



# Night Shark Subsea Camera

USER MANUAL



# Night Shark - User Manual

## Revision History

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| 1.0    | Issued for use              | 24/02/17    |
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## Contact

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## Safety information

**IMPORTANT!** The Imenco Night Shark Subsea Camera is a technically advanced product. Please make sure to read and understand all sections of this manual before installing or operating this product. Installation of this product should only be performed by qualified personnel.

**WARNING!** This product contains no user serviceable parts. *Do not open, alter or disassemble this product.* Failure to comply with this warning can result in damage to equipment and void of warranty. The camera is filled with inert gas at manufacture.

**WARNING!** *The housing is NOT connected to any Protective Earth circuits.*

The metal housing has no electrical contact with any of the circuits inside the camera. This is to isolate the camera housing from other equipment that includes dangerous high voltage and to minimize corrosion that otherwise might be intensified by electrical contact to other nearby metal equipment or structures exposed to the sea water.

## Warranty

Be sure to read and comply with **Imenco's Terms & Conditions** that the Night camera was sold under.



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## 1 General Description

### 1.1 Regarding these Instructions for Use

The intended use of these instructions is to provide and guide the operator/user of the equipment with instructions on the technical specifics of the product, how it functions, the safety aspects of its use, how to prepare, operate and maintain the product.

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### 1.2 The Night Shark Subsea Camera

The Night Shark is an Auto Iris Low Light Monochrome Camera for use on smaller ROV systems and small observation systems. Often used where there is low visibility, or when illumination of particles in the water affect safe operation. With its compact and lightweight body, this is an ideal camera where space is restricted.

### 1.3 Main Features

- Very good performance in low light conditions
- Titanium housing

Actual camera:



Camera block diagram:

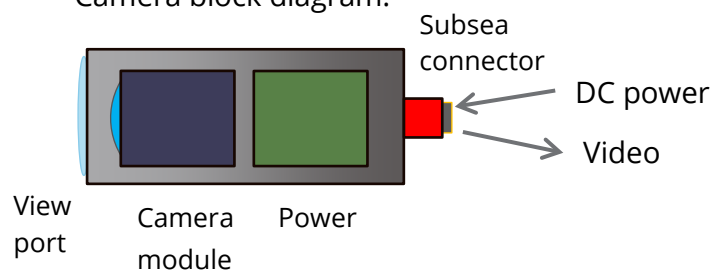
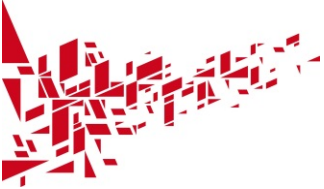


Figure 1 - the Night Shark Camera



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## 2 Technical Specification

|                             |                                 |
|-----------------------------|---------------------------------|
| Video format                | Composite SD video - Monochrome |
| Resolution                  | 570 TVL                         |
| View port material          | BK7 Glass Dome                  |
| Lens system                 | Auto Iris                       |
| View Angle Horizontal:      | 67° in water                    |
| Minimum illumination        | 0,0000025 lx. F1.4              |
| Minimum Working Distance    | 1 m in water                    |
|                             |                                 |
| Standard Connector          | 5506-1508                       |
| Housing material            | Titanium                        |
| Maximum Depth               | 6.000 msw                       |
| Mass in air                 | 2,0 kg                          |
| Mass in seawater            | 1,2 kg                          |
| Diameter                    | 79 / 74 mm                      |
| Length (excl. connector)    | 180 mm                          |
| Power input                 | 24 VDC 4W                       |
| Operating temperature range | -10°C to +40°C                  |
|                             |                                 |



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## 2.1 Power

The camera is powered by a DC voltage applied to two power connector pins.

The camera housing is not connected to any pin in the subsea connector or any terminal of the electrical circuits inside the camera.

**IMPORTANT!** *The camera housing is not connected to Protective Earth.*

## 3 Installation Instructions

Make sure that **Imenco's Terms & Conditions** are followed when using this product.

### 3.1 Unpacking and testing

When having received the camera do a visual inspection for damage of the packet or any of the parts.

The packet should include:

- Night Shark Camera
- User manual, (this document)
- Case
- Pressure Test Certificate
- QC document



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## 3.2 Function test

A preliminary function test should be performed prior to full scale installation. This is to familiarize the user with the control functions and to verify that the system is fully operational after shipment.

Follow these steps to power up and check the proper functioning of the camera:

- 1) Clear necessary space on your working desk and gather the
  - a. The Night Shark camera
  - b. Power supply providing  $24V \pm 10\%$  min 10W
  - c. Test cable
  - d. Monitor with SD video input
- 2) Do not power up the camera yet.  
Lubricate the subsea connector and mate it properly.
- 3) Now turn on the DC power to the Camera.

## 3.3 Mechanical Installation

Installation of this product should only be performed by qualified personnel.

Do not open the camera when carrying out the installation.

Mount the camera on a secure and vibration free surface and strap the cable for stress relief to the supporting structure.

The camera should be electrically isolated from the mounting base in order to minimize any corrosion current between the relatively noble Titanium housing of the camera and surrounding metal structures.

The main logo printed on the camera indicates the top of image.



## 3.4 Electrical installation

### **IMPORTANT!**

- Installation of this product should only be performed by qualified personnel.
- Verify that the connector pin assignments match with the system where the camera is being installed. Mind the connector pin numbers and wire colours as necessary.
- Do not connect/disconnect the subsea connector when the power is ON.

### 3.4.1 Camera subsea connector

The Night Shark camera can be supplied with various connector configurations. Please refer to supplied QC for your specific camera.

## 4 Operational Instructions

### 4.1 Hazards and protective measures

The Night Shark camera does not generate or use dangerous high electrical voltages. The camera is filled with inert gas at atmospheric pressure. Follow the safety information at the beginning of this manual.

### 4.2 Over-temperature precautions

The camera is designed for operation in water that will absorb the heat generated by the camera. Imenco acknowledges that the camera must be checked on deck before operation as well as tested and demonstrated in house, but the conditions when operating the camera in air may not provide sufficient cooling. Remember that sunlight and/or high outside temperature will add significant heat to the camera.

## 5 Maintenance

### 5.1 General maintenance

After use in seawater or other corrosive environments, rinse the unit and cables in fresh water.

Inspect the front port for dirt and dust and remove any surface dirt using compressed air. Clean the front port glass using a mild detergent and a soft cloth. Do not use alcohol or solvent based cleaning solutions because that could damage the pressure seals and glass coating. Avoid circular wiping patterns.

Reapply silicon-based lubricant to the connector regularly as needed.





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## 5.2 Service and Repair

This product contains no user serviceable parts. Service and modifications are to be carried out by Imenco personnel or by qualified third party after appointment. Failure to comply may result in personal injury, damage to equipment and loss of warranty.

If the Night Shark camera seems to be not working properly, please try to speed up the service that Imenco can provide by describing the problem in specific terms from the person who have first handed observed the fault. Remember if necessary to describe the system where the camera is installed since the root cause sometimes can originate outside a failing part in an advanced system.

## 5.3 Packing & Shipping

The packing & shipping of the goods shall generally be according to Imenco's approved procedures.

**Warning:** *The Night Shark camera includes fragile parts which must not be subject to vibrations and shock during transport.*

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