

High-speed Hyperspectral Camera SWIR



SWIR is a high-speed hyperspectral camera that operates within the short-wave infrared range (1000-2500 nm). Its temperature-stable optical components offer excellent stability and sensitivity, meeting the demands of various demanding chemical imaging applications, including pharmaceutical quality monitoring as well as food and agricultural analysis applications.

Applicable scenarios

- Chemical and material sorting
- Pharmaceuticals
- Resource recycling and waste management
- Mineral mapping
- Food and agriculture
- Moisture content distribution
- Art research and archiving

The SWIR hyperspectral camera is compatible with LUMO software, and the data cube is compatible with ENVI, supporting further hyperspectral data processing.

Accessories

• Front objective lens:

OLES 15 field of view 34°

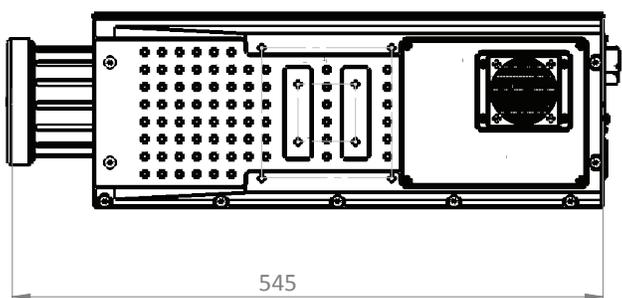
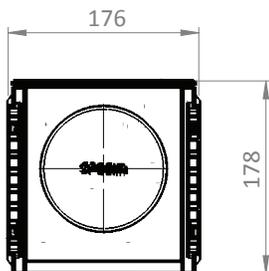
OLES 22,5 field of view 23°

OLES 30 field of view 17°

OLES 56 field of view 9°

- With the help of fiber optic lenses, hyperspectral cameras can be converted into multi-point spectrometers. All points can be measured simultaneously without moving the multiplexer.
- The rotating platform can be used for scanning static targets and outdoor scenes, and the X-axis sample mover can be used for desktop and microscope applications.

Size



Optical characteristics	
Spectral range	1000 - 2500 nm
Spectral resolution (FWHM)	12 nm (30 µm slit)
Spectral sampling/pixel	5.6 nm
Aperture value	F/2.0
Slit width	30 µm (Optional 50 or 80 µm)
Effective slit length	9.2 mm
Electrical characteristics	
Sensor	Low-temperature cooled MCT detector
Spatial pixel count	384
The number of spectral bands	288
Pixel size	24 x 24 µm
Detector cooling	Stirling, 25 000 h MTTF
Signal-to-noise ratio	1050:1(When the maximum signal level is reached)
Camera output	16-bit CameraLink
The length of the data cable	5m
Camera control	USB/RS232
Image acquisition card	NI-1433 Epix Image Acquisition Card E4*
Frame rate	450 fps (The maximum value of full-band acquisition)
Exposure time range	0.1 - 20 ms
Power consumption	Nominal value < 500,000
Input voltage	18 - 36 V
Mechanical characteristics	
Size (L x W x H)	Sensor 545 x 176 x 178 mm PSU and control unit 300 x 190 x 130 mm
Weight	14 kg and approximately 5 kg
Fuselage	Anodized aluminum, with installation screw holes
Lens interface	Standard C interface
Shutter speed	Electromechanical
Environmental characteristics	
Storage	-20... +50 °C
Work	+5... +40 °C No condensation

*Lumo 2022 Update 1 is required