

UV 200 – 400 nm HYPERSPPECTRAL CAMERA

Middleton Research offers a hyperspectral camera in the ultra-violet range (200-400 nm) from Specim Ltd. The UV camera is designed for ultraviolet applications that require high spatial and spectral resolution and the best imaging optics. The camera consists of an imaging spectrograph (ImSpector UV4E), a UV-sensitive monochrome camera (frame transfer CCD) and a base CameraLink interface.

The UV camera is currently offered as an uncased model and comes with the frame grabber, cables and full wavelength and non-uniformity calibrations. This UV camera can be used for many applications where the UV spectral region is of interest, including forensics, semiconductors, biomedical and other applications.



UV Image of currency

UV Camera Specifications

Optical Characteristics	UV-CL-30-UV4E-OEM
Range (nm)	200-400
Resolution (spatial x spectral)	1000 x 1000 (430 active)
Spectrograph	ImSpector UV4E
Spectral Resolution	2 nm (30 µm slit)
Spectral Sampling	0.46 nm/pixel
Spatial Resolution	RMS spot diameter < 60 µm
Aberrations	Smile < 3 µm (0.025%)
Numerical Aperture	F/2.8
Slit Width, default	80 µm (50 µm available on request)
Effective Slit Length	8 mm
Total Efficiency (typical)	> 50%, independent of polarization
Stray Light	< 1%

Electrical Characteristics

Sensor	Frame transfer CCD
Interface	Base CameraLink
Camera Output	Digital 12-bit
Frame rate (full / binning)	33 Hz / 159 Hz (8 x 8 binning)
Frame Grabber	NI-PCI 1428
Pixel Size	8 µm x 8 µm
Camera Control	CameraLink
Exposure Time Range	500 µs - 1 s (10 s for C8800-21C)
Power Consumption	10 W (20 W for C8800-21C)
Input Voltage	12 V

Environmental Characteristics

Storage	-10 C to 50 C
Operating	0 C to 40 C non-condensing

Mechanical Characteristics

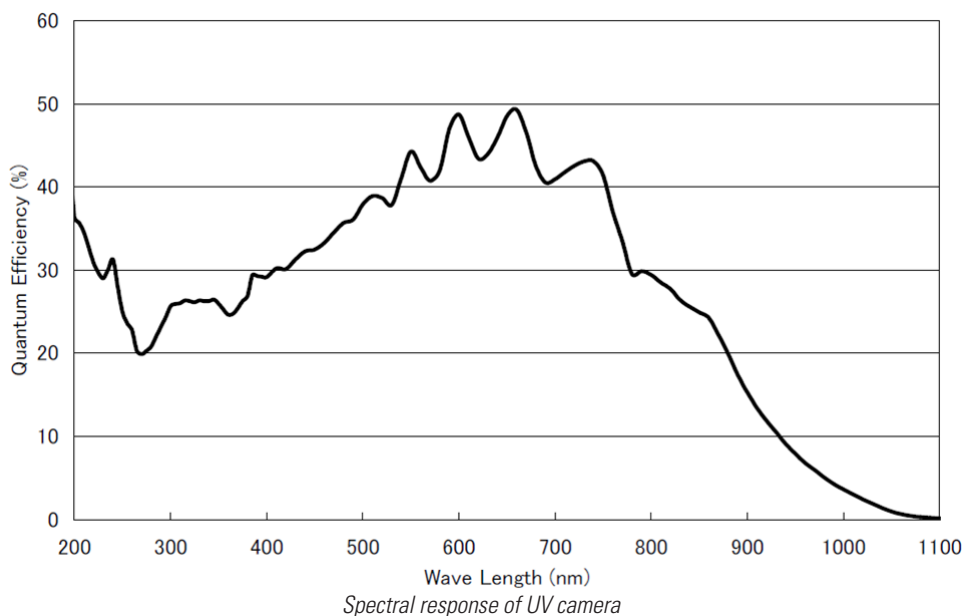
Size (LxWxH)	50 x 55 x 165 mm
Weight	320 g
Body	Anodized Al
Lens Mount	Standard C-mount adapter
User Adjustments	Rotating image axis relative to detector rows, adjustable back focal length ± 1 mm
Shutter	No

One of the best illumination sources is the sun, which produces a strong UV emission. Indoor UV sources, such as deuterium or xenon lamps and others can be used with the UV camera. Depending on the application, size of the illuminated objects and other factors, UV absorption is a very sensitive method for establishing the thickness of UV absorbing layers and low concentration chromophores. Most natural materials show strong fluorescence under UV radiation. In some applications, the visible spectrum is also an important source of information.



Applications

- Semiconductors
- Forensics
- Life Sciences
- Mineralogy



UV Camera Ordering Information		
Part Number	Description	Product Name
MRC-302-004-01	OEM UV Spectral Camera, with Enhanced Spectrograph. 30 fps, 1000x1000 CCD, Cameralink frame grabber + cables	UV-CL-30-UV4E-OEM