

SwordFish

PAYLOAD
SERIES



Imaging payload for small AUVs

Features

- ▶ Fully integrated, turnkey imaging payload for small AUVs
- ▶ Geo-referenced digital still-image and video capture
- ▶ High-output, dual-mode lighting (strobe or continuous)
- ▶ Onboard CPU and solid-state data storage
- ▶ Customizable for realtime machine vision tasks
- ▶ Customizable for any AUV
- ▶ Rated to 300m

Technical specifications on reverse.

Arctic Rays specializes in deep-sea lighting and imaging systems and other custom solutions specifically for use on AUVs, ROVs, manned submersibles and other offshore and underwater structures.

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ARCTIC RAYS
SUBSEA TECHNOLOGIES

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Technical Specifications

PARAMETER	SPECIFICATION
Model Number	AR 206
OPTICAL	
Imaging Type	Single camera; stills and video
Camera Sensor	Sony IMX304, 12.3 MP, 1.1 in. format, back-illuminated color CMOS with global shutter
Camera Lens	12 mm f/2.8 rectilinear, low distortion (-0.5%)
Focus	Manual
Iris	Manual
Still Image Resolution	4,096 x 3,000 (12.3 MP)
Still Image Rep Rate	4 Hz max, full-res standard
Video Modes	720p HD @ 60 fps; 1,080p FHD @ 30 fps; 4K UHD @ 10 fps
Angle of View	71° in air; 51° in water
Field of View	Approximately 96% of altitude in water (diagonal)
Imaging Altitude	3–5 m recommended
LIGHTING	
Integrated Lighting	4x fixed dual-mode LED arrays
Color Temperature	5,700K, 70 CRI minimum standard
Output Lumens	60,000 Lm in strobe mode; 6,000 Lm in torch mode
Beam Angle (FWHM)	100°
Strobe Pulse Duration	5 ms max standard
Strobe Rep Rate	2 Hz max standard; 4 Hz optional
Torch Dimming	0–100% in 1% increments
ELECTRICAL	
Onboard CPU	Intel Core-i3
Onboard Storage	1 TB SSD
Voltage	9–28 VDC
Power	15–85 W, depending on lighting and image settings
INTERFACE	
Connector	Molex MicroFit 3.0 (PWR/CTL); RJ45 ethernet
Control	RS232 serial standard; ethernet, TTL trigger optional
Data Download	Gigabit ethernet
MECHANICAL	
Weight	1.8 kg in air; +150 g (buoyant) in seawater
Materials	6061-T6 aluminum (AHC black); sapphire viewport; acrylic lighting windows; acetal (Delrin) bezel; 316SS fasteners; other materials optional
ENVIRONMENTAL	
Depth Rating	300 m (984 ft) standard
Temperatures	0°C to 45°C operating; -10°C to 60°C storage

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Mechanical Drawings

