The IS16 Industrial Leddar™ sensor

A UNIQUE DETECTION AND RANGING SOLUTION

DETECT, LOCATE and MEASURE
Anywhere, Anytime

IS16 Industrial Leddar™ Sensor

At the heart of the IS16 Industrial Leddar™ Sensor lies patented Leddar™ Technology, designed to DETECT, LOCATE and MEASURE all types of objects—either solid or liquid. The IS16 Industrial Leddar™ Sensor provides both distance and angular positioning while performing continuous analysis of the area. Specifically designed for the industrial market, this unique sensor is optimized for 0 to 50 meter (165 ft.) detection and ranging applications.

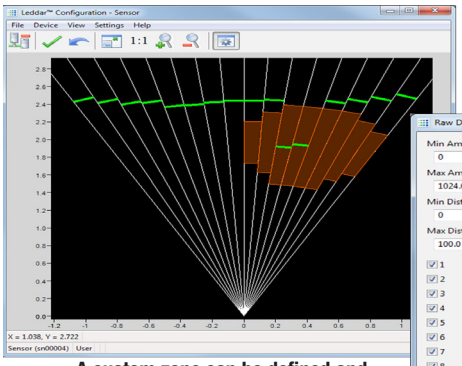
Based on time-of-flight measurements using pulses from infrared LEDs, combined with 16 independent active segments, the IS16 Industrial Leddar™ Sensor provides fast, accurate and non-stop detection and ranging. The 45-degree beam, produced by diffused light pulses and processed through innovative algorithms, enables the detection of a wide range of objects under various environmental conditions.

Main Features

- Easy to integrate
- 16 independent segments with simultaneous acquisition capabilities
- 45-degree beam, for optimized field of view
- 0 to 50 meter (165 ft.) detection
- Rapid data acquisition time - 50 Hz
- IP67 weather-resistant enclosure
- LCD display for configuring and monitoring ongoing operations

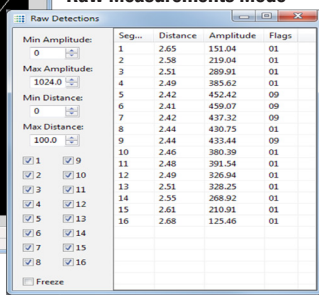
Leddar™ Technology offers the best cost/performance ratio.

Presence Detection Mode



A custom zone can be defined and unneeded segments may be disabled

Raw Measurements Mode



Leddar™ Capabilities

Presence Detection Mode

This IS16 Industrial Leddar™ Sensor includes *Presence Detection Mode,* where the PNP/NPN outputs can be set according to whether or not there are objects within the configured detection zones (two zones, one per output).

With the *Teach Configuration* feature, the sensor can define the perimeter of its surroundings as a detection zone. In *Quick Mode*, a near limit and a far limit can be easily configured to quickly define zones. Alternatively, zones can also be configured manually in *Advanced Mode* where near and far limits can be set for each segment and unwanted segments can be deactivated.

Raw Measurements Mode

The IS16 Industrial Leddar™ Sensor provides the capabilities to acquire all measurements, from all segments in real time through the RS-485 link. Each measurement provides the distance of the detected object, the index of the segment it was detected in, and the intensity of the measurement (indication of how much light was reflected off the object and captured by the sensor).

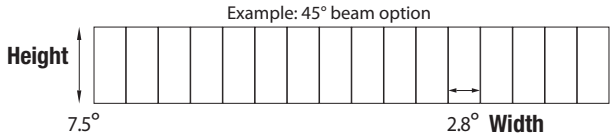
LEDDAR™ MAKES COUNTLESS APPLICATIONS A REALITY!

Leddar™ sensor

System Performance

Detection range	0 to 50 meters (165 ft.) [1]
Accuracy	5 cm
Data refresh rate	up to 50 Hz
Operating temperature range	-40°C to +50°C
Acquisition	16 segments simultaneously
Distance precision	6 mm
Distance resolution	10 mm
Ingress protection	IP67
Power consumption	5.6 W

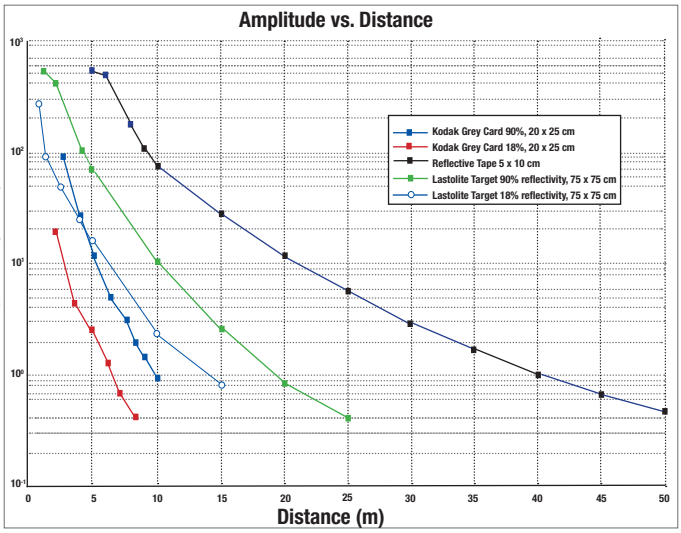
[1] Varies according to optics and target.



Features

Beam options	45° [2]
Discrete output	2 x PNP/NPN
Analog output	4-20 mA [3], 0-10 V [3]
Interfaces	USB, RS-485
Wavelength	940 nm
Meets IEC 62471: 2006 criteria	Exempt lamp classification
Power supply	12 to 30 VDC
Dimensions	136 mm x 86 mm x 70 mm
Weight	430 g
Connector	M12
Human/machine interface	Optional control panel with LCD and 4 buttons

Amplitude vs. Distance



The chart above displays the detection amplitude of a 45° sensor for five reference objects (photography grey cards and reflective tape) of varying size and reflectivity.

Ordering Information

LED - S - XX - XX

Interfaces
10 = USB, RS-485
20 = USB, RS-485, 4-20mA [3], 0-10 V [3], NPN/ PNP, LCD, buttons, indicators

Beam
45° [2]

Product
S = Sensor

Included with the Leddar™ Sensor:
- Leddar™ Configuration Software CD

[2] Contact LeddarTech for other optics options available upon request.

[3] Provision for future use.

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EXPERIENCE THE DIFFERENCE LEDDAR™ TECHNOLOGY MAKES

Leddar™ is a registered trademark of LeddarTech Inc. Leddar™ Technology is covered by one or more of the following U.S. patents: 7635854, 7640122, 7855376, 7895007, 7917320, 8159660, 8242476, or international equivalents. Other patents pending.

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