High Definition LiDAR™

HDL-32E

HDL-32E

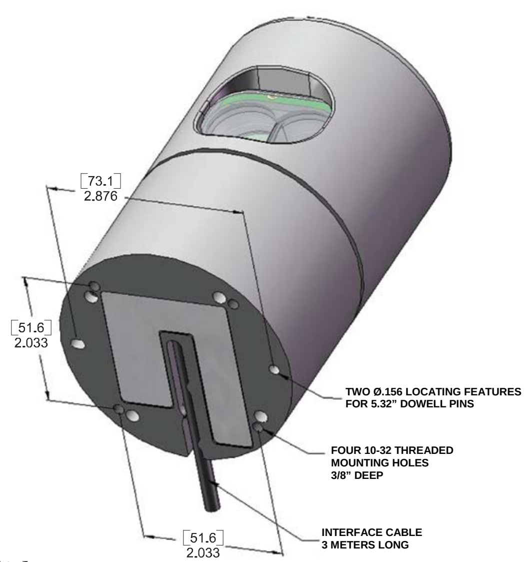
Stylishly small, ruggedly built with an unrivaled field of view, Velodyne's HDL-32E LiDAR sensor was designed to exceed the demands of the most challenging real-world autonomous vehicle, mobile mapping, and other industrial applications.

The HDL-32E measures only 5.7" 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 approximately 700,000 points per second with a range of 70 meters and typical accuracy of ±2cm at 10 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 -10° C to +60° C and has an IP rating of 67. Its hardened structure makes it perfect for vehicles that operate in the most unforgiving of environments.



High Definition LiDAR

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

Specifications	
Laser:	• Class 1 - eye safe • 905 nm wavelength • Time of flight distance measurement • Measurement range 70 m [1m to 70m)
Sensor:	• 32 laser/detector pairs • +10.67 to -30.67 degrees field of view (vertical) • 360 degree field of view (horizontal) • 10 Hz frame rate • Operating temperature -10° to +60° C • Storage temperature - 40° to 105° C • Accuracy: <2 cm (one sigma at 25 m) • Angular resolution (vertical) ~ 1.33° • Angular resolution (horizontal) ~ 0.16° at 600 rpm
Mechanical:	• 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: 1P67
Output:	• Approximately 700,000 points/second • 100 Mbps Ethernet connection • UDP packets - distance - rotation angle • Orientation - internal MEMS accelerometers and gyros for six-axis motion external correction • GPS time-synchronized with included GPS Receiver

97-0038c HDL-32E Data Sheet, Mar 2012

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

408.465.2800