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RPI Underwater Open Source AI Camera

Realize your underwater AI vision with the lowest cost and fastest speed.

Product Features

- **Best For:** Prototyping, data logging, and general control.
- **Raspberry Pi Architecture:** 4B + Rpi Camera V2
- **Mature Ecosystem:** OpenCV / ROS / Python / Massive Case
- **100% customizable:** from drivers to algorithms
- **System Compatibility:** IMU, Sonar, Flight Controller, Main Controller
- **Development:** Broad Linux/Python ecosystem; easy to tweak.



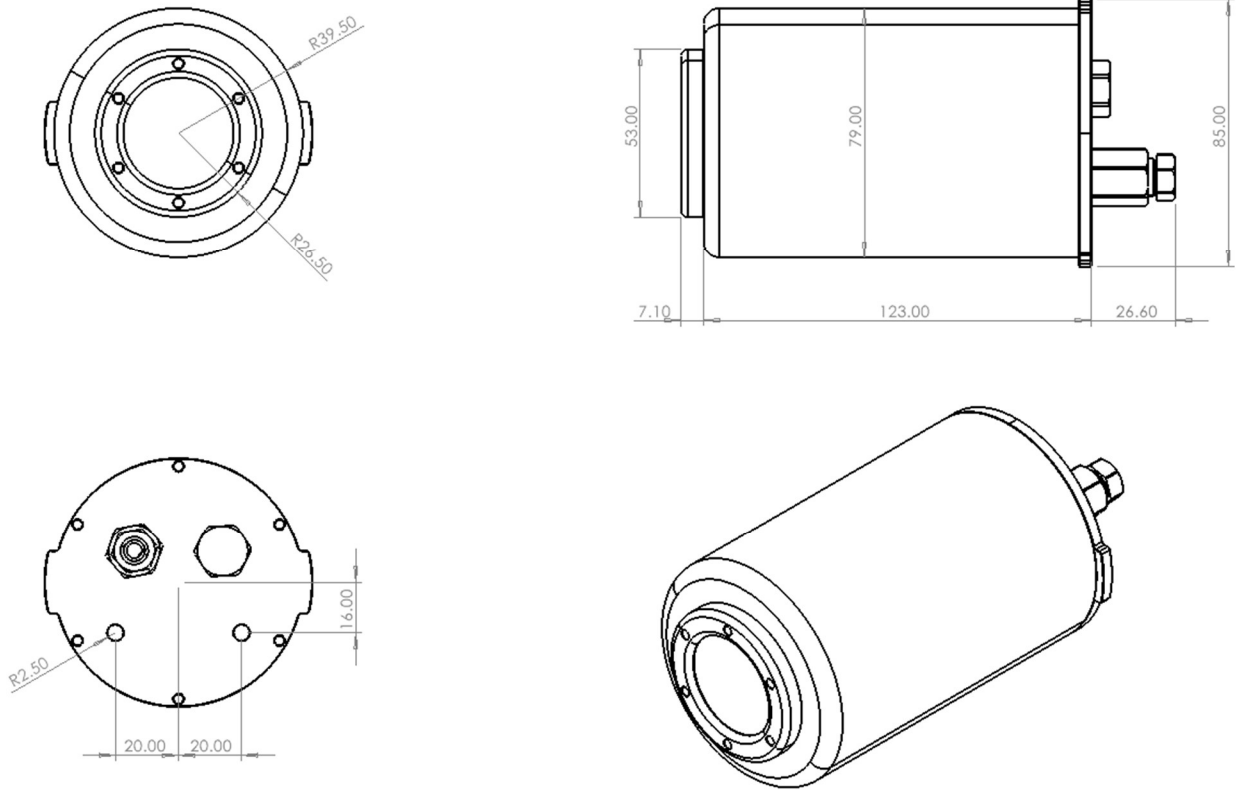
Application Scenarios

- Scientific Research & Education
- Geek/DIY Creative Modification
- Customizable Development & Rapid Prototyping

Basic Specs

Depth Rating	300m
Weight in Air Water	0.8kg 0.1kg
Camera Model	RPi Camera V2
Image Sensor	Sony IMX219
Resolution	8MP
Sensor Size	1/4 inch
Aperture (F)	2.0
Focal Length	3.04mm
Field of View (FOV)	Approx. 62.2° (Diagonal)
Focusing	Manual Focus
Video Support	1080p30/720p60/640×480p90
Protocol	Ethernet
Power Supply	12VDC, Approx. 15W
Packing List	RPI Underwater Camera *1; Standard 2m seawater-resistant cable (Length customizable up to 70m, contact customer service for longer distances)
Development	OpenCV / ROS / Python

Main Dimensions



- Product specifications are subject to change without further notice. Please refer to our official website for latest information.

Wiring Instructions



Camera Bulkhead Connector Wiring Diagram

Grey	GND
Grey/ White	+12VDC (LED Lighting Power)
Blue	GND
Blue/White	+12VDC (Camera Power)
Green	Rx-
Green/White	Rx+
Orange	Tx-
Orange/White	Tx+

Deepwater GoPro Camera

Ready to use, zero tuning, professional cinematic results instantly.

Product Features

- **Depth Rating:** 500m
- **Video Quality:** High-Definition Underwater Video: 5.3k60 | 4k120 | 2.7k240
- **GoPro Core:** GoPro Hero12(27MP Photos)
- **Stabilization:** Electronic Image Stabilization (EIS)
- **Mounting:** Includes Adjustable Mounting Bracket (Adjustable pitch/tilt angle)
- **Smart Control:** Remote Video Preview & Camera Control

Application Scenarios

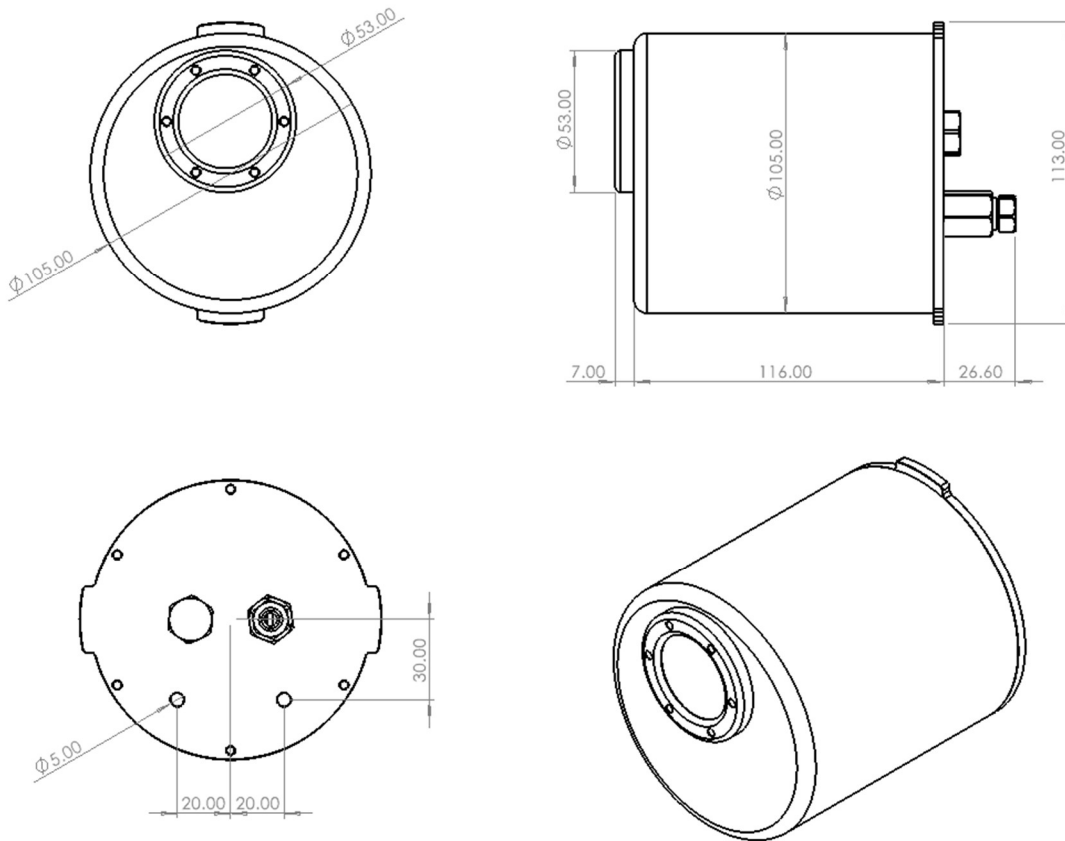
- High-Definition Underwater Video & Photography
- Subsea Testing & Observation
- ROV/AUV "Selfie" & Monitoring



Basic Specs

Depth Rating	500m
Weight in Air Water	1.25kg 0.15kg
Camera Model	GoPro HERO12 Black
Camera Type	Action Camera
Memory	Lexar 64G
Stabilization	EIS (Electronic Image Stabilization)
Video Recording	5.3k60 4k120 2.7k240
Photography	27MP
Sensor Size	1/1.9 inch
Sensor Type	CMOS
Internal Battery	Lithium-ion Battery
Power Supply	12VDC, 8W
Interface	Ethernet
Packing List	GoPro HERO12 Black *1, Original Gopro12 Lithium Battery *1, Deep-sea Pressure Housing *1

Main Dimensions



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Wiring Instructions



Camera Bulkhead Connector Wiring Diagram

Grey	GND
Grey/ White	+12VDC (LED Lighting Power)
Blue	GND
Blue/White	+12VDC (Camera Power)
Green	Rx-
Green/White	Rx+
Orange	Tx-
Orange/White	Tx+

Underwater AI-M Camera

Smart Vision, Redefined: Beyond Video Streams.

Product Features

- **Metadata Intelligence:** Direct output of recognition metadata, minimizing data bandwidth.
- **Edge AI Inference:** On-device processing ensures zero load on the host CPU.
- **Structured Data Streaming:** Real-time output of Objects, Coordinates, and Event Triggers.
- **Ultra-Low Latency:** High-speed real-time processing for mission-critical tasks.

Application Scenarios

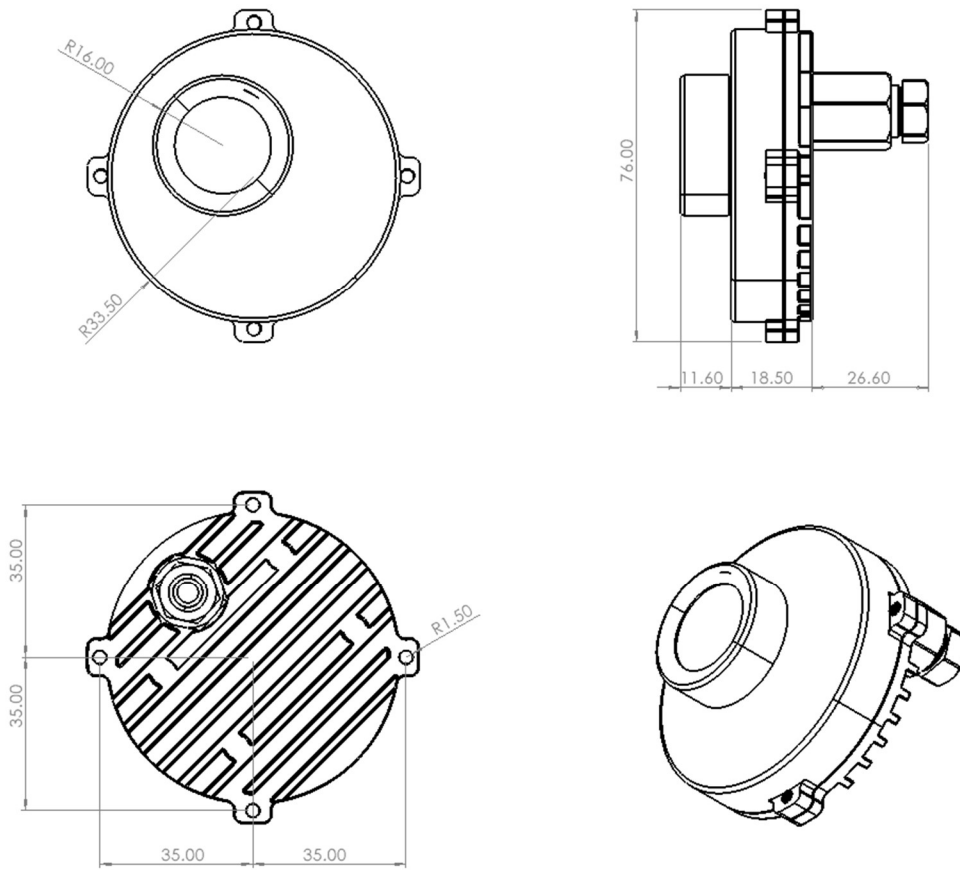
- Direct Visual Feature Output
- Computing Decoupling
- Rapid Integration and Deployment of ROV Vision Modules



Basic Specs

Depth Rating	300m
Weight in Air Water	0.3kg 0.15kg
Camera Model	OAK-1-W
Image Sensor	IMX378
Field of View (FOV)	120°D/95°H/70°V
Resolution	12MP (4032×3040)
Max Frame Rate	60 FPS
Focal Length	4.81mm
Aperture	2.8 ±5%
Focus Range	FF: 60cm - ∞
Lens Size	1/2.3 inch
Pixel Size	1.55µm x 1.55µm
Shutter Type	Rolling Shutter
Protocol	Ethernet
Power Supply	5 or 12VDC, approx. 2.5W~3W
Packing List	AI-M Underwater Camera *1, Standard 2m seawater-resistant cable (Length customizable up to 70m, contact customer service for longer distances)
Development	ROS / Python / C++

Main Dimensions



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Wiring Instructions

Camera Pressure Housing

Main Control Housing



Camera Bulkhead Connector Wiring Diagram

Grey	/
Grey/ White	/
Blue	GND
Blue/White	+5VDC (Camera Power)
Green	DATA-
Green/White	DATA+
Orange	/
Orange/White	/

Underwater AI-D Depth Camera

The All-in-One Spatial Underwater AI Camera with a “Sense of Distance” .

Product Features

- **Bionic Vision:** Perceives the underwater world like a human
- **Vision Hub:** The ultimate camera for underwater robotic vision
- **Smart Navigation:** Supports SLAM / Obstacle Avoidance / Positioning

Application Scenarios

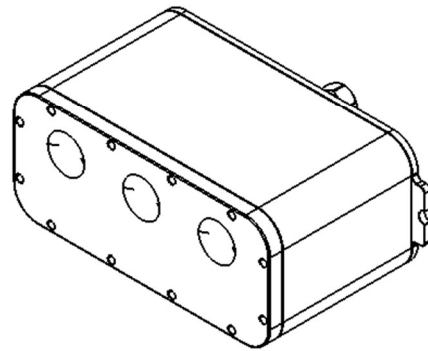
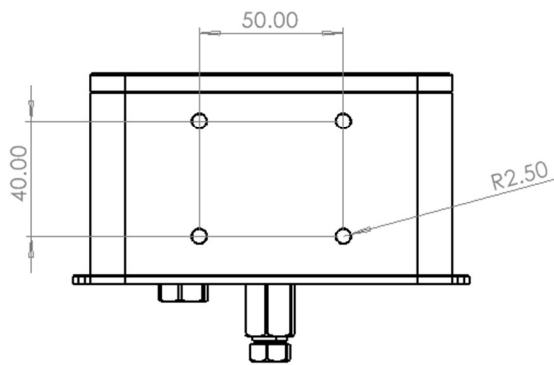
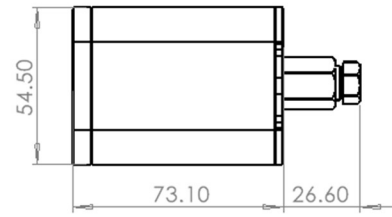
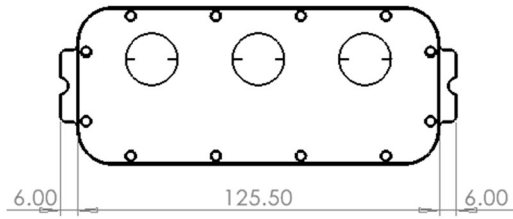
- Visual Navigation for ROV / AUV / USV
- Autonomous Obstacle Avoidance & Localization
- Object Recognition, Measurement, and 3D Sensing



Basic Specs

Depth Rating	300m
Weight in Air Water	1kg 0.4kg
Camera Model	OAK-D S2 PoE
Image Sensor	1* Sony IMX378 + 2*Omnivision OV9282
DFOV / HFOV / VFOV	IMX378 : 78° / 66° / 54°, OV9282 : 89,5° / 80° / 55°
Active Pixels	IMX378 : 12MP (4032×3040) 60 FPS, OV9282 : 1080P(1280×800) 120FPS
Effective Focal Length	IMX378 : 4.81mm, OV9282 : 2.35mm
F-number	IMX378 : 1.8 ±5%, OV9282 : 2.0 ± 5%
Focus	IMX378 : AF: 8cm – ∞, OV9282 : FF: 19.6cm – ∞
Sensor size	IMX378 : 1/2.3 inch, OV9282 : 1/4 inch
Pixel Size	IMX378 : 1.55µm, OV9282 : 3.0µm
Shutter	IMX378 : Rolling Shutter, OV9282 : Global shutter
Protocol	Ethernet
Power Supply	PoE, 3W~5.5W
Packing List	AI-D Underwater Camera *1, Standard 2m seawater-resistant cable, cable length customizable up to 70m, consult customer service for longer distances
Development	ROS / Python/C++

Main Dimensions



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Wiring Instructions

Camera Pressure Housing

Main Control Housing



Camera Bulkhead Connector Wiring Diagram

Grey	GND
Grey/ White	+12VDC (LED Lighting Power)
Blue	GND
Blue/White	+12VDC (Camera Power)
Green	Rx-
Green/White	Rx+
Orange	Tx-
Orange/White	Tx+

Industrial Underwater Zoom Camera

Industrial 30x Optical Zoom Underwater Camera

Product Features

- **Industrial-Grade Sony Imaging:** Ensures long-term reliability in harsh underwater environments.
- **30x Motorized Optical Zoom:** Delivers lossless 1080P HD clarity at any focal length.

Application Scenarios

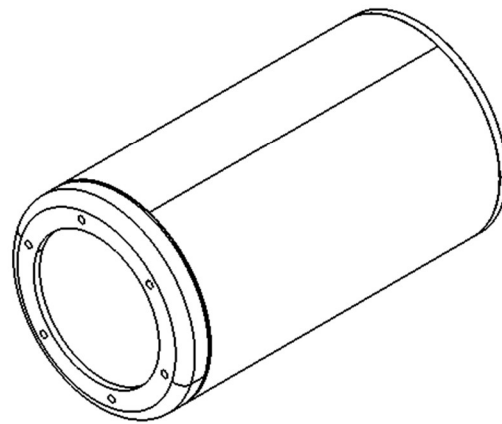
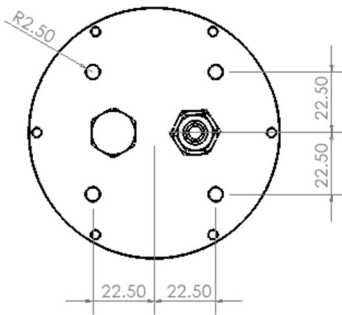
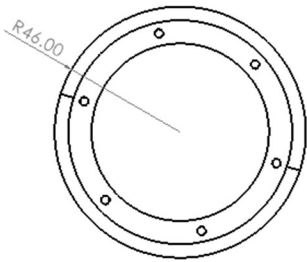
- Long-Range Detail Observation
- Large-Scale Subsea Operations



Basic Specs

Depth Rating	300m
Weight in Air Water	0.82kg 0.11kg
Camera Model	Sony FCB-EV9520L
Image Sensor	1/2.8-type STARVIS 2 CMOS
Effective Pixels	Approx. 2.13 Megapixels
S/N Ratio	More than 50 dB
Optical Zoom	30x Optical Zoom
Digital Zoom	12x (Up to 360x with optical zoom)
Focal Length	f = 4.3mm (wide) to 129.0mm (tele)
Aperture	F1.6 to F4.7
Angle of View (HFOV)	64.0° (wide) to 2.3° (tele)
Min. Object Distance	10mm (wide) to 1200mm (tele)
Gain	Auto / Manual, 0 dB to 50.0 dB, 28 steps
Shutter Speed	1/1s to 1/10,000s, 22 steps
Video Output	BNC (75Ω coaxial cable)
Control Interface	VISCA Protocol (CMOS 3.3V level)
Power Supply	7.0 V to 12.0 VDC
Power Consumption	Approx. 4.4 W (Static) / 5.4 W (Zoom/Focus)
Packing List	Zoom Underwater Camera *1, standard 2m seawater-resistant cable, customizable cable length up to 300m (consult customer service for details)

Main Dimensions



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Wiring Instructions

Camera Pressure Housing

Main Control Housing



Camera Bulkhead Connector Wiring Diagram

Grey	GND
Grey/ White	+12VDC (LED Lighting Power)
Blue	GND
Blue/White	+12VDC (Camera Power)
Green	Rx-
Green/White	Rx+
Orange	Tx-
Orange/White	Tx+

360° Total Vision Underwater PTZ Camera

Ultimate 360° Underwater Vision | Low-Light Compensation.

Product Features

- **360° Dual-Axis PTZ:** Switch between Auto-Patrol and Remote Control.
- **Adjustable Fill Lights:** Full-angle illumination for low-light/murky water.
- **Open SDK:** Supports C++, Java, C#, and Python for secondary development.

Application Scenarios

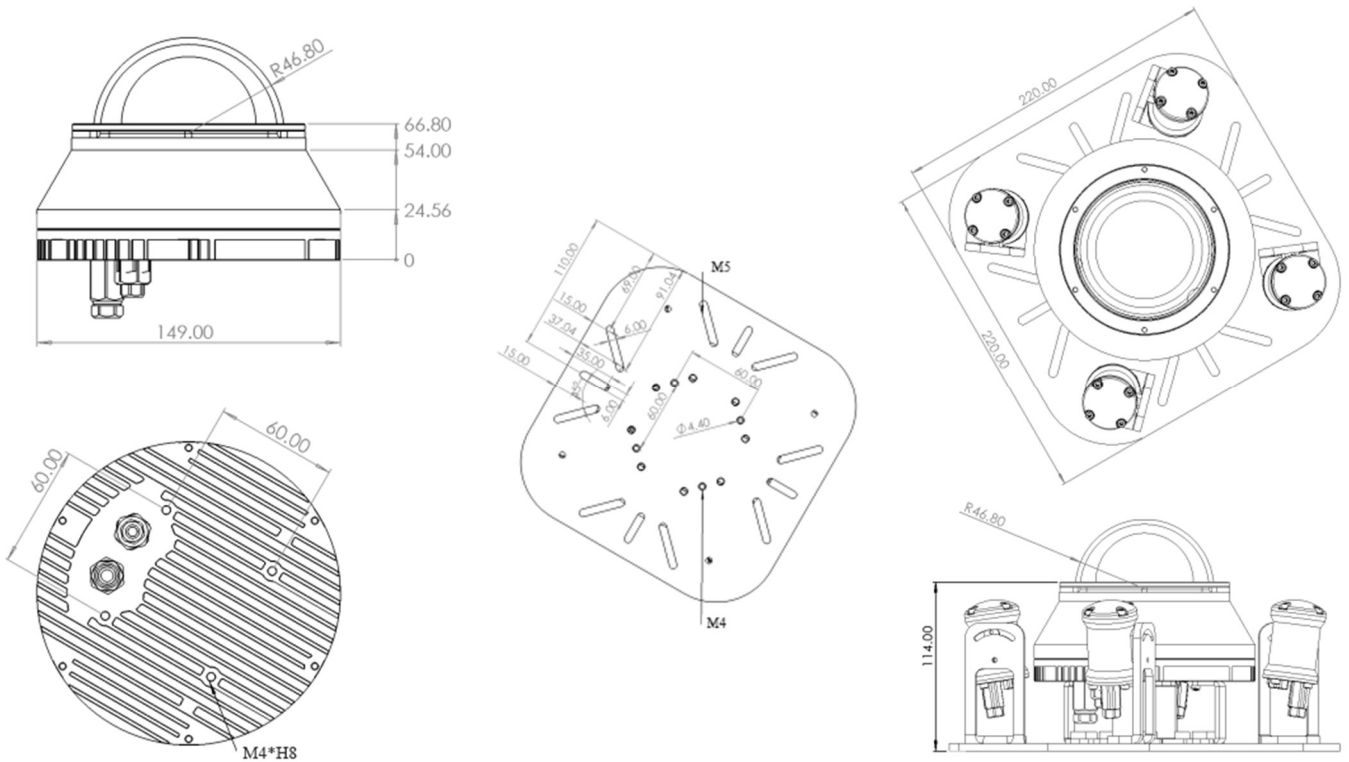
- Underwater Monitoring for Marine Protected Areas (MPAs)
- Stationary Surveillance of Subsea Structures and Fixed Facilities
- Integration with Mobile Platforms (ROVs, AUVs, and USVs)



Basic Specs

Depth Rating	300m
Weight in Air Water	2.0 1.1kg
Camera Model	DH-SD23D404-DP
Camera Type	PTZ Camera
Image Sensor	4MP 1/2.8" CMOS Sensor Sony STARVIS™
Resolution	2560*1440 Resolution
Min. Illumination	Color: 0.005lux@F1.6; B/W: 0.0005lux@F1.6
Pan/Tilt Range	Pan: 355°, Tilt: -5°~90°, no blind spots
Zoom	4x Optical Zoom, 16x Digital Zoom Focal Length: 2.8mm~11.2mm
Underwater Lighting (Optional)	1500LM * 4 adjustable pitch underwater lights + mounting bracket
Interface	Ethernet
Input Voltage	110VAC~220VAC or 12VDC ±10%
Power	Camera only: MAX 10W; Camera + 4 lights: MAX 60W
Cable	Seawater-resistant cable, 10m standard, up to 70m
Packing List	Underwater PTZ Camera *1, AC/DC Power Module *1 Underwater Lights *4 (Optional), Mounting Bracket (Optional)
Development	OpenCV / C++ / Java / C# / Python

Main Dimensions



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Wiring Instructions

Camera Pressure Housing

Main Control Housing



Camera Bulkhead Connector Wiring Diagram

Grey	GND
Grey/ White	+12VDC (LED Lighting Power)
Blue	GND
Blue/White	+12VDC (Camera Power)
Green	Rx-
Green/White	Rx+
Orange	Tx-
Orange/White	Tx+

Underwater ROV with 220VAC Surface Power Supply

A revolutionary 220vac surface powered underwater ROV with lowest price ever recorded.

Product Features

- **Depth Rating:** 300 meters, Aluminum Housing
- **Power Supply:** Surface-supplied, 220V AC.
- **Operating Time:** Unlimited.
- **Leakage protection:** Trips within 0.1s on leakage detection to guaranty human safety.

Application Scenarios

- Search and Recovery (SAR)
- Infrastructure and Asset Inspection (dams, ports, tanks, etc)
- Aquaculture and Fisheries Monitoring
- Environmental and Marine Research
- Photogrammetry and 3D Mapping
- Public Safety and Emergency Response
- Education, Training, and Prototyping
- R&D Development and System Integration

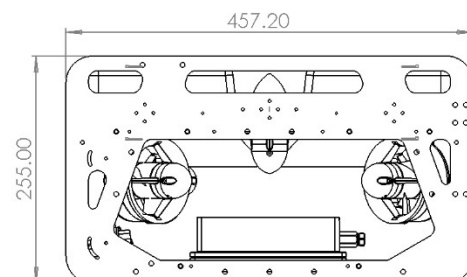
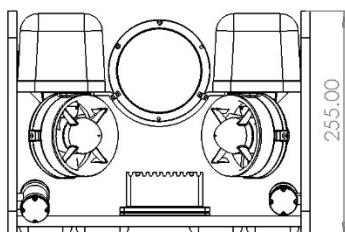
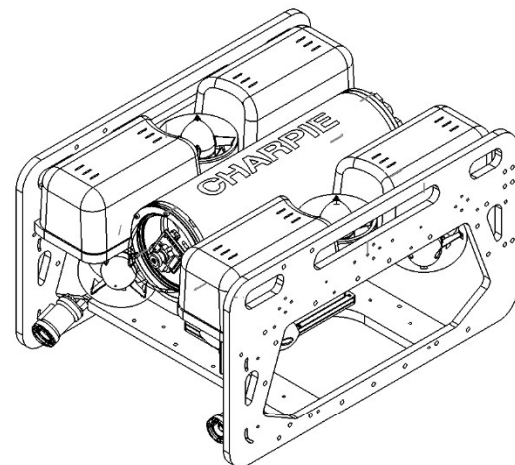
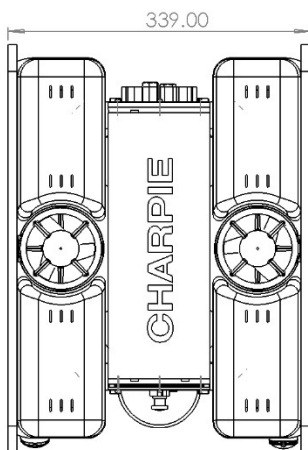


Basic Specs

Frame Parameters	Dimensions (mm)	457 * 339 * 255
	Weight (kg)	9.3
	Operating Depth(m)	300 (Standard), Other depths can be customized
Propulsion System	Thrusters	4 Horizontal + 2 Vertical
	Max Speed	4 knots
	Payload Capacity	10kg
	Control System	Main Processor: STM32F427,32-bit ARM Cortex-M4, NuttX RTOS. 3-Axis Gyroscope x2(MPU6000+L3GD20H) 3-Axis Accelerometer x2(MPU6000+LSM303D)
	Control Modes	Depth Hold Stabilize Manual
Camera & Lighting	Underwater Lights	Standard:2×1500 LM high-brightness LED lights, dimmable
	Camera	Gimbal Tilt:±50° Sensor: Sony IMX219 Pixel:8MP, CCD Size: 1/4"

		Aperture(F):2.0, Focal Length:3.04 mm Field of View: 76°, Focus: Manual Video Stream:1080p30/720p60/640 * 480p90
Comm. & Power Supply	Endurance	Surface Power: Theoretically Unlimited
	Cable	Default: 100m (Reel purchased separately)
Remote Control	Surface Unit	Standard
	Computer	User-provided (Windows 10+ or Ubuntu 22.04+)
	Software	Standard (Compatible with MAVLink protocol)
Optional Configurations		Manipulator/GoPro/Auxiliary Camera/ Imaging Sonar /Altimeter/ Pipe Sonar/ Underwater Positioning/ Water Quality Sensor/etc.
Customization		Communication Interfaces: USB/RS-485/ RS-232/ UART/ Ethernet, etc. Power:5VDC/12VDC/24VDC/220VAC ,etc.

Main Dimensions



- Product specifications are subject to change without further notice. Please refer to our official website for latest information.

Portable Underwater ROV (Battery Powered)

Product Features

- Depth Rating of 300m with Aluminum housing
- 12kg, one person portable & deployable, easy retrieval
- Effortless operation with AI assisted driving
- 10+ accessories for more application scenarios;
- Long Distance System Options with 1000m | 2000m Armored Optical Cable

Application Scenarios

- Search and Recovery (SAR)
- Infrastructure and Asset Inspection (dams, ports, tanks, etc)
- Aquaculture and Fisheries Monitoring
- Environmental and Marine Research
- Photogrammetry and 3D Mapping
- Public Safety and Emergency Response
- Education, Training, and Prototyping
- R&D Development and System Integration

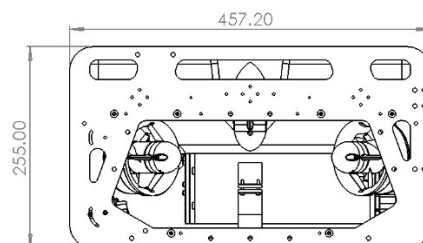
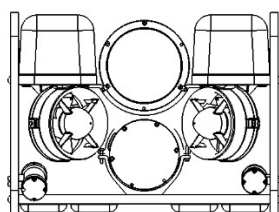
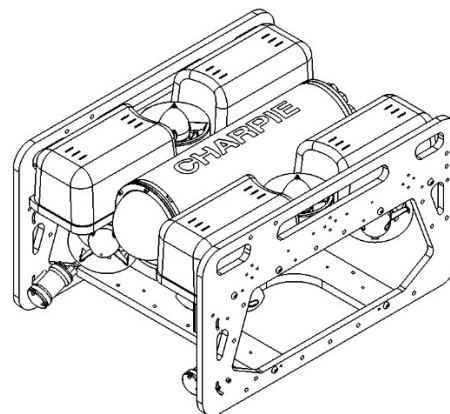
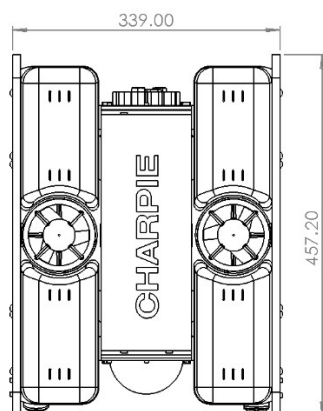


Basic Specs

Frame Parameters	Dimensions (mm)	457 * 339 * 255
	Weight (kg)	12.5
	Operating Depth(m)	300 (Standard) Other depths can be customized
Propulsion System	Thrusters	4 Horizontal + 2 Vertical
	Max Speed	4 knots
	Payload Capacity	10kg
	Control System	Main Processor: STM32F427,32-bit ARM Cortex-M4, NuttX RTOS. 3-Axis Gyroscope x2(MPU6000+L3GD20H) 3-Axis Accelerometer x2(MPU6000+LSM303D)
	Control Modes	Depth Hold Stabilize Manual
Camera & Lighting	Underwater Lights	Standard:2×1500 LM high-brightness LED lights, dimmable
	Camera	Gimbal Tilt:±50°, Sensor: Sony IMX219 Pixel:8MP, CCD Size: 1/4" Aperture(F):2.0, Focal Length:3.04 mm

		Field of View: 76°, Focus: Manual Video Stream:1080p30/720p60/640 * 480p90
Comm. & Power Supply	Endurance	Battery:2.5-8 hours
	Cable	Default: 100m (Reel purchased separately) Selection up to 2 km
Remote Control	Surface Unit	Standard
	Computer	User-provided (Windows 10+ or Ubuntu 22.04+)
	Software	Standard (Compatible with MAVLink protocol)
Optional Configurations		Manipulator/GoPro/Auxiliary Camera/ Imaging Sonar /Altimeter/ Pipe Sonar/ Underwater Positioning/ Water Quality Sensor/etc.
Customization		Communication Interfaces: USB/RS-485/ RS-232/ UART/ Ethernet, etc. Power:5VDC/12VDC/24VDC/220VAC ,etc.

Main Dimensions



- Product specifications are subject to change without further notice. Please refer to our official website for latest information.

Underwater Mini ROV For Long Distance Pipe Inspections

Up to 5km tether length. Fits anywhere DN>300mm.

Product Features

- A miniature submersible ROV fits into any water-filled pipe /tunnel with DN >300mm.
- Super Long Communication Distance from 1km to 5km.
- Battery Powered Unit
- Perfect for Urban Water Systems / Long Pipes @power plants, desalination plants, etc.

Application Scenarios

- Search and Recovery (SAR)
- Infrastructure and asset inspection (pipes, tunnels, etc.)
- Aquaculture and Fisheries Monitoring
- Environmental and Marine Research
- Photogrammetry and 3D Mapping
- Public Safety and Emergency Response
- Education, Training, and Prototyping
- R&D Development and System Integration

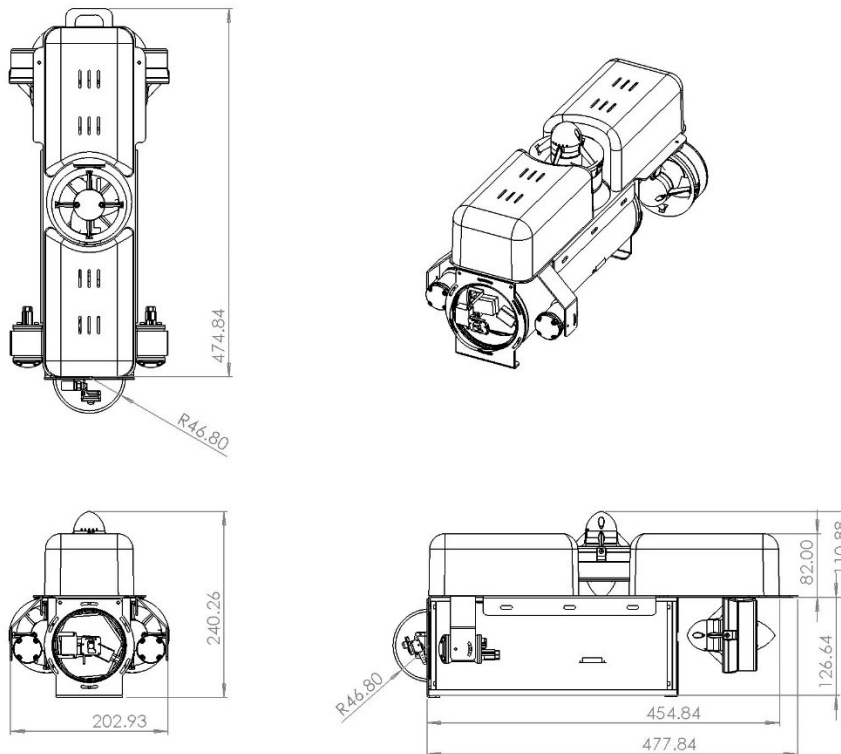


Basic Specs

Frame Parameters	Dimensions (mm)	522 * 203 * 240
	Weight (kg)	9
	Operating Depth(m)	300 (Standard) Other depths can be customized
Propulsion System	Thrusters	2 Horizontal + 1 Vertical
	Max Speed	4 knots
	Payload Capacity	5kg
	Control System	Main Processor: STM32F427,32-bit ARM Cortex-M4, NuttX RTOS. 3-Axis Gyroscope x2(MPU6000+L3GD20H) 3-Axis Accelerometer x2(MPU6000+LSM303D)
	Control Modes	Depth Hold Manual
Camera & Lighting	Underwater Lights	Standard:2×1500 LM high-brightness LED lights, dimmable
	Camera	Gimbal Tilt:±50°, Sensor: Sony IMX219 Pixel:8MP, CCD Size: 1/4" Aperture(F):2.0, Focal Length:3.04 mm Field of View: 76°, Focus: Manual

		Video Stream:1080p30/720p60/640 * 480p90
Comm. & Power Supply	Endurance	Battery:2.5-8 hours
	Cable	Default: 100m (Reel purchased separately) Customizable up to 2 km
Remote Control	Surface Unit	Standard
	Computer	User-provided (Windows 10+ or Ubuntu 22.04+)
	Software	Standard (Compatible with MAVLink protocol)
Optional Configurations		Manipulator/GoPro/Auxiliary Camera/ Imaging Sonar /Altimeter/ Pipe Sonar/ Underwater Positioning/ Water Quality Sensor/etc.
Customization		Communication Interfaces: USB/RS-485/ RS-232/ UART/ Ethernet, etc. Power:5VDC/12VDC/24VDC/220VAC ,etc.

Main Dimensions



- Product specifications are subject to change without further notice. Please refer to our official website for latest information.