

SURVEYOR-HD

Colour zoom camera with remote control option



The Bowtech Products SURVEYOR-SD underwater colour zoom camera has the optional benefit of handheld remote control. It utilises Sony's ExView HADTM CCD technology, delivering exceptional picture quality, with a 36:1 optical zoom lens and a 12x digital zoom, as well as a horizontal resolution of 550 TV lines, all within a 4,000 metre rated high quality titanium housing, with an 99.7% optically clear sapphire window.

One of the many unique features of this camera is the advanced back light compensation technology, which dramatically improves the camera's dynamic range, resulting in clear image reproduction in extreme high-contrast environments, known as wide dynamic.

The camera captures the same image twice, first with a normal shutter speed, which captures the dark areas and then with a higher shutter speed, which captures the bright areas. These are then combined into one image, using an advanced DSP LSI, thus clearly reproducing highcontrast images of the original scene.

Specifications

Product	SURVEYOR-HD Colour zoom camera with remote control option
Country of origin	USA
Manufacturer	Teledyne Marine

Features

- Reduced size
- 36:1 optical zoom
- Remote control option
- 550 TVL
- 77.4° Diagonal Angle of View
- 4,000 or 6,000 metre rated titanium housing

Electrical specifications

Resolution horizontal:	550 TV Lines
Sensor type	1/4" Sony EX-View HAD™ CCD
Minimum illumination	1.4 Lux Typical @ f1.6, 50 IRE
Limiting light sensitivity	0.04 Lux (faceplate)
Wide dynamic range	On/Off
Signal to noise ratio	>50dB
Scanning	625 Line 50Hz PAL, 525 Line 60Hz NTSC
Voltage	11-30Vdc
Current	400mA Maximum
Composite video output	1.0V pk-pk, Y/C (S-Video) Available
Electro-magnetic Compatibility	EN50081-1 Emission/EN50082-1 Immunity
Control options	Single Wire Bipolar, RS-232 Input, USB, RS485
Long line compensation	Switched internally or by remote control option

Environmental

Water depth	4,000m (13,000 ft), or 6,000m (20,000 ft) Option
Storage temperature	-20 to +60°C
Operating temperature	-5 to +50°C
Shock 3 Axis: (operating)	30g Peak, 6ms Half-sine Pulse
Vibration 3 Axis: (operating)	10g, 20-150Hz

Remote control option

- Selection and fine tuning of long-line amplifier
- Selectable analogue or digital
- Digital Control can be RS232, RS485 or USB (all use the same two data lines)
- Selectable termination resistor for RS485 Multi-Drop Control (all use the same two data lines)
- Selectable Light Source (LED or halogen)
- Bi-directional communication to permit camera state indicator confirmation
- Manually set and save default power up settings
- Default reset

Optical

Optical zoom	36:1 3.4mm to 122.4mm Focal Length
Digital zoom	12x (432x with optical zoom) Deactivated as Standard
Iris	Automatic, f1.6 to Close
Focus control	Front Window to Infinity (wide), 1500mm to Infinity (zoom)
Angle of view	103.2° Diagonal in Air, 77.4° Diagonal in Water
Window	Sapphire Glass

Mechanical

Housing diameter	98.4mm (3.87") Front Retainer
Length	180.1mm (8.27") 4,000m Option 183.6mm (8.27") 6,000m Option Excluding Connector
Weight in air	2.7kg
Weight in water	1.33kg
Standard housing	Titanium Alloy Grade 5 6AL-4V ASTM B3 48
Standard connector	Large selection of connectors available

