



SeaLaser® 100



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SEALASER® 100 SUMMARY

The SeaLaser® 100 is a low cost, lightweight underwater scaling, range finding, and aiming device that utilizes a high quality solid state laser diode module. It can be used in pairs or arrays of parallel-aligned beams to determine sizes and scale of viewed objects.

An internal power regulation board protects the laser diode from most voltage transients, overheat condition, reverse voltage, and cold temperature start-ups. It is internally fused. This is helpful for applications using long cables or those that might have switching transients. It has a scratch resistant SAR Acrylic optical port. It is recommended the laser be operated for only short periods of time in air to provide both personnel safety and adequate heat sinking of the laser module.

NOTE: The usable range is a function of ambient light levels, water conditions, and camera sensitivity.

SEALASER® 100 SPECIFICATIONS

MECHANICAL

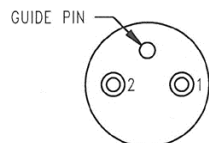
Housing Material:	Acetal plastic (Delrin)
Port:	Acrylic
Length:	15.24 cm (6.0 in.) excluding connector
Diameter:	3.0 cm (1.2 in.)
Weight in Air:	227 g laser only, 300 g with bracket
Weight in Water:	67 g laser only, 140 g with bracket
Other:	Mounting bracket included

LASER

Type:	Continuous Wave (CW) Semi-conductor laser diode Class III-A
Beam Diameter:	RED: elliptical, 1.8 mm x 0.5 mm; GREEN: circular, <2 mm Dia
Optional Fan Angle of Line:	Approximately 60 degrees
Wavelength:	RED (635 nm); GREEN (532 nm)
Beam Divergence:	RED: 0.09 mRad x 0.19 mRad; GREEN: <1.2mRad
Power:	<5 mW (Class III-A)
Beam Off-center Alignment:	5 cm at 10 meters max.
Optimum Operating Temp:	RED -10 to +40°C / GREEN +1 to +30°C (lasers produce maximum power output at mid-temperature range)
Line Laser Operating Temp:	RED -10 to +40°C / GREEN -10 to +40°C

ELECTRICAL

Voltage:	7-27 VDC (Pin 1-NEG, Pin 2- POS)
Pin-out:	



2 CONTACT
Impulse BH2MP
Pin 1: NEG; Pin 2: POS

ENVIRONMENTAL

Depth:	2,000 meters (6,500 feet)
OTHER Option:	Beam focus distance (red); factory default setting is 10-feet (3.3m).

SEALASER® 100 PRE- AND POST-DEPLOYMENT CHECKLIST: Each SeaLaser® 100 is shipped ready for immediate use. To ensure that the laser will perform reliably, please observe the following maintenance guidelines:

1. Rinse the laser with fresh water after use in salt water.
2. Always check to make sure that the rear bulkhead connector is secure before deployment.
3. After each deployment, examine the power cable and rear connector for damage.

Warnings:

1) Protect your eyes. Avoid looking directly into the laser beam, especially when wearing reading glasses or other optical magnifiers. Laser radiation is emitted from this device. Be careful of laser bounce off the water, a wet deck, portholes, and other reflective surfaces. Though generally safe, a Class IIIA laser can produce spot blindness under the right conditions. It is recommended the laser be operated for only brief periods of time in air to provide both personnel safety and adequate heat sinking of the laser module.

2) If a laser appears flooded, disconnect the power immediately. If water is determined to be present, carefully loosen the rear connector to vent any possible internal pressure and return to the factory for possible repair.

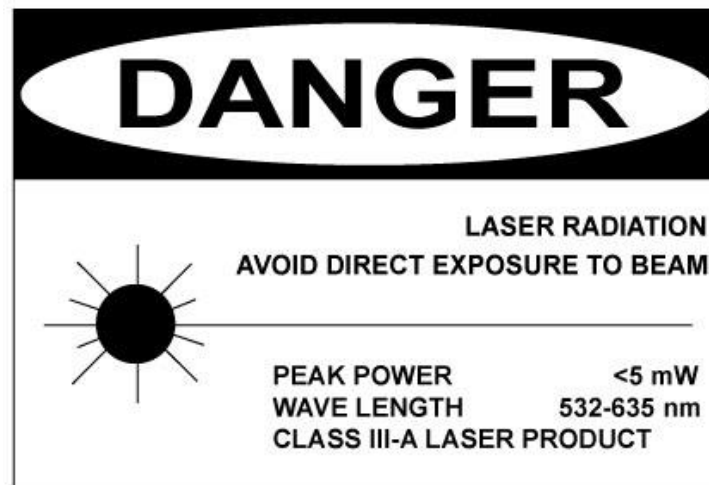
Cold water operational note: The green SeaLaser 100 laser module has a higher optimum operating temperature than the red SeaLaser. DeepSea recommends turning on the green SeaLaser 2-3 minutes prior to its intended use to allow the laser module to come to its stable operating temperature to produce maximum intensity. System integrators can test the SeaLaser 100 using their system under expected operational conditions to determine a more precise warm-up time for their specific application.

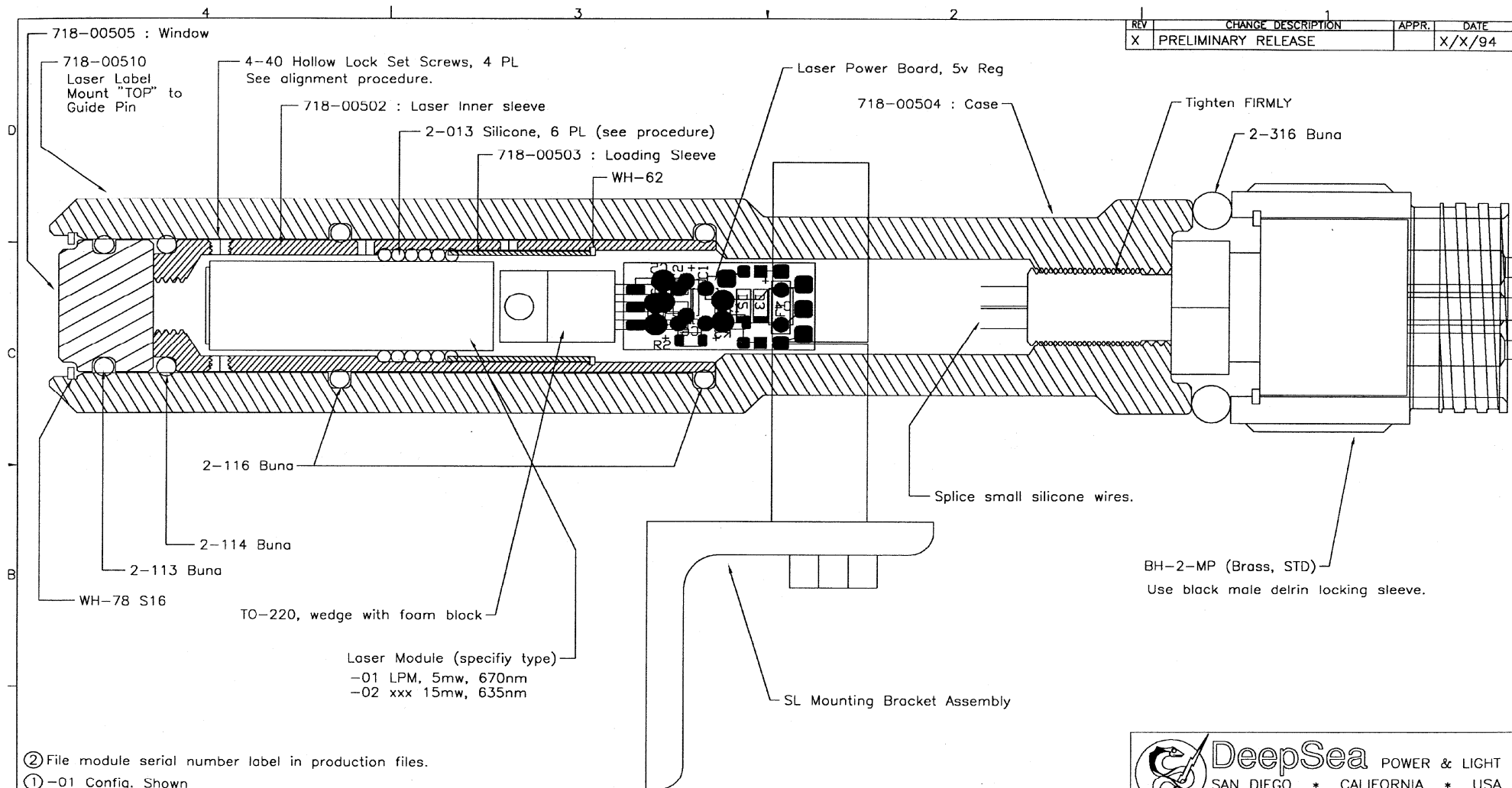
Options

Model Number	Part Number	Description
IL2FS	706-005-003-0A-145	BH2MP mating connector with female locking sleeve on 18+(0.5m) whip
UBSL	774-000-018-0A	L-bracket, small

Spare Parts

Model Number	Part Number	Description
UBSC	774-000-020-0A	UBS mounting collar, small





② File module serial number label in production files.

① -01 Config. Shown

Notes:

TOLERANCES UNLESS OTHERWISE SPECIFIED				MATERIAL As Noted				ENG M. Olsson		TITLE Assembly			
XX~	: ±.02	ALL DIMENSIONS ARE IN INCHES[MM]		SIZE	NA	DRAW	M. Olsson	SeaLaser 100 : SLZR-100					
XX	: ±.01	REMOVE ALL BURRS		LENGTH	NA	CHECK							
XXX LENGTHS	: ±.005	BREAK ALL SHARP EDGES		ANODIZING	See Note 'P'	DESIGN							
XXX DIAMETERS	: ±.002	DIMENSIONS APPLY BEFORE PLATING		PLATING	See Note 'H'	DATE	Jan. 12, 1995						
HOLE	: ±.003	DO NOT SCALE DRAWING		POST		DRAWING							
ANGULAR	: ±.5°			PROCESS		PATH							
FRACTIONAL	: ±1/64			USED ON		CUSTOMER							
FINISH 64		FINISH 32		DASH NO.		QTY	PER	APPLICATION		USED ON			
ALL SURF		SEAL SURF		1		3		1		2			