



VNIR SERIES

High-Performance Visible and Near Infrared (400-1000nm)

Hyper-Spectral Imaging Camera

The ClydeHSI VNIR-S and VNIR-HR are **high sensitivity, high-frame rate** HyperSpectral Cameras that are capable of imaging the visible to very near infrared spectral range from 400 to 1000nm.

The ClydeHSI VNIR HyperSpectral Camera Series is **incredibly versatile**, and can be used in a wide range of scientific and industrial applications, for example: colour measurements, art and conservation heritage, phenotyping, machine vision, food quality and security as well as package seal integrity inspection, as well as forensic trace evidence determination.



Technical Specifications

Parameter	Value		Units
	VNIR-S	VNIR-HR	
Model	VNIR-S	VNIR-HR	
Spectral Range	400-1000		nm
Optical Spectral Resolution	8	<3	nm
Pixels (Spatial Line)	2500		pix
Pixels (Spectral)	2560		pix
Smile and Keystone	Sub-pixel across output field		-
Camera output	Up to 14		bit
Camera Interface	USB-3 or Camera LINK		-
Frame Rate ^a	Up to 420		lfps
Integration time ^b	10 to 8,000,000		µs
Shutter ^c	N/A	Integrated	-
Lens mount	C-mount		-
Input Voltage	24		V DC
Operating Temperature	20 ± 5		degC
Humidity	5% - 95%		-

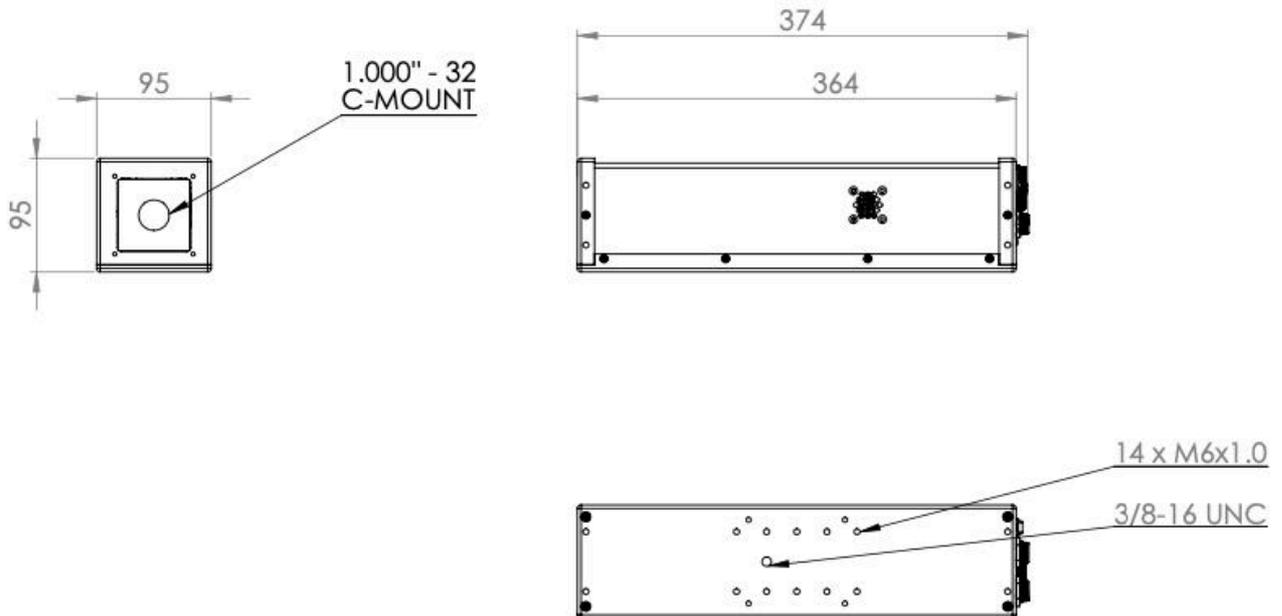
Notes:

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

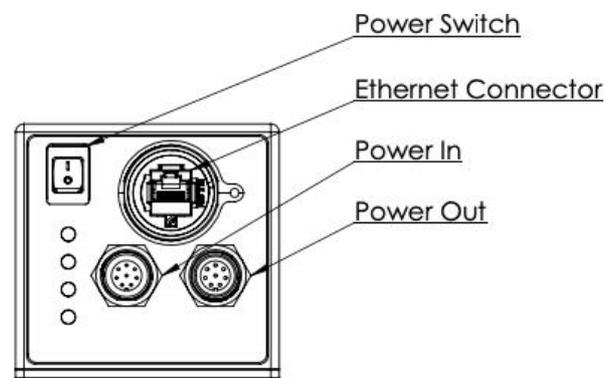
Dimensions



Connectivity

As with all ClydeHSI hardware and software, the VNIR HyperSpectral Camera Series has been designed from the ground up with **user convenience and functionality** in mind. As a result, all cameras in our NIR series are fully compatible with all of our hyperspectral scanning solutions and software, and come provided with a mounting plate which is **universally compatible** with all of our systems to ensure efficient and safe operation.

The VNIR series interface pictured below is designed for **user functionality and high performance**. One power cable and one USB input allow the cameras to be powered up and connected to our software in seconds, where they can be fully operated by the user **easily and efficiently**.



Lenses for VNIR-S and VNIR-HR cameras (400-1000 nm)

ClydeHSI supplies 4 lenses compatible with our NIR HyperSpectral Camera Series, each with a different focal length and subsequent field of view.

Note: the table shows the lens performance with a standard spectrograph slit and is dependent on specifications.

Focal Length (mm)	FOV (deg)	IFOV (mrad)
17	38.9	1.76
23	29.2	1.30
35	19.5	0.86
50	13	0.60

About Us

We make and measure rainbows.

ClydeHSI are specialists in optical spectroscopy and provide a wide range of both hyper-spectral and conventional spectroscopy instruments and full systems. All our products are supported by leading software for data acquisition, analysis and display.

We take care of the technology, so you can focus on what matters to you.

Our mission is to provide each and every one of our clients with a complete, end-to-end hyperspectral imaging solution, each designed and rigorously tested to ensure **robust, reliable, accurate and repeatable** hyperspectral imaging measurements across a range of academic and industrial applications. Our ultimate goal for all of our systems is to **make hyperspectral imaging easy** for any and all end users.

We believe in **high quality engineering and design**, allowing us to develop market leading products and services. Within our Photonics Research Facility, we have the capability to rapidly develop new products and systems, and welcome the opportunity to partner with our customers on new developments - both within the scientific research community and for equipment for industrial applications.

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