



SWIR SERIES

High-Performance Short Wave Infrared (960-2500nm)

Hyperspectral Imaging Cameras



ClydeHSI SWIR Series Hyperspectral Cameras are **high speed, high sensitivity and highly stabilised** Hyperspectral Cameras that cover the short-wave infrared (SWIR) spectral range from 960 to 2500nm.

The SWIR Series is fully compatible with all ClydeHSI hyperspectral scanning solutions and software packages, and are supplied with a universally compatible mounting plate to ensure efficient and safe operation on all ClydeHSI system configurations.

Sterling cryogenic cooling for exceptional noise performance in a wide range of operational environments.

With interchangeable fore-optics to accommodate a wide range of standoff distance and spatial resolution requirements, the SWIR-Series is suitable for a wide range of laboratory and industrial machine vision applications.

Key Applications:

Materials Sorting & Analysis

Heritage Science

Food and Agriculture

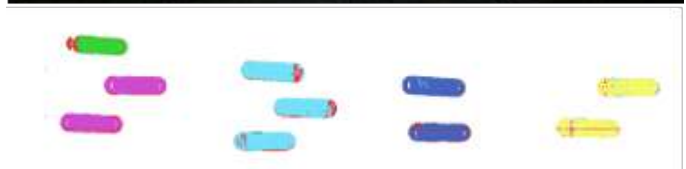
Food Quality Grading

Mineralogy and Geology

Waste Sorting and Recycling

Moisture Measurement

Pharmaceuticals



Technical Specifications

Parameter	Value			Units
Model	SWIR-384-Mk1	SWIR-384-Mk2	SWIR-640	
Spectral Range	1000-2500	960-2500		nm
Spectral Resolution	≤12	≤6		nm FWHM
Spectral Sampling/pixel	5.6	5.4	4.3	nm
Pixels (Spatial Line)	384		640	pix
Spectral Pixels	288		362	pix
SNR @ Max Signal	1050:1	1100:1 (Low gain) 640:1 (High gain)	1050:1 (Low gain) 350 (High gain)	
Pixel Size	24		15	μm
Full Well Capacity	1 (Low gain) 0.34 (High gain)	1.3 (Low gain) 0.4 (High gain)	1 (Low Gain) 0.148 (High Gain)	Me-
Sensor Material	HgCdTe			
Sensor Cooling	Stirling cryogenic cooling			
Smile and Keystone	Sub-pixel across output field			
Objective Lens Options	12 22 30 56 1:1 Macro	Consult ClydeHSI		mm
Lens mount	C-mount	Custom		
Bit Depth	14	16		bit
Camera Interface	CameraLINK			
Frame Rate ^a	450	395	225	lfps
Integration time ^b	0.1 to 20	0.1 to 100		ms
Shutter ^c	Integrated			
ROI	Freely selectable multiple bands of interest, spectral			
Input Voltage	24	12		V DC
Operating Temperature	-20 to +65	-20 to +50		degC
Humidity	5% - 95%			
Weight	14	5.7	4.1	kg
Dimensions	545 x 176 x 178	380 x 120 x 175	360 x 110 x 150	mm

Notes:

a. Frame rate depends also upon the computer performance and operating system. It also depends upon the interface chosen, the bit resolution, and the binning conditions.

b. Integration time is independent of frame rate in the case that Integration time < 1/frame-rate

c. Shutter operation controlled by software for dark signal and bad pixel mapping