SCOUT MKII

Technical Datasheet

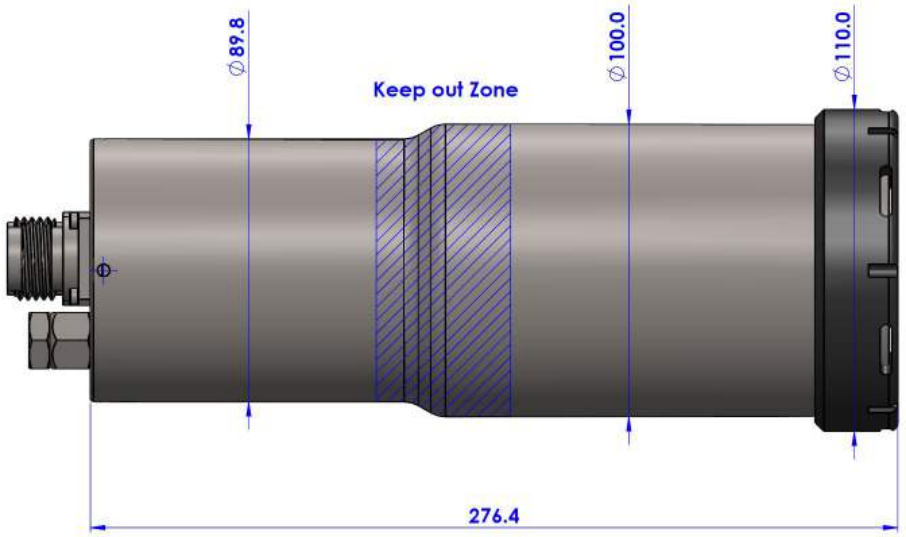
The SCOUT MKII system is a fully integrated laser and imaging system with co-registered laser, stills and video. The SCOUT MKII is part of the Cathx Fast Digital Inspections (FDI®) services . The field proven Cathx FDI® technologies reduces the vessel time required to acquire data, reducing HSE risk for people offshore, fuel consumption and overall project costs.

The SCOUT MKII system is compatible with work, observation class, and high-speed ROV's. The system is ideal for survey missions at greater depths, or data collection at high speed.

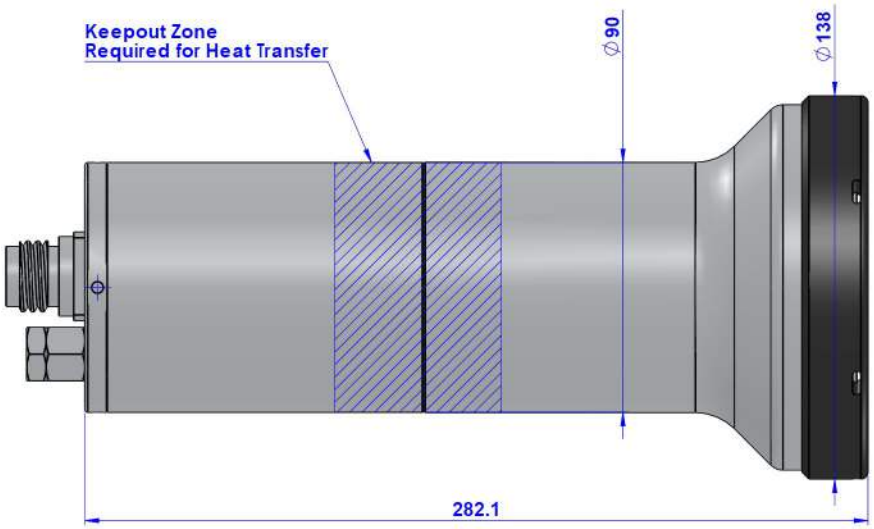
The system delivers high resolution images at speeds up to 5 knots and at survey altitudes up to 10 meters.

DIMENSIONS:

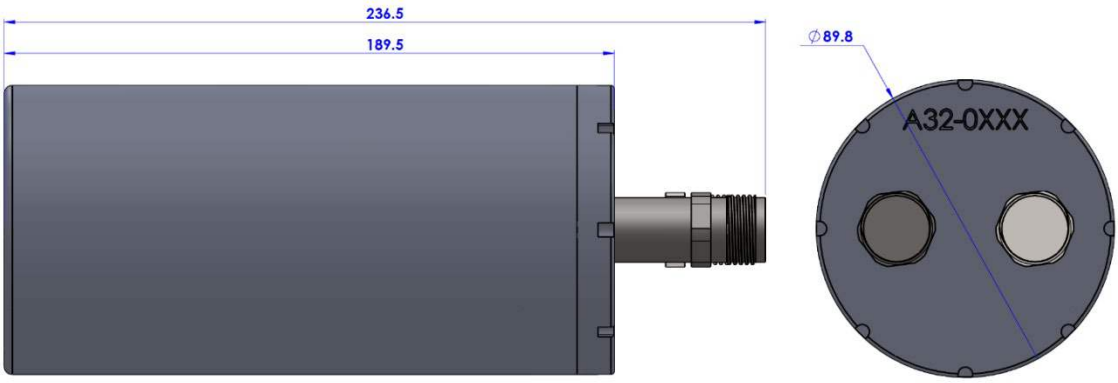
OPTICAL SENSOR (STILLS AND LASER)



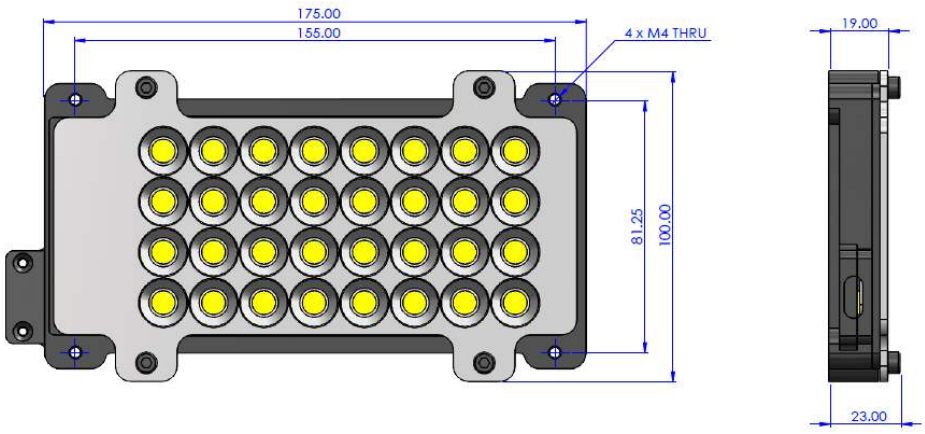
PILOT CAMERA (HD VIDEO)



PULSAR BOTTLE



LED PANEL



JUNCTION POD

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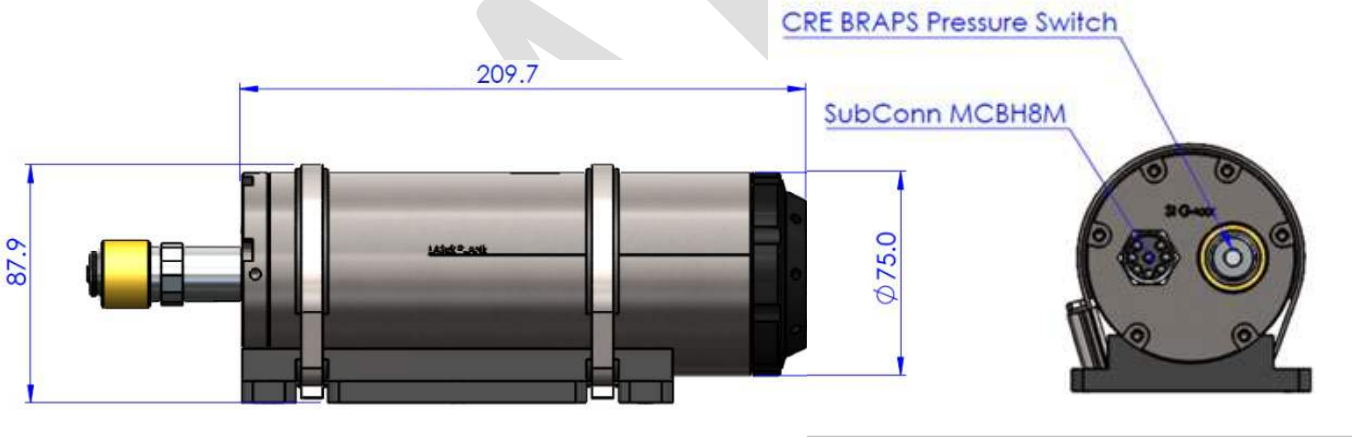
SLG LASER



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CATHX OCEAN

SCOUT MKII TECHNCIAL SPECIFICATIONS

SYSTEM CAPABILITIES		
Imaging	*Optical Sensors*	Stills Imaging
		3D Laser Profiling
		HD-SDi Video
Laser	*<800mW diode*	3D Laser Profiling
Lights	*Synchronised Strobe Lights*	2 x LED panels (stills Imaging)
		2 x LED panels (HD-SDi Video)
OPERATING CONDITIONS		
Target operations	*Seabed survey*	Stills and laser data capture Forward facing pilot video
Target vehicle		Work Class and Observation class ROV's
Operating range[1]		3 m to 10 m
Operating Temperature		-10 to 35°C
Depth rating		4,000m standard
MECHANICAL		
Materials	*Optical sensor*	Titanium 6AL-4V
	Pilot / Video Camera	Titanium 6AL-4V
	SLG Laser	Titanium 6AL-4V
	Pulsar I Ballast Bottle (four per system)	Titanium 6AL-4V
	LED panel	Anodized Aluminium (6082-T6)
	Junction POD	Anodized Aluminium (6082-T6)
Weight (Total)[2]	In air	56.1 kg
	In water	30.9 kg
ELECTRICAL		
Power requirements	*Pilot HD Video.* *3Hz stills & 60lps laser*	~750 Watts
Operating Voltages	*DC*	24VDC Nominal (18 – 36VDC)
	AC	Typically, 110VAC
RECOMMENDED SEPARATIONS		
Imaging system	*Optical sensor to LED panel*	800 mm to 1,400 mm
Laser system	*Laser optical sensor to SLG*	1,000 mm to 1,600 mm
COMMUNICATION		
Ethernet		Gigabit Ethernet
Time Synchronisation	*PPS input*	5V 10 mA
	NTP	TCP/UDP
Navigation	*NMEA String*	TCP/UDP
Lighting Control		RS485 *[Stills/Video Optical sensor]*
Laser Control		RS485 *[Laser Optical sensor]*
Triggers	*Sync Out*	5 V
	Sync In	5 V

[1] Dependent on water conditions and theta angle of the SLG laser

[2] Excluding cables and brackets

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CATHX OCEAN

OPTICAL CHARCTERISTICS (Stills & Laser)		
Field of view	*Sapphire Flat port*	H48.5°, V29°, D56°
Focal length	*In water*	24mm
Minimum focus distance	*In water*	300mm
Aperture range		f/1.0 to f/22
OPTICAL CHARCTERISTICS (HD-SDi Video)		
Field of view	*BK7 water corrected port*	H67°, V40°, D74°
Focal length	*In water*	17.5mm
Minimum focus distance	*In water*	300mm
Aperture range		f/2.0 to f/22
DATA CAPTURE		
Stills Imaging	*JPEG*	4096 x 2304 up to 7 FPS
		2048 x 1152 up to 30 FPS
Video	*COAX*	1080p HD-SDi
Laser profiling	*BIN files*	Up to 60 LPS
	UPD Stream	Up to 60 LPS
Laser Resolution [Sensor to SLG separation of 1.6 m]	*Working range of 3 m to 10 m*	Up to 2.5 mm
DATA STORAGE AND PROCESSING		
Storage	*Stills and laser data*	Network storage
Processing	*Cathx SOLID*	Topside PC
SYSTEM CONFIGURATION AND CONTROL		
Profile creation and system setup	*Scene Configurator GUI*	System configured before the mission
	Mission Monitoring GUI	System control on-mission
	API	Vehicle comments on-mission
LIGHTING		
Lumen Output	*Nominal [2 x LED panels per optical sensor]*	Up to 300,000 lm
LED CCT	*Nominal*	5,700 Kelvin
		FWHM @ H53° and V53°
LASER		
Optical Power	*Class 4*	<800mW
Wavelength		510 - 530 nm (Green)
NOHD [in air]		4.5 m
Pressure Activation Switch	Activation Depth	>60 m