

# OE14-212/213



KONGSBERG



## COLOUR ZOOM, ROTATE AND TILT (ZRAT) CAMERA

The Kongsberg Maritime OE14-212 (PAL) and OE14-213 (NTSC) underwater CCD colour cameras provide rotate, tilt and zoom functionality within a compact and completely enclosed package.

The OE14-212/3 ZRAT camera housing is constructed from a robust, marine grade titanium alloy material and has a 4500 metre (14,674 feet) depth rating. The OE14-212 and OE14-213 ZRAT cameras have been fully qualified to withstand extremes of temperature, shock, vibration and stringent EMC standards making them suitable for use in the most extreme of marine environments.

The ZRAT camera is equipped with a 10x optical zoom feature and motorised head movement of both the horizontal and vertical axes. These functions can be operated using conventional analogue voltage (tri-state) control, or through a digital link (RS232 or RS485). The ZRAT camera is ideally suited to both situational awareness and inspection applications.

The camera is supplied with a Kongsberg Maritime graphic user interface, I.R remote control, spares kit and a shock-resistant carrying case.

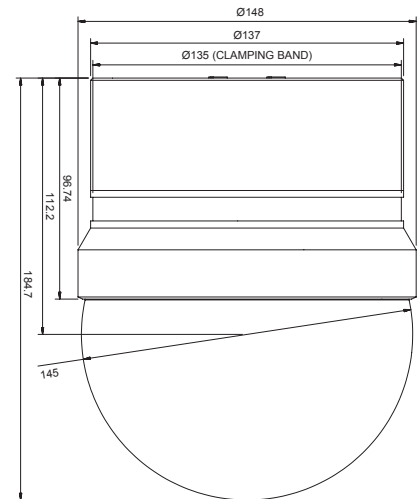
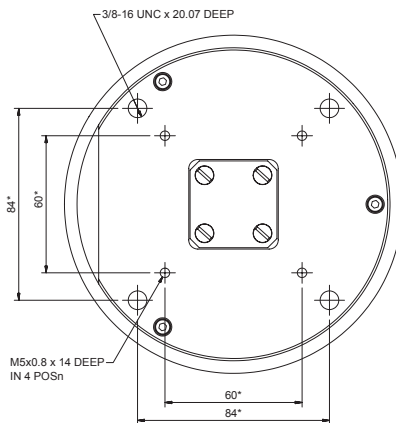
A 2,000 msw depth rated housing is available for shallow water applications and short term submergence tasks.

### Applications

- *Observation and Situational Awareness*
- *Inspection and Survey Applications*
- *Restricted Access Applications*
- *Internal Pipe and Flooded Caisson Inspection*

## FEATURES

- Completely enclosed head with tilt and rotate camera movement
- 10:1 optical zoom range
- Analogue (Tri-state) voltage control or digital control (RS232, RS485).



## TECHNICAL SPECIFICATIONS

### Performance

Horizontal Resolution	460 TVL/PH (OE14-212) 470 TVL/PH (OE14-213)
Light Sensitivity	100 mV video at $15 \times 10^{-3}$ lux faceplate 350 mV video at 0.3 lux faceplate
Min. Scene Illumination	0.16 lux (nominal)
Signal to Noise Ratio	>50 dB (weighted)

### Electrical

Scan Standard	625 lines 50Hz PAL (OE14-212) 525 lines 60Hz NTSC (OE14-213)
Sensor Elements	752 (H) x 582 (V) (OE14-212) 768 (H) x 494 (V) (OE14-213)
Video Output	1V pk –pk composite video, into 75Ω
Power Input	16 to 30 VDC, 650 mA (max)
Inrush Current	1.24 A at 16 VDC (10 ms)
Control	Single wire (tri-state), RS232, RS485
Lighting	10 gimbal mounted LEDs, illumination at 1m – 129 Lux

### Optical

Lens	4.2 mm to 42 mm, F1.8 to F2.9
AOV in water (Zoom Wide)	Horizontal: 36.3° Vertical: 26° Diagonal: 43.7°
Iris Control	Automatic (manual control available through GUI)
Focus Range	10 mm to infinity (at wide angle), 1200 mm to infinity (at narrow angle)

### Angular Coverage

Tilt	205° ( $\pm 102.5^\circ$ )
Rotate	>360°

### Mechanical

Dimensions	<b>4500 msw model</b> Diameter: 148 mm (at widest point) Length: 185 mm (excl. connector)
Weight	In air 5.9 kg, in water 4.2 kg
Housing Material	Titanium alloy, 6AL4V ASTM B3 48
Connector	8-pin Burton 5506-1508, side or rear entry (other options available)

### Environmental

Operating Depth	4500 m (other options available)
Temperature	Operating: -5°C to 40°C, Storage: -20°C to 60°C
Shock	30 G peak acceleration, 25 ms half sine duration, on all three axes
Vibration	10 G, from 20 to 150 Hz on all three axes
Electromagnetic Com- patibility	BS EN 61000-6-3: 2007 Immunity and BS EN 61000-6-1: 2007 Emission

### Features

- Long Line Drive Preset gain and frequency equalisation for coaxial cable (max. 1200 m)
- Balanced & Y/C Video Output

### 2000 msw model

Dimensions	Diameter: 123 mm (at widest point) Length: 172 mm (excl. connector)
Weight	In air 2.8 kg, in water 1.1kg
Housing Material	Aluminium alloy, 6082-T6
Connector	8-pin Burton 5506-1508, side or rear entry (other options available)

Specifications subject to change without any further notice.

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