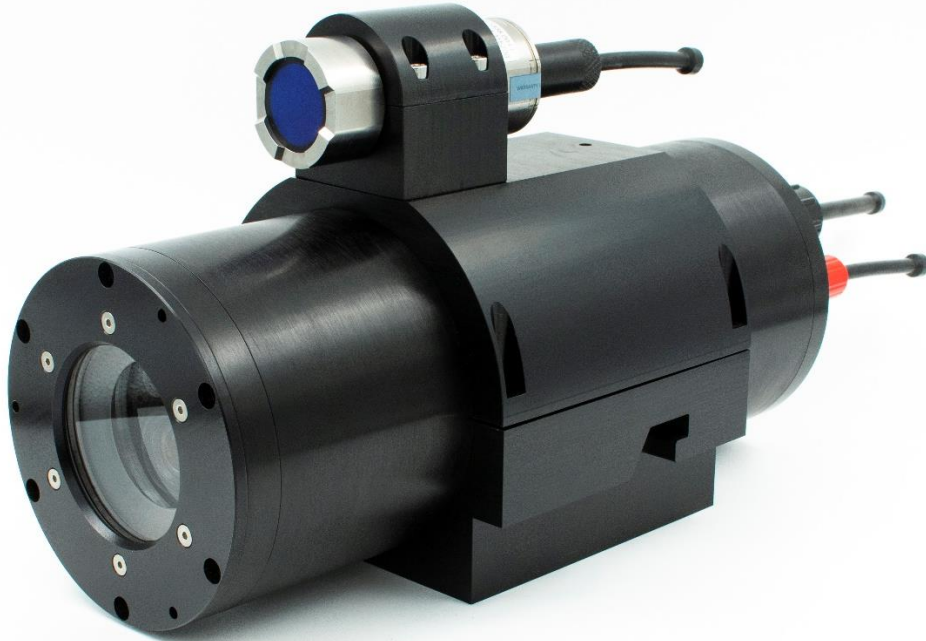


Scientific UHI 6 OV



Underwater hyperspectral camera Scientific UHI 6 Ocean Vision.
In mounting bracket with external altimeter.

1 Technical specifications

| Technical specifications | Scientific UHI 6 OV |
|-----------------------------------|---|
| Depth rating | 2000m |
| Hyperspectral imager | |
| Spectrograph slit size | 80 μm |
| Imager frame rate | Max 100 Hz full resolution, Max 200Hz if region of interest is reduced |
| FOV transverse/ longitudinal | $\sim 50^\circ$ / $\sim 0.4^\circ$ (In water) $\sim 68^\circ$ / $\sim 0.54^\circ$ (In air) |
| Camera spatial resolution | 1936 spatial pixels |
| Spectral range | 380 – 750 nm |
| Spectral resolution | 5.5 nm |
| Spectral band count | ~ 800 |
| Analog to digital converter (ADC) | 12-bit |
| Exposure time range | 1 – 5000 ms |
| Calibrated for: | Radiometric, geometric and spectral parameters |

| Additional instrumentation | |
|--|---|
| Integrated RGB camera | 5 MP, XIMEA MU9PC-MH, max 5 FPS (or equivalent) |
| Electrical interface | |
| Adapter and cabling for lab connection | 24 V |
| Camera control and communication | Ethernet |
| Input voltage | 9 – 75 VDC |
| Internal computer storage | ~1 TB (Optional ~2 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) | ~7.8 kg/ ~2.9 kg |
| Size without holder (length x diameter) | 390 mm x 135 mm |
| Housing material | Black anodized aluminium |
| Front glass material | Fused silica |
| For transportation and storage | Pelicans case box |
| Environmental Specifications | |
| Water Depth | 2000 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 VRU | Xsens MTi-600 series |
| Disk space | Optional 2 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.

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