

Observer UHI 6 OV



Underwater hyperspectral camera UHI 6 Ocean Vision.
The unit displayed has an integrated RGB camera.

1 Technical specifications

Technical specifications	Observer UHI 6 OV
Depth rating	300m
Hyperspectral imager	
Spectrograph slit size	80 μm
Imager frame rate	Max 100 Hz
FOV transverse/ longitudinal	$\sim 50^\circ$ / $\sim 0.4^\circ$ (In water) $\sim 68^\circ$ / $\sim 0.54^\circ$ (In air)
Camera spatial resolution	968 spatial pixels
Spectral range	400 – 700 nm
Optical spectral resolution	5.5 nm
Spectral band count	~ 170
Analog to digital converter (ADC)	12-bit
Exposure time range	1 – 5000 ms
Calibrated for:	Radiometric, geometric and spectral parameters

Electrical interface	
Adapter and cabling for lab connection	24 V
Camera control and communication	Ethernet
Input voltage	9 – 75 VDC
Internal computer storage	~500 GB (Optional ~1 TB)
Power consumption	Max 35 W, typical 24 W
Main Connector	Subconn DFCR2013-M
Software	
Topside control software	Immersion: user interface for data acquisition, control, and pre-processing. Designed for use on Windows and Linux Ubuntu 16 on ordinary laptop with ethernet connection.
Hyperspectral data format	Hierarchical data format, h5
Mechanical	
Weight without holder (water/air)	~7.7kg/ ~2.8 kg
Size without holder (length x diameter)	390 mm x 135 mm
Housing material	Black anodized aluminium
Front glass material	Plexiglass
For transportation and storage	Pelicans case box
Environmental Specifications	
Water Depth	300 meters
Temperature	Operating in water -5 C to + 35 C
	Operating in air -5 C to + 25 C
	Storage -5 C to + 35 C
	Avoid direct sunlight
Vibration	5g 20 – 150 hz 3 axis (non- operating)
Shock	10g peak 25 ms half-sine pulse
Optional	
Mounting bracket and bracket base plate for ROV mounting	150mm along UHI x 165 mm wide. 4 x 9mm holes 100mm apart
Integrated RGB camera	5 MP, XIMEA MU9PC-MH, max 5 FPS (or equivalent)
Integrated VRU	Xsens MTi-600 series
Disk space	Optional 1 TB
External altimeter	ISA500 P/N:1338
Integration to SpectraLux subsea lights	SPLX 300m

The technical specifications may be changed at the discretion of Ecotone.

2 Operational environment and requirements

The UHI camera is equipment with components consisting of optics, electronic cards, computer unit, mechanical frame and inside cabling. The equipment is design to be operated on ROV and AUV or other sub-sea platforms (instrument carrier) which profiles above the seafloor. External lights must be provided as a part of the instrument carrier. Ecotone offers SpectraLux LED subsea lights designed for use with UHI.

The normal operation includes storages on a support vessel during steaming to and from a survey area. Care should be taken that the equipment is securely fasten and not subjected to high vibration or shock. During launch and recovery care should be taken not to experience contact with the vessel which may cause damage or high shock. The equipment must be mounted on the platform in such way that it is protected mechanical in an appropriate way. Being a line-camera care should be taken when mounted that the unit cannot rotate along its axis.

The UHI camera (and altimeter) are sealed after final testing before shipping and should not be opened by other than Ecotone AS or authorized personnel.

The UHI camera shall not during storage or in a non-operating mode be exposed to direct sunlight which may result in excess temperature inside the camera.

3 Contact

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