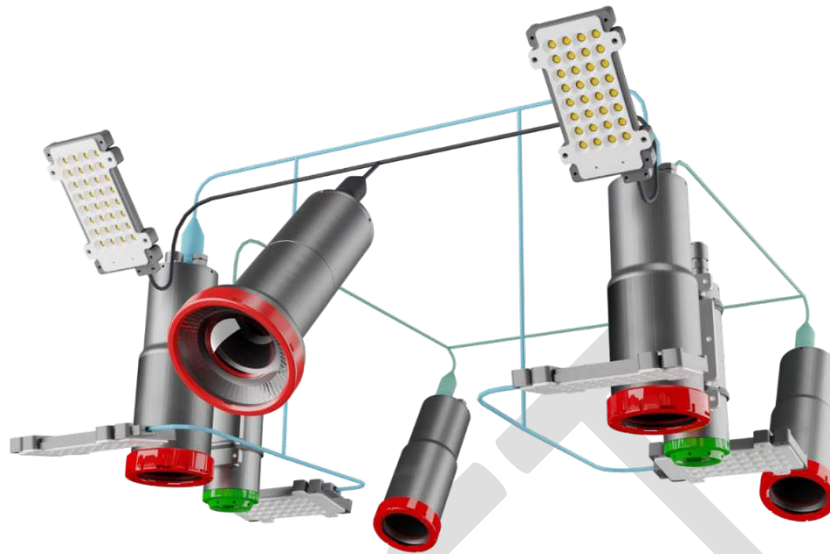


PATHFINDER MKII

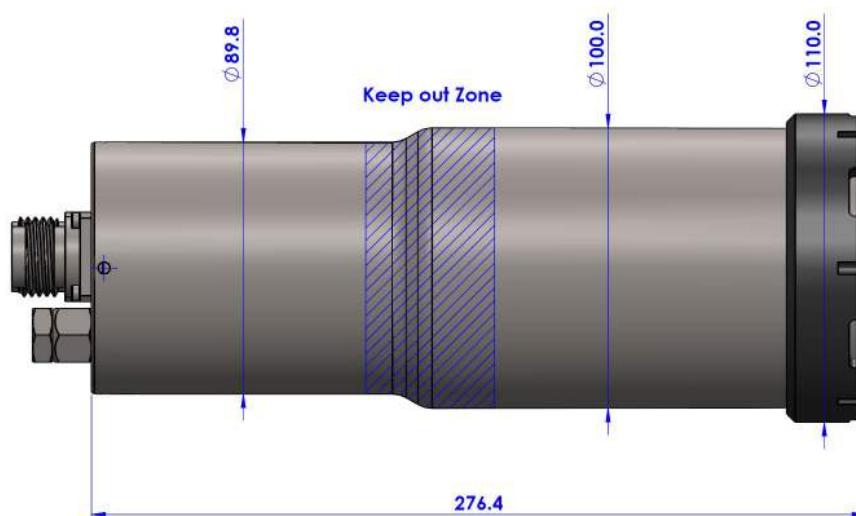
Technical Datasheet

CATHX
OCEAN



DIMENSIONS:

OPTICAL SENSOR (STILLS AND LASER)

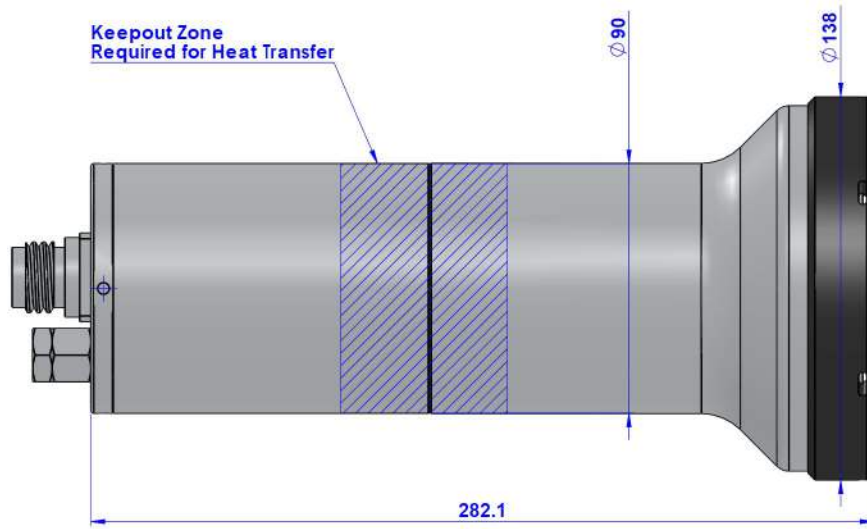


PILOT CAMERA (HD VIDEO)

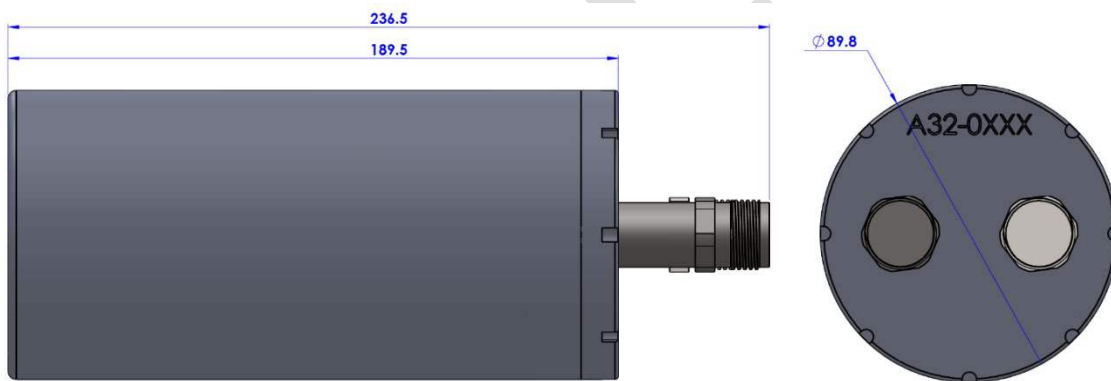
PATHFINDER MKII

Technical Datasheet

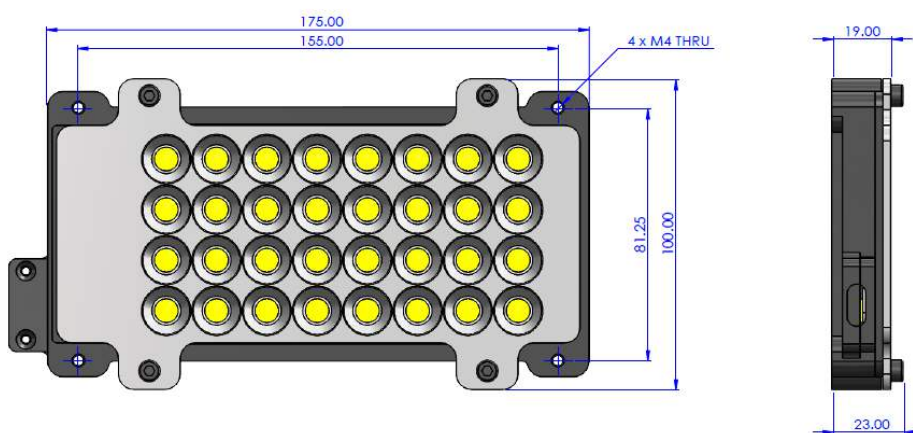
CATHX
OCEAN



PULSAR BOTTLE



LED PANEL



JUNCTION POD

PATHFINDER MKII

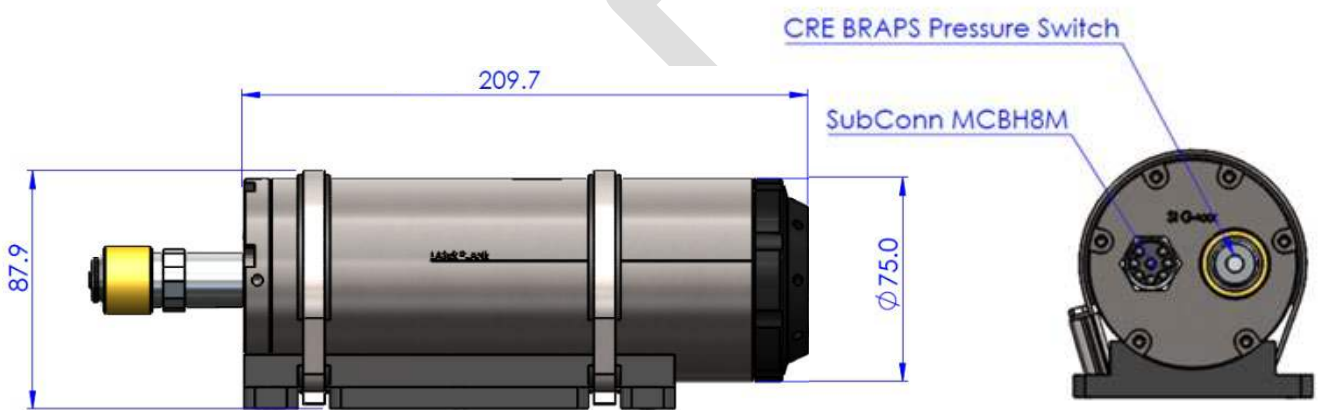
Technical Datasheet

CATHX

OCEAN



SLG LASER



PATHFINDER MKII TECHNICAL SPECIFICATIONS

PATHFINDER MKII

Technical Datasheet



SYSTEM CAPABILITIES		
Imaging	<i>Optical Sensors</i>	2 x Stills Imaging
		2 x 3D Laser Profiling
		HD-SDi Video
Laser	<i><800mW diode</i>	2 x 3D Laser Profiling
Lights	<i>Synchronised Strobe Lights</i>	4 x LED panels (Stills Imaging)
		2 x LED panels (HD-SDi Video)
OPERATING CONDITIONS		
Target operations	<i>Seabed survey</i>	Stills and laser data capture Forward facing pilot video
Target vehicle		WROV
Operating range ¹		3 m to 10 m
Operating Temperature		-10 to 35 °C
Depth rating		4,000m standard
MECHANICAL		
Materials	<i>Optical sensor</i>	Titanium 6AL-4V
	<i>Pilot / Video Camera</i>	Titanium 6AL-4V
	<i>SLG Laser</i>	Titanium 6AL-4V
	<i>Pulsar I Ballast Bottle</i>	Titanium 6AL-4V
	<i>LED panel</i>	Anodized Aluminium (6082-T6)
	<i>Junction POD</i>	Anodized Aluminium (6082-T6)
Weight (Total) ²	In air	75 kg
	In water	42.8 kg
ELECTRICAL		
Power requirements	<i>Pilot HD Video. 3Hz stills & 120fps laser (port and starboard system in operation)</i>	~900 Watts
Operating Voltages	DC	24VDC Nominal (18 – 36VDC)
	AC	Typically, 110VAC
RECOMMENDED SEPARATIONS		
Imaging system	<i>Optical sensor to LED panel</i>	800 mm to 1,400 mm
Laser system	<i>Laser optical sensor to SLG</i>	1,000 mm to 1,600 mm
COMMUNICATION		
Ethernet		Gigabit Ethernet
Time Synchronisation	<i>PPS input</i>	5V 10 mA
	<i>NTP</i>	TCP/UDP
Navigation	<i>NMEA String</i>	TCP/UDP
Lighting Control		RS485 [<i>Stills/Video Optical sensor</i>]
Laser Control		RS485 [<i>Laser Optical sensor</i>]
Triggers	<i>Sync Out</i>	5 V
	<i>Sync In</i>	5 V
OPTICAL CHARACTERISTICS (Stills & Laser)		
Field of view	<i>Sapphire Flat port</i>	H48.5°, V29°, D56°

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

² Excluding cables and brackets

PATHFINDER MKII

Technical Datasheet



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