

Technical specifications

Power		
PoE	IEEE802.3af	
DC connector	12 V DC (10 - 16 V DC) 2.1 x 5.5 mm male CCTV power connector	
Power consumption		
IR LED Off	1.38 W (0.1 A at 13.8 V DC)	
IR LED On	2.76 W (0.2 A at 13.8 V DC)	
Operating temperature		
-30°C to +60°C (-22°F to 140°F)		
Environmental		
IP66		
Stream resolutions		
Main	1080P (1920*1080)	
Sub	448P (800*448)	
Protocol		
RTSP		
Lens		
1.8 mm (180° wide angle)		
Sensor		
1/4" CMOS sensor		
Housing material		
316 Stainless steel		
Weight		
250 g (0.55 lbs)		

Compliance

Europe

IP CAM-1 complies with CE under EMC Directive 2014/30/EU. The relevant declaration of conformity is available in the product's section at the following websites:

www.lowrance.com, www.simrad-yachting.com, www.bandg.com

United States of America

Warning: The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Australia and New Zealand

Complies with the requirements of level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017.

Limited warranty

Navico warrants that its products, when properly installed and used, will be free from defects in material and workmanship for the period stated for the applicable product and/or peripheral device as set out on www.lowrance.com, www.simrad-yachting.com, www.bandg.com, from the date of first purchase (the Warranty Period).

For the purpose of this Warranty, 'date of first purchase' means the date the product was purchased by the first retail customer; or in the case of a product installed on a new vessel by a Certified/Approved Navico Boat Builder, the date the first retail customer took delivery of the vessel. Navico will, at its sole discretion, repair or replace with new or refurbished parts or product, or equivalent product, any proven defective products or components returned to Navico, or its approved agent during the Warranty Period in accordance with the terms, conditions and limitations as set out on www.lowrance.com, www.simrad-yachting.com, www.bandg.com. Such repairs or replacements will be the sole remedy of the customer under this Warranty.

This warranty gives you specific legal rights, your rights may vary from jurisdiction to jurisdiction. These rights exist alongside all rights you have under local law.

Obtaining warranty service

To obtain warranty service, customers should contact the retailer from where the product was purchased. For qualifying Certified Installations, a full list of National Dealers and International Distributors can be found at www.lowrance.com, www.simrad-yachting.com, www.bandg.com

Product registration

Customers are encouraged to register their product purchases online at www.lowrance.com, www.simrad-yachting.com, www.bandg.com

Product manuals

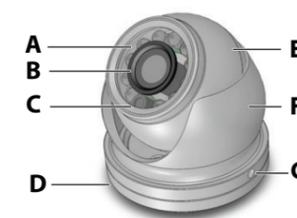
Product Manuals are available for download at www.lowrance.com, www.simrad-yachting.com, www.bandg.com

LOWRANCE®

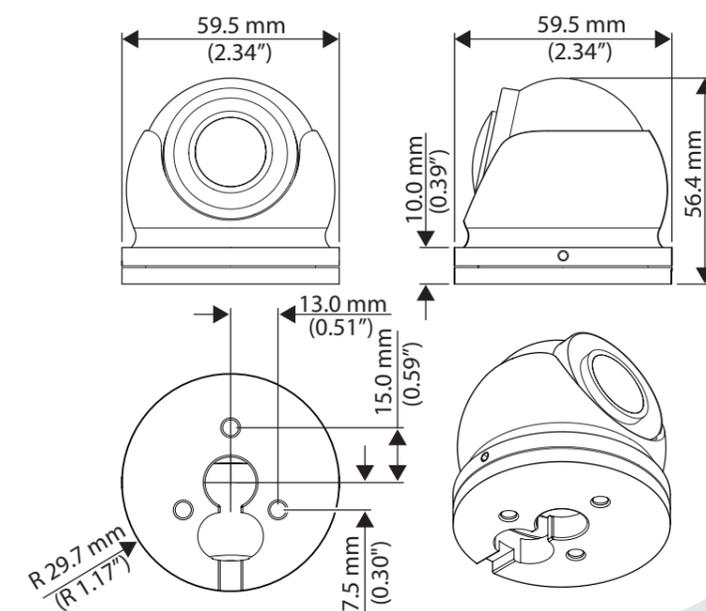
SIMRAD®

B&G®

IP CAM-1 INSTALLATION GUIDE



- A Infrared LEDs (night illumination)
- B Camera lens window (CCD 1.8 mm FL)
- C Photo-diode (day/night sensor)
- D Base (316 Stainless steel)
- E Inner dome (316 Stainless steel)
- F Cowling (316 Stainless steel)
- G Lock screw (2 positions)



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www.lowrance.com

www.simrad-yachting.com

www.bandg.com



Installation overview

The camera can be powered by a 12 V DC supply, or via PoE (Power over Ethernet) power supply. Ensure the power supply is included in your installation planning.

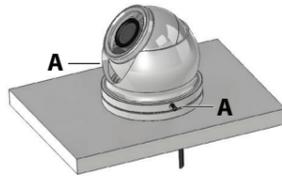
Power up the camera and connect it to an MFD to find the best installation position.

Connect the camera to the power supply with a suitable rated fuse or circuit breaker. Switch off the power supply whilst installing the camera.

To avoid damage to the camera housing, fully loosen the lock screws (A) before making any position adjustments to the inner dome.

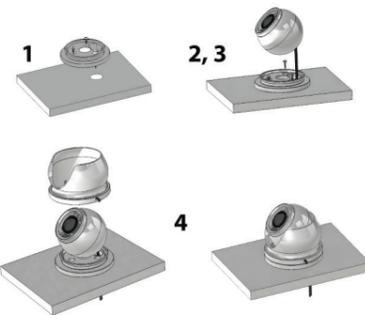
The camera is supplied with a fixed IP address. This is displayed on the identification label attached to the camera cable. Note down the IP address. You will need it when setting up the camera in the MFD. Note the IP address here for future reference:

172	23	_____	_____
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Installing the camera

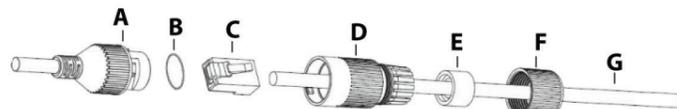
- Place the base into the desired mounting position and mark the screw hole positions and cable entry position on the mounting surface. You can also exit the cable through the base instead of drilling a hole for it. Drill the pilot holes for the mounting screws and the cable hole if needed. Screw the base into place using the screws you have decided to use. Use caution to not splinter or damage the surface if fitting onto a fiberglass surface.
- Slide the camera cable through the cable entry hole you have just drilled or the base exit channel.
- Ensure terminations are protected from any moisture ingress. Fit the water resistant RJ45 back shell over the CAT5 cable and terminate the RJ45 connector in accordance with T568B wiring specifications. Plug your RJ45 jack into the camera's RJ45 socket. Ensure the water resistant back shell is tightened into place. Refer to the "Fit the field installable waterproof RJ45 jacket" section.
- Place the inner dome onto the protective foam/rubber ring on the base. Place the cowling over the inner dome and move into position. The cowling will fit over the inner dome and on to the base. Once in position, carefully tighten the lock screws until they lightly hold the inner dome in position.



Fit the field installable waterproof RJ45 jacket

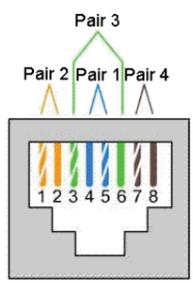
When installing in an external location, or any position that will be prone to moisture ingress or harsh weather, it is important that the waterproof RJ45 connector (supplied) is used to protect the camera's RJ45 connection.

- A Camera's network interface socket
- B O-Seal
- C RJ45 Network Connector
- D Waterproof end cap
- E Rubber gasket
- F Lock nut
- G Network cable to MFD / switch / hub / etc



- Feed the plug-less network cable (G) through the lock nut (F) and waterproof rubber gasket (E). Ensure the rubber gasket inset ridge faces the end cap (D).
- Crimp an RJ45 Network plug (C) onto the end of the cable in accordance with the diagram. Ensure the wires are terminated in the correct order and are not crossed.
- Place the O-Seal (B) onto the end of the camera's network interface socket (A).
- Plug the network plug (C) into the camera's network interface socket (A).
- Insert the waterproof rubber gasket (E) into the waterproof end cap (D) and secure the lock nut (F) with the waterproof end cap (D).
- Slide the waterproof end cap (D) toward the camera's network interface socket (A) and rotate until it locks.

Pin	Color
1	White / Orange
2	Orange
3	White / Green
4	Blue
5	White / Blue
6	Green
7	White / Brown
8	Brown



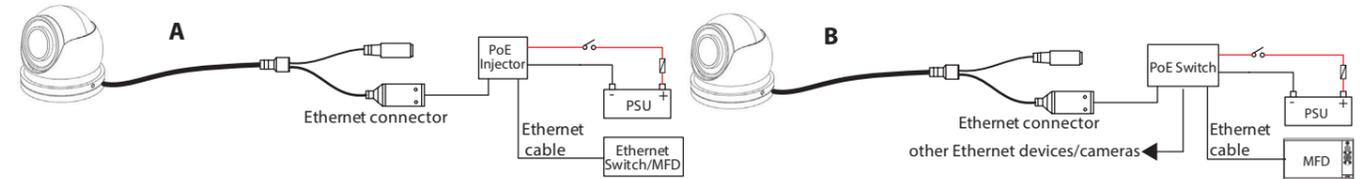
Powering the camera

→ **Note:** To prolong the operation life of the camera's sensor we advise that power to the camera is routed via a dedicated power switch.

PoE powering

PoE requires only one cable to power the camera and carry the video image. An Ethernet cable and a PoE power supply/injector (A) or a combined PoE Injector/Switch (B) is required.

Connect an Ethernet cable to the camera using the waterproof RJ45 jacket as described above. Connect the other end to the PoE Injector or switch which should also be connected to the vessel's Ethernet network system:



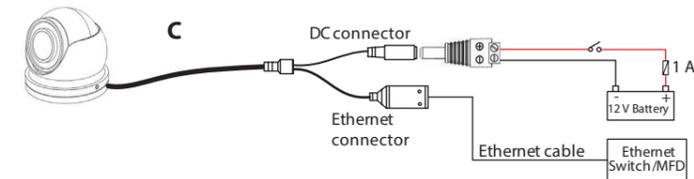
12 V DC powering

A 12 V DC source (C) can power the camera. 12 V DC must be applied to the camera's DC connector using the supplied 12 V DC plug. This is not a waterproof connection, place it so as to avoid water ingress. Connect the camera's Ethernet cable to the MFD or MFD's Ethernet network.

→ **Note:** Ensure correct polarity as indicated on the DC plug.

→ **Note:** 0.75 mm² (18 AWG) wires are recommended for the DC power.

→ **Note:** A direct connection to the camera's DC cable can be made by cutting off the DC connector. In this case, connect all red wires (if more than one) to 12 V DC (+) and the black wire to (-).



Setup your camera on your MFD

The camera comes pre-configured to be used on select Simrad®, Lowrance® or B&G® MFDs - there are no user configurable settings. You will need the camera's unique IP address that is located on the packaging or on the identification label attached to the cable of the camera.

For the URL address enter one of the following:

- 172.23.xxx.xxx/LIVE/0/MAIN for HIGH resolution stream (for high resolution MFD's).
- 172.23.xxx.xxx/LIVE/0/SUB for LOW resolution stream (for low resolution MFD's).

→ **Note:** 172.23.xxx.xxx is the IP address of the camera.

For more information refer to the documentation of your MFD.

→ **Note:** The camera must be individually setup on all MFDs that you want to view the camera on.

→ **Note:** Ensure the camera is installed and powered on before proceeding with setup.

Care and cleaning

This product is a sensitive piece of electronic imaging equipment and must be handled and treated accordingly. Do not drop or shake the unit during installation. Avoid direct sunlight exposure through the lens as this may degrade the camera's performance over time.

When cleaning the device, ensure power is switched off. Clean the camera housing with a soft cloth. Moisten the cloth and use a mild liquid detergent if required. The lens window has a protective coating which may suffer damage as a result of improper cleaning. To clean the lens window use a microfiber cloth. Moisten with clean water if necessary.

Disclaimer

NAVICO HOLDING AS AND ITS SUBSIDIARIES, BRANCHES AND AFFILIATES DISCLAIM ALL LIABILITY FOR ANY USE OF THIS PRODUCT IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR THAT MAY VIOLATE THE LAW.

Operating the camera or viewing the video input whilst the vessel is moving could cause a distraction and result in accidental collision resulting in property damage, injury or death. NAVICO® cannot be held liable for any incidental, special, indirect or consequential damages whether resulting from the use, misuse or inability to use this product.