IRIS

Product Brochure

Boat Cameras, Thermal Imaging, Camera Control & Management
Network Recording, Remote Access, Cloud Storage

boat-cameras.com

21/22

Contents:

Welcome!

Since 2003 Iris Innovations have designed and manufactured rugged CCTV cameras and accessories specifially for the marine market.

From the simple but extremely robust IRIS-S460 miniature fixed marine IP camera to our new flagship camera management system, CMAC, Iris offer the most comprehensive range of marine cameras, PTZ devices, thermal imagers, switchers, recorders and accessories available anywhere in the world. Based on the South Coast of the UK, in the heart of Britsh boating industry, Iris manufacture cameras and accessories for some of the worlds leading electronics companies and supply OEM boat builders, super-yacht captains and individual boat owners alike.

The key to our longevity and success is two fold. Firstly, we listen to our customers. Secondly, we always strive to innovate. This approach has lead us to change our designs so we now manufacture from the highest quality marine grade stainless steel. We refine the designs of our products to complement the aesthetic of the boat and blend in and we adopt emerging technologies.

As the world slowly returns to normal Iris once again look forward to reopening our office in the USA, with a new sales and support hub based in Florida. Having a base at the center of the World's boating market is vital in allowing us to deliver the service required in an ever demanding and growing market.

Whether you are a center console enthusiast, a mega yacht captain or a work boat skiper, Iris have the cameras and systems that enable you to expand your vision on the water with confidence. And if there's something you need but isn't yet available, let us know. Your idea could soon become a reality!

Sentinel: IRIS-S290/S390
Professional Single Payload PTZ Cameras for Extreme Environments

IRIS

Key Features:

- S290: 384x288 Resolution with 19mm Lens
- S390: 640x512 Resolution with 25mm Lens
- 12µ Pixel Pitch
- ICE™ Image Contrast Enhancement Feature
- 10 Colour Palettes
- Thermal Sensitivity <50mK
- Fast, Smooth Pan Tilt Control
- Rugged Metal Housing, Anodised & Powder Coated
- Analogue Video Output
- Compatible with all Chart Plotters with composite video input
- Tilt Axis Gyro Stabilisation Option (add G suffix to part number)

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Featuring a wealth of new features to give you added confidence when navigating in total darkness, Sentinel Thermal cameras are widely used by fishermen, boat-owners, emergency services and law enforcement agencies alike.

Sentinel Thermal cameras work as well during the day as they do at night and are especially good for detecting people and other objects otherwise missed by radar in the water.

All our Thermal imaging models feature multiple colour palettes and our unique ICE™ Image Contrast Enhancement feature.

IRIS-S290:
The IRIS-S290 is a single sensor device featuring 384×288 resolution with a 19mm lens and offers ICE™ Image Contrast Enhancement, 12µ pixel pitch, a thermal sensitivity of less than 50mK and 10 selectable colour palettes.

IRIS-S390:
The IRIS-S390 is a single sensor device featuring 640×512 resolution with a 25mm lens and offers ICE™ Image Contrast Enhancement, 12µ pixel pitch, a thermal sensitivity of less than 50mK and 10 selectable colour palettes.

Sentinel: IRIS-S295/S395
Professional Dual Payload PTZ Cameras for Extreme Environments

Key Features:

- S295: 384x288 Resolution with 19mm Lens
- S395: 640x512 Resolution with 25mm Lens
- 12µ Pixel Pitch
- ICE™ Image Contrast Enhancement Feature
- 10 Colour Pallettes
- Thermal Sensitivity <50mK
- Visible Camera 1000TVL Resolution
- 10x Optical / 10x Digital Zoom
- Auto Focus
- Fast, Smooth Pan Tilt Control
- Rugged Metal Housing, Anodised & Powder Coated
- Analogue Video Output
- Compatible with all Chart Plotters with composite video input
- Tilt Axis Gyro Stabilisation Option (add G suffix to part number)

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Featuring a wealth of new features to give you added confidence when navigating in total darkness, Sentinel Thermal cameras are widely used by fishermen, boat-owners, emergency services and law enforcement agencies alike.

Sentinel Thermal cameras work as well during the day as they do at night and are especially good for detecting people and other objects otherwise missed by radar in the water.

All our Thermal imaging models feature multiple colour palettes and our unique ICE™ Image Contrast Enhancement feature.

IRIS-S295:
The IRIS-S295 is a dual sensor device featuring 384×288 resolution with a 19mm lens and offers ICE™ Image Contrast Enhancement, 12µ pixel pitch, a thermal sensitivity of less than 50mK and 10 selectable colour palettes.

The visible spectrum camera is a Samsung low light box camera module with 1000TVL CVBS resolution, 10x optical / 10x digital zoom, auto-focus and excellent low light operation

IRIS-S395:
The IRIS-S395 is a dual sensor device featuring 640×512 resolution with a 25mm lens and offers ICE™ Image Contrast Enhancement, 12µ pixel pitch, a thermal sensitivity of less than 50mK and 10 selectable colour palettes.

As with the S295, the visible spectrum camera is a Samsung low light box camera module with 1000TVL CVBS resolution, 10x optical / 10x digital zoom, auto-focus and excellent low light operation.

Sentinel-C
Colour-Thermal Dual Payload Professional Day/Night Vision Gyro Camera

FUSION-A

Key Features:

- Dual Payload - Colour & Thermal Cores
- 384x288 (C295) / 640x512 (C395) Thermal Resolutions
- Multiple Colour Palette Options
- ICE+™ Super-Enhanced Image Processing
- Tilt Axis Gyro Stabilisation
- Blends Thermal Night Vision over Low Light Image to Highlight Thermal Aspects of Scene
- Processes Thermal Image to Enhance Edges - Perfect for Increasing Visibility in Low Thermal Contrast Situations
- Rugged Aluminium Housing, Anodysed and Powder Coated.
- Built In Heater & Cooling Fan.
- Fast, Smooth PTZ Control.
- Side Entry Cable / Magnetic Base Option
- 12VDC / 24VDC Operation
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris's Dual Sensor Enhanced Sentinel-C Range delivers next level awareness to boaters navigating at night, in light fog and now, utilising Iris's new ICE+ Edge Processing algorythms, in scenes of low thermal contrast.
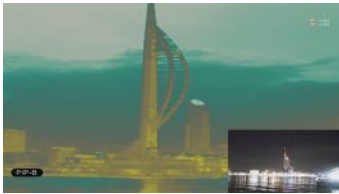
Edge+
All thermal cameras experience limitations when there is a low thermal contrast (ie, in hot or cold weather where object temperatures are becoming close to the ambient temperature). Iris's New Edge+ technology blends the image from the cameras low-light visible module with the thermal image and uses complex software algorythms to determine, pick out and enhance object edges, then overlay them onto the image from the thermal sensor. The result is a multi-spectrum composite image with clearly defined object odges and colour thermal video.

As well as Edge+ enhanced visibility, Sentinel C cameras can also overlay colour thermal hotpsot information onto the extremely sensitive visible camera image, so objects can now be shown with enhanced clarity with only starlight required.

With their extremely sensitive visible modules and thermal cores, thermal overlay and Edge+ overlay modes, Sentinel C cameras, available in 640x512 and 384x288 resolution deliver 4-in-1 functionality offering extreme value for money whilst delivering superior awareness to boaters, fishermen, crew and search and rescue professionals.

Sentinel cameras feature rugged aluminium housings which are anodised and powder coated to provide excellent protection against corrosion. Scaled pan and tilt control is employed for precise positioning and movement is super smooth. All cameras feature built in environmental management to prevent overheading, condensation and freezing up.

Sentinel-C
Colour-Thermal Dual Payload Professional Day/Night Vision Gyro Camera

PiP-B Mode
Main: Thermal
Bottom Right Corner: Low Light Camera

Visible Light Camera
Night Conditions (Ambient Light in Background)

Fusion Mode B - Low Light Picture Background with Thermal Image Hotspots Overlaid

Fusion Mode B - Low Light Picture Background with Thermal Image Hotspots Overlaid

Fusion Mode A - ICE+ Edge Enhancement From Daylight Camera overlaid onto thermal image)
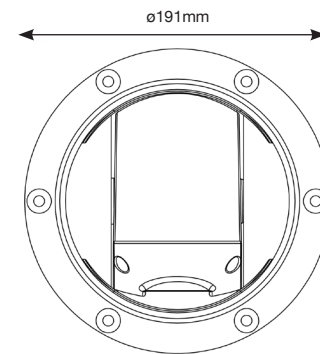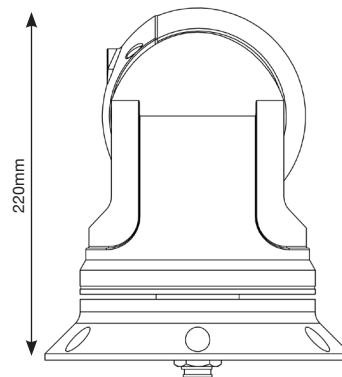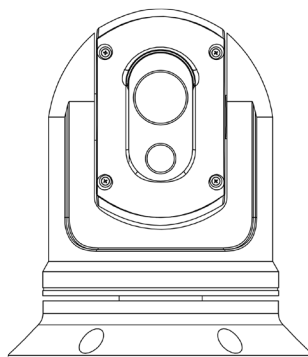

Fusion Mode A - Various Palette Examples

Fusion Mode A - Various Palette Examples

Fusion Mode A - Various Palette Examples

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220mm

Model No.	Payload 1	Resolution	Lens	Zoom	Payload 2	Resolution	Lens	Zoom	Illumination
S-C295	Analogue Day Module	800 TVL	8mm 50˚ HFOV	4x Digital (stepped)	Thermal Uncooled FPA – Shutterless	384 x 288	19mm 19.5˚ HFOV	4x Digital (stepped)	Not Required
S-C395	Analogue Day Module	800 TVL	8mm 50˚ HFOV	4x Digital (stepped)	Thermal Uncooled FPA – Shutterless	640 x 480	19mm – 32˚HFOV	4x Digital (stepped)	Not Required

Pan Details	Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s
Tilt Details	-25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s
Video Format	1V P~P Composite Analogue Video 75Ω - PAL / NTSC
Presets / Patrols & Patterns	100 Presets, 6 Patrols (up to 18 presets each), 4 Patterns
Communications Interface	RS485 Serial Data
Protocols	Pelco D, Iris Variant, 9600 Baud
Power	+12VDC / +24VDC. Max Consumption 36W (LED's ON)
Weight	3KG
Operating Temperature	-50˚C ~ +65˚C / Humidity: 10% ~ 95% RH
Environmental	IP66 / TVS 4000V Overvoltage / Lightning Protection

Colour Palettes	12 Colour Palettes (Thermal Core)
Operation Modes:	Day Mode: Low Light Visible Camera Night Mode: Thermal Camera Fusion A Mode: ICE+ Edge Enhancement from Daylight Camera overlaid onto Thermal Image Fusion B Mode: Day Camera Image Overlaid with Hotspots from Thermal Camera PiP A Mode: Full Screen Daylight Camera with Thermal Camera Inset PiP Mode B: Full Screen Thermal Camera with Day Camera Inset
Thermal Sensitivity / Range	<50mK / 8~14µ
Thermal Pixel Pitch	17µm
Visible Camera Illumination	0.05 Lux
Housing Material / Colour	Aluminium Body, Anodised & Powder Coated. White/Black Standard - Bespoke Colours Available - POA
Gyro Stabilisation	Tilt Axis

Sentinel: IRIS-S118/S418
Professional Visible Spectrum PTZ Cameras for Extreme Environments

S118 — Analogue Format

Designed to withstand the harshest conditions Iris Sentinel cameras are made from machined and cast aluminium body sections which are anodised and powder coated for maximum protection.

Featuring new high spec oil seals and improved stepper motors, our Sentinel cameras move quickly and smoothly with great accuracy.

The IRIS-S118 Sentinel PTZ houses a Sony block camera module with 580TVL analogue resolution, 30x Optical and 12x Digital zoom, auto and manual focus and a host of other features expected from a high end imager. An array of 4 high power second generation infra red LED's provide auto/manual illumination in low light to a range of around 150ft.

As with all Sentinel cameras, the IRIS-S118 is water resistant to IP66 and features a heater and anti-fogging facility. Connection to the camera is via a single umbilical cable that plugs into the centre of the base plate for easy installation.

IRIS-S118 cameras output analogue video and are directly compatible with all chart plotters that feature a composite video input. They can also be plugged into a CCTV monitor or into a TV via an AV input.

The camera is controlled via two wire RS485 serial data using Pelco-D control protocols. The camera is supported by our range of CMAC, IRIS595 and IRIS-TE01 controllers.

The IRIS-S118 is perfect as part of an on board security system and as a tool to enhance situational awareness, whether deployed on a vessel at sea or used on a land vehicle such as fire and police vehicles, safari and animal management trucks or simply just as an aid to guide you through the night in unlit areas.

S418 — IP Format

The IRIS-S418 Sentinel PTZ features our high specification network sensor supporting multiple streams, max resolution of 2MP, variable bit rates and resolutions, 30x Optical and 10x Digital zoom, ONVIF compliance, RTSP streaming and many more features you'd expect from a high end network camera module.

As with the S118, an array of 4 high power second generation infra red LED's provide auto/manual illumination in low light to a range of around 150ft.

As with all Sentinel cameras, the IRIS-S418 is water resistant to IP66 and features a heater and anti-fogging facility. Connection to the camera is via a single umbilical cable that plugs into the centre of the base plate for easy installation.
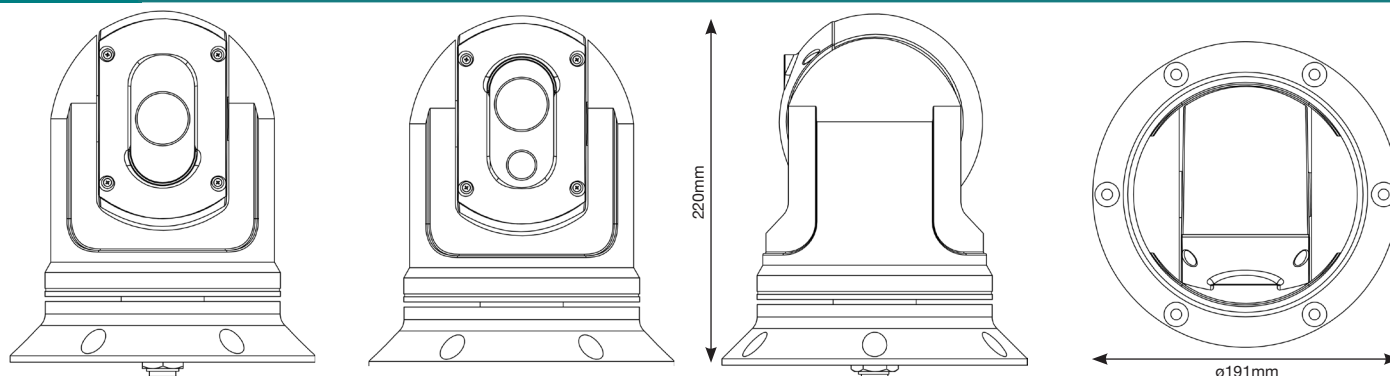
As well as control over ethernet, the camera can also be controlled via two wire RS485 serial data using Pelco-D control protocols. The camera is supported by our IRIS595 and IRIS-TE01 controllers and can be accessed via Iris HVR recorders and gateways and also via a web browser (IE). Video from the S418 can also be accessed from a Raymarine / Axiom MFD running LH2 and higher. S418 is also compatible with our CMAC systems.

The IRIS-S418 is perfect as part of an on board security system and as a tool to enhance situational awareness, whether deployed on a vessel at sea or used on a land vehicle such as fire and police vehicles, safari and animal management trucks or simply just as an aid to guide you through the night in unlit areas.

Sentinel
Professional PTZ Cameras for Extreme Environments

IRIS

Camera Options:

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Model No.	Payload 1	Resolution	Lens	Zoom	Payload 2	Resolution	Lens	Zoom	Illumination
S-118	Analogue	550TVL	3.4 ~ 122.4mm 57.8˚Wide / 1.7˚Tele	30x Optical / 12x Digital	NA	NA	NA	NA	IR Cut Filter / Range = 50 Meters
S-418	Network IP	2.0 Megapixel	4.5mm ~ 135mm	30x Optical / 10x Digital	NA	NA	NA	NA	IR Cut Filter / Range = 50 Meters
S-290	Thermal (Analogue) Vox Microbolometer, 12µm, 30Hz, <50mk	384 x 288	19mm 19.5˚H x 14.7˚V	4x Digital (stepped)	NA	NA	NA	NA	Not Required
S-390	Thermal (Analogue) Vox Microbolometer, 12µm, 30Hz, <50mk	640 x 512	25mm 24.6˚H x 18.5˚V	4x Digital (stepped)	NA	NA	NA	NA	Not Required
S-295	Thermal (Analogue) Vox Microbolometer, 12µm, 30Hz, <50mk	384 x 288	20mm 18˚H x 14˚V	4x Digital (stepped)	Analogue	800 TVL	5 ~ 50mm	10x Digital / 10x Optical	Not Required
S-395	Thermal (Analogue) Vox Microbolometer, 12µm, 30Hz, <50mk	640 x 512	20mm 18˚H x 14˚V	4x Digital (stepped)	Analogue	800 TVL	5 ~ 50mm	10x Digital / 10x Optical	Not Required
S-C295	Analogue Day Module	800 TVL	8mm	4x Digital (stepped)	Thermal (as S-295)	384 x 288	19mm	4x Digital (stepped)	Not Required
S-C395	Analogue Day Module	800 TVL	8mm	4x Digital (stepped)	Thermal (as S-395)	640 x 512	19mm	4x Digital (stepped)	Not Required

Analogue Specs:

Note: For Gyro Stabilised Option Add Suffix 'G' to Part Number

Pan Details	Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s
Tilt Details	-25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s
Video Format	1V P~P Composite Analogue Video 75Ω – PAL / NTSC
Presets / Patrols & Patterns	100 Presets, 6 Patrols (up to 18 presets each), 4 Patterns
Communications Interface	RS485 Serial Data
Protocols	Pelco D, Iris Variant, 9600 Baud
Power	+12VDC / +24VDC. Max Consumption 36W (LED's ON)
Weight	3KG
Operating Temperature	-50˚C ~ +65˚C / Humidity: 10% ~ 95% RH
Environmental	IP66 / TVS 4000V Overvoltage / Lightning Protection / Shock & Vibration MIL STD 810E

IP Model Specs:

Pan Details	Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s
Tilt Details	-25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s
Video Compression	H.265 / H.264
Frame Rate	Main: 2MP – Max 30fps; Sub: 2MP – 30fps; Third: D1 – 30fps
Communications Interface	1RJ45 10M/100M Base-TX Ethernet (Addional RS485 Serial Data Connection – Pelco D / Iris Variant)
Protocols	ONVIF2.4, L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SNMP, SIP
Power	+12VDC / +24VDC. Max Consumption 36W (LED's ON)
Weight	3KG
Operating Temperature	-50˚C ~ +65˚C / Humidity: 10% ~ 95% RH
Environmental	IP67 / TVS 4000V Overvoltage / Lightning Protection / Shock & Vibration MIL STD 810E

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IRIS106/1106/4106

Compact Recess Mounting Miniature Dome Camera with Optical Zoom
Available in Analogue / AHD / IP Formats

Optional Surface Mount Bracket. Part No. BRK106

Key Features:

- Available in multiple formats to suit your requirements
- Bezel Machined from 316 Marine Grade Stainless Steel.
- High Polish or White Powder Coat Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- PoE IEEE.802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Extremely Low Power Consumption
- Small, Compact and Discreet
- 10x Optical and 10x Digital Zoom
- Surface Mount Bracket Option Available (IRIS-BRK106)
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

The IRISx106 range of multi-format miniature, controllable cameras are the smallest marine PTZ cameras available on the market and provide fast, smooth variable speed control in a variety of formats to suit your requirements:

IRIS106
High Resolution Analogue Sensor with 1000TVL Resolution / Composite (CVBS) video output - PAL / NTSC switchable.

IRIS1106
Analogue Hi-Def (HD-TVI / HD-CVI / AHD) selectable with 1920x1080P level Resolution. Use in conjunction with Iris TVI/HDMI convertor module to interface with chartplotters supporting HDMI inputs (Garmin 8xxx series, Simrad NSO etc). Real Time HD video.

IRIS4106
2MP High Definition Network IP Camera. Compatible (video only) with Raymarine / Axiom MFD's running LightHouse 2 (or above) interface.

x106 cameras can be powered via 12VDC or PoE (4106) and are very quick and easy to install.

The 4106 supports up to 32 viewers at any one time and can be configured to output different resolutions at various frame rates.
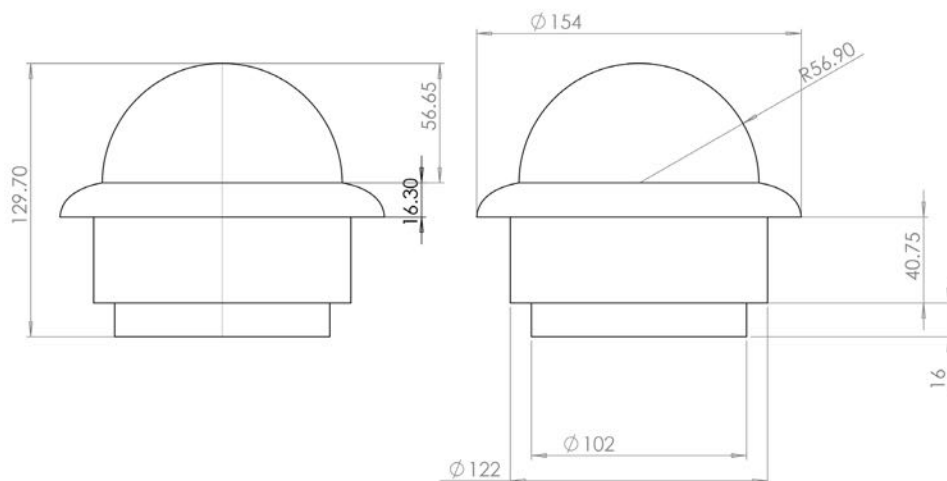
The x106 ramge of cameras delivers high quality video in multi formats and is an extremely versatile device. Perfect for deck and companionway monitoring, on board security and for situation awareness and surveillance applicaitons.

IRIS106/4106
Compact Recess Mounting Miniature Dome Camera with Optical Zoom
Available in Analogue / AHD / IP Formats

Specifications:

	IRIS-106	IRIS-1106	IRIS-4106
Sensor	1/3" Panasonic CMOS Sensor		1/4" Omnivision OV9712 Sensor
Resolution	1000 TVL	1920x1080	Variable - 1920x1080P (2MP) Max
Interface	NA		RJ45 10/100 Base T Ethernet
Video Processing	1VP~P CVBS Composite Video 75Ω	HD-TVI / HD-CVI / AHD Switchable	H.264 Codec / Dual Stream
Protocols / Video Format	PAL / NTSC Selectable	HD-TVI / HD-CVI / AHD	TCP/UDP/HTTP/Multicast/UPnP/NTP/RTSP/ONVIF
Onvif	NA		Profile S v2.4
Bitrate	NA		VBR / CBR 32kbps ~ 8Mbps
Illumination	NA		
Lens / Field of View	F1.8 / F = 4.9 ~ 49mm		
Zoom Level	Optical Zoom: 10x / Digital Zoom: 10x		
Pan Details	360˚ Continuous Rotation / Speed 0.5 ~ 300˚ sec		
Tilt Details	0~90˚ / Speed 0.5 ~ 300˚ sec		
Mirroring	Horizontal & Vertical - Configure via OSD Menu		Horizontal & Vertical - Configure via Browser
Automatic Gain Control	Supported / Multiple Levels		
Compatibility	All MFD's with Composite Video Input, TV via AV Input	MFD's with Digital (HDMI/DVI) Input with TVI-HDMI Convertor, MFD's via IRIS NVR/HVR	Raymarine / Axiom (LH2 or higher), PC based systems, MFD's with digital (HDMI / DVI) Input, MFD's via IRIS NVR/HVR, IE Browser
Operating Temperature	-30 ~ +60˚C		
Connections	Video: BNC 75Ω Female Connector / DC Power Socket		Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1090)
Material	316 Stainless Steel Bezel / Acrylic Dome / ABS Plastic Body		
Power	12VDC < 0.8A Max.		PoE IEEE802.3af / 12VDC <1A Max.
Weight & Dimensions	Weight: 1.1Kg / Dimensions: Bezel OD = 154mm, Panel Cutout = 122mm, Depth Behind Panel = 58mm (IRIS4106 = Allow additional space for RJ45 Connector - Draft = 73mm		
Environmental	IP66		

IRIS595
Panel Mount Waterproof Controller Joystick

Key Features:

- Panel Mount Waterproof Case
- Stylish Black Hard Anodised Finish
- Dynamic Menu System for Function Access
- Responsive 2 Axis Proportional Speed Thumbstick
- Supports Up To 6 Cameras and 18 Monitors
- Pelco D and Pelco D (Iris Variant) Protocols
- RS485 Serial Data
- Wide Operating Voltage - 6~36VDC
- Clear Backlit LCD Screen
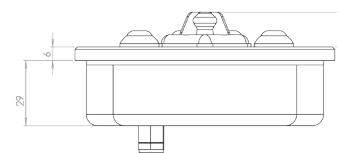- Easy, Intuitive Menu System for Feature Access

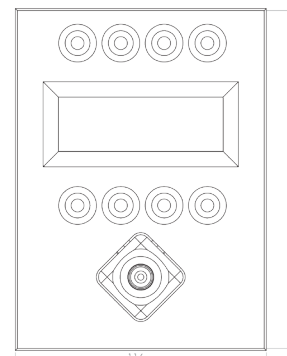| IRIS595	Specification
Weight & Dimensions	0.5Kg / 116mm x 156mm
Material	Aluminium, Hard Anodysed / Matte Black Finish
Data / Protocol	RS485 Serial Data / Pelco D - Iris Variant
Control Interface	2 Axis Proportional Control thumbstick / 8 Dynamic Buttons
Power	8~36 VDC / <300mA @ 12VDC
Environmental	EN60529 / IP66

Control up to 16 on board PTZ and Thermal cameras with the stylish IRIS595 panel mount joystick.

Featuring a responsive 2 axis proportional speed thumbstick and 8 feature buttons, the IRIS595 can drive Iris's complete range of PTZ and Thermal cameras and also interface with our hybrid video recorder range and matrix switchers to select 16 cameras to 16 monitors.

The IRIS595 is very easy to install, with 2 wires for DC power and 2 wires for RS485 serial data and transmits Pelco D protocol and Iris Variant data. High end power circuitry means the device can be operate between 6~36VDC and also features reverse voltage protection.

The 8 feature buttons navigate through the device's dynamic intuitive menu system to access all the extended features built into Iris PTZ and Thermal PTZ cameras.

cmac™

On Board Camera Management & Control System
Featuring Iris Control App for HTML5 Interface Compatible Systems

You're in Control...
CMAC™ is a new feature rich command, management and control system for your on-board cameras and alarms. Upload your deck plans, set up your on board cameras and alarms and control everything from your chartplotter with the Iris Control App.

Compatible with analogue, IP and HD-TVI cameras and our new Osiris Alarm system, CMAC™ also supports remote P2P access which means you can even view and control your system whilst you're away from the boat.

Multiple Camera Formats
CMAC systems are available in Hybrid or IP only formats.. Hybrid models accept analogue, AHD (HD-TVI / HD-CVI) and IP formats. By supporting multiple formats, not only does CMAC offer maximum compatibility, but it also future proofs your system should you decide to upgrade your cameras.

High Definition Digital Output
CMAC systems feature a high definition HDMI digital video output to provide the very best live, high quality footage on compatible chart-plotters, TVs and dedicated monitors. CMAC can also be used with standard definition devices with any HDMI to Composite Video convertor.

IRIS Control HTML5 App
Manage and control your on-board cameras and alarms via our new Iris Control HTML5 App. Upload your deck plans and photos, drag and drop dedicated camera and alarm icons and you now have the most feature rich and intuitive marine security and surveillance system in the world. Navigate through your deck plans and select camera icons to switch video inputs, control PTZ cameras via the ultra-responsive virtual joystick, configure and select camera tours and scans, activate thermal colour palettes, gyro control and much much, more! Iris Control frees up helm space by removing the need for additional control hardware and joysticks.

USB Touch Control
In addition to control over your compatible MFD network, CMAC features a USB touch control interface. This means chart plotters with USB touch outputs, such as Garmin's 8000 series can be used to drive your PTZ cameras with pin-point accuracy.

WiFi / Remote P2P Connectivity
Connect CMAC to your on board WiFi router and view your cameras from around your boat on your smart phone, tablet or computer. Perfect for keeping an eye on what's happening above from below deck! CMAC can also be accessed remotely via P2P connectivity if you have internet access.

Integrated Network Video Recorder
CMACs built in recorder is fully configurable to maximise storage time, adjust resolutions and frame rates, set video motion detection and much more. Standard CMAC units support 1 x HDD drive bay (4TB capacity).

CMAC-HVR

Camera Management & Control System for Analogue, AHD and IP Cameras
with HTML5 Control Interface for Garmin, Raymarine & Navico Chart-Plotters

Key Features:

- Available in multiple formats to suit your requirements and budget.
- Single & Dual Payload Models.
- Thermal Imaging, Super Low-Light, HD IP and High Resolution Analogue Modules.
- Tilt Axis Gyro Stabilisation Option Available
- New Colour Thermal Technology (Sentinel C Models)
- New ICE+™ Image Enhancement
- Rugged Aluminium Housing, Anodysed and Powder Coated.
- Built In Heater & Cooling Fan.
- Fast, Smooth PTZ Control.
- Side Entry Cable / Magnetic Base Option
- 12VDC / 24VDC Operation
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

The CMAC-HVR is a fully featured and rugged hybrid recording and camera management device for your boat's camera system.

Available as a stand alone recorder or a full command and control system, the CMAC-HVR supports IP cameras as well as analogue (CVBS) and analogue high definition formats (HD-TVI, HD-CVI and AHD).

The unit is extremely rugged and features a removable anti vibration hard drive caddy. Footage can easily be extracted from the system by removing the caddy and commecting to a computer, or by plugging in a USB drive.

CMAC outputs high defintiion HDMI video, and can also be viewed and controlled via a web browser or the XMeye App.

On board, CMAC can also be controlled using our IrisControl App for HTML5 platforms such as Garmin's OneHelm platform. Compatibility with other platforms such as Raymarine's LightHouse Apps and Navico's suite of MFD's is due for release December 21.

Your CMAC system is truly a multi-faceted device and works as a camera switcher, controller, alarm management system, digital network recorder and web server, meaning you can connect remotely via an internet connection to view live video footage, recorded events, switch and control your cameras.

Full details of the control possibilities offered by our IrisControl interface, including uploading deck-plans and configuring device and view icons can be found below on the IrisControl page.

CMAC is the worlds first fully dedicated camera and alarm command control and management system for boat owners!

CMAC-NVR
Camera Management & Control System for IP Cameras
with HTML5 Control Interface for Garmin, Raymarine & Navico Chart-Plotters

Key Features:

- Plug'n'Play Black Box Solution
- Connect up to 16 x IP Cameras
- Hosts IrisControl App for Garmin OneHelm Platform
- Anti-Vibration HDD Caddy with 1TB Drive (4TB Max)
- Built in Network Video Recorder
- USB Touch Interface for Garmin 8xxx series MFD's
- Very Stylish & Compact Case with Rugged Connectos
- Hi-Def HDMI Video Output
- Wide Input Voltage Range
- Upload Deck Plans & Photos

Applications:

- Luxury Vessels
- Ferry Boats & Passenger Vessels
- Sports Fishing Boats
- Engine Room Monitoring
- Law Enforcement & Military
- Wind Farm Vessels
- Aquaculture & Fisheries
- Motor Cruisers
- Yachts

CMAC-N16 on board camera management, recording and control system from Iris is the definitive black box solution for your boat's surveillance, safety and security cameras. Hosting our feature rich and intuitive IrisControl App for Garmin's Onehelm platform, CMAC incorporates a network video recorder and hard drive in a quick release, anti vibration caddy and web connectivity for remote access.

Connect your network cameras, upload your deck plans and photos's, then configure your system by dragging and dropping device icons into place and setting up automated views and macro routines.

Switch your cameras or multi-cam views by choosing the corresponding icon on your deck plan. For larger vessels there are no limits to the number of plans or photos you can upload. As well as switching cameras, the IrisControl App supports an Automation feature with which you can set off a chain of instructions from an icon press.

The CMAC N16 is shipped with a 1TB HDD (expandable to 4TB) installed in a shock proof removable drive caddy which makes it easy to remove the drive to examine recorded video footage and events on an external computer.
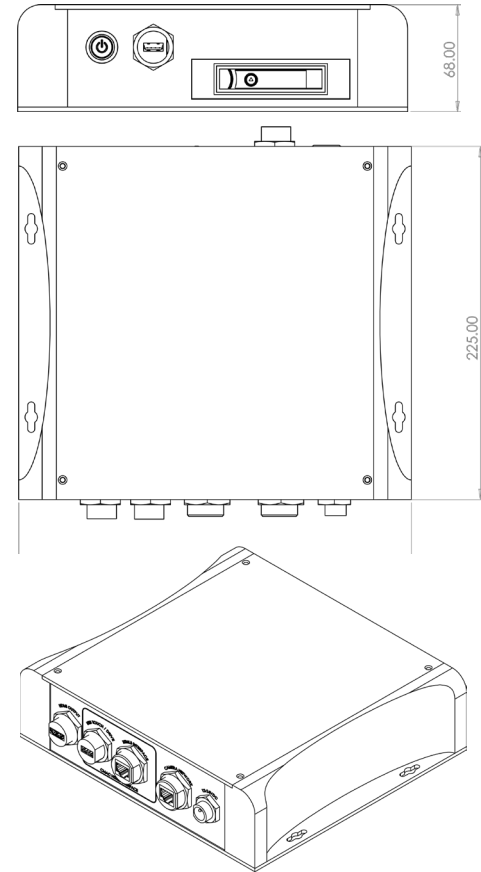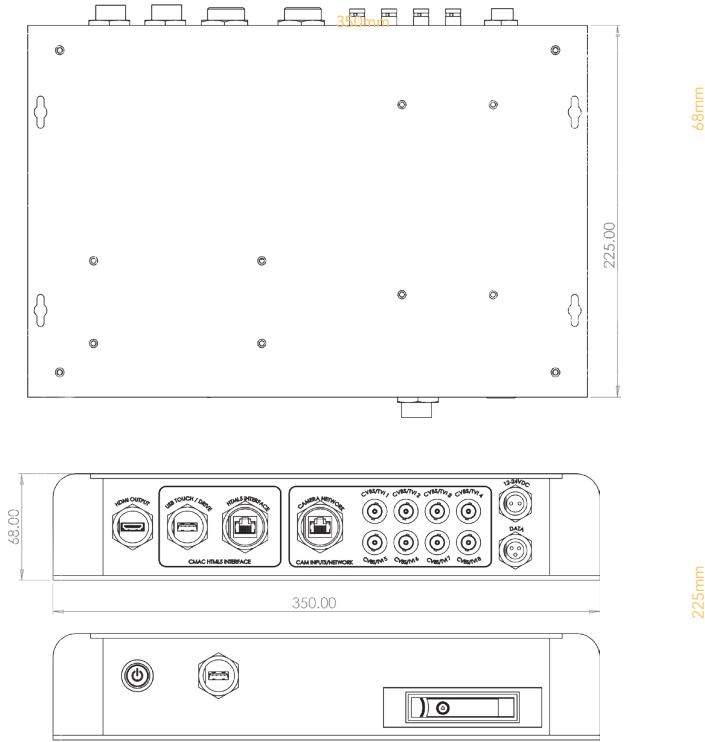
Intuitive touch control is achieved using the IrisControl App for Garmin's OneHelm platform on Garmin 8xxx series chart plotters with further integration in the pipeline.

Use the IrisControl App for super accurate PTZ control and to access all your cameras extended features.

CMAC is user-upgradable, so as new features are announced you can easily add these to your interface making your system even more powerful.

CMAC Specifications
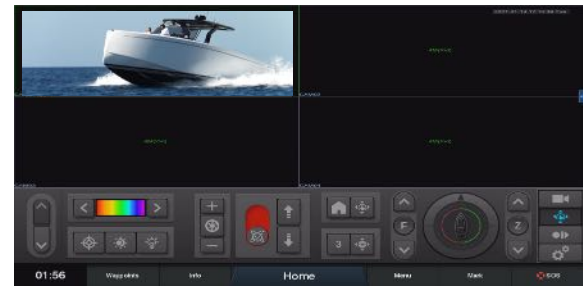## CMAC Camera Control Interface / IrisControl App Host

Model	CMAC-H16-1TB-G
HVR System Processor	Hi3521D
Video Codec	H.265
Camera Inputs	8 x BNC Female Connectors for CVBS, AHD, HD-TVI, HD-CVI Camera Inputs
Network Camera Capacity	Up to 16 Cameras (at 1080P) via Camera Network RJ45 10/100 Connection
Network Camera Resolution (Recording)	16 x 2MP, 4 x 5MP, 4 x 3MP
Hybrid Camera Resolutions (Recording)	8 x 4MP ANALOGUE + 8 x 4MP IP
Analogue Camera Resolution (Recording)	8 x 5MP, 8 x 4MP, 8 x 2MP (CVBS, AHD, HD-TVI, HD-CVI)
Additional Network Connectivity	Network RJ45 Gigabit Connection for Hosting HTML5 Iris Control Camera Interface Application
Control Interface	IrisControl App for Garmin OneHelm Platform / Raymarine LightHouse & Navico Available Soon
IrisControl Features	User-Uploadable Deck plans / photos, Camera selection, PTZ camera, Single Screen - Split Screen Select, Thermal Camera Features: Gyro, Trim, NUC, Palettes, Memory Presets, Scans Tours, Absolute Referencing, ICE Image Enhancement, NVR Controls
Firmware Upgrade	Via USB (auto-upgrade from root directory of USB Drive)
Chartplotter Compatibility	Garmin 7xxx: Requires HDMI to CVBS Convertor (USB Touch not available) / Garmin 8xxx - All Features. IrisControl for Raymarine LightHouse Apps and Navico Apps available Soon
Storage	1 x 2.5" SATA II Drive Caddy 8TB capacity / Second Drive Bay Option Available
Video Output	1 x HDMI Output
Serial Data Port	Built In 3 Pin Connection for RS485 Serial Data / PTZ Control (Multi Protocol Support)
USB Interface	2 x USB 3 Drives / Drive 1 for Processor Board Functions (USB Touch, File Upload etc) / Drive 2 for NVR Features (File Transfer, NVR Mouse + KBD)
HTML5 User Interface	IRIS Control Camera Management HTML5 Application Host
Operating Temperature	-10˚C ~ +55˚C
Power	+12VDC ~ 24VDC / <2A @ 12VDC
Weight & Dimensions	2.8Kg / 350mm Width x 225mm Depth x 68mm Height
Material	Anodised Aluminium Plates / ABS Plastic End Cheeks with Wood Effect Veneer

	CMAC-N16-1TB-G
HVR System Processor	Hi3521D
Video Codec	H.265
Camera Capacity	16 x IP Cameras @ 1920 x 1080P Resolution,
Connectivity	Single RJ45 for Connection to Camera Network, RJ45 Connection for Garmin Network, USB for Garmin Touch / System Upgrade, USB for NVR Configuration & file management, HDMI Video Output, DC Power Input
Storage	1 x Anti Vibration SATA II 2.5" HDD Caddy for Removable Storage (1TB HDD Supplied) / 8TB Capacity
Video Output	1 x HDMI
Control Interface	IrisControl App for Garmin OneHelm Platform / Raymarine LightHouse & Navico Available Soon
USB Touch	Additional USB Touch Control for Supported MFD's / Devices
IP Camera Support	All IRIS IP Cameras / ONVIF Profile-S Compliant IP Cameras
IrisControl Features	User-Uploadable Deck plans / photos, Camera selection, PTZ camera, Single Screen - Split Screen Select, Thermal Camera Features: Gyro, Trim, NUC, Palettes, Memory Presets, Scans Tours, Absolute Referencing, ICE Image Enhancement, NVR Controls
Firmware Upgrade	Via USB (auto-upgrade from root directory of USB Drive)
Alarm Integration	TBA
AIS Tracking Features	TBA
Chart Plotter Compatibility	Garmin 7xxx: Requires HDMI to CVBS Convertor (USB Touch not available) / Garmin 8xxx - All Features. Others TBA
Power	+12VDC ~ +24VDC / <2A @ 12VDC
Operating Temperature	-10˚C ~ +55˚C
Dimensions	250 x 255 x 68mm
Weight	4.45Kg
Material	Anodised Aluminium Plates / ABS Plastic End Cheeks with Wood Effect Veneer

IrisControl
HTML5 Camera Managent & Control App for Chart Plotters

Upload deckplans & photos and configure with camera, alarm and automation icons for one-touch activation (above). Feature Rich Controller Panels (below).

CUSTOMISE
Up-load deck plans or photos into your CMAC™ system then drag and drop camera, preset and alarm icons to provide instant switching and control. Load up as many deck plans or photos as you like and navigate using scroll buttons which neatly animate through your plans. Use your own photos to represent instrumentation panels and then simply place preset icons over your dials and displays to instantly drive a PTZ camera to look at the readings.

Alarm icons will flash when triggered and can be armed and disarmed via the icon.
Preset icons can be placed to send PTZ cameras to monitor a specific position at the touch of a button.
If you don't want to upload your own images, simply select your devices from the scroll-down text menu.

RECORD
CMAC™ systems feature a built-in digital video recorder and the Iris Control App includes a virtual control panel to provide access to the recorder's functions.
The NVR control panel within Iris Control provides access to the record module's menu system for full device configuration, including input naming, video motion detection settings, search and playback of recordings and much more.

CONTROL
Iris Control's virtual joystick provides smooth, accurate control of your PTZ and Thermal cameras from networked chart-plotters completely eliminating the need for additional controller hardware on your helm.
As well as Pan, Tilt, Zoom and focus controls, we've included thermal palette and shutter controls, gyro toggle and trim controls, day / night and Infra Red LED ON/OFF controls, scan and preset controls and buttons to jump to AIS tracking controls and Drone operation.
As well as pan and tilt control using the virtual joystick, CMAC™ also supports USB Touch Control to allow precise touch control from the video feed from Chart-Plotters or screens supporting USB Touch.

CONFIGURE
As well as naming cameras, deck plans, photos, alarm and preset icons, Iris Control's set up menus are simple and intuitive and let you configure preset positions, camera image and configure mirror and invert, PTZ camera home position and software upgrades.

IRIS

IRIS-S060 / S160 / S460
316 Marine Grade Stainless Steel Static Dome Camera Analogue, AHD & IP

Key Features:

- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- Available in Brushed (standard), High Polish or Custom Painted Finish*
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- Compatible with Raymarine / Axiom (LH2 and Higher)
- Compatible with SIMRAD MFD's inc. SIMRAD, Lowrance and B&G
- Built In Infra Red LED Illumination (10m Range)
- PoE Option (IRISS460 IP Model)
- Extremely Low Power Consumption
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris's SX60 range of miniature marine grade stainless steel cameras are available in multiple formats and deliver the highest quality video to suit your application.

The range comprises a high resolution analogue solution designed for maximum compatibility with most marine chart plotters (IRISS060), a high definition TVI model which delivers 1920x1080 resolution in real time† (IRISS160) and a high definition 2MP IP camera which is directly compatible with Raymarine chart plotters (running LH2 / LH3 software) and Furuno Timezero v4.1 and above.

The SX60's 316 stainless steel housing provides the ultimate protection in the harsh marine environment, and is therefore the perfect solution for deck monitoring aboard work boats, fishing vessels and passenger vessels, whilst fitting in equally as well with the high end aesthetic of luxury vessels and mega yachts.

Measuring only 58mm high by 60mm in diameter, the SX60 range is small enough to provide unobtrusive surveillance and also for use in areas where space is tight, such as engine rooms or anchor wells.

Whether you need a high quality and rugged camera as part of your on board surveillance system, for engine room, deck and companion way monitoring or as a robust and stylish docking or backup camera, the IRIS-SX60 range of cameras is the perfect solution
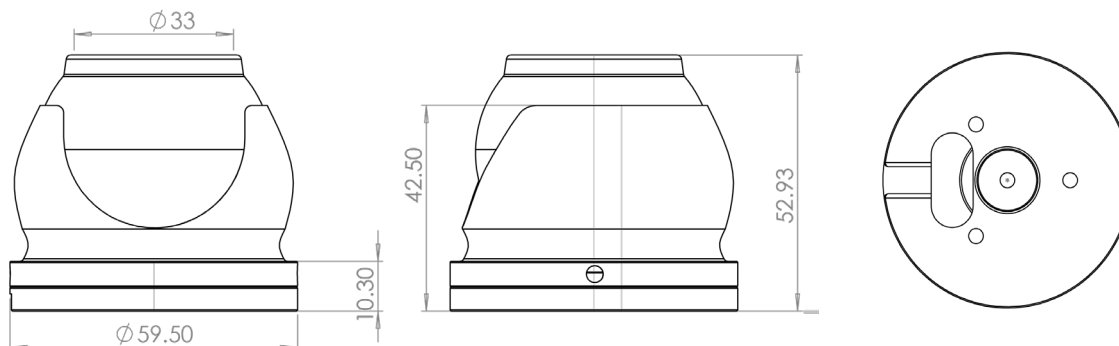
Onvif

* Non Standard Finishes may incur additional costs
† May Require Additional Convertor Hardware Depending on Model of MFD

IRIS

IRIS-S060 / S160 / S460
316 Marine Grade Stainless Steel Static Dome Camera Analogue, AHD & IP

Ø 33
42.50
52.93
10.30
Ø 59.50

Camera Options:

Model No.	Format	Resolution	Lens	Horizontal Field of View
S060	Analogue	1000TVL	3.6mm Standard, 1.8mm & 2.8mm Option	3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV, 1.8mm 160˚HFOV
S160	HD-TVI	1920 x 1080		
S460	IP	1920 x 1080		

Specifications:

	IRIS-S060	IRIS-S160	IRIS-S460
Sensor	1/3" Sony CCD Sensor		1/4" CMOS Sensor
Resolution	1000 TVL	1920x1080	Variable - 1920x1080P (2MP) Max
Interface	NA		RJ45 10/100 Base T Ethernet
Video Processing	1VP~P CVBS Composite Video 75Ω	HD-TVI / HD-CVI / AHD Switchable	H.264 Codec / Dual Stream
Protocols / Video Format	PAL / NTSC Selectable	HD-TVI / HD-CVI / AHD	TCP/UDP/HTTP/Multicast/UPnP/NTP/RTSP/ONVIF
Onvif	NA		Profile S v2.4
Bitrate	NA		VBR / CBR 32kbps ~ 8Mbps
Illumination	6 x 850nm Infra Red - 10 meter Range		
Lens / Field of View	3.6mm Standard (80˚HFOV) / 2.8mm Option / 1.8mm Wide Angle Option		
Mirroring	Horizontal & Vertical - Configure via OSD Menu		Horizontal & Vertical - Configure via Browser
Automatic Gain Control	Supported / Multiple Levels		
Compatibility	All MFD's with Composite Video Input, TV via AV Input, CMAC Camera Management Systems	MFD's with Digital (HDMI/DVI) Input with TVI-HDMI Convertor, MFD's via IRIS NVR/HVR, CMAC Camera Management Systems	Raymarine / Axiom (LH2 or higher), NAVICO MFD's inc SIM-RAD / LOWRANCE, B&G, Furuno Timezero v4.1 and higher. PC based systems, MFD's with digital (HDMI / DVI) Input, MFD's via IRIS NVR/HVR, IE Browser, CMAC systems
Operating Temperature	-30 ~ +60˚C		
Connections	Video: BNC 75Ω Female Connector / DC Power Socket		Water Resistant RJ45 Socket / Non PoE with DC Power Socket
Material	316 Stainless Steel		
Power	12VDC < 200mA Max.		PoE IEEE802.3af / 12VDC <200mA Max.
Weight & Dimensions	0.420Kg / 59.5mm ø x 52.93mm H		
Environmental	IP66		

IRISx36
Mini Recess Mount Fixed Domes, Analogue, IP & AHD Models

Key Features:

- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- High Polish Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- PoE IEEE.802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Compatible with NAVICO MFD's inc. SIMRAD, Lowrance and B&G
- Extremely Low Power Consumption
- Small, Compact and Discreet
- White Powder Coat Bezel Option
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Introducing the IRISx36 range of recess mount, micro dome marine cameras from Iris Innovations.

For maximum compatibility the x36 series is now available in three formats:

IRIS036 Hi-Resolution Analogue Sensor, 1000TVL with composite video output

IRIS436 Hi-Def Ethernet IP Camera

IRIS1036 Hi-Def Real Time iHD Digital Video Output

For the first time ever, the x36 range offers customers a choice of video formats to suit their MFD or monitoring solution. The IRIS036 will interface directly with any chart plotter that features a composite video input. Its 1000TVL resolution is the highest available for an analogue camera, and it also boasts on screen configuration functionality to set the camera up exactly as required - including a video mirror switch for rear view applications. Set up is carried out via an integrated thumb stick built into the cable tail.

The IRIS1036 Analogue Hi-Def model outputs 1920x1080 resolution video in AHD, TVI or CVI format which provides stunning real time high definition video †.

Finally, the IRIS436 is an IP camera that will interface with Raymarines network MFD's such as the new Axiom family and other devices running LightHouse 2 and 3 software and Furuno Timezero 4.1 and above. The camera is available with a 12VDC input as standard or with IEEE802.3af Power over Ethernet as an option.

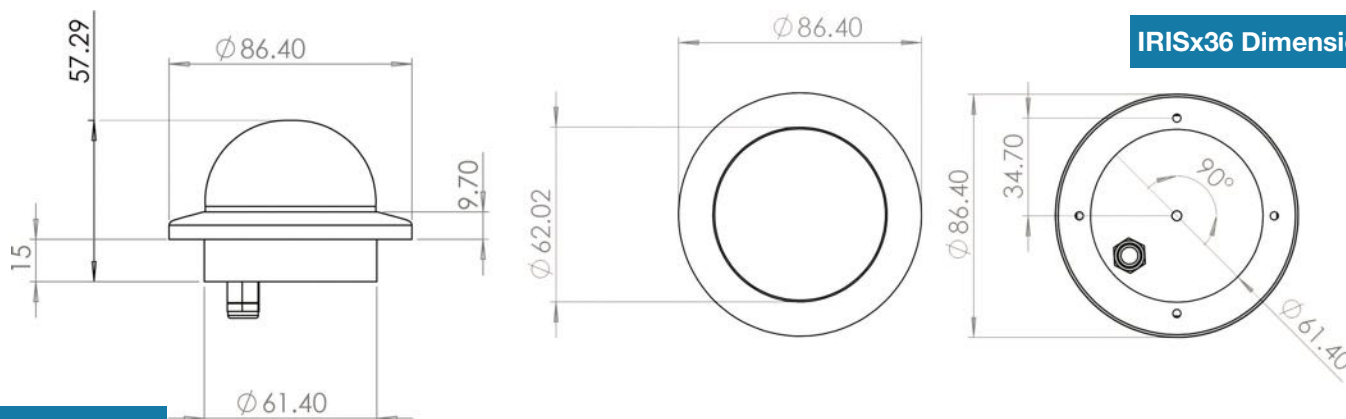† May require HDMI convertor or use in conjunction with IRIS HVR / DVR products.

![Onvif logo]

IRISx36
Mini Recess Mount Fixed Domes, Analogue, IP & AHD Models

IRIS

Camera Options:

Model No.	Format	Resolution	Lens	Horizontal Field of View
IRIS036	Analogue	1000TVL	3.6mm Standard, 1.8mm & 2.8mm Option	3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV, 1.8mm 160˚HFOV
IRIS1036	HD-TVI	1920 x 1080		
IRIS436	IP	1920 x 1080		

Specifications:

	IRIS-S060	IRIS-S160	IRIS-S460
Sensor	1/3" Sony CCD Sensor		1/4" CMOS Sensor
Resolution	1000 TVL	1920x1080	Variable - 1920x1080P (2MP) Max
Interface	NA		RJ45 10/100 Base T Ethernet
Video Processing	1VP~P CVBS Composite Video 75Ω	HD-TVI / HD-CVI / AHD Switchable	H.264 Codec / Dual Stream
Protocols / Video Format	PAL / NTSC Selectable	HD-TVI / HD-CVI / AHD	TCP/UDP/HTTP/Multicast/UPnP/NTP/RTSP/ONVIF
Onvif	NA		Profile S v2.4
Bitrate	NA		VBR / CBR 32kbps ~ 8Mbps
Illumination	NA		
Lens / Field of View	3.6mm Standard (80˚HFOV) / 2.8mm Option / 1.8mm Wide Angle Option		
Mirroring	Horizontal & Vertical - Configure via OSD Menu		Horizontal & Vertical - Configure via Browser
Automatic Gain Control	Supported / Multiple Levels		
Compatibility	All MFD's with Composite Video Input, TV via AV Input, CMAC Camera Management Systems	MFD's with Digital (HDMI/DVI) Input with TVI-HDMI Convertor, MFD's via IRIS NVR/HVR, CMAC Camera Management Systems	Raymarine / Axiom (LH2 or higher), NAVICO MFD's inc SIMRAD / LOWRANCE, B&G ,Furuno Timezero v4.1 and higher.PC based systems, MFD's with digital (HDMI / DVI) Input, MFD's via IRIS NVR/HVR, IE Browser, CMAC systems
Operating Temperature	-30 ~ +60˚C		
Connections	Video: BNC 75Ω Female Connector / DC Power Socket		Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1090)
Material	316 Stainless Steel / Acrylic Dome		
Power	12VDC < 200mA Max.		PoE IEEE802.3af / 12VDC <200mA Max.
Weight & Dimensions	Weight: 0.25Kg / Dimensions: 86.5mmø x 58mm (Panel Cut Out 62mm)		
Environmental	IP66		

IRIS-090 / 1090 / 490

316 Marine Grade Stainless Steel Static Pipe Style Cameras - Analogue / HD-TVI and IP Formats

Key Features:

- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- High Polish Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- Built In Infra Red LED Illumination (10m /20m Range)
- Submersible Option Available
- PoE IEEE.802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Compatible with Navico MFD's inc. SIMRAD, LOWRANCE and B&G
- Extremely Low Power Consumption
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris's x90 range of marine grade stainless steel cameras are available in multiple formats and deliver the highest quality video to suit your application.

The range comprises a high resolution analogue solution designed for maximum compatibility with most marine chart plotters (IRISS090), a high definition TVI model which delivers 1920x1080 resolution in real time† (IRISS1090) and a high definition 2MP IP camera (IRIS490) which is directly compatible with Raymarine chart plotters (running LH2 / LH3 software) and Navico MFD's (Simrad, Lowrance and B&G).

The x90's 316 stainless steel housing provides the ultimate protection in the harsh marine environment, and is therefore the perfect solution for deck monitoring aboard work boats, fishing vessels and passenger vessels, whilst fitting in equally as well with the high end aesthetic of luxury vessels and mega yachts.

Equipped with high power infra red LED's, the x90 series provides high definition video cover even at night to a range of 20 meters.

The x90 range is small enough to provide unobtrusive surveillance and also for use in areas where space is tight, such as engine rooms or anchor wells.

Whether you need a high quality and rugged camera as part of your on board surveillance system, for engine room, deck and companion way monitoring or as a robust and stylish docking or backup camera, the IRISx90 range of cameras is the perfect solution, favoured by luxury boat owners and commercial vessel operators alike.

† May Require Additional Convertor Hardware Depending on Model Of MFD
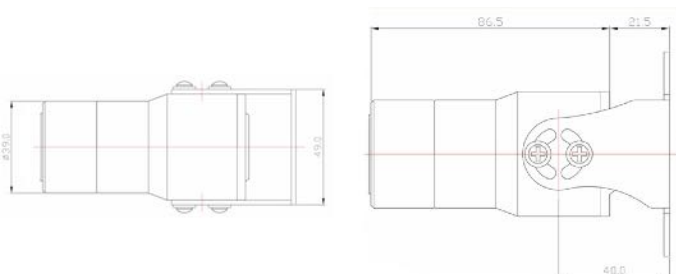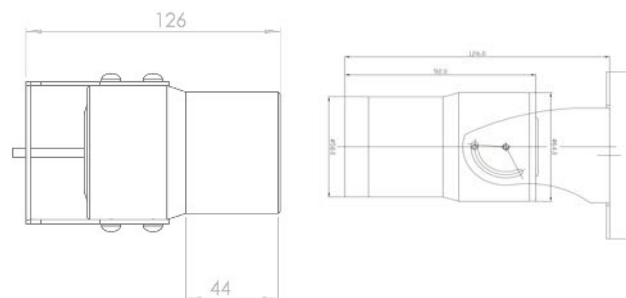
IRIS-090 / 1090 / 490

316 Marine Grade Stainless Steel Static Pipe Style Cameras - Analogue / HD-TVI and IP Formats

IRIS

IRIS090 Dimensions

IRIS490 / 1090 Dimensions

Camera Options:

Model No.	Format	Resolution	Lens	Horizontal Field of View
IRIS090	Analogue	1000TVL	3.6mm Standard 2.8mm Option	3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV
IRIS1090	HD-TVI	1920 x 1080	3.6mm Standard 2.8mm Option	3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV
IRIS490	IP	1920 x 1080	3.6mm Standard 2.8mm Option	3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV

Specifications:

	IRIS090	IRIS1090	IRIS490
Sensor	1/3" Sony CCD Sensor		1/4" CMOS Sensor
Resolution	1000 TVL	1920x1080	Variable - 1920x1080P (2MP) Max
Interface	NA		RJ45 10/100 Base T Ethernet
Video Processing	1VP~P CVBS Composite Video 75Ω	HD-TVI / HD-CVI / AHD Switchable	H.264 Codec / Dual Stream
Protocols / Video Format	PAL / NTSC Selectable	HD-TVI / HD-CVI / AHD	TCP/UDP/HTTP/Multicast/UPnP/NTP/RTSP/ONVIF
Onvif	NA		Profile S v2.4
Bitrate	NA		VBR / CBR 32kbps ~ 8Mbps
Illumination	6 x 850nm Infra Red - 10 meter Range	2 x High Power Infra Re 850nm - 20 Meter Range	
Lens / Field of View	3.6mm Standard (80˚HFOV) / 2.8mm Option		
Mirroring	Horizontal & Vertical - Configure via OSD Menu		Horizontal & Vertical - Configure via Browser
Automatic Gain Control	Supported / Multiple Levels		
Compatibility	All MFD's with Composite Video Input, TV via AV Input, CMAC Systems	MFD's with Digital (HDMI/DVI) Input with TVI-HDMI Convertor, MFD's via IRIS NVR/HVR, CMAC Systems	Raymarine / Axiom (LH2 or higher), NAVICO MFD's inc SIMRAD / LOWRANCE, B&G, PC based systems, MFD's with digital (HDMI / DVI) Input, MFD's via IRIS NVR/HVR, IE Browser, CMAC Systems
Operating Temperature	-30 ~ +60˚C		
Connections	Video: BNC 75Ω Female Connector / DC Power Socket		Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1090)
Material	316 Stainless Steel		
Power	12VDC < 200mA Max.		PoE IEEE802.3af / 12VDC <200mA Max.
Weight & Dimensions	0.660Kg / 108mm x 49mm	1.170Kg / 126mm x 64mm	
Environmental	IP66	IP66 Standard / IP68 Submersible Option Available	

IRIS-735

Micro-Compact Flush Mounting 316L Stainless Steel Camera

IRIS

Key Features:

- Micro-compact form factor - 28mmø x 36mm
- 316L Stainless Steel
- 4-in-1 Video Format (CVBS, TVI, CVI, AHD)
- 2.9mm Wide Angle Lens
- Starlight Sensor for Ultra Low Light Operation
- Compatible with All Chart Plotters with Composite Input
- Compatible with CMAC-HVR systems
- Compatible with TV's via HDMI convertor (TVI mode)
- IP67 Enviromental Rating
- Low Power Consumption

Applications:

- Perfect For Extreme Environments
- Road Traffic Surveillance
- Monitoring Dynamic Digital Signage
- Engine Room Monitoring
- Deck Monitoring
- FIshing Vessel Monitoring & Surveillance
- Emergency Vehicle Camera Applications
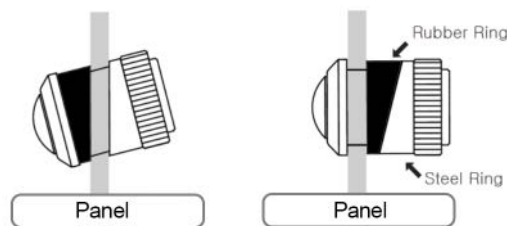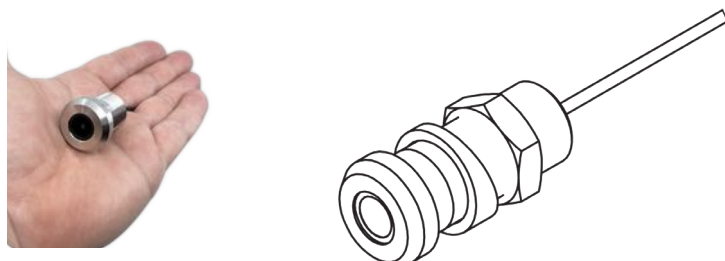- Animal / Food Processing Applications

Introducing the worlds smallest through hull camera - the IRIS735 machined from corrosion resistant marine grade 316L stainless steel and measuring only 28mmø by 36mm long.

The 735 has been designed to sit flush into the hull, super structure or transom of your vessel to provide all round coverage without impacting on the lines of your vessel, with a bezel height of only 8.5mm.

The camera module itself features a Sony Starlight sensor to provide excellent performance in low light, and can be user-set to output composite (CVBS) or analogue Hi-Def (TVI, CVI, AHD) video formats. When set to CVBS, the 735 is compatible with all chart plotter models that support composite video inputs. When set to TVI, the 735 will provide hi-definition real time video which can be viewed on an MFD via our CMAC systems or fed to a TV via our TVI~HDMI convertors.

The camera has a 140° wide angle field of view which makes it great to position along the sides and transom of your vessel to provide all round coverage whilst docking, and is also a great solution for sports fishing applications.

If you are looking for a tiny, cost effective docking camera, sports fishing camera or for unobtrusive cameras to add to your onboard security set up, the IRIS735 is the perfect solution.
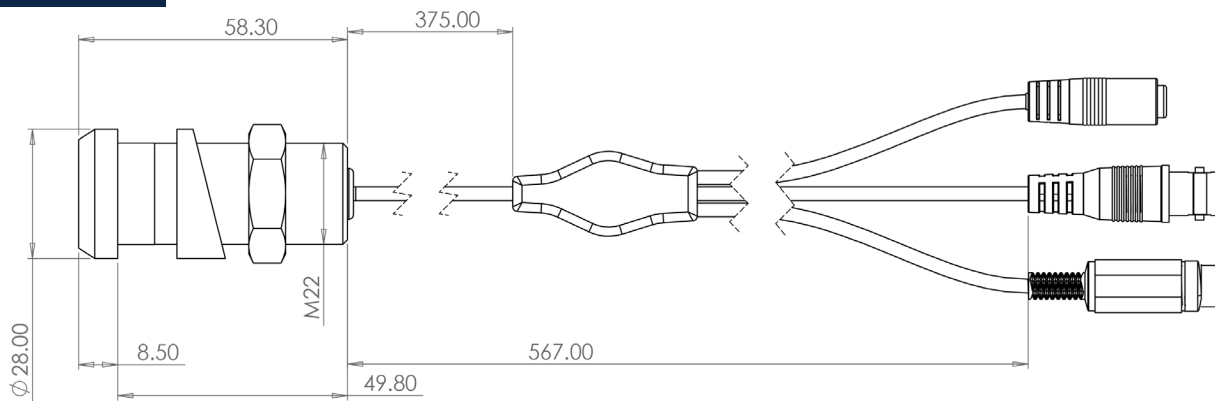
IRIS735 Dimensions

58.30 375.00 8.50 49.80 M22 Ø 28.00 567.00

Specifications:

	IRIS735
Sensor	1/2.8" SONY STARVIS CMOS Sensor
Resolution	1920 x 1080P @ 30fps (NTSC) / 25fps (PAL) / 906H in CVBS mode
Minimum IlluminatiON	0.001 Lux (F-1.2)
Day & Night Operation	Auto / Colour / Monochrome / External
Video Output Modes	Analogue HD Modes: HD-TVI, HD-CVI, AHD / Analogue: Composite Video (CVBS) NTSC / PAL
Lens	2.9mm
Shutter Speed	Auto / Manual (1/50(60) – 1/50,000 sec)
Horizontal Field of View	140˚
Defog	Off / Auto
White Balance	ATW / AWC / INDOOR / OUTDOOR / MANUAL / AWB
Back Light Compensation	OFF / BLC / HSBLC
D-WDR	Off / 0~8
SENS-UP	Off / x2 ~ x30
DNR	Off / Low / Middle / High
Brightness	0 – 100
Motion Detection	Off / On
Image Mirror	Off / Mirror / V-Flip / Rotate
Sharpness	0 ~ 10 Steps
Material	316L Marine Grade, Corrosion Resistant Stainless Steel
Power	DC12V ±10% / 125mA (1.5W)
Weight	0.1Kg
Dimensions	28mmø x 36mm
Environmental / EMC	EN60529 IP67 / EMC EN60945 (TBC)
Operating Temperature	-10˚C ~ + 50˚C / <90% Hummidity

Key Features:

• Submersible to 50 Meters
• Hi-Def HD-TVI / AHD Format
• 15x High Bright Adjustable LED's
• Fully Dimmable LED Control to Reduce Back Scatter
• 316L Marine Grade Stainless Steel Case
• Excellent Low Light Performance / Sony Exmor 1/2.9" Sensor
• 3.6mm Lens / 80°HFOV
• Very Low Power Consumption - Max 4.0 Watt
• Compact Form Factor - 49.5mmø x 70mm
• Supplied with Mounting Bracket

Applications:

• Marine Wildlife Observation
• Checking Sub-Surface Fixtures
• Sacrificial Anode Inspection
• Inspect Props and Running Gear
• Provides Visibility in Unsafe Environments
• Aquaculture & Fish Farming
• Sub Sea Engineering Applications
• Sports Fishing, Swimming & Documentary Making

Iris's 750 Submersible camera is an extremely robust and versatile, high defintion video solution for deployment beneath the waves or in hazardous scenarious.

Whether you're making an under water film or documentary, inspecting running gear or sacrificial anodes on your hull, sports fishing or just keen to watch aquatic wildlife on the TV in your boat's salon, the 750, with its 1080P realtime high definition output is the perfect choice.

The 750 outputs analogue high definition formats such as AHD, HD-TVI, HD-CVI and standard definition CVBS composite video. Routing the video into your TV via our plug'n'play TVI~HDMI convertor produces crisp HD underwater video in realtime - without the potential streaming and buffering issues seen with IP cameras.

The camera case is machined from AISI 316L marine grade stainless steel to ensure the very best protection from salt water and exposure to other substances other cameras cannot withstand. The device is rated to depths of 50 meters and is supplied with a 20m cable, with extension cables available seperately.
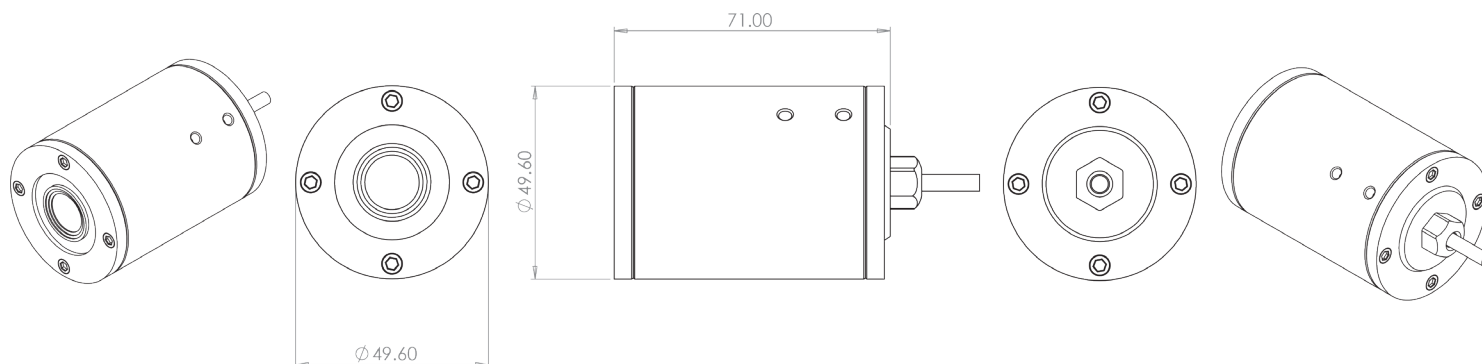
Adding to its impressive feature set, the 750 boasts an array of 15 high strength bright-white LED illuminators, the intensity of which can be controlled manually using a plug in rotary LED controller switch (supplied). This is great when inspecting items close up in order to reduce the effects of particular back-scatter in the water - making the camera perfect for engineers, boat owners wishing to check out their running gear, impellers, anodes and props.

IRIS-750
Fully Submersible (50m) 316L Stainless Wide Camera with Adjutable LED's

IRIS750 Dimensions

Specifications:

	IRIS750
Sensor	1/2.9" Sony Exmor CMOS Image Sensor
Resolution	1920 x 1080P (2MP)
Minimum IlluminatiON	0Lux – With LED's ON, Colour: 1.0lux, Mono: 0.5lux, Colour DSS: 0.002 Lux, Mono DSS: 0.0008lux
Day & Night Operation	Manual LED Operation / Automatic
Video Output Modes	4-in 1 Video Output Modes – CVBS (PAL / NTSC), HD-TVI, HD-CVI, AHD – Factory Set (Specify When Ordering)
Lens	3.6mm MP Lens – 80˚HFOV
Back Light Compensation	Off / BLC / HSBLC
D-WDR	Off / 0~8
SENS-UP	Off / X2 ~ X30
DNR	Off / Low / Middle / High
LED Brightness	Controlled Via Plug-In Rotary Switch (Supplied)
Motion Detection	Off / On
Image Mirror	Supported
Privacy Masks	4 Masks
Material	AISI 316L Marine Grade Stainless Steel
Power	DC12V ± 10% / Max Power (LEDs on Full) 4.0 Watt
Weight	0.760KG
Dimensions	49.5mmø x 70mm (L)
Environmental / EMC	EN60529 IP68 / EMC EN60945 (TBC)
Operating Temperature	-20˚C ~ + 60˚C / 10%~85% Hummidity

IRIS730/740
Multi-Format Range of Through Hull Cameras

IRIS

Key Features:

- IRIS740 Model Compatible with Raymarine MFD's (Axiom / LH2 and above) and Furuno Time Zero v4.1 and above.
- IRIS740 Model PoE and 12VDC
- IRIS730 Model features multiple formats - CVBS (Analogue) / HD-TVI / HD-CVI and AHD. PAL/NTSC Switchable
- HD-TVI/CVI & AHD provide Hi-Def Video in Real Time without Network Latency Problems
- Rugged Hard Anodysed Case
- Aluminium Bronze Bezel
- IP68 Waterproof
- Plug and Play Connectivity
- Low Power

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Introducing Iris's 7xx series of Through Hull Cameras, providing fantastic sub surface visibility in Analogue, HD-TVI / HD-CVI / AHD and IP Formats

The IRIS740 delivers crisp 1920 x 1080P Resolution 2MP Hi-Def video onto compatible chartplotters and on-board computer based systems and with optional PoE, installation couldn't be simpler. The IRIS740 is currently compatible with Raymarine (LH2 and above), Axiom and Furuno Timezero v4.1 and above, with more MFD models currently in development. IRIS740 features PoE and 12VDC.

For viewing on all chartplotters with composite video input, TV's with AV input or for interfacing into a PC via a video capture device, the IRIS730 features a high resolution analogue camera with SONY EF-FIO-P chipset, 1000TVL resolution, WDR (Wide Dynamic Range) and DNR (Digital Noise Reduction) processing as well as user configurable setup parameters via a plug in configuration key pad.

The IRIS730 can also be configured to output HD-TVI / HD-CVI and AHD analogue High Definition formats, providing up to 1920x1080P resolution in real time (without the latency issues sometimes apparent with IP systems). Set to TVI and use in conjunction with Iris HVR's or Video Switchers with HDMI output for real time high definition on MFD's with digital inputs, such as Garmin's 8000 series chart plotters.

Iris's Through Hull cameras have an aluminium bronze bezel, hard anodized body and reinforced, scratch resistant, optically clear lens window.

Iris Through Hull cameras produce excellent, high resolution video and are ideal as part of a sports fishing monitoring system, for sub-surface security, monitoring running gear or simply as a camera for watching the amazing world beneath the waves!
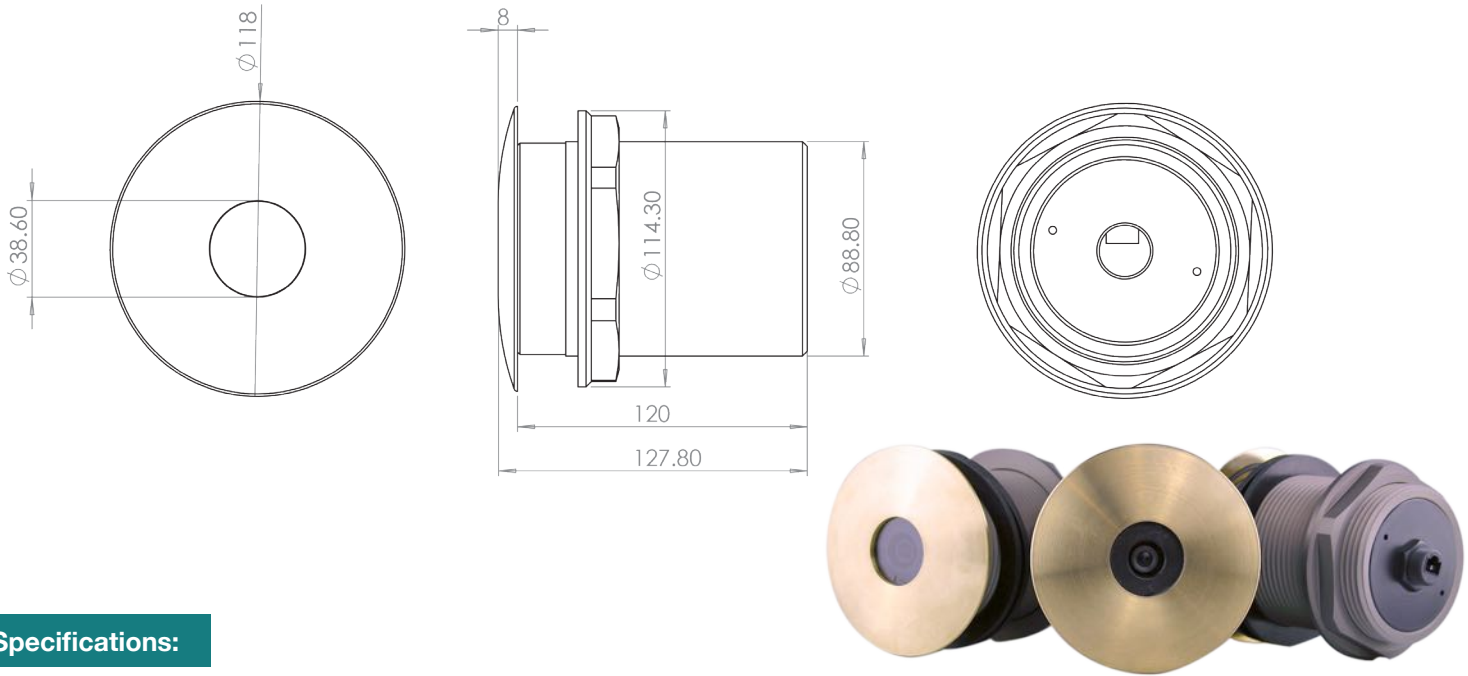
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IRIS730/740
Multi-Format Range of Through Hull Cameras

Specifications:

	IRIS730 (CVBS MODE)	IRIS730 (HD-TVI/CVI/AHD MODE)	IRIS740 IP Model
Sensor	1/3" Panasonic CMOS Sensor		1/4" CMOS Sensor
Resolution	1000 TVL	1920x1080	Variable - 1920x1080P (2MP) Max
Interface	NA		RJ45 10/100 Base T Ethernet
Video Processing	1VP~P CVBS Composite Video 75Ω	HD-TVI / HD-CVI / AHD Switchable	H.264 Codec / Dual Stream
Protocols / Video Format	PAL / NTSC Selectable	HD-TVI / HD-CVI / AHD	TCP/UDP/HTTP/Multicast/UPnP/NTP/RTSP/ONVIF
Onvif	NA		Profile S v2.4
Bitrate	NA		VBR / CBR 32kbps ~ 8Mbps
Illumination	NA		
Lens / Field of View	3.6mm Standard (80° HFOV) / 2.5mm (120° HFOV) Option Available		
Mirroring	Horizontal & Vertical - Configure via OSD Menu		Horizontal & Vertical - Configure via Browser
Automatic Gain Control	Supported / Multiple Levels		
Compatibility	All MFD's with Composite Video Input, TV via AV Input, CMAC Systems	MFD's with Digital (HDMI/DVI) Input with TVI-HDMI Convertor, MFD's via IRIS NVR/HVR, via IRIS604 Switcher (TVI) and IRIS1608 Switcher (TVI), CMAC Systems	Raymarine / Axiom (LH2 or higher), NAVICO MFD's inc SIM-RAD / LOWRANCE, B&G , Furuno Time Zero v4.1 or higher, PC based systems, MFD's with digital (HDMI / DVI) Input, MFD's via IRIS NVR/HVR, IE Browser, CMAC Systems
Operating Temperature	-30 ~ +60°C		
Connections	Video: BNC 75Ω Female Connector / DC Power Socket		Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1090)
Material	Hard Anodised Black Aluminium 6082 (HE30) Body / Aluminium Bronze Bezel. Supplied with Rubber Washers to insulate housing from hull.		
Power	12VDC < 0.2A Max.		PoE IEEE802.3af / 12VDC <1A Max.
Weight & Dimensions	Bezel ø: 118mm / Panel Cut Out ø:90mm / Overall Length: 128mm / Depth Behind Panel: 120mm : Weight: 1.55Kg		
Environmental	IP68		

IRIS250
Professional Thermal Imaging Hand Held Scope

Key Features:

- 400x300 Resolution / 17µm / 19mm Lens (25mm Option)
- 50Hz Refresh Rate for Realtime Imaging
- 5 x Colour Palettes
- Laser Pointer
- Composite Video Output (PAL / NTSC)
- Built In WiFi to View & Store Video & Photos on Smartphone or Tablet
- 5 Hour Battery Life
- Digital Zoom x2 / x4
- Adjustable Viewfinder
- IP66 Environmental Protection

Applications:

- Navigation & Situational Awareness
- Man Over Board Searches
- Law Enforcement
- Search & Rescue
- Hunting & Outdoor Activities
- Security Patrols
- Engineering

See beyond the visible spectrum with the latest generation of IRIS250 Thermal Hand-scopes, small enough to fit in your pocket yet boasting a feature set that blows the competition out of the water.

With an impressive 400x300 resolution at 17µm pitch, a premium quality 19mm lens and 50Hz refresh rate, the camera delivers smooth, crisp night vision displayed onto the scopes high bright screen.

A composite video output is built in to relay footage onto an auxiliary screen and WiFi is also provided to stream live video onto your smart phone or tablet. Download the camera's App and you can also store video footage and snapshots on your device. Distant objects can be magnified with the camera's x2 and x4 digital zoom feature and a cross hair overlay is also available. In addition to the high resolution sensor, advanced edge detection processing is employed to further enhance the clarity of the image. The camera features selectable colour palettes which help to accentuate differences in scene temperature to make objects easier to detect.

As you would expect from a product of this quality, the scope is extremely rugged with a rubberised over-mould to protect from drops, shock and vibration and a water ingress protection rating of IP66.
The built in battery can last over 5 hours between charges and is recharged via a mini USB port (charger supplied).

As well as a professional night vision imager, the IRIS250 also features a long range laser pointer to help identify and point out the position of objects and targets.

The IRIS250 is a great all round night vision tool for marine use, hunting and outdoor leisure, law enforcement and emergency services.

IRIS250
Professional Thermal Imaging Hand Held Scope

Specifications:

Detector Resolution	400 x 300 @ 17µm	Operation Time	>5 Hours
Spectral Range	8µm ~ 14µm	Charging	via USB power adapter, max 10W
Lens	19mm: 19.0 x 14.5˚ / 25mm (option) 14.6 x 11.1˚	Video Output	Composite Video (PAL / NTSC) via MCX Connector
Screen	Full Colour 0.2" LCOS	Operation Temperature	-20 ~ 50˚C
Viewfinder	Monocular, diopter - adjustable ± 4	Storage Temperature	-30 ~ 60 ˚C
Refresh Rate	50Hz	Humidity	10% ~ 95%
Digital Zoom	x2, x4	Shock	10Hz ~ 150Hz ~ 10Hz 0.15mm IEC60068-2-6 / 1m Drop
Colour Palettes	Black Hot, White Hot, Red Hot 1, Red Hot 2, Red Hot 3	Environmental Protection	IP66
WiFi	Built In	Weight	IRIS250-19: 350g / IRIS250-25: 375g
Battery	Internal Li-Ion Battery, 3.7V.3200mAh	Dimensions	IRIS250-19: 160x67x62mm / IRIS250-25: 168x67x62mm

Detection

Human (1.8m x 0.5m)	IRIS250-19: 500m / IRIS250-25: 700m
Vehicle (2.3m x 2.3m)	IRIS250-19: 1300m / IRIS250-25: 1700m

Recognition

Human (1.8m x 0.5m)	IRIS250-19: 300m / IRIS250-25: 350m
Vehicle (2.3m x 2.3m)	IRIS250-19: 500m / IRIS250-25: 700m

IRIS250-25: 25mm Lens Option Model

Face on View with Laser Pointer

Under-side View with MCX Connector for Video Output, USB Charger connector and 1/4" UNC Tripod Fixing Point

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