

# spectral camera **SWIR**

SPECIM launches a new fully redesigned and re-engineered hyperspectral SWIR camera with break-through features. It has more spatial pixels (384) and still achieves much faster image rates up to 400 frames per second using CameraLink connection. To assure indoor/outdoor usage in varying conditions it now has rugged weather-proof IP54 casing and temperature stabilized optics but still uses less power than before, only 50W nominal.



# APPLICATIONS

Chemical and Material Sorting
Pharmaceutical manufacture
Recycling
Mineral mapping
Food and agriculture
Moisture content distribution
Art research and archiving
Forensics
Airborne

## SCANNING WORK OF ART

Spectral Camera SWIR image (in the middle) revealed far more information from the underlying work than RGB or X-rays.

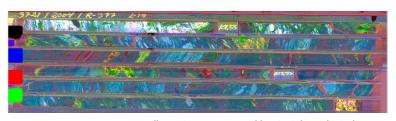
High-speed hyperspectral camera in the range 1 000 - 2 500 nm. With its temperature stabilized optics, it provides the stability and sensitivity required in today's most challenging near-infrared chemical imaging applications, from pharmaceutical quality assurance to food and agriculture analysis. The camera meets the highest requirements in lab industry, field and air.



Courtesy of Agata Warszewska-Kolodziej, The National Museum of Wroclaw, Poland

#### SCANNING DRILL CORES

Spectral Camera SWIR images this set of drill cores samples in less than 11 seconds with  $1.3 \times 1.3$  mm pixel resolution.



Drill core image processed by Finnish Geological Survey



# **Performance Specifications**

Spectral resolution FWHM  Spectral sampling  Spatial resolution  F/#  Slit width  Spectrical characteristics  Detector  Spatial pixels  Spectral bands  Pixel size  Detector cooling  Stirling, 4 000 h  Optics temperature stabilization  Camera output  Signal-to-noise ratio  Data cable  Exposure time range  Exposure time range  Power consumption  Input voltage  Weight  Solat (Lx W x H)  Weight  Body  Lens mount  User adjustments  Shutter  Electro-mechanical shutter for dark image acque  Tour solat samplar for other mo  Options, ask for di			
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Accessories Lenses, radiometric calibration, white calibration			

### **ACCESSORIES**

SPECIM provides various accessories for the Spectral Cameras to broaden their applicability.

**Fore objective lenses**, specifically designed for optimized performance in 900-2500 nm.

Lens	Focal length	FOV
OLES 15	15 mm	34 degrees
OLES 22,5	22,5 mm	23 degrees
OLES 30	30 mm	17 degrees
OLES 56	56 mm	9 degrees
OLES Macro	1:1 imaging	

**Fiber optics** with collection lenses or SMA connectors: from 4 to 110 input channels in one spectrometer without a moving multiplexer.

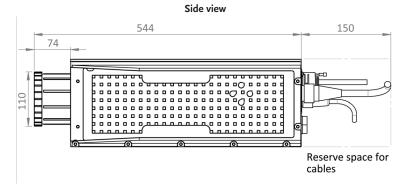
**Various scanning systems**: mirror scanner on rotary stage for scanning static target and outdoor scenes, and X-stage sample mover for desktop and microscope applications.

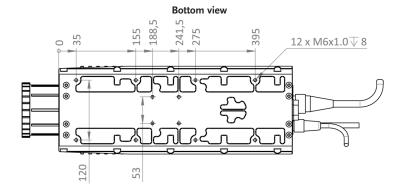
## **ACQUISITION SOFTWARE**

SPECIM Spectral Camera SWIR is supported by SpectralDAQ software, which allows:

- data acquisition and saving data in the hard disk
- to set camera parameters
- image visualization in real time
- · to control scanner systems

Datacubes are saved in non-proprietary ENVI, Matlab and R compatible format that allows further image processing with several commercial software packages. SPECIM can also provide SDK for quick and efficient application development.





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