



High Definition LiDAR™

HDL-32E

Stylishly small, ruggedly built with an unrivaled field of view, Velodyne's HDL-32E LiDAR sensor was designed to exceed the demands of the most challenging real-world autonomous vehicle, mobile mapping, and other industrial applications.

The HDL-32E measures only 5.9" high by 3.4" in diameter and weighs less than two kilograms. Its diminutive size and weight make it ideal for all LiDAR applications, in particular those with constrained form-factors and pricing requirements.

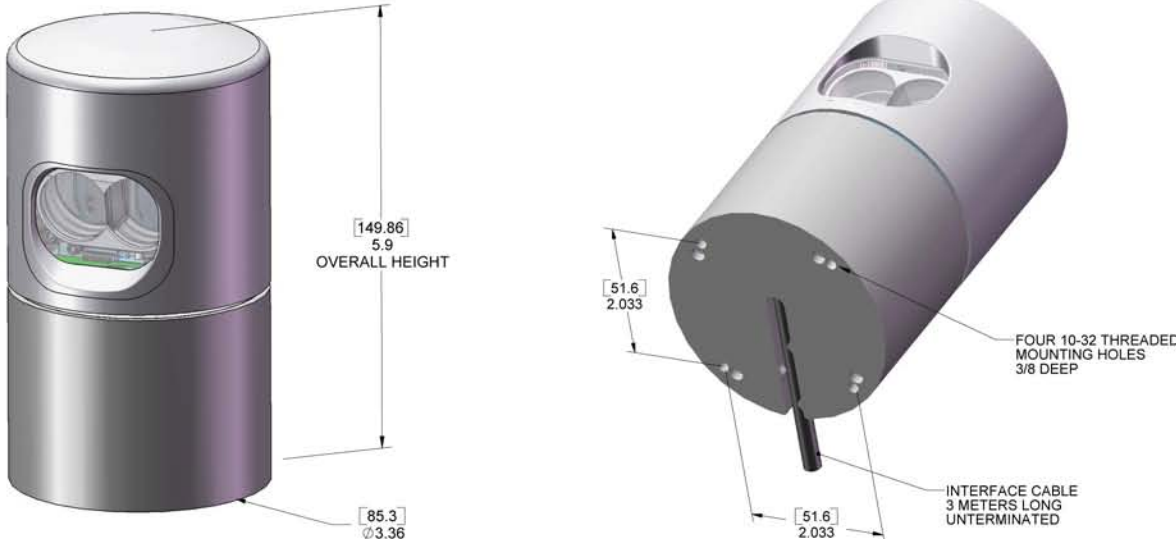
Unprecedented Field of View and Point Density

The HDL-32E's innovative laser array enables navigation and mapping systems to observe more of their environment than any other LiDAR sensor. The HDL-32E utilizes 32 lasers aligned from +10° to -30° to provide an unmatched vertical field of view, and its patent pending rotating head design delivers a 360° horizontal field-of-view natively. The HDL-32E generates a point cloud of up to 800,000 points per second with a range of 100 meters and typical accuracy of +/- 2cm. Coupled with a user-definable spin-rate of between 5 and 20 Hz, the resulting comprehensive point cloud coverage within a single data stream makes the HDL-32E an indispensable part of any sensor suite.

The HDL-32E's operating temperature range spans from -40°C to +85°C and has an IP rating of 67. Its hardened structure makes it perfect for vehicles that operate in the most unforgiving of environments.



HDL-32E



High Definition LiDAR

The HDL-32E provides high definition 3-dimensional information about the surrounding environment.

Specifications	
Laser:	<ul style="list-style-type: none">• Class 1 - eye safe• 905 nm wavelength• Time of flight distance measurement with intensity• Multiple echoes• Measurement range 100 m (5 cm to 100 m)
Sensor:	<ul style="list-style-type: none">• 32 laser/detector pairs• +10 to -30 degrees field of view (vertical)• 360 degree field of view (horizontal)• 5-20 Hz frame rate (user selectable)• Operating temperature - 40° to 85° C• Storage temperature - 40° to 105° C• Accuracy: <2 cm (one sigma at 25 m)• Angular resolution (vertical) 1.25°
Mechanical:	<ul style="list-style-type: none">• Power: 12V @ 2 Amps• Operating voltage: 9-32 VDC• Weight: <2 kg• Dimensions: 5.9" height x 3.4" diameter• Shock: 500 m/sec² amplitude, 11 msec duration• Vibration: 5 Hz to 2000 Hz, 3 Grms• Environmental Protection: IP67
Output:	<ul style="list-style-type: none">• Up to 800,000 points/second• 100 Mbps Ethernet connection• UDP packets<ul style="list-style-type: none">- distance- intensity- multiple echoes- rotation angle- self-diagnostics• Orientation - internal MEMS accelerometers and gyros for six-axis motion correction
User-Selectable Commands:	<ul style="list-style-type: none">• Horizontal Field of View• Spin rate• IP address set• Dust mode• Number of returns• GPS time synchronization

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Velodyne Lidar, Inc.
345 Digital Drive
Morgan Hill, CA 95037

408.465.2800



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www.velodynelidar.com

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