

SPECIM FX120



COMPACT AND FAST WITH FULL LWIR RANGE

Specim FX120 is an advanced long-wave infrared (LWIR) hyperspectral camera with a full spectral range of 7.7 to 12.3 μm .

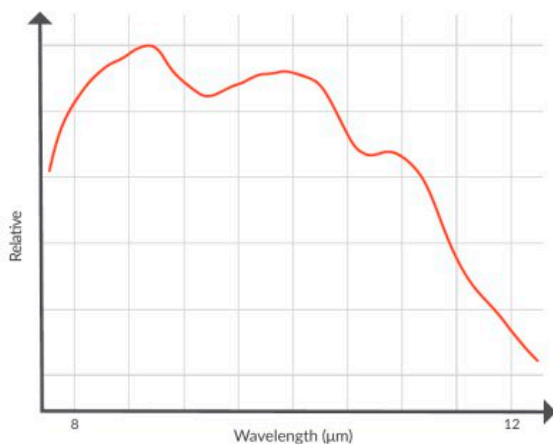
With its excellent spectral and spatial imaging performance, this thermal push-broom HSI camera is well-suited to mineral exploration, environmental analysis, thermal anomaly detection, and safety and security applications.

With the SisuRock workstation, Specim FX120 enables fast and accurate drill core scanning.

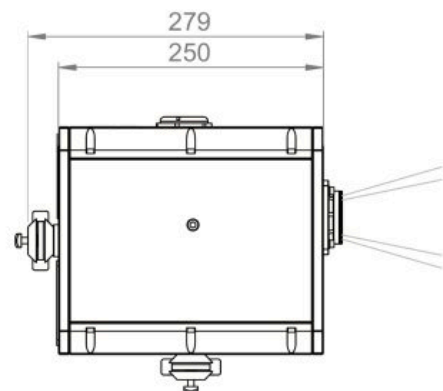
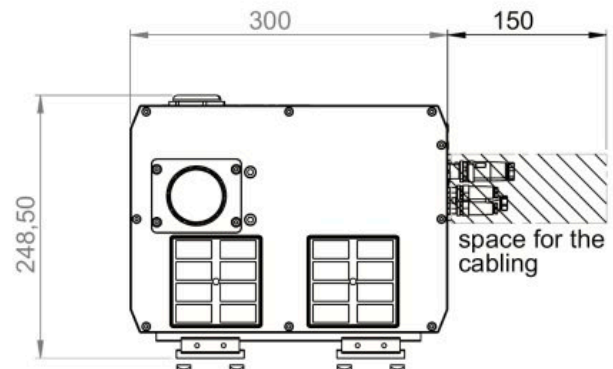
FEATURES

- 7.7 to 12.3 μm spectral range
- 160 spectral bands
- 616 spatial pixels
- High image speed of 240 FPS (with 1ms integration time)
- High signal-to-noise ratio
- GigE Vision standard interface
- Freely selectable multiple regions of interest (MROI)
- Compact, transferable and robust

SPECTRAL RESPONSE



DIMENSIONS



Spectral Range	7.7 - 12.3 μm	
Spectral resolution (FWHM)	100 nm	
Spectral sampling/pixel	30 nm	Without binning
Spectral bands	160	
Numerical aperture	2.0	
Optics magnification	0.5	
Effective pixel size	30 μm	At fore lens image plane
Effective slit width	104 μm	At fore lens image plane
Effective slit length	18.5 mm	At fore lens image plane
Dynamic Range - Reflectance measurement	4000:1 (1.5ms); 6000:1 (0.2ms)	Maximum true signal / dark noise
Max SNR - Reflectance measurement	2500:1 (1.5ms) ; 3000:1 (0.2ms)	Maximum true signal / signal noise
Max SNR - Emission measurement	500	300 K target; Averaged over spot size
Spatial pixels	616	
Bit depth	16	
Maximum frame rate	240 FPS	Full image with default binning and 1ms integration time
Binning	1,2,4 spectral and spatial	Default: 2 spectral x 1 spatial
ROI	Freely selectable multiple regions of interest	Minimum height of ROI is two 1-binned rows. Maximum frame rate is determined by total number of rows between first row of first MROI and last row of last MROI – not the total number of rows included in the MROI's.
Pixel operability	$\geq 96\%$	
Image corrections	Non uniformity correction Bad pixel replacement Automatic Image Enhancement (AIE)	One point NUC AIE: Unified spectral calibration + corrected smile and keystone aberrations
Sensor material	MCT	
Integrated cooler	Stirling	
Full well capacity	20 Me-	
Read-out modes	ITR	
Optics temperature	TEC-stabilized	Default is 20 degrees Celsius
Lens mount	Custom mount	
Fore lens options	OEL43, OEL32	
Field of view	24 deg., 32 deg.	
Camera digital data output/control interface	GigE Vision, Custom ethernet	
Camera control protocols	GenICam, JSON-RPC	
Power input	24 V DC	
Power consumption	150 W	During simultaneous cool-down of optics and detector
Connectors	Ethernet Aux Power Trig In Trig Out	
IP	IP40	
Dimensions (L x W x H)	250 mm x 300 mm x 220 mm	Mounting surface option on two sides. The mounting kit adds a 24 mm distance on the mounting side.
Weight	15 kg	
Storage temperature	-20 ... +50 $^{\circ}\text{C}$	
Operating temperature	+5 ... +40 $^{\circ}\text{C}$	
Relative humidity	5% – 95% (non-condensing)	

Specim, Spectral Imaging Ltd. • A Konica Minolta Company • POB 110, FI-90591 Oulu Finland • Elekroniikkatie 13, Oulu Finland
Tel +358 (0) 10 4244 400 • VAT Identification number FI10079234 • info@specim.com • www.specim.com

Information in this document is subject to change without notice. Specim, Spectral Imaging Ltd. reserves the right to change or improve its products and specifications and to make changes in content without obligation to notify any person or organization of such changes or improvements.

Specim-FX120-Technical-Datasheet-01