

Hyperspectral Camera FS1X Series (Line Scan)



Visible light:

- Spectral range: 400-700nm, wavelength resolution better than 2.5nm, up to 600 spectral channels
- Acquisition speed: up to 41fps for the full spectrum, up to 390fps after band selection (supports multi-region band selection)
- Widely used in surface color and texture detection of various industrial products such as printing and textiles. The single pixel repeatability of color measurement can reach $dE^*ab < 0.1$

Visible near infrared (400-1000nm):

- Wavelength resolution better than 2.5nm, up to 1200 spectral channels
- The number of spatial pixels can reach 1920

Shortwave infrared (900-1700nm):

- Wavelength resolution better than 6nm, up to 512 spectral channels
- The number of spatial pixels can reach 640

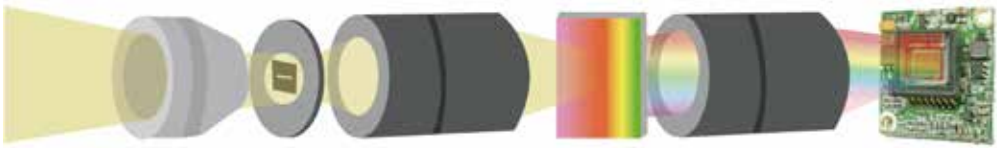
Visible light, near infrared,
short wave infrared (400-1700nm):

- Wavelength resolution better than 13nm, up to 680 spectral channels
- Spatial pixel count up to 1280

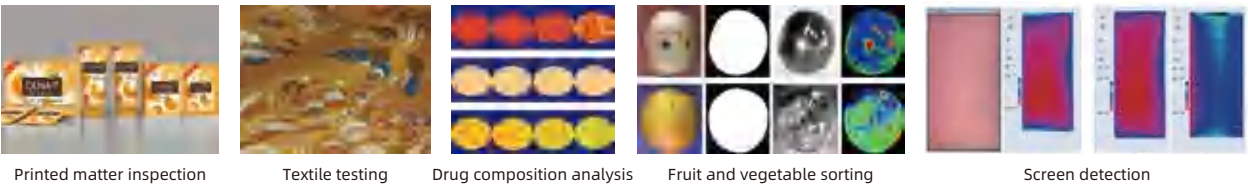
Shortwave infrared (1400-2500nm):

- Wavelength resolution better than 12nm, up to 210 spectral channels
- The number of spatial pixels can reach 320

Measurement principle



Typical application



Parameters

Model	FS-10	FS-12	FS-13	FS-14	FS-15	FS-1A
Spectroscopic method	Grating	Grating	Grating	Grating	Grating	Grating
Spectral region	400-700nm	400-1000nm	400-1000nm	400-1700nm	900-1700nm	1400-2500nm
Spectral band	600	1200	1200	680	512	210
Spectral FWHM	2.5nm	2.5nm	2.5nm	13nm	6nm	12nm
Slit width	25um	25um	25um	25um	25um	25um
Transmission efficiency	50%	60%	60%	60%	60%	60%
Stray light	0.5%	0.5%	0.5%	1%	0.5%	0.5%
Spatial pixel number	1920	1920	1920	1280	640	320
Pixel size	5.86um	5.86um	5.86um	5um	15um	20um
Imaging speed	Full band 41fps 390fps can be achieved after ROI	Full band 41fps 390fps can be achieved after ROI	Full band 128fps 3300fps can be achieved after ROI	100fps	579fps	509fps
Detector	CMOS	CMOS	CMOS	InGaAs	InGaAs	InGaAs
SNR(Peak)	500/1	600/1	600/1	600/1	600/1	300/1
Camera output	USB3.0	USB3.0	USB3.0	USB3.0	USB3.0	USB3.1
Camera interface	C-Mount	C-Mount	C-Mount	C-Mount	C-Mount	C-Mount
Accessories	USB3.0 transmission line	USB3.0 transmission line	USB3.0 transmission line	Lens, USB cable, power supply	USB3.0 transmission line	Lens, USB cable, power supply
ROI	Single area	Single area	Multiple area	Multiple area	Single area	/
Dimension	Length x width x height:22.8cmx7cmx8.6 cm	Length x widthx height:22.8cmx7cmx8.6 cm	Length x width x height:22.8cmx7cmx8.6 cm	Length x width x height:22cmx11cmx9.5cm	Length x width x height:34.5cmx12.2cmx13.6cm	Length x width x height:47.2cmx14.6cmx122mm
Weight	1250g	1250g	1250g	1.3kg	2.7kg	4.4kg
Power dissipation	5W	5W	5W	5W	5W	36w

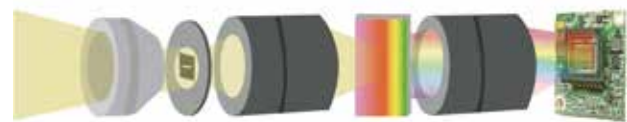
Hyperspectral camera FS-17



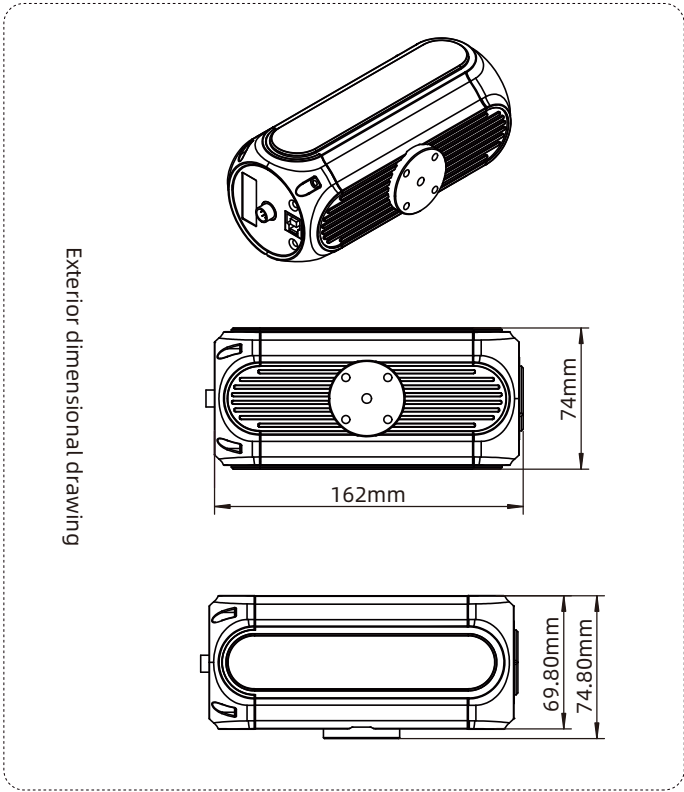
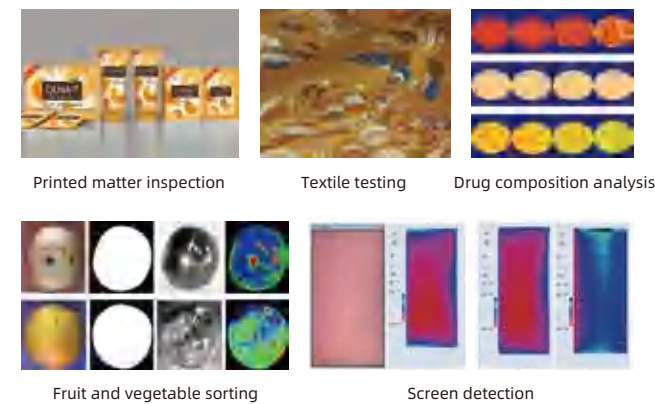
FS-17 is a 900-1700nm near-infrared hyperspectral camera launched by CHNSpec Technology, which is an advanced hyperspectral imaging equipment. InGaAs matrix image sensor with high sensitivity, with excellent spectral resolution and spatial resolution, can be widely used in agriculture, food, pharmaceutical, environment and other fields; Support for USB3.0 interface, compatible with standard C-Mount lenses, flexibility and ease of use, easy to integrate into the device for real-time hyperspectral imaging; Using a unique optimization algorithm to achieve high-speed acquisition and processing, with high efficiency and stability, it is a reliable hyperspectral imaging equipment.

- Spectral method: transmission grating
 - Spectral range: 900-1700nm
 - Spectral channel: 1024
 - Spectral resolution: 8nm
- Number of space pixels: 1280
 - Imaging speed: up to 1800fps after ROI
 - Slit width: 25um
 - Camera interface: C-Mount

Measurement principle



Typical application



Parameters

Model number	FS-17
Spectroscopic method	grating
Spectral range	900-1700nm
Spectral channel	1024
Spectral resolution (FWHM)	6nm
Slit width	25um
Transmission efficiency	> 60%
Stray light	< 0.5%
Number of spatial pixels	1280
Pixel size	5um
Imaging speed	8bit/1024 bands 132 frames/SEC,12bit/1024 bands 70 frames/SEC,8bit/512 bands 253fps, up to 1800fps after ROI
probe	InGaAs
SNR(Peak)	600/1
Camera output	start
Camera interface	C-Mount
attachment	Lens, USB cable, power supply
ROI	Multiple regions
dimension	Length x width x height :16.6cmx7.5cmx7.4cm
weight	700g
Power dissipation	5W

High speed hyperspectral sorting system FS-18/19

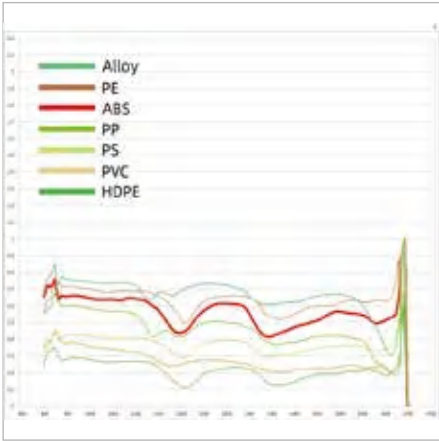


The FS-18/19 is a line scan hyperspectral camera from CHN Spec designed for industrial sorting applications. Its high frequency features meet the scanning speed requirements of industrial applications, and its robust construction and compact body also make it more flexible in installation scenarios.

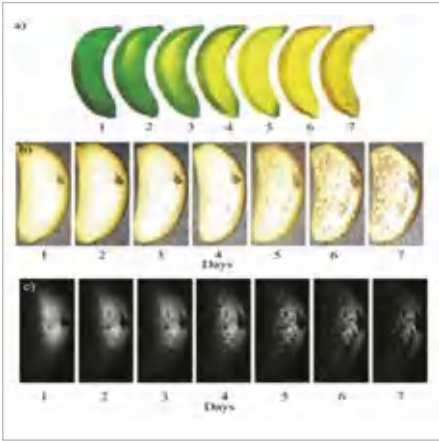
- Spectral range: 900-1700nm
- Imaging speed: up to 3500fps
- Spectral resolution: 6nm
- Suitable for all environments
- Hyperspectral image processing software is provided



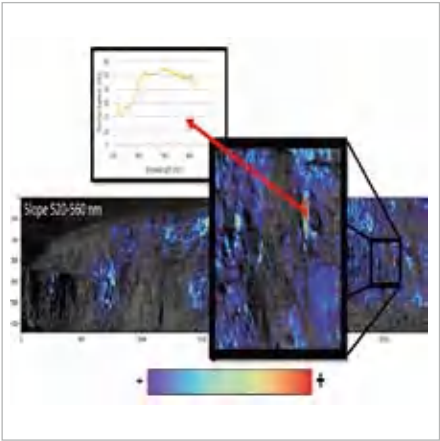
Application fields



Plastic sorting



Fruit and vegetable sorting



Ore sorting

Parameters

Product number	FS-18	FS-19M	FS-19X
lighting method	Passive lighting (excluding light source)		
Spectral method	Transmission grating		
Spectral range	900-1700nm		
Number of spectral bands	512	150	100
Spectral resolution	< 6nm	< 9nm	< 13nm
slit width	25um		
Transmission efficiency	> 60%		
stray light	< 0.5%		
number of spatial pixels	640		
Pixel size	15um		
Lens focal length	Standard 8mm (optional 6mm, 12mm, 25mm, 35mm lenses)		
field of view	62°(8mm focal length lens), 77°(6mm lens)		
Imaging speed	724fps	2400fps	3500fps
detector	InGaAs		
SNR(Peak)	600/1		
camera output	Cameralink		
camera interface	C-Mount		
Accessories	Lens, data cable, power supply, data acquisition card		
Technical Support	SDK can be provided to support secondary development		
ROI	single area		