OE14-408-0016
10M Pixel Digital Stills Camera
6000 Metre

Serial Number:

KONGSBERG

Campus 1
Aberdeen Innovation Park
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Scotland
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PRESSURE TEST CERTIFICATE

Kongsberg Maritime Ltd
Campus 1
Aberdeen Innovation Park
ABERDEEN,
AB22 8GT
Scotland
Tel: (01224) 226500 (24hours)
Fax (01224) 226501

KONGSBERG

PRODUCT :

SERIAL NUMBER :

DEPTH RATING IN METRES : 6000

TEST PRESSURE : 8895PSI

TEST DETAIL :   100PSI
                                8895PSI

TIME :   30 MINUTES
                30 MINUTES

TESTED BY :

I.O.R. :

CUSTOMER :

REMARKS :   PASSED

DATE :

Warnings and Cautions

Standard Conditions of Warranty

Instruments sold by Kongsberg Maritime Limited (hereinafter called the 'Company') are warranted only as stated below:

Subject to the exceptions and upon the conditions specified below, the Company agrees to correct, either by repair or at its election, by replacement, any defect of material or workmanship which develops within one year after delivery of the instrument to the original purchaser by the Company or by an authorised representative, provided that investigation and factory inspection by the Company discloses that such defect developed under normal and proper use.

The exceptions and conditions mentioned above are the following:

a.   If any component or accessory manufactured by the Company such as glassware, optical components, light bulbs or cable, fails to give reasonable period of time, the Company will, at its election, replace or repair such component or accessory. What constitutes reasonable service and what constitutes a reasonable period of time shall be determined solely by the Company after the Company is in possession of all the facts concerning operating conditions and other pertinent factors and after such component or accessory has been returned to the Company, transportation pre-paid.

b.   The Company takes no warranty concerning components or accessories not manufactured by it. However, in the event of the failure of any component or accessory not manufactured by the Company, the Company will give reasonable assistance to the purchaser in obtaining from the receptive manufacturer whatever adjustment is reasonable in the light of the manufacturer's own warranty.

c.   The Company shall be released from all obligations under its warranty in the event of repairs or modifications made by persons other than its own or authorised service personnel, unless such repairs by others are made with the prior written consent of the Company.

d.   The Company expressly disclaims liability to its customers, dealers and representatives, and to users of it's products, and to any other person or persons for special or consequential damages of any kind and from any causes whatsoever arising out of or in any way connected with the manufacture, sale, handling, repair, maintenance, or replacement of or arising out of or in any way connected with the use of said products.

e.   Except as stated above, the Company makes no warranty, express or implied (either in fact or by opt of law), statutory or otherwise: and, except to the extent stated above, the Company shall have no liability under any warranty, express or implied (either in fact or by opt of law), statutory or otherwise.

f.   Representations and warranties made by any person, including dealers and representatives of the Company, which are inconsistent or in conflict with the terms of the warranty (including but not limited to the limitations of the liability of the company as set forth above), shall not be binding upon the Company unless reduced to writing and approved by a Director of the Company.

g.   This warranty shall be governed by the laws of Scotland.

General Information

SPECIFICATIONS

The Company reserve the right to change specifications at any time without notice and without incurring any obligation to incorporate new features in instruments previously sold.

DAMAGE IN SHIPMENT

The Company's instrument is carefully examined and checked before it is shipped. It should be visually and operationally checked as soon as it is received. If it is damaged in any way, a claim should be filed with the carrier. New or repaired instruments damaged in transit should not be returned to the manufacturer without first obtaining specific shipping instructions.

REPAIRS

Should any fault develop, the Company or its appointed service agents, must be notified immediately giving full details of the difficulty. Include in the notification the model number and serial number of the affected instrument. On receipt of this information the Company, or its service agent, will send service instructions or shipping data.

Upon receipt of shipping instructions, the instrument must be forwarded, carriage pre-paid, and repairs will be made by the Company or its service agents at their premises. If the instruments are not covered by warranty, or if it is determined that the fault is caused by misuse, repairs will be billed to the customer, and an estimate submitted for customer approval before the commencement of repairs.

Repairs are guaranteed for 90 days, if the same fault reoccurs within this period and subject to the above conditions, subsequent repair will be carried out at no charge.

MAINTENANCE

The items listed in the Parts section are classified by Kongsberg Maritime as "first level maintenance items" and as such can be maintained by the operator. Care must be taken, however to ensure that the "O" Rings are lubricated with silicon grease and that no solvents (Alcohol etc) are used to clean the Correction Lens.

It is recommended that the desiccant contained in the camera housing is replaced at a minimum of every two years.

Description and Use

The OE14-408 is a high quality, 10M pixel underwater digital camera with an integral 5x optical zoom lens with optical image stabilization and video output. It is designed for general-purpose underwater viewing and inspection where still images of the subject are required. Its high resolution, small size and functionality allow it to be used for a variety of applications.

The camera can be remotely controlled by PC via an RS485/RS232/USB link. This allows control of all camera functions including zoom, focus and shutter. For diver applications bipolar or tristate control may be used to control zoom and focus, with additional wires to control auto focus and shutter. An infra-red remote control changes between control options and image upload.

Images can be uploaded to a PC via a USB compatible cable, which plugs into the camera's standard connector, they can be downloaded-on-the-fly using the dedicated download connector or they can be downloaded via Wi-Fi from the memory card

The still image resolution can be varied to suit different applications. Images can be viewed, downloaded or deleted either individually or as a group.

Note: **Due to camera module limitations it is recommended that no more than 1000 images are stored on the internal memory card.**
If this limit is exceeded images will have to be downloaded via Wi-Fi

An optional flashgun is available to provide external illumination. Video output (PAL or NTSC) from the camera is provided. Automatic control of lens iris compensates for different levels of scene illumination in conjunction with automatic gain control (AGC).

Wiring Details

INSTALLATION

Before using this camera please load the USB Flash Drive marked "OE14-408" and open "index.html" for important information on operating the camera.
When the camera is deployed all connectors must have the correct cables fitted, if the correct cables are not fitted blanking plugs must be fitted.

Main Connector

Wiring Details	
Pin 1	0V + Screen
Pin 2	Power
Pin 3	Video
Pin 4	Tri-state Focus/RS485+/RS232TX* /USB_D-
Pin 5	Tri-state Zoom/RS485-/RS232RX*/USB_D+
Pin 6	Shutter
Pin 7	USB 5V
Pin 8	Auto Focus / USB 0V
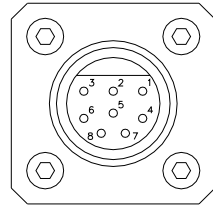
Burton 5506-1508

* RS232 TX & RX is with respect to the controlling device

Flashgun Link

Wiring Details	
Pin 1	24V
Pin 2	Flash Ready
Pin 3	0V
Pin 4	Flash Signal 2
Pin 5	X Contact
Pin 6	Flash Signal 1
Pin 7	Flash Signal 3
Pin 8	Flash Signal 4
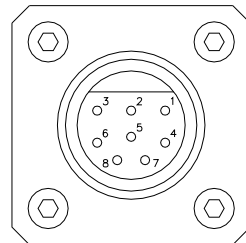
Burton 5506-1608

USB Download

Wiring Details	
Pin 1	USB 5V
Pin 2	USB D-
Pin 3	USB D+
Pin 4	USB 0V
Pin 5	N/C
Pin 6	N/C
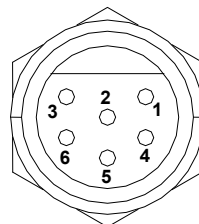
BURTON 6507-0906

Quick Start Guide

When you unpack your camera it is recommended that it is tried out on a desk to get some experience in operating it. You should be able to operate it in roughly 5 minutes.

First, take the Kongsberg USB Flash Drive and insert it into a PC. Locate the installation file named Setup.exe in D:\gui (assuming D is the USB Flash Drive). Double click the file to run it. The GUI will then install. Follow the on screen instructions while installing the GUI.

Plug a suitable cable into the external connector on the camera and wire it up using the wiring information given. Connect 16-24Vdc onto the power pin and connect the 0V pin to ground. Connect the Video signal to the relevant connector on your monitor.

If using RS232/485 for control then connect the RS232/485 communications link to the two serial communication pins on the camera. If using RS232 then connect the RS232 0V to the camera 0V.

You are now ready to use the camera. Turn the power on and then press the RS485 or RS232 button (as required) on the remote control. On the controlling PC , launch the GUI.

If the GUI fails to initialise then the most common problems are:

1. The two serial communications pins on the camera have been wired the   wrong way round to the PC.

2. The camera has not been put in the correct mode (RS485 or RS232).

3. The current limit of the power supply is set too low for the camera.

If the video signal appears incorrect the most common problems is:

1. Video signal screen on the display is not linked to screen on the camera.

Hardwire Control

Where it is not possible to control the camera with a computer it is possible, depending on backend connector wiring configuration, to control certain functions on the camera using a DC voltage applied to pins on the connector of the camera.

Connect the camera to the system using the information given.
If required, connect the OE11-442 flashgun to the camera.
Power up the camera and press the Tri-state button on the remote control.
There are four functions of the camera that can be controlled by hardwire control.

They are Zoom, Focus, Auto-focus and Shutter.

Zoom

Applying a voltage of between +8V and +24V to the zoom pin will cause the camera to zoom telescopic. Applying a voltage of between -24V and +4V will cause the camera to zoom wide.

Removal of these voltages will cause the camera to stop zooming.

Auto-focus

Applying a voltage of between -24V and +4V will cause the camera to go into auto-focus mode. This is the normal auto-focus mode and does not use macro mode. An open circuit condition (>100KΩ) will put the camera in manual focus mode. This allows the focus position to be adjusted manually. Again macro focus mode is not available.

Focus

The focus function is only available when the camera is in manual focus mode. Applying a voltage of between +8V and +24V to the focus pin will cause the camera to focus far. Applying a voltage of between -24V and +4V will cause the camera to focus near. Removal of these voltages will cause the camera to remain at its present focus setting.

Shutter

Connecting the Shutter pin to supply 0V will cause the camera to take a photo. This connection must stay in place for a minimum of 4 seconds to ensure a photo is taken. If the OE11-442 flashgun is connected then the flash will be fired if additional lighting is required. Once a photo has been taken remove the 0V connection. The camera will not be ready to take another photo until the flash has recharged. Keeping the shutter pin connected to 0V will result in a series of photos being taken.

GUI Set-Up

Once the GUI is open, you will need to connect to the camera.
To Connect to the camera you must:

- Click on the 'CONNECTION' to access the 'CONNECTION' tab.
- Ensure that 'Serial' is selected as the Control Method.
- In the 'Serial Settings' section, select the Serial Port you are using and enter the Camera ID number.
- In the 'Serial Settings' section, click 'Find'
- From the 'Available Cameras' box select the camera.
- The camera status should now show as 'Connected' in the bottom left corner of the GUI.
- The 'CONNECTION' tab can now be closed by clicking 'CONNECTION'.
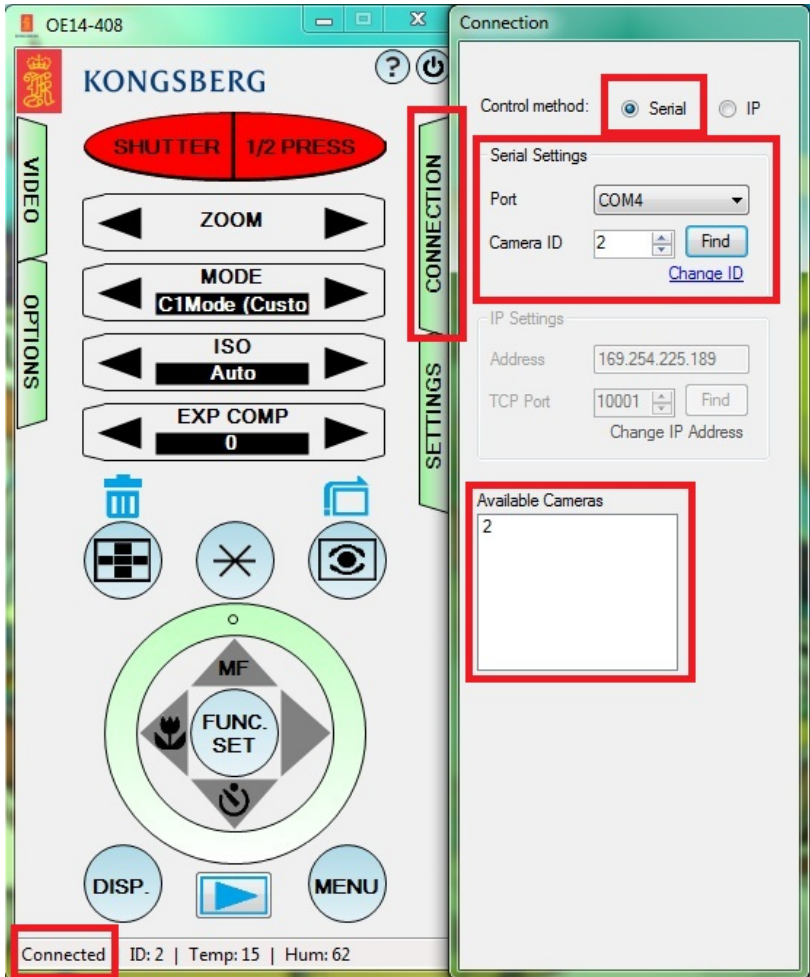
Network Control

Network control is fitted as standard to this camera and up to 32 cameras' can be connected in a RS485 network.

The OE14-408 camera leaves the factory with a pre-programmed network ID of 2.

If the ID is to be changed the following actions need to be taken to ensure the correct operation of the network:

- The cameras' should be connected to the network one at a time (so that there is only one camera on the network) and their individual network IDs set using the OE14-408 GUI or the camera should be given a network ID before connection to the network.

- The last camera in the network should have its termination set to "on" whilst all others have theirs set to "off" to ensure that the network is terminated correctly. This can be done using the supplied Remote Control

If the cameras connected to the network already have an ID assigned to them the GUI can scan the network and find the IDs (within a limited range) of the cameras connected. The user can then assign a user friendly name to these cameras and continue from there. Please refer to the GUI help file for more details of this function.

Intervalometer Operation

The camera is fitted with an internal intervalometer. This allows the camera to automatically take photos with a fixed time delay between them. The camera can be configured to take the first photo up to 6 days, 23Hours, 59minutes and 59seconsd after power is applied and with intervals between photos of up to 23 hours, 59minutes and 59 seconds. The minimum interval is 5 seconds to ensure the flashgun is fully recharged.

To use the intervalometer function, first connect the camera up to a PC and run the GUI. Select the mode that you want the camera to operate in from the camera menu. Then set up the settings for the camera, including zoom position, focus mode, shutter, aperture etc. (note, the availability of these settings depends on the mode that the camera is operating in.). Then save these settings by clicking menu on the camera tab, scroll down to the save settings option and select this. Then choose C2 and click Set.

Click the 'SETTINGS' tab and then select SETUP. Select the days, hours, minutes and seconds of the delayed time required and check the box to enable start-up delay if it is required. Next set the interval time between shutter presses by choosing the hours, minutes and seconds required. Click OK to save these intervalometer settings.

Click 'ENABLE' box and the camera will ready itself to go into intervalometer mode. The camera should then power down and when it restarts it should be in intervalometer mode. The camera will stay in intervalometer mode until told to exit by the corresponding 'DISABLE' command in the GUI.

The intervalometer can also be enacted by pressing BUTTON A on the remote control. The camera will power down and then restart automatically in intervalometer mode. Pressing BUTTON A again will cause the camera to exit intervalometer mode. The camera will power down and restart in the last configuration.

Image Download

Images can be downloaded to a PC via the USB Download Connector, or via Wi-Fi from the memory card
To download via the USB Download Connector:

- In the OE14-408 GUI, click on the 'SETTINGS' to access the 'SETTINGS' tab.
- Click on 'Image Download' to place the camera into Image Download mode.
  When the camera is in Image Download mode video will not be available from the camera.
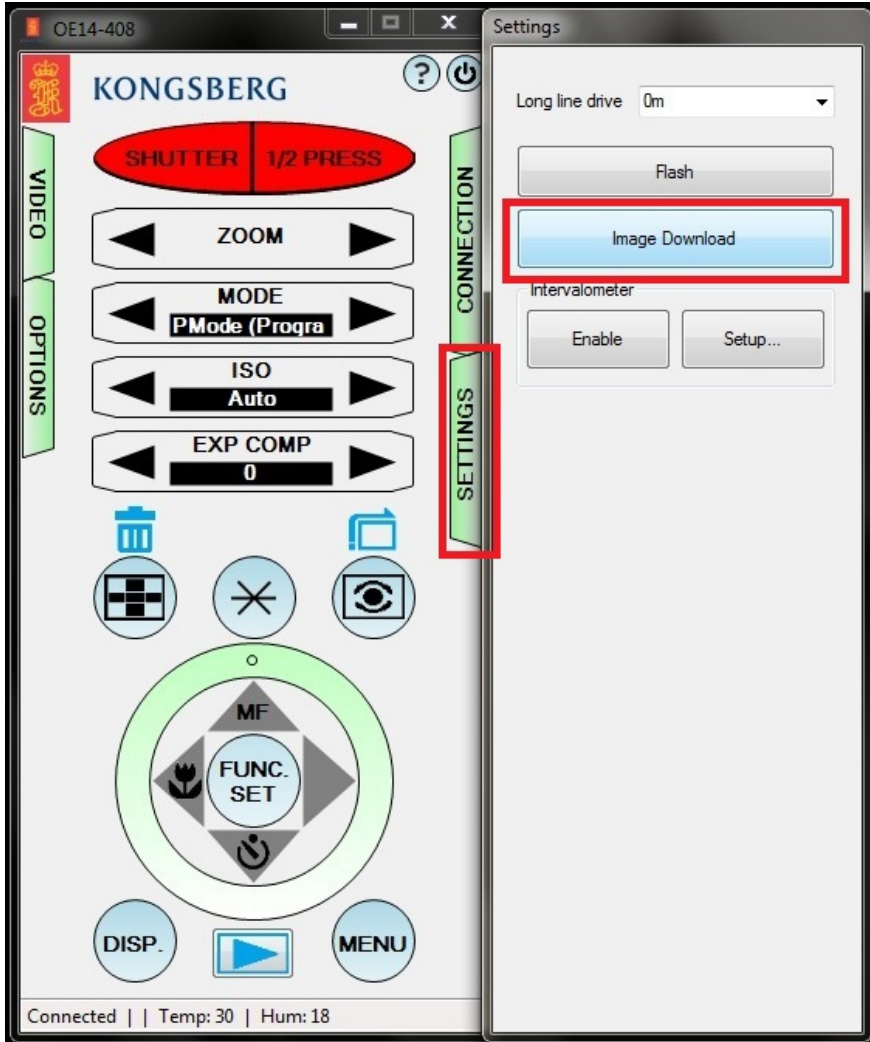
Wi-Fi Download

This camera is fitted with a Wi-Fi enabled memory card. This will allow you to download the stored images to a PC with Wi-Fi capability. operating it. To enable this, the set-up procedure should be followed:

- To connect to the camera look for the wireless network entitled **OE14-408-XXXX**, where **XXXX** is the serial number of the camera.

- When prompted for the security key type: **12345678**

- Open an Internet Browser Window. Google Chrome is recommended.

- In the Address Bar type: **192.168.11.254**

- When prompted for a Username and Password type: **admin**   for both.

- The memory card is now available to browse, download and change the settings of any of the passwords and wireless settings.

- To be able to download multiple images, follow the steps in the WI-Fi SD Downloader tab. This can be done only on Google Chrome.

Remote Control

The IR Remote Control configures the camera control mode.

To use the IR Remote Control to configure the camera, ensure the camera is powered up and point the remote control into the port of the camera.

When a command has been accepted from the remote control a Red LED will flash inside the dome

Reset	No compensation
200	200m (665 ft)
400	400m (1330 ft)
750	750m (2500 ft)
800	800m (2660 ft)
1000	1000m (3325 ft)
1100	1100m (3660 ft)
1200	1200m (4000 ft)
1200*	See note below
1200#	See note below
Tristate	Analogue Control Tristate
Bi-Polar	Not Used
USB	Digital Control, USB Datalink
RS485	Digital Control, RS485 Datalink
RS232	Digital Control, RS232 Datalink
ON	Termination ON (Network)
OFF	Termination OFF (Network)
Download 1	Download on the Fly through USB download connector. (Toggle On/Off)
Download 2	USB Download through power connector (Toggle On/Off)
A	Intervalometer Mode (Toggle On/Off)
B,C,D	Not Used
Auto	Not Used
3200K	Not Used
5600K	Not Used
Backlight On	Not Used
Backlight Off	Not Used

Note 1   Undesignated numbers will set intermediate values of cable compensation. Due to variations in cable quality it may be necessary to experiment with other numeric buttons to obtain the best picture.

CAMERA SPECIFICATIONS

<u>PERFORMANCE</u>

Sensitivity (Video)		:	0.51 lux scene at 100mV video level
Resolution (Video)	CCIR	:	>360 lines (h)
	EIA	:	>360 lines (h)
Signal-to-noise Ratio (Video)	CCIR	:	>45dB (Weighted)
	EIA	:	>45dB (Weighted)
Video Signal (VBS)		:	1 V pk-pk into 75Ω (unbalanced)

<u>ELECTRICAL</u>

Signal System	CCIR/EIA	:	Selectable
Sensing Device		:	1/1.7" High Density CCD
Picture Elements		:	10 Million Pixels
Field Frequency	CCIR	:	50 Hz (625 lines)
	EIA	:	60 Hz (525 lines)
Power		:	+16 to +24 V d.c. 0.45Amps (Without Flash Gun fitted)

<u>OPTICAL</u>

Lens		:	28 to 140mm (35mm equivalent)
Focus Range		:	0mm to infinity

			Wide	Tele	Digital
Angle of View (in water)	Horizontal	:	44.5	12.2	3.1
	Vertical	:	34.7	9.2	2.3
	Diagonal	:	54.7	15.3	3.9

MECHANICAL

Size	Length	:	243mm (excluding external Connector)
	Diameter	:	108mm (ex rubber guard)
			122 mm (inc rubber guard)
Camera Weight	In Air	:	5.2kg
	In Water	:	3.0kg

Shipping Weight (Camera and Flash)	:	23 kg
Shipping Dimensions	:	635mm x 756mm x 388mm

ENVIRONMENTAL

Operating Depth	:	6000 m (19,685 ft) maximum
Operating Temperature	:	-5°C to 40°C (23°F to 104°F)
In Air Operating Duration	:	45 minutes at 20°C
Storage Temperature	:	-20°C to 60°C (-4°F to 140°F)

Outline Drawing

Ø107

243.19 (EXCLUDING BUMPGUARD)

248.19

Ø108 (EXCLUDING BUMPGUARD)

122

All sizes are in mm

14-408-5211 Issue 1A
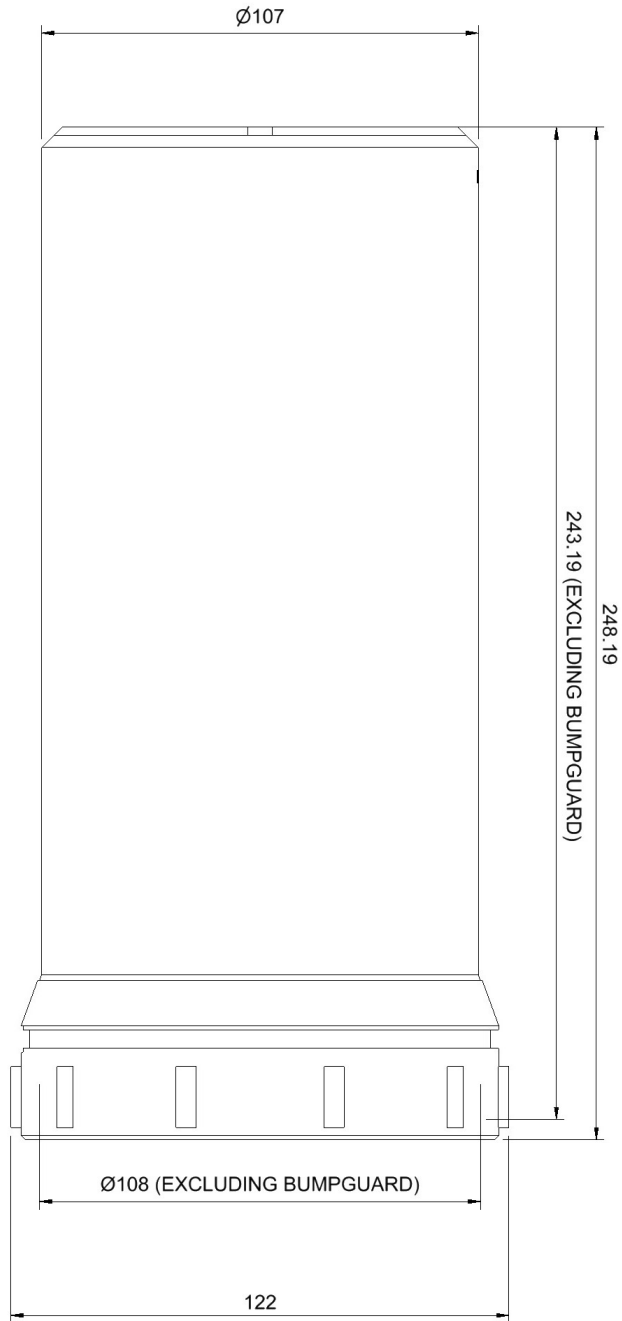
Backend Parts
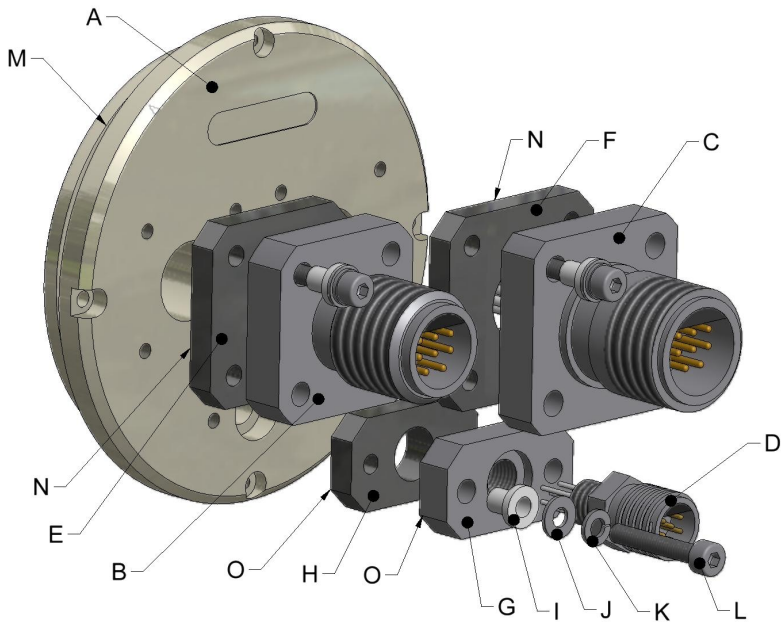
Item N°	Description	Part N°
A	Backend (4500m)	14-408-2001
B	Connector Burton 5506-1508	082-0180
C	Connector Burton 5506-1608	082-0557
D	Connector Burton 6507-0906	082-9246
E	Insulator Plate 5506-15XX	1323-2876
F	Insulator Plate 5506-16XX	0350-2005
G	Mounting Plate 6507-09XX	14-408-2004
H	Insulator Plate 6507-09XX	14-408-2003
I	M4 Insulating Bush	181-0572+ (x10)
J	M4 Flat Washer (A4 St/St)	810-0023 (x10)
K	M4 SC Washer (A4 St/St)	810-0024 (x10)
L	M4x25 SK CAP Screw (A4 St/St)	212-0156 (x10)
M	Backend O Ring (200-236-4470)	190-0011
N	O Ring (200-021-4470)	190-0209 (x2)
O	O Ring (200-014-4470)	190-0047 (x2)
--	BLANK PLUG FOR 6507-0906	084-0386

Housing Parts
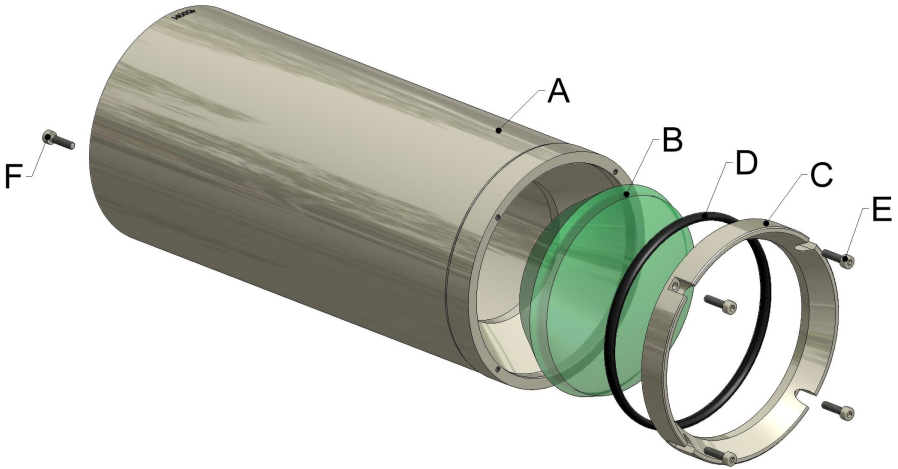
Item N°	Description	Part N°
A	Housing (6000m)	14-408-2910
B	Front Port (6000m)	14-408-2920
C	Port Retaining Ring (6000m)	14-408-2912
D	Port O Ring (200-238-4470)	190-0425
E	M3x12 SK CAP Screw (Titanium)	212-9241 (x4)
F	M3x12 SK CAP Screw (Titanium)	212-9241 (x2)
--	Bump Guard Mod	14-408-2008
--	Port Cover	0350-4058

Chassis Parts
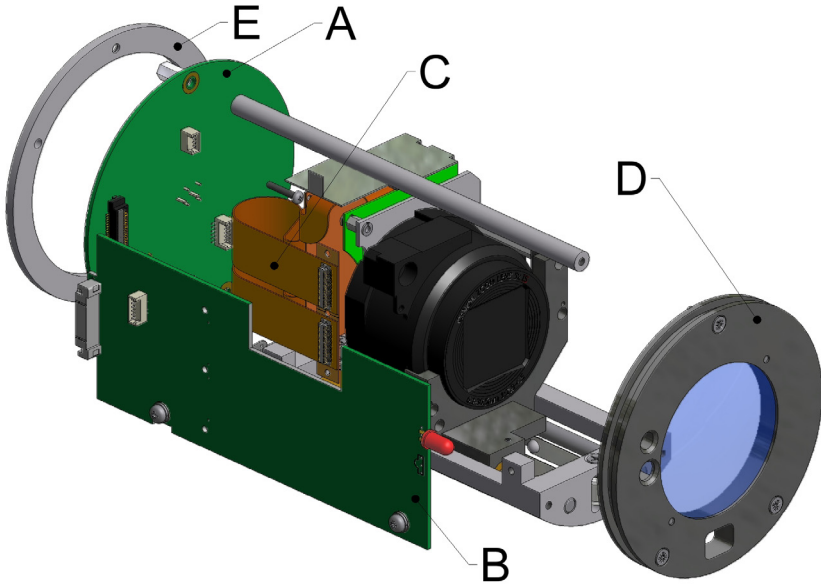
Item N°	Description	Part N°
A	Protection Board	14-408-6011
B	Interface Board	14-408-6012
C	Interconnection Board	14-408-6014
-	USB Video Board	14-408-6015
D	In Water Lens Assembly	14-408-6002
E	Backend Spacer	14-408-2022

OE14-408 OPTIONAL PARTS
& ACCESSORIES

Kongsberg Maritime offer several options that can increase the ease of use of the OE14-408 camera.

OE1234 Power Supply Unit

This is a compact PSU, specifically designed for the OE14-408 camera. It provides power to the camera, has USB and RS485 ports for connecting the camera to the PC and a BNC port, which gives the video output from the camera. It is particularly useful when downloading images over USB. As this unit provides an output of 24V at up to 4.3A then it can power most Kongsberg Maritime cameras. Just link it to a PC and it can also control all serial controlled cameras.

OE11-442 Flashgun

In most underwater situations adding this flashgun to the camera will greatly improve the visual quality of the photo taken. It provides a light output based on the amount of light required by using through the lens TTL flash metering. It also has a zooming head, which means the light is aimed where it is needed, and none is wasted on areas out of the photo scene. It comes complete with a cable to link it to the Camera.

Download Cable

For downloading images over USB, cable quality is important. To provide error free, reliable downloads a cable can be supplied which links the OE14-408 camera to the OE1234 PSU. Then OE1234 can then be plugged into a USB port on a PC and the images downloaded.

RS485 Converter

For using the camera over long distances then RS232 becomes unsuitable. Most PC's only have a single RS232 port. This adapter will convert the RS232 signal to the RS485 protocol. This allows data to be transferred over a length of several km's. It comes complete with a lead to plug it into the OE1234.

Flash Connector Blanking Plug

If a flashgun is not connected to the camera it is highly recommended that a blanking plate is put on the flashgun connector. This will protect it from damage.

USB Download Connector Blanking Plug

If a USB download-on-the-fly connector is not connected to the camera it is highly recommended that a blanking plate is put on the USB download-on-the-fly connector. This will protect it from damage.

For further details on these accessories please contact the dealer whom you purchased the camera from.

Item N°	Description	Part N°
--	In Air Lens Kit	14-408-6902
--	Desicant	181-0821
--	Silicone Lubricant 1cc	012-0070
--	Remote Control	0350-6044
--	AAA Battery (for Remote Control)	141-0110 (x2)
--	Blanking Plug for Burton 5506-1608	084-0203
--	PeliCase (Transit Case)	14-408-4005
--	16Gb Wi-Fi SDHC Memory Card	900-9818

NOTES:- 1. x

VIDEO/INTERFACE PCB ASSY 14-408-6012

CN3

CN4

CN2 CAMERA CONTROLS 50 WAY

CN1 CAMERA CONTROLS 50 WAY

INTERCONNECTION BOARD ASSY 14-408-6015

TO 14-408-6011 CN6

CAMERA CONTROLS

REAR BUTTONS

CAMERA CONTROLS

CAMERA BUTTONS

CAMERA PCB

USB/VIDEO BOARD 14-408-6014

Canon G11 Module

14-408-6015 CN2		FUNCTION

14-408-6014 CN8		
1		
2#		
3#		
4		
5	7	
6	6	
7		
8	8	

LENGTH 60MM   LENGTH 100MM

14-408-6011 CN6		FUNCTION
1		USB 5V
4#		USB D-
5#		USB D-
6		USB 0V
		VIDEO 0V
		VIDEO
		VIDEO 0V

WIRES MARKED # MUST BE TWISTED TOGETHER

14-408-6014 CN7	CANON TOP BOARD	FUNCTION
1	PB1/B	ON/OFF
2	PB1/C	ON/OFF
3	NC	
4	NC	
5	Sw1/B	ZOOM WIDE
6	Sw1/A	ZOOM WIDE
7	Sw2/B	ZOOM TELE
8	Sw2/A	ZOOM TELE
9	PB2/D	SHUTTER HALF PRESS
10	PB2/B	SHUTTER HALF PRESS
11	PB2/C	SHUTTER FULL PRESS
12	PB2/A	SHUTTER FULL PRESS

ISSUE		DATE	BY	CHECK
1A	CRN 13821. CORRECTIONS TO DRAWING.	03/13	RB	RB
1	UPISSUED AS PER FDR/PILOT REVIEW MINUTES	02/12	WS	WS
A	NEW DRAWING FIRST ISSUE	05/11	WS	WS
	CHANGE TRANSPIRED			

NOTES:- 1. USB D+ & D- WIRES MUST BE TWISTED TOGETHER

MICRO BURTON (SEE I.O.R.)

N/C
N/C
USB 0V
USB D-
USB D+
USB 5V

LENGTH: 80MM SEE NOTE 1

CN3
1 2 3 4

BACKEND CONNECTOR (SEE I.O.R.)

LENGTH: 80MM SEE NOTE 1

CN1
1 +24v POWER
2 VIDEO OUT -
3 VIDEO OUT +
4 TRI FOCUS/485+/USB D-
5 TRI ZOOM/485-/USB D+
6 PHOTO IN
7 USB 5V IN
8 AUTO FOCUS IN /USB 0V
9 FOCUS BIPOLAR
10 ZOOM BIPOLAR
11 0vD
12 +24v POWER
13
14

FLASHGUN CONNECTOR (SEE I.O.R.)

LENGTH: 80MM

CN2
1 X CONTACT/WHITE
2 SIG1/GREEN
3 SIG2/ORANGE
4 SIG3/YELLOW
5 SIG4/BROWN
6 FLASH_READY_IN

CN3
1 +24V
2 +24V
3 0V
4 0V

PROTECTION PCB
14-408-6011

TO 14-408-6015 CN2

CN6
1 2 3 4 5 6
(CAMERA USB)

CN4
1 ... 40

VIDEO/INTERFACE PCB
14-408-6012

CN2 PIC PROGRAMMER
6 5 4 3 2 1

CN1
1 VIDEO IN -
2 VIDEO IN +
3 VIDEO 0V
4 N/C
5 +12V
6 +12V
7 N/C
8 +5V
9 DIGITAL 0V
10 ISO 0V
11 ISO 0V
12 5R6
13 SPLIT 0V
14 FLASH 1
15 FLASH 2
16 FLASH 3
17 FLASH 4
18 FLASH 5
19 +7.5 PSU CTRL
20 AUTO FOCUS
21 PHOTO
22 FLASH READY
23 FLASH ENABLE
24 FLASH RETURN
25 FOCUS ONE
26 FOCUS ONE
27 ZOOM ONE
28 ZOOM ONE
29 RELAY1
30 RELAY1
31 RELAY2
32 RELAY2
33 USB MODE SELECT RELAY
34 AUTOFOCUS/USB 0V SELECT
35 CANON USB 0V CONTROL
36 USB D+ CONTROL
37 USB D- CONTROL
38 USB 5V CONTROL
39 485+
40 485-

USB CONTROL/CAMERA USB DOWNLOAD

WIRE PIN TO PIN LENGTH - 95mm

CN5
+7.5v
+7.5v
4 3 2 1

HUMIDITY (GREEN)
0V
IR INDIC. (RED)

D11 TWIN L.E.D.

+5V
0V
IR SENSOR

I.R. SENSOR
IC17

CN3

CN4

14-408-6014 CN2
CAMERA CONTROLS 50 WAY

14-408-6014 CN1
CAMERA CONTROLS 50 WAY

CN6
6 5 4 3 2 1

Notes

Notes

14-408-5211 Issue 1A

Notes

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