MantaRay Mk2 Parallel Lasers

Class 3R Laser Product

SubC Imaging

Precision points for reference in underwater photos

The MantaRay is a parallel beam laser designed for ROV and subsea systems. With a lifespan (MTBF) of at least 40,000 hours, the MantaRay laser is a dependable and reliable reference unit.



This laser projects two parallel beams that appear as green dots in images that are used to get distance and scale of underwater objects. It is lightweight, easily integrated with a subsea camera using a simple attachment, and is accurate to 5m distance. SubC LEDs and lasers are plug-and-play when coupled with the Rayfin camera.

Qualified for shipping within the USA, Canada and internationally.

Specifications		
Lasers	Parallelism	10cm ± 10nm @ 5m distance
	Output Power	≤ 5.00 mW
	Wavelength	520nm ± 10nm (green)
	Class	3R (avoid direct eye exposure)
	MTBF	40,000 hours
Electrical	Power	1.5W per laser: 3W per parallel laser assembly
	Protection	Short circuit, over voltage, reverse voltage, ESD
	Min./Max. Temperature	-10°C - +30°C
	Voltage	15 Vdc - 32.5 Vdc
	Standard Control	5 - 30 Vdc TTL modulation
	Observatory Control	ON/OFF via software controlled relay
	Material	Sapphire, Grade 5 Titanium
Mechanical	Depth Rating	6000m
	Weight (in air)	700g
	Weight (in water)	400g

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FDA Laser Safety Compliance

Laser Radiation
Avoid Direct Eye Exposure

Maximum output of laser radiation: ≤ 5.00 mW
Emitted wavelength: 520nm ± 10nm



Complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019

Control Operations

(Standard) TTL Operation

- ► The laser is disabled by default when power is applied. To enable, apply 5 - 30Vdc to Pin 3.
- ► When Pin 3 is left open or connected to GND, the output is disabled.

(Observatory) Relay Operation

- ► The laser is disabled by default when connected to an Observatory Rayfin. Connecting to a Standard Rayfin will turn on an Observatory MantaRay immediately and the laser will not be controllable. Only use an Observatory Rayfin with an Observatory MantaRay.
- ► To enable, toggle the power relay via SubC Rayfin Control.

Included

- ► Calibrated delrin mount for 89mm diameter camera.
- ► Titanium hose clamps for attachment.
- ► SUBC58-C-003 cable; MCBH5M to Y-splice 2x MCBH5F with locking sleeves.

Pin#	Standard (MantaRay-Ti-100-2-P-2) MCBH5M	Observatory (MantaRay-Ti-100-2-P-3) MCBH5M
1	GND	GND
2	PWR	PWR
3	TTL Enable	N/C
4	N/C	N/C
5	N/C	N/C



