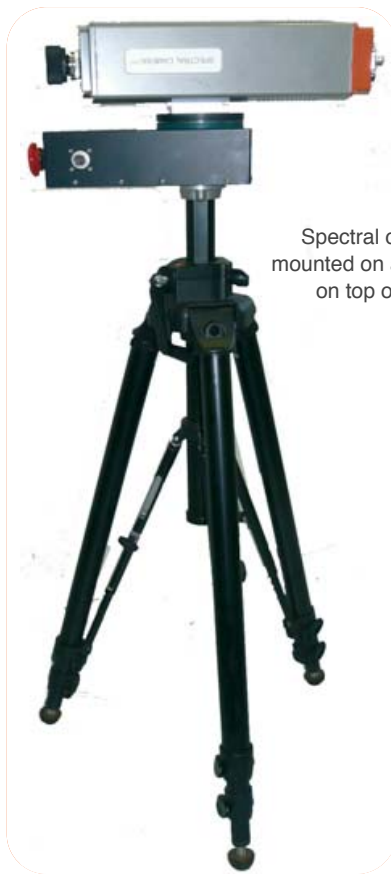


Spectral Camera PS



Spectral camera PS mounted on a rotary stage on top of a tripod

Hyper-spectral camera operating in the VIS and VNIR ranges of 380-800 nm and 400-1000 nm.

With high spatial and spectral resolution, high sensitivity, low noise, low-cost standard interface, and rugged structure, spectral camera PS is an excellent tool for scientific applications in the laboratory and field

- VNIR 380 - 800 and 400 - 1000 nm
- 1392 × 870 / 950 / 990 pixels (spatial × spectral)
- Frame rate 11 Hz (full frame)
- 62 Hz (spectral binning)



Cased spectral camera PS



OEM spectral camera PS with E-series spectrograph (top), and with standard spectrograph

A spectral Camera is an imaging spectrometer system. It is an integrated combination of the Specim ImSpector imaging spectrograph and an 2-D area monochrome camera. It works as a push-broom type line scan camera and provides full, contiguous spectral information for each spatial position pixel.

Spectral Camera PS consists of an imaging spectrograph for the wavelength 380-800 nm or 400-1000 nm, and a sensitive high speed interlaced CCD detector. Spectral Camera PS can be equipped either with a standard series imaging spectrograph (V8 or V10) as a low cost model, or with an enhanced series spectrograph Spectral Camera PS mounted on a rotary stage on top of a tripod (V8E or V10E) for applications which require high image quality. The transmission diffraction grating and lens optics used in the spectrograph provide a high quality, low distortion image that is designed to fulfill the most demanding specifications.

Spectral Camera PS provides outstanding performance at affordable cost. Spatial resolution of 1344 pixels, image rate up to 62 images/s, and adjustable spectral sampling make it a tool which can meet the high scientific hyper-spectral imaging requirements.

ACCESSORIES

Gilden Photonics provides various accessories for the Spectral Cameras to broaden their applicability. Several fore objective lenses with different FOVs are available which have been designed to provide the optimal image and spectral quality across the full spectral range of the Spectral Camera.

- The Spectral Camera can also be delivered with collection fiber optics to convert the camera into a multiple point spectrometer. All the points are measured simultaneously without a moving multiplexer.
- The Spectral Camera can be delivered with a Mirror Scanner or rotating stage for scanning static targets and outdoor scenes, or with a linear sample mover (X-stage) for desktop and microscope applications.

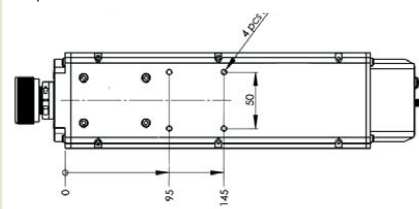
SPECTRASSENS SOFTWARE

Spectral Camera PS is supported by our SpectraSENS software, which allows:

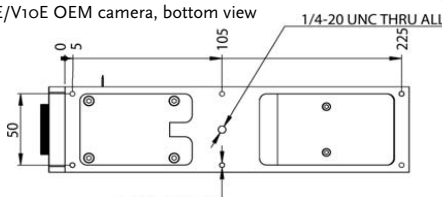
- Data acquisition and saving data in the hard disk
- Camera parameters settings
- Control of a Mirror Scanner, a rotary stage and a linear sample mover
- Basic image visualization in real time

Datacubes are saved in ENVI compatible format that allows further processing by several software packages for hyper-spectral data processing.

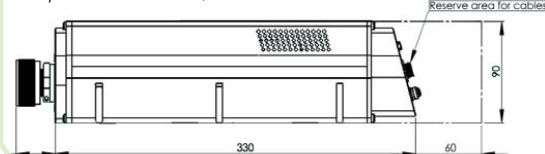
V8E/V10E Cased camera, bottom view



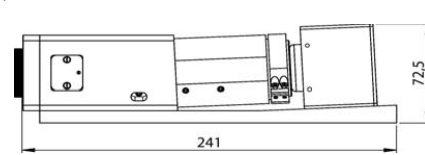
V8E/V10E OEM camera, bottom view



V8E/V10E Cased camera, side view



V8E/V10E OEM camera, side view



APPLICATION

- Colour Control And Sorting
- Scanning Of Art Works
- Flat Panel Display Measurement
- Printing Testing
- Counterfeit Detection
- Life Science Applications
- Plant And Vegetation Research
- Environmental Monitoring
- Hyper-Spectral Microscopy

SPECTRAL CAMERA PS

OPTICAL CHARACTERISTICS	V8E	V10E	V8	V10	UNIT
Spectral Range	380 – 800	400 – 1000	380 – 800	400 – 1000	nm
Spectral Resolution with Default Slit	2.0	2.8	6	6.8	nm
Spectral Sampling	0.48 – 3.86	0.63 – 5.06	0.43 – 4.4	0.63 – 5.0	nm / pixel *
Spectral Resolution (RMS spot radius)	< 9		< 30	< 40	µm
Aberrations	Insignificant astigmatism, keystone or smile		Smile < 45 µm, Keystone < 40 µm		-
Numerical Aperture	F / 2.4		F / 2.8		-
Slit Width Options	Default 30, others 18, 50, 80, 150		Default 50, others 25, 80, 150		µm
Effective Slit Length	8.98		8.98		mm
Total Efficiency (typical)	> 50% independent on polarization				-
Stray Light	< 0.5% / halogen lamp, 590 nm LPF				-

ELECTRICAL CHARACTERISTICS

Sensor	Interline CCD				-
Pixels in Full Frame	1392 (spatial) × 1040 (spectral)				-
Active Pixels (spatial × spectral)	1392 × 870	1392 × 950	1392 × 990		-
Pixel Pitch	6.45				µm
Camera Output	Digital 12 bit				-
Interface	Firewire				-
Camera Control	Firewire				-
Frame Rate	11 fps (full frame) up to 62 fps (1 × 8 binning)				-

Spectral Camera PS

SPECTRAL CAMERA PS					
OPTICAL CHARACTERISTICS	V8E	V10E	V8	V10	UNIT
ELECTRICAL CHARACTERISTICS					
Exposure Time Range	1 μ m – 120 s				-
Power Consumption	< 5				W
Input Voltage	12 V (OEM) , 24 V (cased)				-
ENVIRONMENTAL CHARACTERISTICS					
Storage	- 20... + 50				$^{\circ}$ C
Operating	+ 5...+ 40 non-condensing				$^{\circ}$ C
MECHANICAL CHARACTERISTICS					
	V8E / V10V Cased	V10E / V8E OEM	V8 / V10 OEM	UNIT	
Size (L x W x H)	330 x 85 x 90	241 x 73 x 79	220 x 60 x 70	mm ³	
Body	Anodized aluminium with mounting screw holes				-
Lens Mount	Standard C-mount				-
User Adjustments	None				-
Shutter	Yes	Optional	No	-	

* Adjustable by spectral binning

Custom hyper-spectral scanning, illumination and enclosure systems are available for your application.
Contact Gilden Photonics or our official distributors for more information.

Notes.
