



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



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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

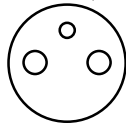
Housing Material: Acetal plastic (Delrin)
Port: SAR Acrylic
Length: 15.24 cm (6.0 in.) excluding connector
Diameter: 3.0 cm (1.2 in.)
Weight in Air: 227 g laser only, 300 g with bracket
Weight in Water: 67 g laser only, 140 g with bracket
Other: Mounting bracket included

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)

OTHER

Option: Beam focus distance; 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 assembly is secure before deployment.
4. After each deployment, examine the power cable and rear connector for damage.

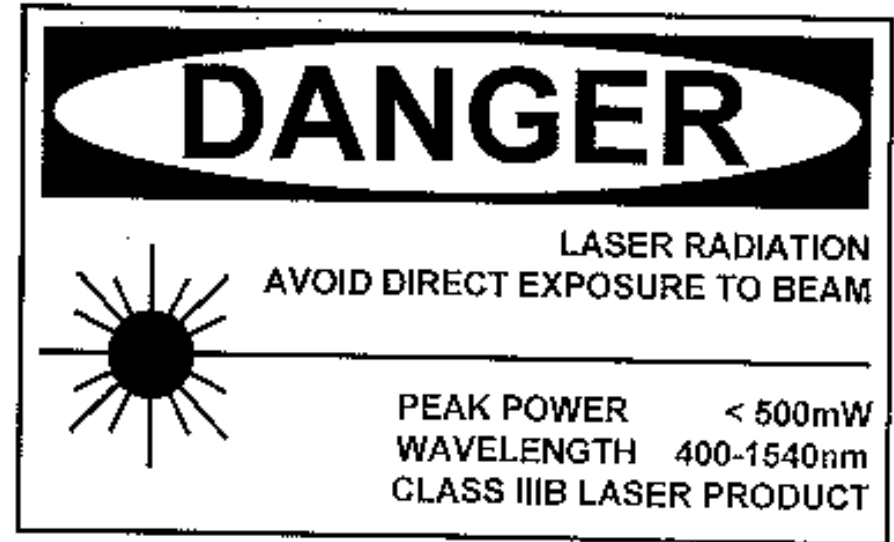
Warning: After each deployment, carefully check to make sure the laser has not flooded. It is possible for the laser to partially flood and then reseal itself while underwater. Upon surfacing, the laser can become internally pressurized, which may be potentially dangerous. Additionally, if the power 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

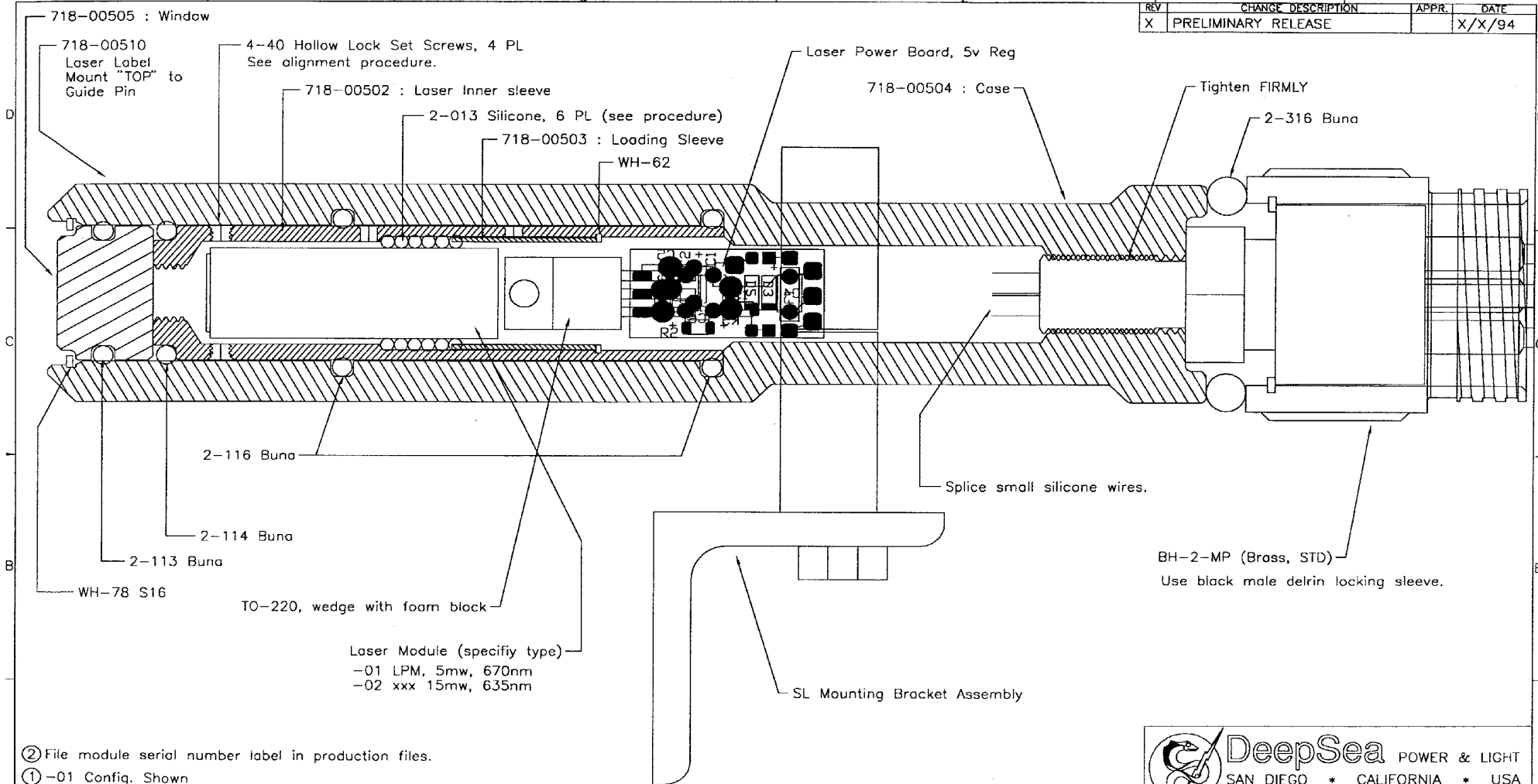
| Model Number | Part Number | Description |
|--------------|-------------|--|
| IL2FS | 140-00060 | BH2MP mating connector with female locking sleeve on 18" (0.5m) whip |
| UBSL | 774-00001 | L-bracket, small |

Spare Parts

| Model Number | Part Number | Description |
|--------------|-------------|----------------------------|
| UBSC | 774-00002/3 | UBS mounting collar, small |



| REV | CHANGE DESCRIPTION | APPR. | DATE |
|-----|---------------------|-------|--------|
| X | PRELIMINARY RELEASE | | X/X/94 |




- ② File module serial number label in production files.
- ① -01 Config. Shown

Notes:

| | |
|---------------------------------------|--|
| TOLERANCES UNLESS OTHERWISE SPECIFIED | |
| .XX~ | : ±.02 ALL DIMENSIONS ARE IN INCHES[MM] |
| .XX | : ±.01 REMOVE ALL BURRS |
| .XXX LENGTHS | : ±.005 BREAK ALL SHARP EDGES |
| .XXX DIAMETERS | : ±.002 DIMENSIONS APPLY BEFORE PLATING |
| HOLES | : ±.003 DO NOT SCALE DRAWING |
| ANGULAR | : ±.5° |
| FRACTIONAL | : ±1/64 |
| | FINISH 64 ALL SURF / FINISH 32 SEAL SURF |

| | | | |
|-----------|--------------|---------------|---------------|
| MATERIAL | As Noted | ENG | M. Olsson |
| SIZE | NA | DRAW | M. Olsson |
| LENGTH | NA | CHECK | |
| ANODIZING | See Note 'P' | DESIGN DATE | Jan. 12, 1995 |
| PLATING | See Note 'H' | POST PROCESS | |
| CUSTOMER | NA | LAST UPDATE | Jan. 13, 1995 |
| DASH NO. | QTY | NEXT ASSEMBLY | APPLICATION |
| | | | |
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|----------------|--------------|-------------------------|-----------------|
| TITLE | | Assembly | |
| DRAWING NO. | | 718-00506 | |
| DRAWING PATH | | \\DWGS\718\005\00506X01 | |
| SIZE | B | DSP# | CAGE CODE ODEN2 |
| MASTER DRAWING | \$718005.dwg | PLOT CYCLE #6 | SCALE 2=1 |
| | | | SHEET 1 OF 1 |

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