



# SeaLaser® 100 User Manual P/N 718-005-601



## DeepSea Power & Light, Inc.

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### SEALASER® 100 SUMMARY

The SeaLaser® 100 is a low cost, lightweight underwater scaling, rangefinding, 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/scale of viewed objects. Used in an array of three parallel plus one oblique (four total) it can determine zoom lens focal length setting as well.

An internal power regulation board allows operation to 24 volts DC and protects the laser diode from most voltage transients, and is internally fused. This is important for applications using long cables or those that might have switching transients. It has a scratch resistant SAR optical port.

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

### SEALASER® 100 SPECIFICATIONS

#### MECHANICAL

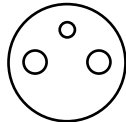
Housing Material:	Acetal plastic (Delrin)
Port:	SAR Acrylic
Length:	15.24 cm (6.0 in.) excluding connector
Diameter:	3.0 cm (1.2 in.)
Weight in Air:	227 g laser only, 300 g with bracket
Weight in Water:	67 g laser only, 140 g with bracket
Other:	Mounting bracket included

#### LASER

Type:	Semi-conductor laser diode Class III-B (635 nm)
Beam Diameter:	1.8 mm x 0.5 mm
Wavelength:	635 nm (5 mW)
Beam Divergence:	0.09 mRadians x 0.19 mRadians
Power:	5 mW (635nm)
Beam Alignment:	Beam runout 5 cm at 10 meters max.

#### ELECTRICAL

Voltage:	5-24 VDC (Pin 1-GND, Pin 2- 7-30VDC)
Pin-out:	



BH2MP  
1 = Ground  
2 = Power

#### ENVIRONMENTAL

Depth:	2,000 meters (6,500 feet)
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#### OTHER

Option:	Beam focus distance; factory default setting is 10-feet (3.3m).
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**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 assembly is secure before deployment.
4. After each deployment, examine the power cable and rear connector for damage.

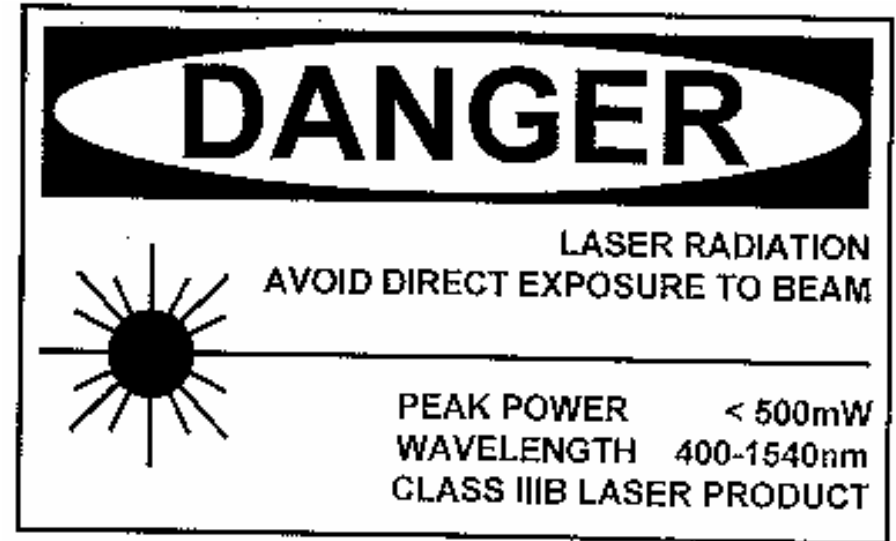
**Warning:** After each deployment, carefully check to make sure the laser has not flooded. It is possible for the laser to partially flood and then reseal itself while underwater. Upon surfacing, the laser can become internally pressurized, which may be potentially dangerous. Additionally, if the power remains on when the laser has partially flooded, it is possible for electrolytic generation of an explosive mixture of hydrogen and oxygen gases. **If a laser appears flooded upon removal from the water, it should be treated as potentially dangerous. Point the laser away from persons and valuable equipment and verify whether or not it is internally pressurized. Make sure that the power is disconnected as soon as a flooded condition is suspected.**

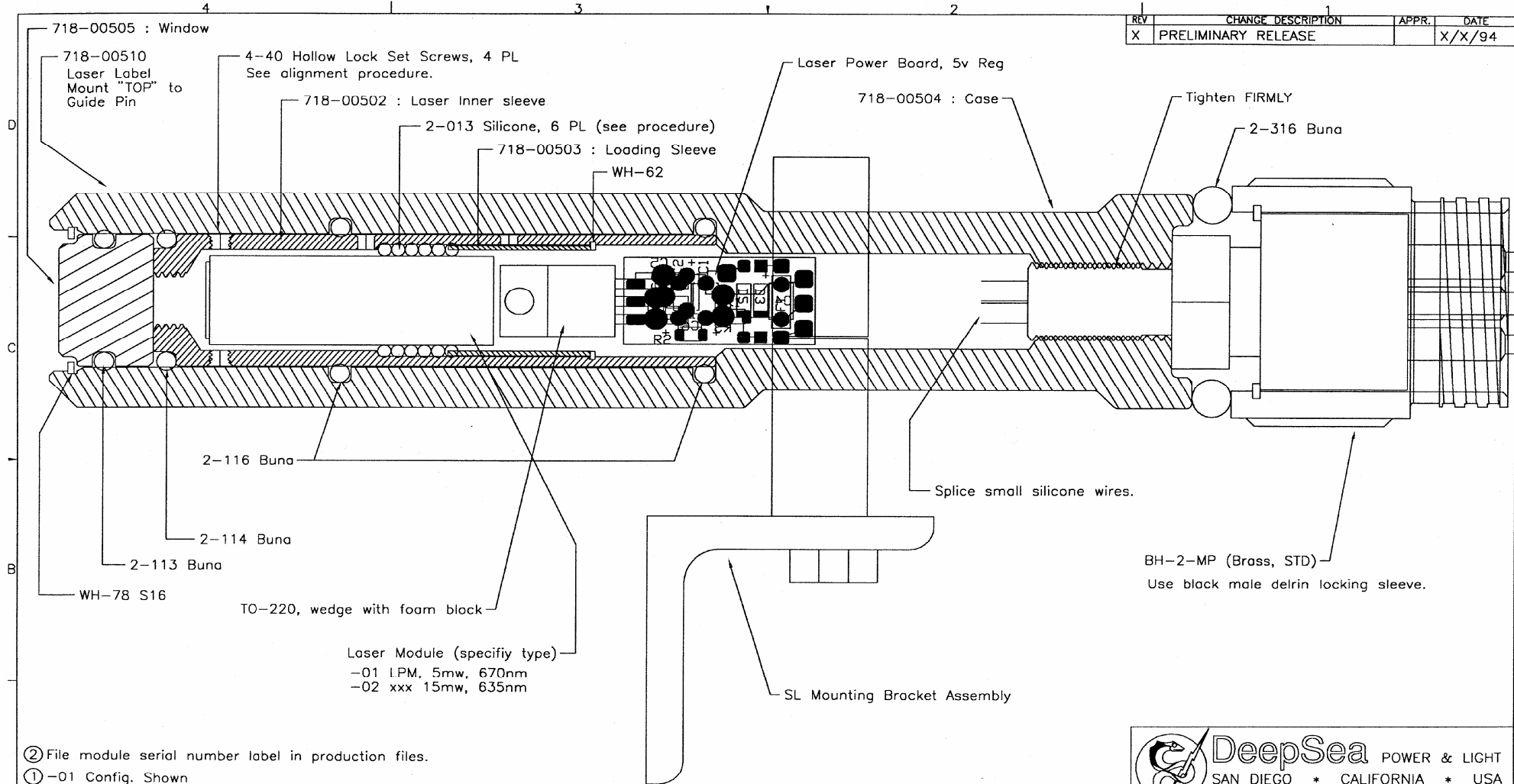
#### Options

Model Number	Part Number	Description
IL2FS	140-00060	BH2MP mating connector with female locking sleeve on 18" (0.5m) whip
UBSL	774-00001	L-bracket, small

#### Spare Parts

Model Number	Part Number	Description
UBSC	774-00002/3	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				SIZE	718-00506		DSPL	CAGE CODE		ODEN2	REV	
.XX	±.01	REMOVE ALL BURRS			LENGTH	NA		CHECK					B	DRAWING NO.						X	
.XXX LENGTHS	±.005	BREAK ALL SHARP EDGES			ANODIZING	See Note 'P'		DESIGN DATE	Jan. 12,1995				DWGS\718\005\00506X01								
.XXX DIAMETERS	±.002	DIMENSIONS APPLY BEFORE PLATING			POST PROCESS	See Note 'H'		LAST UPDATE	Jan. 13,1995				MASTER DRAWING		\$718005.dwg	PLOT CYCLE #6	SCALE	2=1		SHEET 1 OF 1	
HOLE	±.003	DO NOT SCALE DRAWING			CUSTOMER	NA		CONTRACT	NA												
ANGULAR	±.5°	FINISH 64	FINISH 32	DASH NO.	QTY	NEXT ASSEMBLY	APPLICATION	USED ON													
FRACTIONAL	±1/64	ALL SURF	SEAL SURF																		
				1				3				1				2					
19950114.0928																					

**DeepSea** POWER & LIGHT  
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Assembly  
 SeaLaser 100 : SLZR-100

SIZE B  
 DRAWING NO. 718-00506  
 DRAWING PATH \DWGS\718\005\00506X01  
 MASTER DRAWING \$718005.dwg  
 PLOT CYCLE #6  
 SCALE 2=1  
 SHEET 1 OF 1

REV X

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