PFD4K-65-V10E

A Konica Minolta Company

Spectral camera for the VNIR 400-1000 nm wavelength range. With its high resolution, high image rate, flexible wavelength selection, and rugged structure, Spectral Camera PFD is an excellent tool for industrial measurements.

Camera supports LUMO software, datacubes are ENVI-compatible, allowing further processing by several software packages for hyperspectral data processing.

BEST SUITED FOR

- Quality control
- Food and vegetation research
- On-line sorting and quality monitoring
- Plant and vegetation research
- Environmental monitoring
- Counterfeit detection

ACCESSORIES

- Fore objective lenses

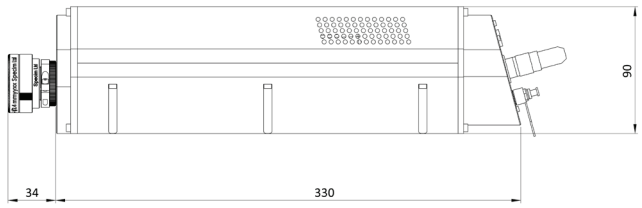
  OLE 18 FOV 38 ° *
  OLE 23 FOV 34.3 °
  OLE 140 FOV 5 ° *

  *) with 1550 spatial pixels

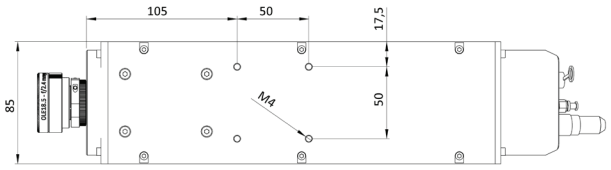
- Collection fiber optics to convert the camera into a multiple-point spectrometer. All the points are measured simultaneously without a moving multiplexer.
- Mirror Scanner or rotating stage for scanning static targets and outdoor scenes, or with X-stage sample mover for desktop and microscope applications.

DIMENSIONS

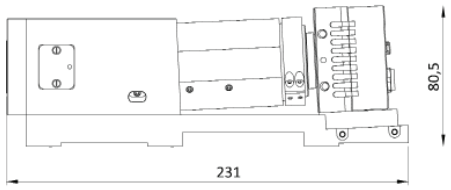
Cased camera, side view



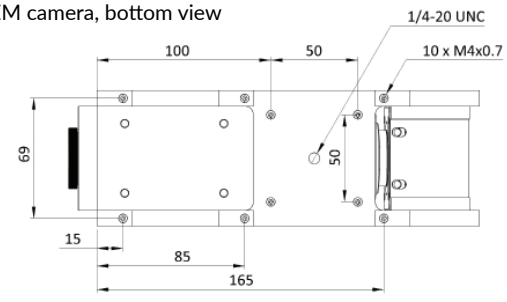
Cased camera, bottom view



OEM camera, side view



OEM camera, bottom view



OPTICAL CHARACTERISTICS		
Spectral range	400 - 1 000 nm	
Spectral resolution FWHM	3.0 nm (30 µm slit)	
Spectral sampling	0.78 - 6.27 nm / pixel *	
Spatial resolution	RMS spot size < 9 µm	
F/#	F/2.4	
Slit width	30 µm (50 or 80 µm optional)	
Effective slit length	14.2 mm	
Total efficiency (typical)	> 50 % independent on polarization	
Stray light	< 0.5 % (halogen lamp, 590 nm LPF)	
ELECTRICAL CHARACTERISTICS		
Detector	CMOS	
Spatial pixels	1 775	
Spectral bands	768	
Pixel size	8.0 x 8.0 µm	
Camera output	Digital 12 bit	
Interface	Base CameraLink	
Camera control	CameraLink	
Frame rate	Up to 100 fps	
Additional features	Spectral binning up to x 8 Multiple Region-of-Interest either in spatial or spectral direction	
Exposure time range	0.1 - 100 ms	
Power consumption	< 5 W	
Input voltage	12 V (OEM), 24 V (cased)	
ENVIRONMENTAL CHARACTERISTICS		
Storage	-20... +50 °C	
Operating	+5... +40 °C non-condensing	
MECHANICAL CHARACTERISTICS		
	OEM	**CASED**
Size	231 x 80.5 x 78 mm	330 x 85 x 90 mm
Weight	1.8 kg	2.7 kg
Body	Anodized aluminium with mounting screw holes	
Lens mount	Standard C-mount	
User adjustments	None	
Shutter	Optional	Yes, with USB control

*) Adjustable by spectral binning.

sCMOS-50-V10E

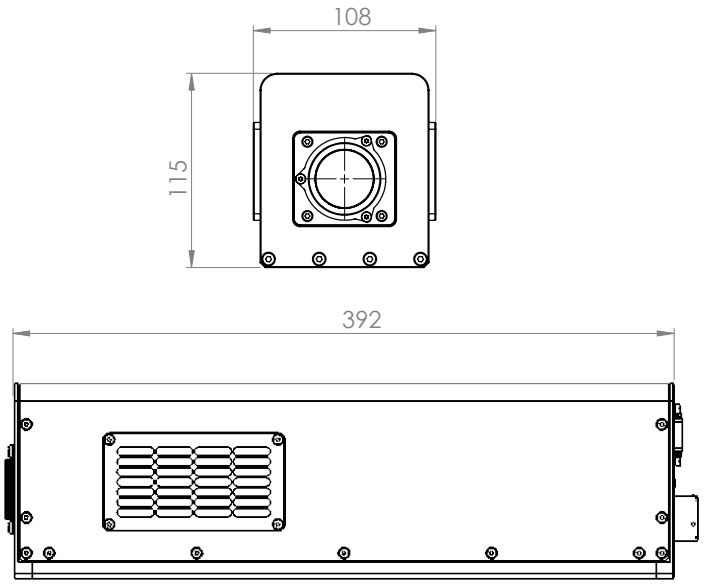
Hyperspectral camera operating in the VNIR range of 400 - 1 000 nm. With its extremely low noise, high resolution, high image rate, and rugged structure Spectral Camera sCMOS is an excellent tool for various scientific and commercial applications.

Camera supports LUMO software, datacubes are ENVI-compatible, allowing further processing by several software packages for hyperspectral data processing.

BEST SUITED FOR

- Color control
- Counterfeit detection
- Fruit and vegetable inspection
- Geology
- Life science applications
- Plant and vegetation research
- Printing testing
- Scanning works of art

DIMENSIONS



ACCESSORIES

- Fore objective lenses

  OLE 18 FOV 38 ° *

  OLE 23 FOV 34.3 °

  OLE 140 FOV 5.8 ° *

  *) with 1550 spatial pixels

- Collection fiber optics to convert the camera into a multiple-point spectrometer. All the points are measured simultaneously without a moving multiplexer.

- Mirror Scanner or rotating stage for scanning static targets and outdoor scenes, or with X-stage sample mover for desktop and microscope applications.

OPTICAL CHARACTERISTICS	
Spectral range	400 - 1 000 nm
Spectral resolution FWHM	2.9 nm (30 µm slit)
Spectral sampling / pixel	0.63 - 5.07 (adjustable by binning)
Spatial resolution	Average rms spot radius < 9 µm
F/#	F/2.4
Slit width	30 µm (18, 50, 80 or 150 µm optional)
Effective slit length	14.2 mm
ELECTRICAL CHARACTERISTICS	
Sensor	Temperature stabilized sCMOS
Spatial pixels	2 184
Spectral pixels	946
Pixel pitch	6.5 µm
Signal-to-noise ratio	(peak) 170:1 (no binning) to 680:1 (with 8x2 binning)
Camera output	16 bit CameraLink
Data cable length	5 m
Camera control	CameraLink
Frame grabber	BitFlow Carbon
Frame rate	100 fps (full frame)
Additional features	Asymmetric spatial and spectral binning (SW)
Exposure time range	8.1 - 100 ms
Power consumption	60 W
Input voltage	110/230 V, 50/60 Hz or 24 VDC
ENVIRONMENTAL CHARACTERISTICS	
Storage	-20... +50 °C
Operating	+5... +40 °C non-condensing
MECHANICAL CHARACTERISTICS	
Size (L x W x H)	392 x 108 x 115 mm
Weight	2.0 kg
Lens mount	C-mount
Shutter	Electro-mechanical