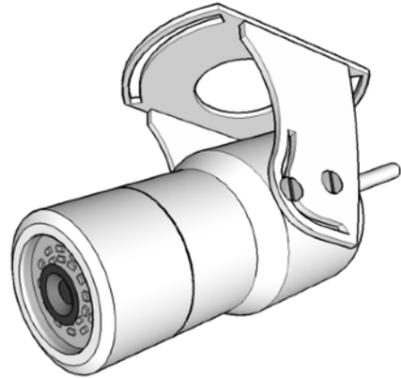# IRIS090-4in1
316L Stainless Steel 4-in-1 Format Camera

QUICK START GUIDE

The IRIS090-4in1 camera is a compact, rugged camera designed for harsh applications.

Manufactured from marine grade 316L stainless steel and waterproof to IP68, the camera outputs 1VP~P analogue video and supports the following formats:

CVBS (Pal / NTSC) - Standard Definition
HD-TVI - Analogue High Definition
HD-CVI - Analogue High Definition
AHD - Analogue High Definition

The camera also features built in infra red illumination for operation at night and in low light, and powered from 12VDC, is perfect for marine and vehicular operation.

CVBS (composite) video format is supported for legacy installations, and three analogue hi-def formats, with the equivalent resolution of up to 5MP, can also be selected, to provide superb high definition video in real time.

Compatibility
In CVBS mode, the IRIS090-4in1 can hook up to any monitor or chart-plotter with a composite video input.
Set to AHD, TVI or CVI, the camera will interface directly with any chart-plotter or monitor supporting analogue HD formats.
The camera also interfaces in either of the four supported formats with our CMAC system which outputs HDMI video. This can also be encoded as an IP stream compatible with Raymarine, Furuno and Navico chart plotters using our HDMI2IP-01 encoder.

Environmental Rating
The camera is rated as IP68 to depths of Xxm for continuous submersion of up to XX hours. Submersion outside of these ratings may fatally damage the camera. This rating does not pertain to the camera connectors. It is the installers responsibility to suitably protect and seal the cameras connections.

IRIS090-4in1
Dimension Drawing
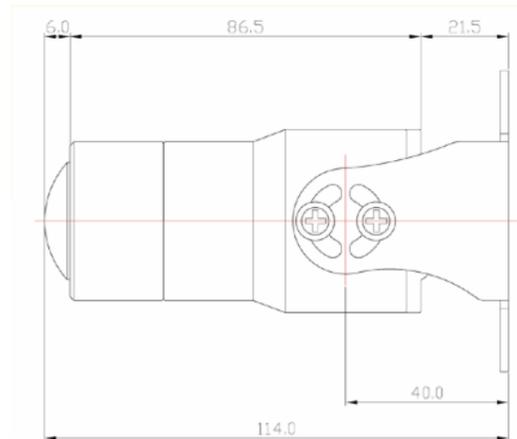
INSTALLATION

WARNING! Always test the camera in accordance with these instructions prior to installation. Warranty support for Out of Box Failure claims will not be accepted if the camera has been installed.

WARNING! Do not use harsh chemicals or cleaning solvents to clean the device.

WARNING! Do not use a pressure washer or other high pressure sprays to clean the camera

WARNING! Do not attempt to open the device. There are no user-serviceable parts inside.

WARNING! Unauthorised modifications or attachments could damage the device and may violate regulations governing radio devices and EMC ratings.

WARNING! Avoid dropping, knocking or shaking the device. Rough handling can break internal components.

WARNING! Observe correct polarity when making your connections - especially power. Always ensure the power supply is disconnected during installation, service and maintenance and only switch on the power when all connections are made correctly. THIS IS A 12VDC DEVICE - DO NOT POWER DIRECTLY FROM A 24VDC SUPPLY.

WARNING! Do not cut off connectors or sockets. This will invalidate the warranty and may result in the failure of the product, fire, electrical shock, explosion or other serious injury or damage to property.

WARNING! Ensure a suitably rated fuse or circuit breaker is used to connect the positive supply wire to the camera. Please check the ratings in the product specification table for details and select the appropriate value protection.

Do not run cables adjacent to radar, cables, VHF cables or high frequency signal cables.

IRIS090-4in1
Dimension Drawing
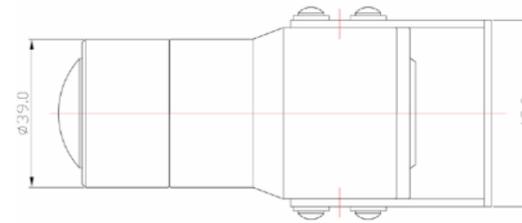
INSTALLATION

The IRIS090 4in1 is supplied with a mounting bracket and can be mounted in ceiling, desktop or bulk-head (wall) mounting orientations.

Please use drill bits and cutting tools appropriate for the surface you are mounting too.

1. Power up the camera prior to drilling any holes and use your monitoring platform or CCTV tester to confirm the unit is working and set to the desired video format before drilling any holes.

2. Once you have confirmed operation, offer the camera u pinto the desired position to make sure you have coverage of the required view.

3. Slacken the bracket screws on the side of the bracket to adjust the 'tilt' elevation of the camera as desired and then tighten accordingly.

4. Offer the camera up into position and mark off screw positions as required through the base of the bracket, along with the position in the centre hole of the bracket for the cable entry point if necessary.

5. Remove the camera and using drill bits and a hole cutter suitable for the mounting surface, and sized as required, make your fixing holes and cable entry hole.

6. **Power Cable:** Use a suitably rated 2 core cable gauged to safely provide 12VDC / 500mA from your power source to the camera. Typically, 16AWG should be more than enough. Ensure the positive wire is fused or connected through a circuit breaker

7. **Video Cable:** Use a suitable 75Ω impedance coaxial cable, such as RG59, RG6 or URM70 for the video cable and terminate with a male BNC connector.

8. Cable terminations and connections should be suitably protected and sealed from the elements. If possible, make terminations internally where they are not exposed to moisture, dust, salt water atmosphere or extremes of temperate. **ENSURE POWER TO THE CAMERA IS SWITCHED OFF WHILST MAKING ANY CONNECTIONS. ONLY POWER UP THE CAMERA WHEN YOU ARE CONFIDENT THE TERMINATIONS ARE SOUND AND POLARITY IS CORRECT.**

9. With the camera set up as required (information on configuring your camera overleaf) and terminations made, remove the detachable Set-Up Joystick and offer the camera and bracket into place and screw into position. If necessary, remove the bracket screws and camera body to make it easier to screw bracket firmly into position, then replace the camera body, setting the tilt position as required.

10. Once camera operation has been checked and approved, seal the cable entry hole and screw holes if necessary using a suitable sealant or grommet.

Adjusting Camera Tilt Angle and Bracket Screw Positions

Slacken bracket screws either side of the camera body to adjust tilt elevation, then re-tighten.
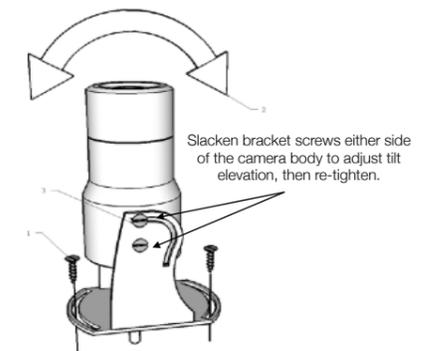
Camera Cable Tail Terminations

The camera umbilical cable measures 45cm from cable exit to connectors as shown below.

Ensure the detachable Set-Up Joystick is removed prior to final fixing and completion of installation. Keep safe for maintenance procedures and adjustments.

2.1mm DC Power Jack

Female BNC (Video)

RCA Jack (Set-Up Joystick)
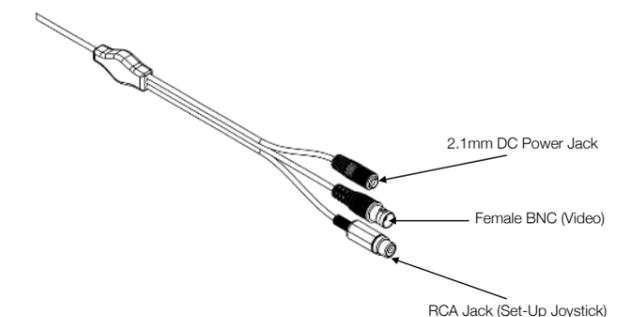
IRIS090-4in1

Set-Up Menu

To enter the On Screen Menu Options press and hold the mini-joystick until the menu appears.

Use the UP / DOWN arrows on the detachable Set Up Joystick to navigate the menu options.

If the menu option has a 'Return' arrow, this means this option has a sub-menu.

Values for options that do not lead to submenus can be toggled or increased/ decreased using the LEFT / RIGHT arrows on the joystick.
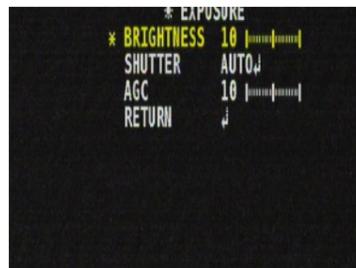
To make a selection, or to enter a submenu (where available), click the joystick in.

To move back up through submenus, navigate to the RETURN option and click the joystick.
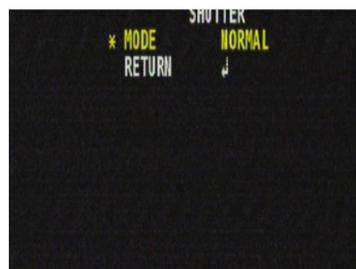
Root Menu:
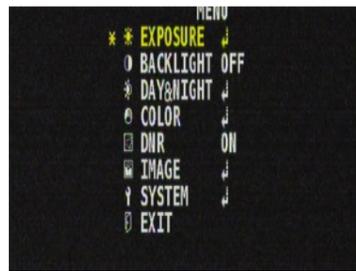
Exposure Menu:

Exposure / Shutter Menu:

Day / Night Menu:

(Note: IR LED operation is labelled WHITE LED. For automatic IR LED operation which activates when via an inbuilt photodiode when light levels drop, set the MODE to EXTERNAL rather than AUTO - see inset picture below).
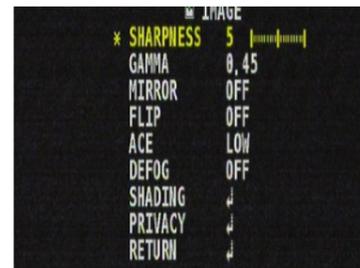

Default Day / Night Settings - Camera IR LED's operate automatically in low light

Colour Menu:


Image Menu:

System Menu:

To Set Video Output Format:

The camera video output format can be set via the ROOT/SYSTEM/OUTPUT menu, but the camera also supports a 'Hot Menu' which is a much simpler method, and can be accessed as follows:

1) Whilst NOT in menu mode, hold the Joystick in the LEFT position

2) Keep the joystick held in the left position

3) The Hot Menu should appear after approx 5 seconds.

4) You can then navigate the holt menu and make changes as required.
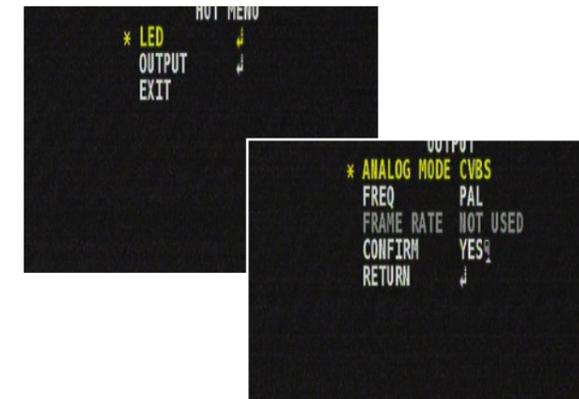
The camera supports the following analogue video modes:

CVBS (Composite Video / Standard Definition)
HD-TVI (Hi Definition)
HD-CVI (Hi Definition)
AHD (Hi Definition

Frame Rate values can be adjusted for HD modes.

Ensure your monitor or chart plotter can support the selected video format and frame rate prior to selection. Selecting an incompatible mode may result in loss of image on an incompatible monitor which can only be rectified once the camera is connected to a monitor compatible with the video format and frame rate you have selected (such as the IRIS996 CCTV Tester which auto-senses the format.

To Set Video Output Format (continued):

IMPORTANT!

When changing the video format, the camera will immediately change after the desired format has been confirmed (by pressing and holding the joystick), however, this will default back to the previous format if the RETURN option isn't selected within one minute of confirming the format.

Image Sensor	1/2.8" Sony STARVIS CMOS image sensor
Resolution	1080P
Scanning System	Progressive
Video Output	AHD,TVI,CVI: 1080P, 720P Analog: NTSC/ PAL CVBS
S/N Ratio	More than 50dB (AGC off)
Min. Illumination	0.01 lux (F1.0)
D-WDR	Off/0-8
SENS-UP	NA
Backlight	Off/BLC/HSBLC
DNR	ON / OFF
Privacy Mask	4 Masks
Motion Detection	Off/On
Power Source	DC12V ±10%
Power Consumption	Max 4 Watt <350mA
Operating Temperature	-10°C to 60°C
Operating Humidity	10% to 85%
Lens	2.8mm MP lens
Dimension/mm	39mm(D) X 105mm(L)
Weight/g	0.6KG

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