

OE14-408 / 408E



KONGSBERG



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UNDERWATER DIGITAL STILLS CAMERA

- **10 Megapixel resolution**
- **Real time framing video**
- **True 'on-the-fly' upload capability**
- **4,500 msw Titanium alloy housing**
- **Tri-state/RS232/RS485 / Ethernet control configurations**
- **Achromatic doublet lens minimises aberrations and distortions**

The Kongsberg Maritime OE14-408 (PAL and NTSC) is a new generation digital stills colour camera with smaller diameter and higher resolution than the previous model featuring 10 Megapixel resolution and 5x optical zoom.

Each image is framed using real time video and is temporarily stored in the on-board memory (standard 16Gb). Images can be uploaded on the surface using a rapid USB 2 link or over an ad-hoc wireless network. This wireless feature reduces the frequency the camera needs to be removed from the vehicle or lander, saving the operator time and improving cable and connector reliability.

For 'on-the-fly' image transfer the dedicated underwater USB 2 interface connector is available should the host vehicle have a USB over fibre capability.

The camera is also available with an additional Ethernet interface, the OE14-408E which combines all the functionality of the standard OE14-408 while also allowing the operator to control all camera functions remotely and download captured images through the 10/100 Base-T connection as soon as they are taken.

When used with the dedicated flashgun (OE11-442) the E-TTL through lens flash metering gives accurate exposure control.

The Graphical User Interface (GUI) gives full control of the camera over RS232/RS485 and also allows the cameras framing video to be displayed on the PC.

If hardwire control is preferred then zoom, focus and shutter functions can be controlled in this way.

Remote or sequential photo trigger options are also available.

Applications

- **Marine Science**
- **Autonomous Long Term Monitoring**
- **Wet Film Resolution Equivalent**
- **High End Inspection**

TECHNICAL SPECIFICATIONS

Performance

Image Resolution	User selectable, from 10Mp (3648 x 2736) to VGA (640 x 480)
Video Resolution	Framing video 360 TVL/PH
Light Sensitivity	Manual or Automatic, ISO 80 to ISO 3200
Minimum Scene Illumination	100 mV video at 510 x 10 ⁻³ lux faceplate
Signal to Noise Ratio	>45 dB
Image Storage	16 GB internal memory, estimated image storage capacities as follows: 3648 x 2736 - RAW resolution - 1100 images 3648 x 2736 – "L" Fine resolution - 6000 images 640 x 480 - "S" Normal resolution - 125,000 images

Electrical

Scan Standard	625 lines 50 Hz PAL, 525 lines 60 Hz NTSC	
Sensor Elements	1/1.7" High Density CCD Sensor, 10M Pixels	
Power Input	16 - 24V dc, 450mA (max) without flashgun connected	
Control and Image Upload	OE14-408	OE14-408E
	Single wire (tri-state), RS232, RS485	TCP/IP and DHCP compatible
	USB 2	10/100 Base-Tx Ethernet wiring
	Wi-Fi	IEEE802.3 compliant

Optical

Lens	6.1 - 30.5mm (35mm format equivalent to 28 - 140mm), F2.8 - F4.5
AOV in water	Horizontal: 45° Vertical: 35° Diagonal: 55°
Iris Control	Automatic (Override available through serial control)
Focus Range	Automatic or Manual (front port to infinity)

Mechanical

Dimensions	OE14-408	OE14-408E
	Diameter: 101mm Length: 239.1mm (excl. connector)	Diameter: 101mm Length: 345mm (excl. connector)
Weight	In air 4.0Kg, in water 2.1Kg	In air 5.0Kg, in water 2.2Kg
Housing Material	Titanium alloy, grade 5 6AL/4V ASTM B3 48	
Connector	Camera: 8 Pin Burton 5506-1508	Control & Download: 13 pin 'Subconn DBH13M'
	Flash: 8 Pin Burton 5506-1608	Flash: 8 Pin Burton 5506-1608
	USB 2 Image Upload: Micro Burton 5507-0906	

Environmental

Operating Depth	4,500 msw (other options available)
Temperature	Operating: -5 to 40°C, Storage: -20 to 60°C
Shock	30G peak acceleration, 25ms half sine duration
Vibration	10G, from 20 to 150Hz in all three axes
Electromagnetic Compatibility	BS EN 61000-6-3: 2007 and BS EN 61000-6-1: 2007

Options

1,500 msw Hard Anodised Aluminium housing.

Specifications subject to change without any further notice.

OE14408_408E_Datasheet_A4 / Rev. A

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