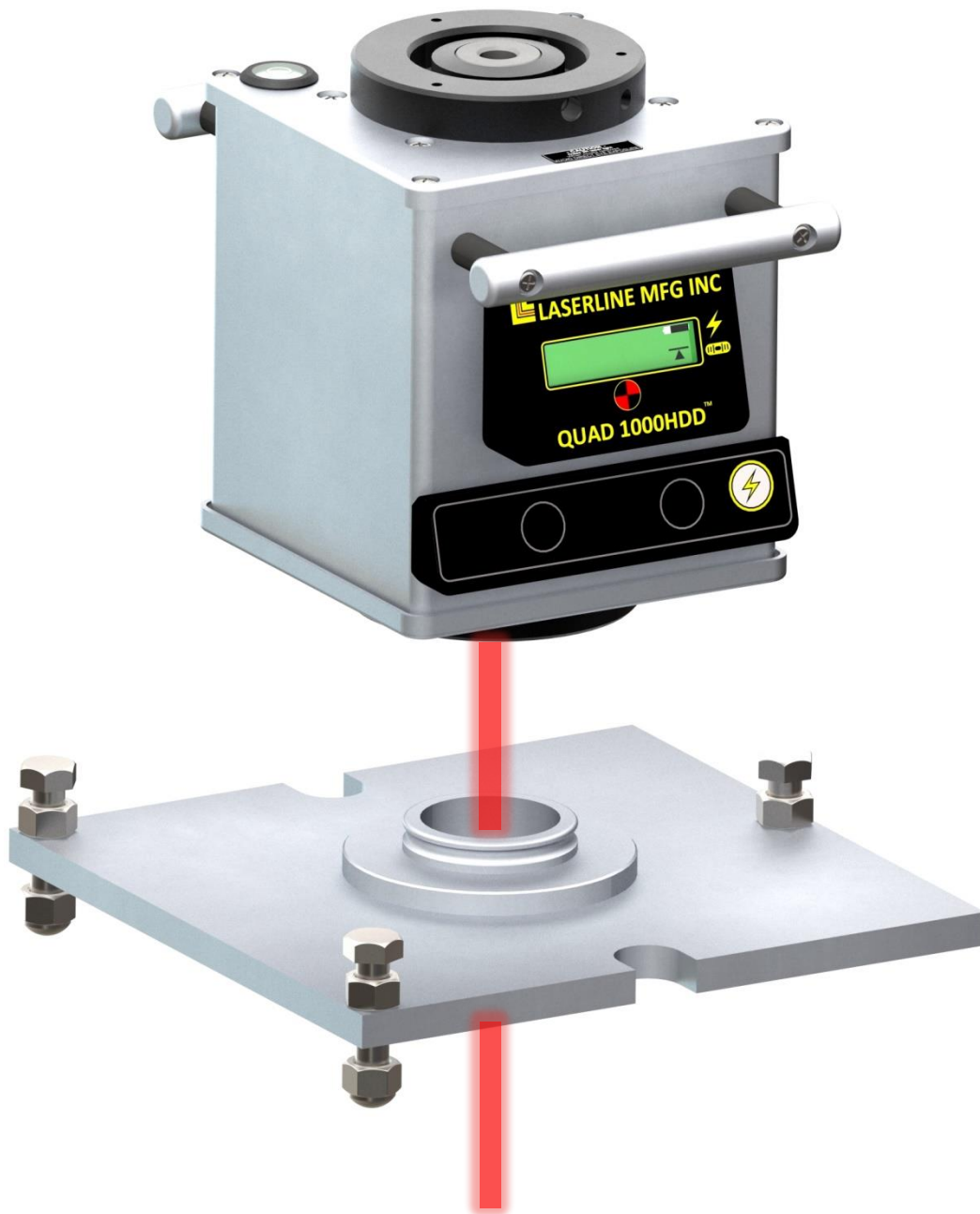


# QUAD 1000HDD

## VERTICAL CONTROL LASER

## OWNERS MANUAL



**L LASERLINE MFG, INC.**

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## ***QUAD 1000HDD Laser Package Includes:***

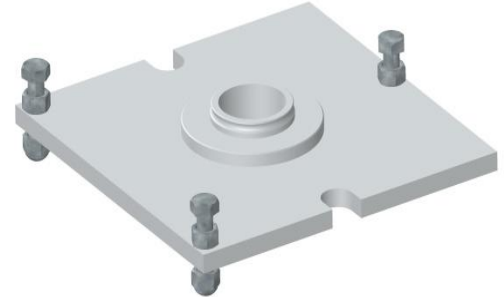
### **QUAD 1000HDD Laser** *P/N 4003-0000*

5 arc second nadir (Downward) laser featuring electronic servo self-leveling with variable temperature compensation for the most accurate and consistent readings. Downward nadir laser to 2,000 feet (609.6 m) with one button operation and bright backlit LCD display. Waterproof and dry nitrogen charged.



### **Mounting Trivet Plate** *P/N 4003-0002*

Heavy duty 3 point leveling base with quick disconnect rotational mount for QUAD 1000HDD laser.



### **(2) Alignment Targets** *P/N 4001-0010*

"Ultra-bright" bulls-eye for the most visible and precise readings at any distance. Targets feature laser pass through allowing multiple readings at one time, special hard coating that protects the graphics on the target face and two 1/4 inch holes for custom mounting.



### **Carrying Case** *P/N 3000-0182*

Blow molded, custom fit foam inserts and two locking latches for securing your items.



### **Power Cord** *P/N 2020-0203*

20 foot (6.09 m), 3 Pin Military grade connector with positive and negative alligator clips.



### **\*OPTIONAL:** *P/N 1140-3*

The 1140 Series Power Converter will run your laser at 13VDC with 90 to 260 VAC. The 1140 senses what voltage it is hooked up to and automatically runs the laser on that voltage.



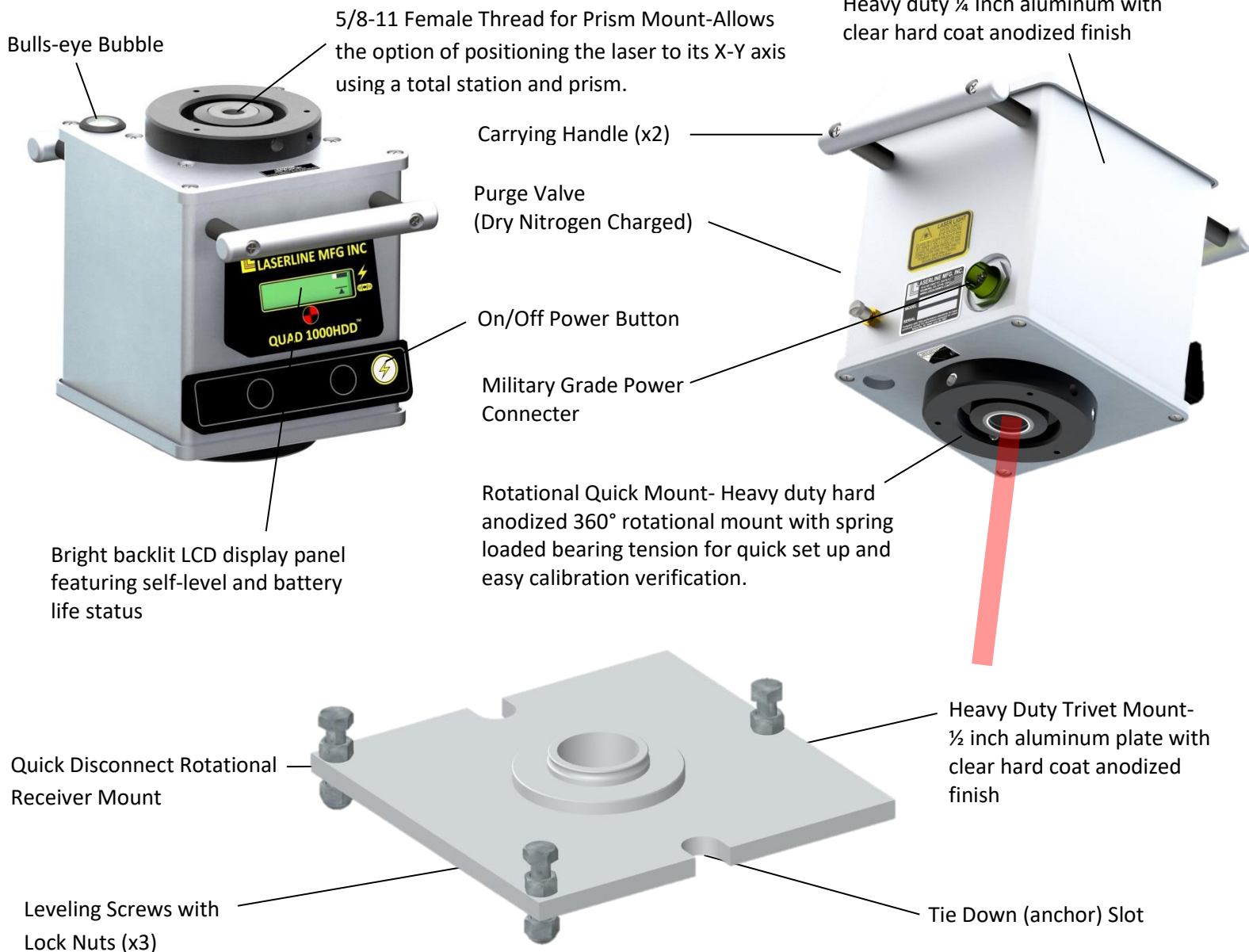
## OVERVIEW

The Quad 1000HDD projects a precise laser beam straight down (Nadir) to 2,000 feet (609.6 m) for the purpose of providing plumb control for your project.

The Quad 1000HDD is a self-leveling instrument with electronic temperature compensation. It measures or senses ambient temperature changes while in operation and continually recalibrates itself to maintain the highest degree of accuracy possible. This insures consistent, accurate readings for plumb control on your project throughout the course of the job.

- ✓ **Accurate:**  $\pm 5$  arc seconds ( $\pm 1/32$  inch per 100 feet) (.793mm per 30.48 meters)
- ✓ **Long Range:** Provides plumb control to a depth of 2,000 feet (609.6 meters)
- ✓ **Rugged:** Heavy duty  $\frac{1}{4}$  inch thick aluminum housing with hard coat anodized finish
- ✓ **Dust and waterproof:** Purged and dry nitrogen filled with IP67 rating

## FEATURES



## SETTING UP

***Virtually every project is different in terms of jobsite fabrication of the platform that the Quad 1000HDD mounting trivet will be mounted to.***

There is one constant however, and that is that the platform must be flat, level and rigid.

Once the platform is positioned and welded in place, the Quad 1000HDD can be precisely positioned on the platform.

One method would be to attach the Quad 1000HDD to the rotational mount on the trivet mount, attach a survey-prism to the 5/8 thread on the top of the Quad 1000HDD. Level the bulls-eye bubble using the three leveling screws and traverse the Quad 1000HDD across the platform using a total station to position the unit to the plumb point.

Once the Quad 1000HDD is directly over (or under) your plumb point with the bulls-eye level, then tie the trivet down using the tie down anchor slots.

### What Happens When You Power Up?

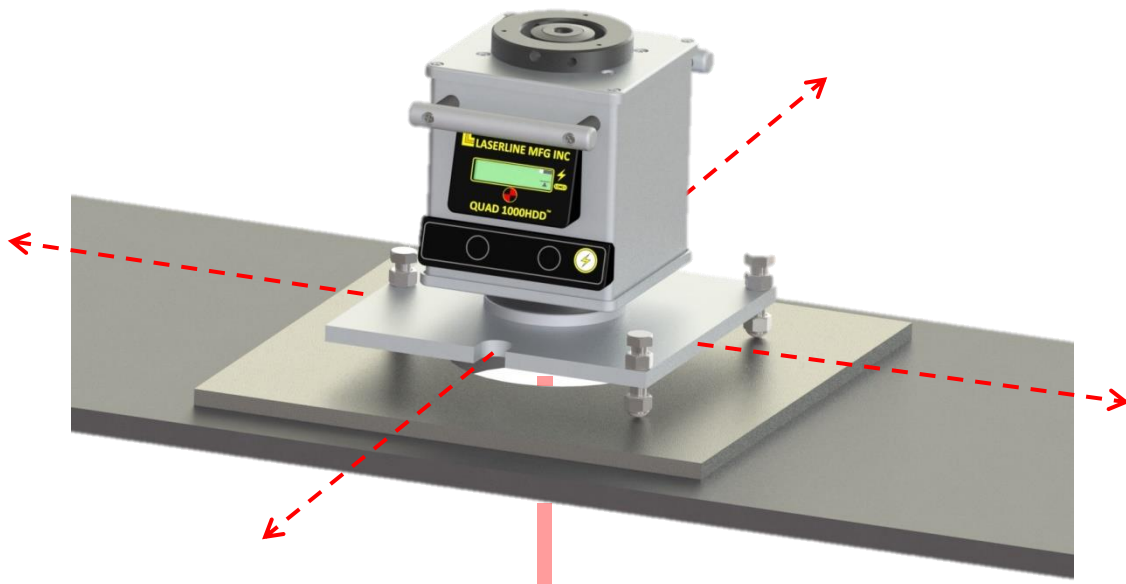
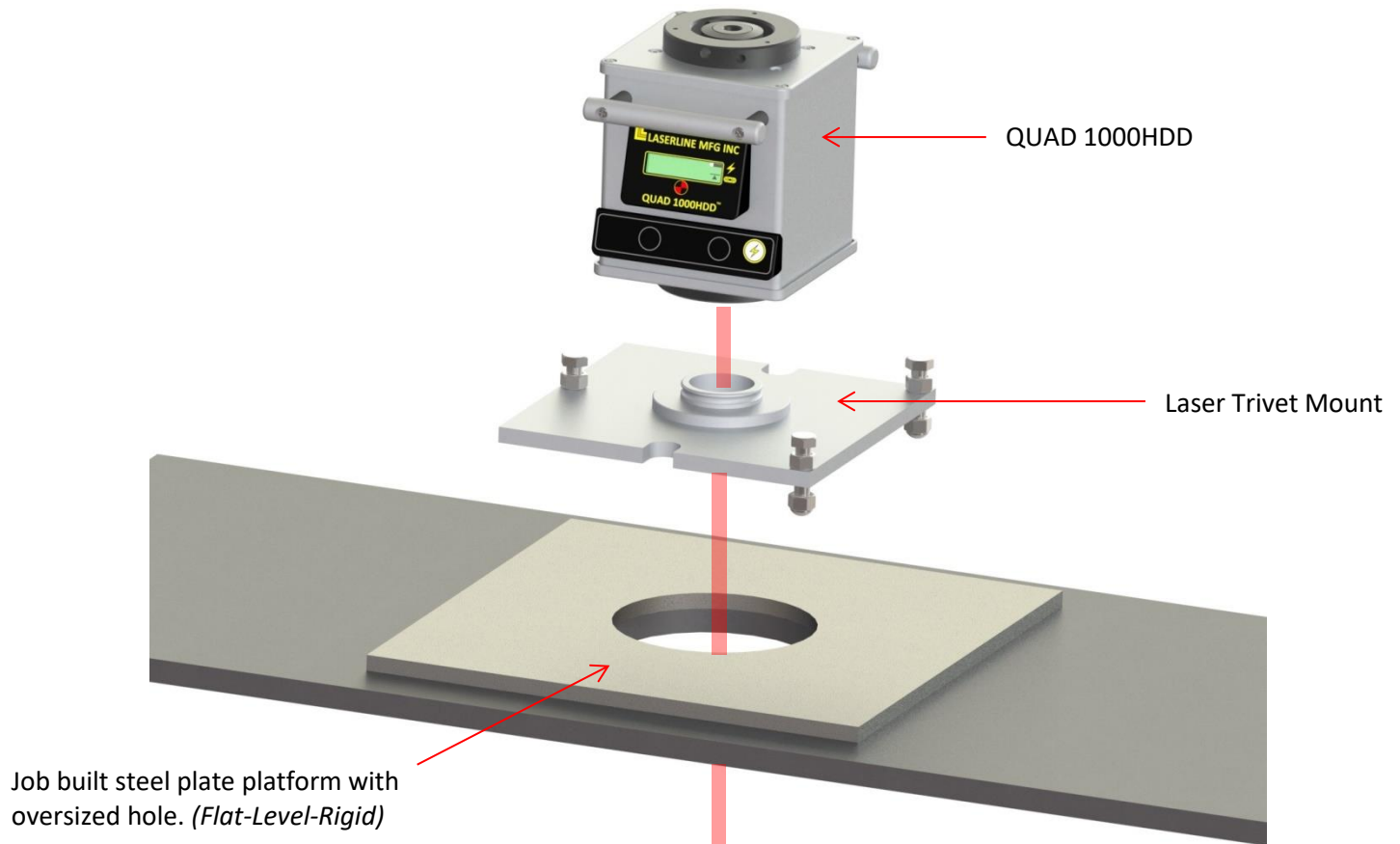
The Quad 1000HDD is activated and controlled by a single button. When you push the power button, the unit begins to self-level and the downward shooting beam will blink.

Once the Quad 1000HDD has self-leveled to within its operating spec, the beam then becomes steady.

**\*Note:** Self leveling time is normally under 10 seconds.

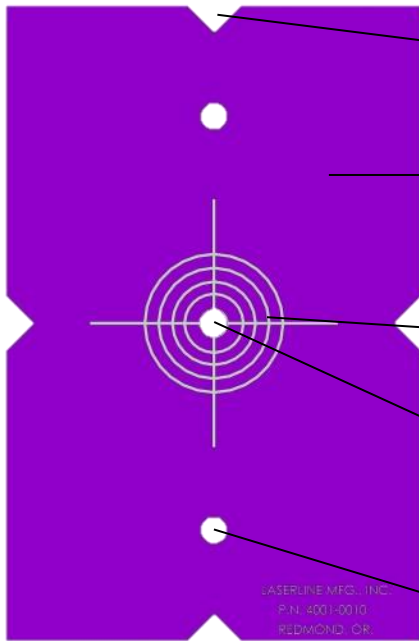


## SETTING UP (Continued)



- Position laser over or under plumb point
- Make sure bulls-eye bubble remains centered using the three adjustment Knobs.
- Once in place, lock adjustment knobs and secure trivet to mounting platform.

## ALIGNMENT / TEMPLATE TARGETS (2ea.)

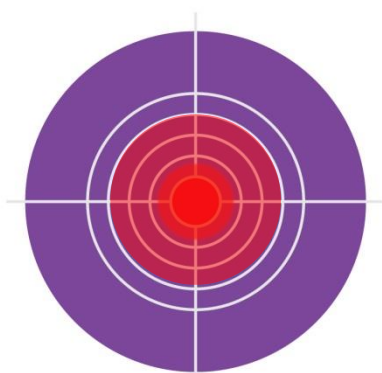


- A) They can be used as a centering template for floor/deck marking as described above. (4 template notches)
- B) The targets are made of a translucent material allowing the laser spot to be read from the opposite side that the laser spot is impacting the target face.
- C) The centering rings (bulls-eye target) make it easy to read the target and center the laser spot
- D) One target features a  $\frac{1}{4}$  inch hole through the target center that allows the center of the laser spot to pass through so that more than one target can be used at the same time.
- E) There are two mounting holes in each target to allow for custom mounting at the job site.

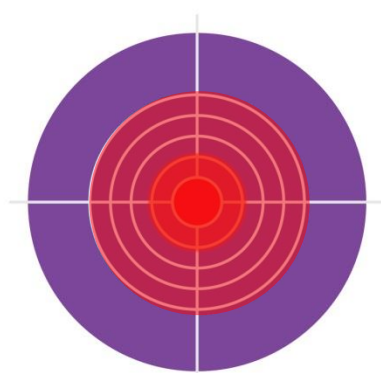
### **WARNING:**

*Turn the laser **OFF** when centering up on the alignment target with an optical plummeted instrument. (Transferred points from floor to floor) Viewing the laser spot through an optical plummet can increase the chance of eye hazard.*

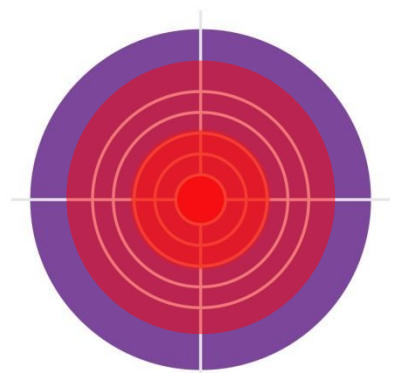
### Approximate Beam Size at Distance (1:1 scale)



500 ft. / 152m  
0.80" / 2cm



1000 ft. / 305m  
1.10" / 2.8cm



1500 ft. / 457m  
1.40" / 3.6cm

# JOBSITE CALIBRATION CHECK

***(Recommend performing calibration check once a week at minimum)***

With the Quad 1000HDD mounted in place on the mounting trivet plate.

1. Place the target / template precisely centered on the laser spot at the lowest point possible below the Quad 1000HDD. (At least 100 feet if possible) Secure the target so it will not move.
2. Rotate the Quad 1000HDD on its rotational mount 180°.
3. Go back to the target and measure any change of the laser spot relative to the bulls-eye target.

Given the dynamics and movement of structures due to temperature, wind, loads etc., the target relation to the Quad 1000HDD laser may be moving and not providing a constant. This should definitely be taken into consideration so as a result, depending on conditions, you could be getting readings of  $\pm 1/16$  or  $\pm 1/8$  at the target per 100 vertical feet. If you are not comfortable or confident with the field calibration check, have it checked by your Dealer Service Department.

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## MAINTENANCE

The Quad 1000HDD requires no maintenance other than periodically cleaning the laser output lens. Use a soft cloth with Windex or alcohol.

***\*NOTE: Laser must be turned OFF when cleaning the lens!***

## CERTIFICATION

USA EN/IEC 60824-1 2007 Class 3R

## LASER SAFETY

### Laser Light-Avoid Direct Eye Exposure

The maximum power output of this laser is less than 5mw. A laser safety kit is supplied with the Quad 1000HDD laser. The kit contains operator qualification cards and a sign that should be posted near the laser whenever it is in use. Observe the following rules:

- Never look directly into a laser beam or point the beam into the eyes of others. Set the laser at a height that prevents the beam from shining directly into people's eyes.
- DO NOT remove any warning signs from the laser.
- Only properly trained people are to use this product.
- Service to be performed only by factory trained personnel; unit contains no user serviceable parts.

## LABELS

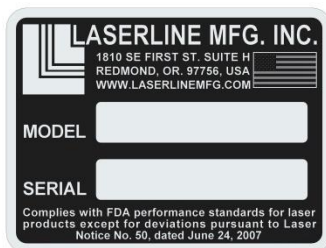
(Required for this product)

**- CAUTION -**  
Class 3R laser light  
When covers removed  
**AVOID DIRECT EYE EXPOSURE**

Non-Interlocked Warning Label  
(Top)



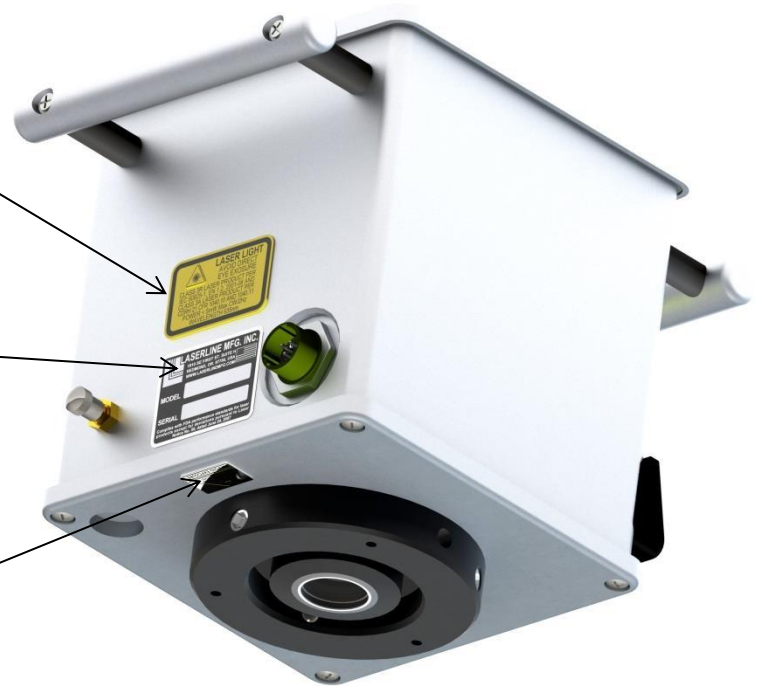
Explanatory and Warning  
Label-Hazard Symbol



Identification and Certification



Aperture Label  
(Bottom)



# LASER SPECIFICATIONS

**Self-leveling:** Electronic servo with variable temperature compensation

**Plumb beam accuracy:**  $\pm 5$  arc seconds ( $\pm 1/32$  inch per 100 feet) (.793mm per 30.48 meters)

**Range:** Downward up to 2000 feet (609.6 meters)

**Laser spot size at exit:** .500" / 12.7mm

*\*NOTE—Atmospheric conditions can negatively affect range and spot size/quality.*

**Laser Power:** 5.0 mw

USA EN/IEC 60824-1 2007 Class 3R

International IEC 60825-1 2014 Class 3R

USA OSHA compliant: Meets all Federal and International standards

**Power source:** 12 VDC or 110-220 VAC with optional 1140 power converter

**Operating temperature:** 0 to + 122 degrees F (-18 to +50 c)

**Storage temperature:** -4 to +158 F (-20 to +70c)

**Dimensions:**

**Height:** 8" (20.32cm)

**Width:** 6"  $\frac{1}{2}$  x 6"  $\frac{1}{2}$  (16.50x16.50cm) at bottom

**Width Handles Side:** 9"  $\frac{3}{4}$  (23.6cm)

**Weight:** 10.5 lbs. (4.77 kgs)

**Dust and waterproof:** Purged and dry nitrogen filled with IP67 rating  
(Heavy duty  $\frac{1}{4}$  inch thick aluminum housing with hard coat anodized finish)

**Warranty:** 24 months parts and labor for defective workmanship and material.

# WARRANTY

This product is guaranteed against defects in materials and workmanship for both parts and labor, under normal working conditions for two years from the date of purchase, except as noted herein. LaserLine Mfg., Inc. liability under this warranty is limited to repairing or replacing any product returned to an authorized service center for that purpose. Any evidence of attempts to repair this unit by other than factory authorized personnel automatically voids the warranty. LaserLine Mfg., Inc. does not take liability for any damages caused by non-accuracy of this product. Before using the product always check for accuracy per the enclosed instructions in this manual.

## Warning!

**Under no circumstances, attempt to open or disassemble the Laser Housing. Doing so may cause exposure to potentially hazardous levels of laser light.**

**Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.**

### Factory Service Center

LaserLine MFG., INC.

1810 S.E. First Street, Suite H,

Redmond, OR 97756

(P) 541-548-0882

(F) 541-548-0892

(Email) [laserline@laserline.net](mailto:laserline@laserline.net)

**For all Warranty:** Call Order Processing for RMA # at 541-548-0882. The Unit will be repaired and returned by prepaid freight.

### All Non-Warranty Repairs:

Send to: LaserLine MFG., INC. at above address

**Out of Warranty Repairs:** 1 Year on replacement parts, 90 days on labor.

## NOTES