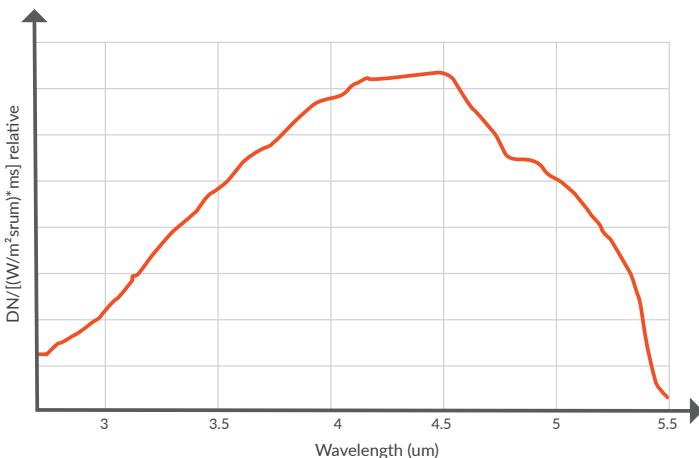# SPECIM FX50

SPECIM
SPECTRAL IMAGING

IMPROVE ACCURACY AND REDUCE COSTS

Specim FX50 is a high-speed, accurate and efficient spectral camera specifically designed to industrial environments. It operates on MWIR region and can be used to identify and sort the difficult black plastics, analyze hydrocarbons and minerals, and detect contamination on metal surfaces quickly and reliably.
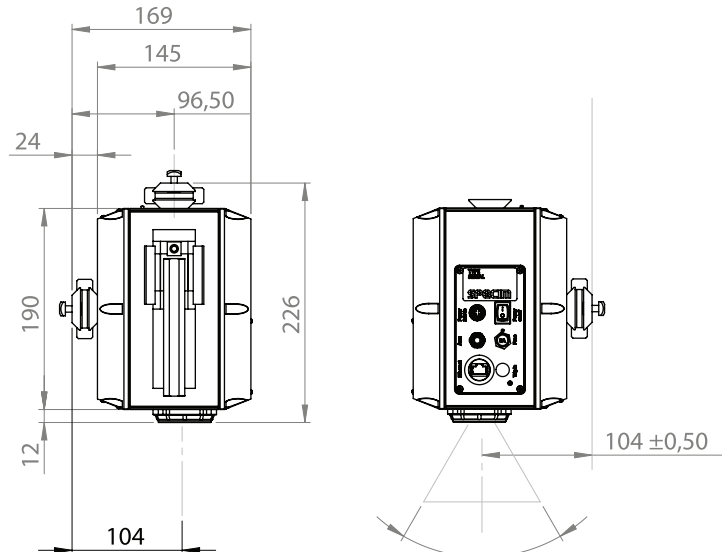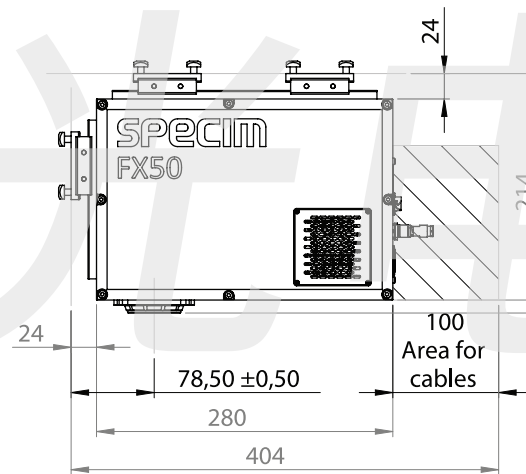
DIMENSIONS

FEATURES

- Complete spectral camera with compact form factor
- Spectral range of 2.7 – 5.3 μm
- High spatial resolution of 640 pixels
- High image speed of 380 Hz
- Temperature stabilized optics
- Built-in image correction
- Unified spectral calibration between units
- GigE Vision standard interface
- Easy mounting to industrial environment

SPECTRAL RESPONSE

OLEM 17 FOV 60°

Spectral Range	2.7 - 5.3 μm	
Spectral resolution (FWHM)	35 nm	
Spectral sampling/pixel	8.44 nm	Without binning
Spectral bands	154	With default binning
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	19.2 mm	At fore lens image plane
Dynamic Range	1600:1 with 1.5 ms exposure time	Usable dynamic range / noise
Spatial samples	640	
Bit depth	16	
Maximum frame rate	380 fps	Full image with default binning
Binning	1,2,4 spectral and spatial	Default: 2 spectral x 1 spatial
ROI	Freely selectable multiple bands 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 mMROI's.
Pixel operability	Number of operable pixels >99.7% Allowed clusters: Size 4-8 pixels: <= 12 Size 9-12 pixels: 2 Size 13-19 pixels: 1 Size >19 pixels: 0	
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	InSb	
Integrated cooler	Stirling (MTTF 25 000 h)	
Full well capacity	5.1 Me-	
Read-out modes	IWR / ITR	
Optics temperature	TEC-stabilized	Default is 20 degrees Celsius
Lens mount	Custom mount	
Fore lens options	OLEM43, OLEM23, OLEM17	
Field of view	24 deg, 45 deg, 60 deg	
Camera digital data output/control interface	GigE Vision, Custom ethernet	
Camera control protocols	GenICam, JSON-RPC	
Power input	24 V DC	
Power consumption	Max 90 W Typical 40 W	During simultaneous cool-down of optics and detector
Connectors	Ethernet Aux - 0306423 (09-0428-90-08) binder 8pin Power - 0306627 (LF10WBR-4P) hirosen 4pin Trigger in	
IP	IP40	
Dimensions (L x W x H)	280 x 202 x 169 mm	Mounting surface option on three sides. Mounting kit adds 24 mm distance on mounting side.
Weight	7 kg	
Storage temperature	-20 ... +50 °C	
Operating temperature	+5 ... +40 °C	
Relative humidity	5% – 95% (non-condensing)	