

# API

## DYNAMIC 9D LADAR

### 9D Laser Detection and Ranging System

API's Dynamic 9D LADAR has a new patent-pending technology that will shift the paradigm on dimensional metrology, similar to what the Laser Tracker did 30 years ago. The DYNAMIC 9D LADAR captures both dimensional and surface geometry data. With this new device, there is no need for a target like the SMR. Metrologists will have a better tool to build their applications in a more efficient and cost saving methodology. Within this technology, we have also developed and integrated the Smart iVision as part of the 9D LADAR for part recognition and measurement setup (full automation and remote programming, embedded state-of-the-art controller, signal processor, and compact design) and most importantly our proprietary innovative high speed frequency-chirping interferometer for absolute distance ranging (up to 20,000 samples per second).

### FEATURES & BENEFITS

- **Smart iVision** - Part recognition and measurement setup (full automation and remote programming). Ability to identify geometric features and compare to CAD and with part edge detection technology, 3D colored point cloud overlay, and 4x digital zoom.
- **Controllerless** - Embedded state-of-the-art controller and signal processor (compact, no external controller).
- **High Angle of Incidence Scanning** - Up to 85° angle of incidence scanning capability without loss of accuracy on the entire point cloud coverage.
- **Built in Reference System** - Built-in absolute Optical Reference system for reliability and accuracy of measurements at long periods of time.
- **Compact Design** - Very small footprint and very light weight, can be mounted on a robot or machine for fully automated applications.
- **High Density Surface Scanning** - Insensitive to surface reflectivity and able to measure translucent objects or surfaces. Close to half sphere scanning coverage electronics, gyroscopes, and level sensors.

### APPLICATIONS

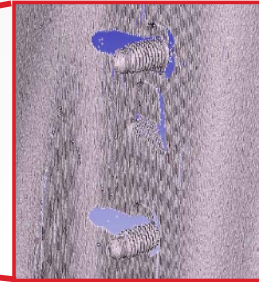
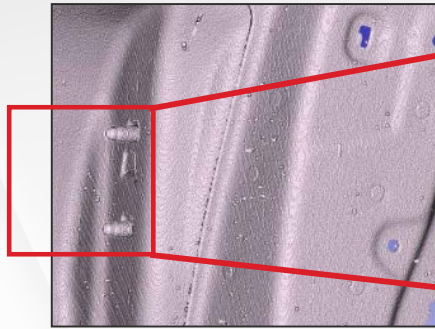
- Automation - Robot mounted
- Aerospace
- Flush and Gap
- Surface Contours
- Automobile Body Parts
- Ship Building
- CAD Comparison
- Fixture Inspection
- Tooling, Fixtures and Jigs
- GD&T





# Dynamic 9D LADAR

## LD Sample Scans



Car Door Panel Scan with LD-25

## TECHNICAL SPECIFICATIONS

Laser Radar Models	LD-8	LD-15	LD-25
Measurement Range	0.5m - 8m	1m - 15m	1.5m - 25m
<b>Attributes</b>			
Volumetric Accuracy (MPE)	±25µm + 6µm/m		
Measurement Rate	20KHz		
Max. Scanning Speed	0.2s/cm <sup>2</sup>		
Linear Accuracy	25µm + 2µm/m		
Vertical Line Spacing	50µm to 3mm range		
Angular Range	Azimuth +/- 320° • Elevation 46° to 69.4°		
Field of View	13° vertical • 17° horizontal		
Size and Weight	10" (254mm) x 17" (432mm) 23lbs (10.4kg)		
Laser Class	Class I		
<b>Smart Camera</b>			
Camera	8MP resolution		
Zoom	4x digital zoom		
<b>Environmental</b>			
Operating Temperature	0°C to 40°C		
Location	Indoor/Outdoor		
Altitude	-700m to 3000m		
Relative Humidity	0% - 95% Non-condensing		
Pollution Degree	2		
Wet Locations	Not Recommended		
<b>Power</b>			
Power Supply Voltage	110V/230V ±10% (19.5V Power adaptor, 7A)		
Power Consumption	166W		
Overvoltage	Catagory II		

\*Only batteries provided by API may be used with any API product. For equipment in Europe: Do not replace with inadequate cords that do not meet the product specification. Please call API support for assistance. Please note that a manual will be provided in German, French, Italian, or specified country of sale.