

# Hyperspectral camera FX10



## Improve accuracy and reduce costs

The FX10 series is a hyperspectral camera specifically designed for industrial and laboratory use. The FX10 hyperspectral camera operates in line scanning mode and can be used to collect spectral data in the visible light and near-infrared (VNIR) regions (400-1000nm), while the color-optimized FX10c hyperspectral camera is used to collect spectral data in the 400-780nm range.

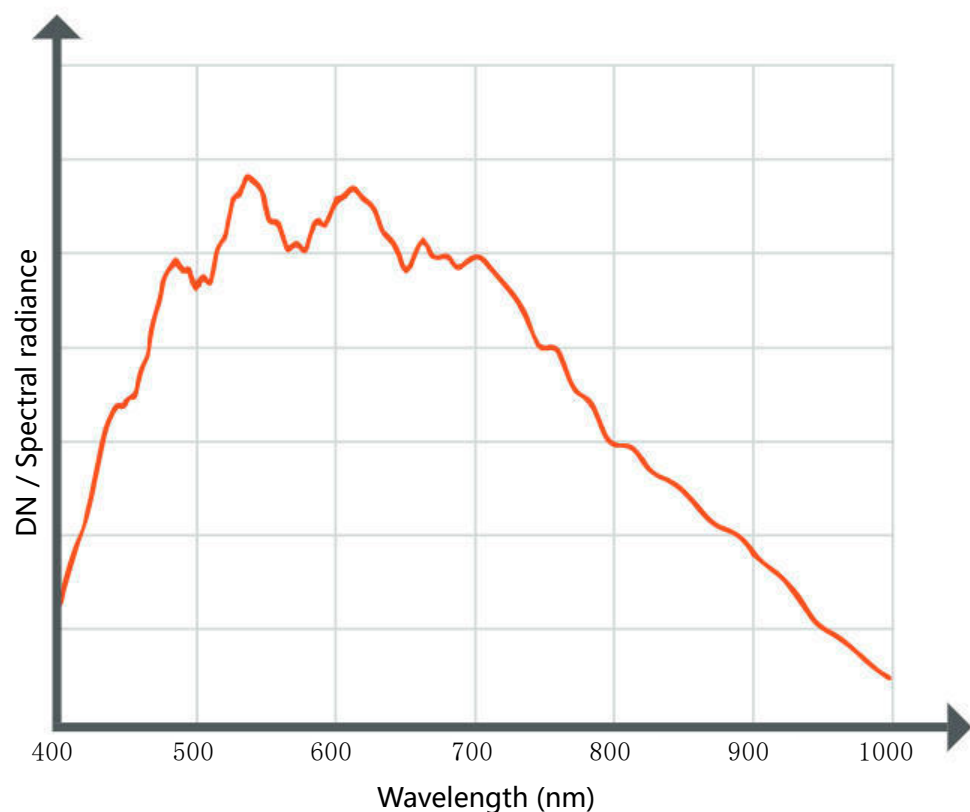
The FX10 hyperspectral camera is suitable for the following scenarios :

- Agricultural and vegetation monitoring
- Phenotypic Evaluation
- Printed Material Color Density Measurement
- Display and Light Source Inspection
- Food Quality Assessment

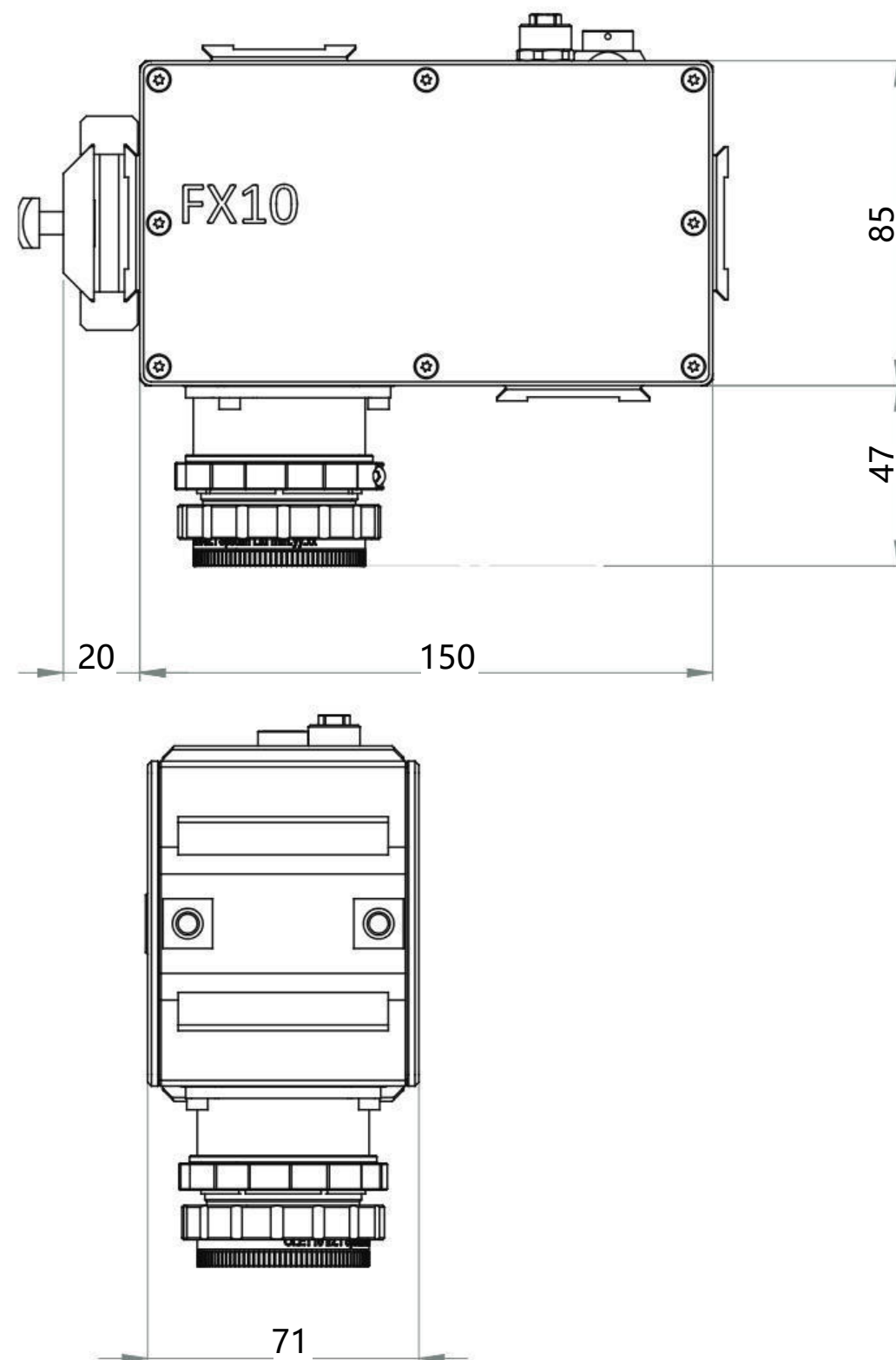
## Features

- Spectral Range: 400-1000 nm / 400-780 nm
- High spatial resolution: 1024 pixels
- High image frame rate: 327 FPS (full band range)
- 224 spectral bands within the spectral coverage range of the hyperspectral camera. Wavelengths can be freely selected in the middle
- Built-in image correction function
- Spectral calibration between different units
- GigE or CameraLink standard interfaces
- Easy to install in industrial environments
- Certification: CE, RoHS

## Spectral Response



## Size



Spectral range	400-1000 / 400-780 (c version)	
Spectral resolution (FWHM)	5.5 nm (average)	
Spectral sampling/pixel	2.7 nm	Using default binning
Number of spectral bands	224 / 140 (c version)	Use default binning
Numerical aperture	1.7	Use default lens
Optical magnification	0.80	
Effective pixel size	19.9x9.97 µm	On the front lens image plane
Effective slit width	42 µm	On the front lens image plane
Effective slit length	10.2 mm	On the front lens image plane
Signal-to-noise ratio (at maximum signal level)	420:1	
Spatial pixel count	1024	
Bit depth	12	
Maximum frame rate	327 FPS Full Bandwidth / 514 FPS Full Bandwidth (c version)	
Combined	2, 4, 8 Spectra and Pixels	Default Setting: 2 Spectra x 1 Pixel
ROI	Multiple bands can be selected freely as needed	The minimum height of ROI is two un-binned rows. The maximum frame rate is determined by the total number of rows contained in mMROI
Pixel operability	99.993%	
Image correction	Non-uniformity correction Bad pixel replacement Automatic image enhancement (AIE)	Single Point NUC  AIE: Unified Spectral Calibration + Smile and Keystone Distortion Correction
Sensor Material	CMOS	
Sensor cooling	Passive	
Well Capacity	90 ke-	
Readout mode	IWR/ITR	
Optical Temperature	Passive	
Lens Interface	Custom installation	
Front lens FOV option	12° 38° (default) 47° 51° 83°	Only the default lens is designed specifically for the FX10. For other lens accessories, the optical parameters may vary.
Camera Digital Data Output/Control Interface	GigE Vision、CameraLink	
Camera Control Protocol	GenICam, ASCII	
Power Input	12 V DC (+-10%)	
Power Consumption	Maximum 24 W	
Interface	Industrial Ethernet or CameraLink 26 pin, 0.5MDR	
IP level	IP52	
Dimensions (L x W x H)	150 x 85 x 71 mm	Three sides provide installation surface options. The installation kit adds 24 mm of distance on the installation side.
Weight	1.3 kg	
Storage Temperature	-20 ... +50°C (no condensation)	
Operating Temperature	+5 ... +40°C (no condensation)	
Relative humidity	5% – 95% (no condensation)	