 2048 pixel array CCD spectrometer. The SM642 provides high quantum efficiency in UV and high dynamic range. The detector used in the SM642 has 2048 pixels and helps to get better resolution. It is ideal for UV/VIS/NIR spectrometry that requires high signal to noise ratio and/or high dynamic range. The back-thinned CCD has excellent sensitivity in UV and allows deep UV application, even below 200nm. Well designed housing allows a wide measurement window like from 200nm to 1050nm (smaller measurement window sizes increase spectral resolution and light sensitivity) with low stray light. Standard interface to the SM642 is a USB 1.1/2.0 compatible interface with 16-bit.

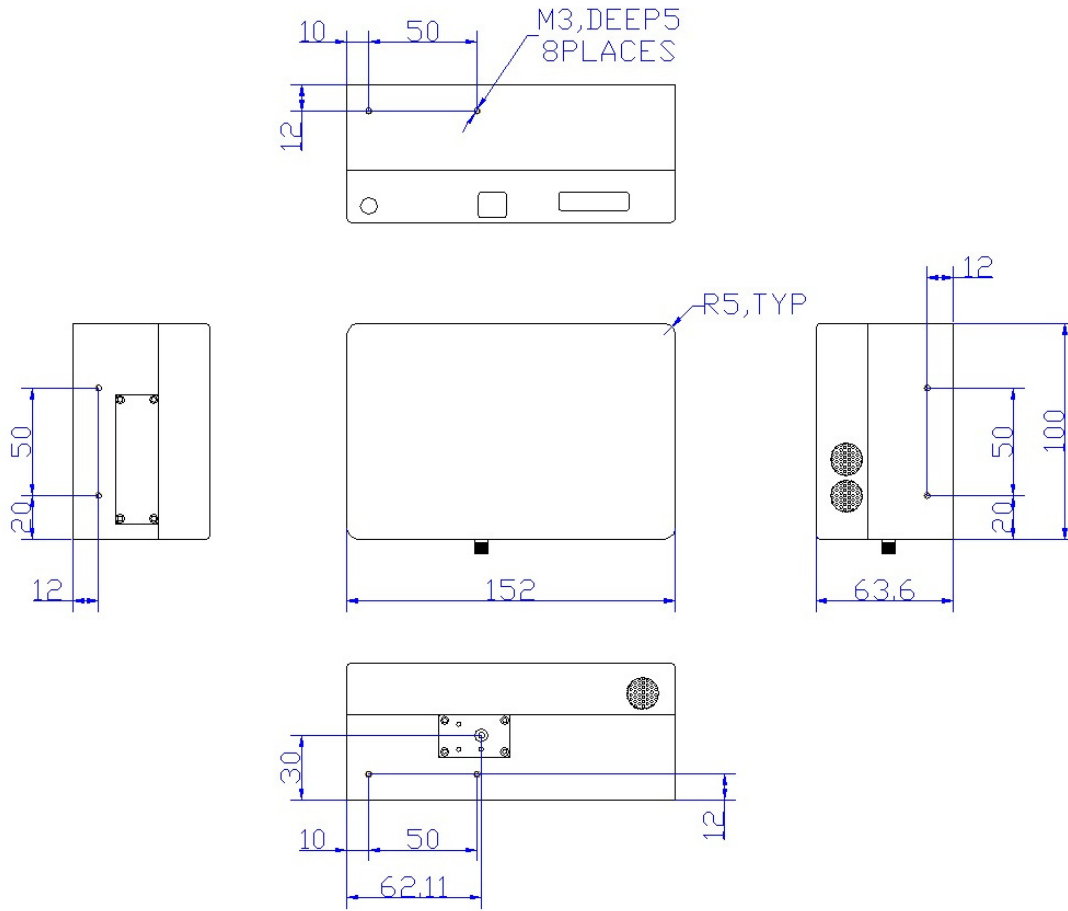
Software support includes a SDK and DLLs for dedicated applications development and our SM32Pro Windows-based spectral acquisition and analysis software.

## Specifications :

Physical Dimension	
Dimensions	5.96" X 3.94" X 2.50" (152mm X 100mm X 63.6mm)
Weight	2.6lbs (1.2kg)
Fiber Optic Connector	SMA905 N.A.=0.22 Optical Fiber Input
Detector	
Detector	Hamamatsu S10420-1106S (Non TE-Cooled Backthinned FFT CCD)
Cooling	None
Windows Material	Quartz
Spectral Response Range	~200-1050nm
Pixels	2068 X 70 pixels (Total) 2048 X 64 pixels (Effective)
Pixel Size	14 um X 14 um
Active Area	28.672 mm X 0.896 mm
Full Well Capacity	200 ke-
Quantum Efficiency	>75% @ 600nm
Optical Specification	
Wavelength Range	Full Range : ~200-1050nm
	UV/VIS Range : ~200-800nm
	Visible Range: ~300-900nm
	other user customized range
Optical Resolution	0.25~7nm, dependent on spectral range, slit width, fiber diameter, etc
Dark	Auto Shutter
Dark Noise RMS	< 7 RMS counts in 16bit @ 35msec integration time
Signal to Noise Ratio	450 : 1
Stray Light	<0.05% AVG
Filter	Second Order Blocking Filter Installed
Electrical Specification	
ADC resolution	16bit (0-65535)
Minimum Integration Time	7msec
Interface	USB 1.1/2.0 Compatible
Trigger Mode	Free Run Mode
	Software Trigger Mode
	External Trigger Mode (9-pin connector)
	(TTL Edge Trigger Input / Digital Output for Monitoring)
Power Input	100-240V(47-63Hz),1.9A
Computer	
Operating System	Windows 98/Me/2000/XP/VISTA/Win7, 8.0, 8.1, 10 (32/64bit)
Software	SM32Pro software included
Software Development Kit	Visual C++ DLL /LabVIEW VI SDK



## Case Dimension :



(Size in mm)

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

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