Leddar® M16

MULTI-ELEMENT SENSOR MODULE

High-performance, cost-effective, detection and ranging for any environment.

The Leddar® M16 Sensor Module is an advanced sensing solution that combines 16 independent active elements into a single sensor, resulting in rapid, continuous and accurate detection and ranging — including lateral discrimination — in the entire wide beam, without any moving parts. The Leddar M16 can be easily integrated to add sensing intelligence to almost any application, enabling developers and integrators to make the most of this cutting-edge technology while providing unmatched flexibility.

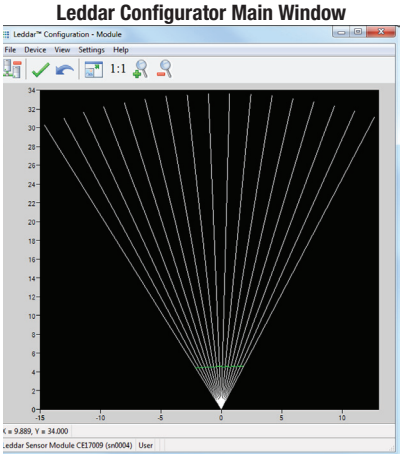
Features

- 16 independent segments with simultaneous acquisition and lateral discrimination capabilities
- 9º to 95º beam options, for optimized field of view
- 0 to 100 meter detection range (325 ft.)
- Rapid data acquisition time up to 50 Hz

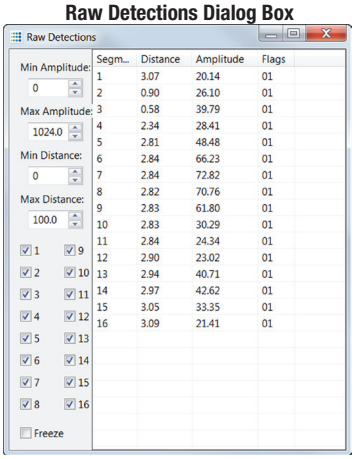
Benefits

- Proven reliability, even in harsh conditions
- Immune to ambient light
- No moving parts, for ultimate robustness
- Easy to integrate, includes Leddar Enabler SDK
- Low power consumption
- Best cost/performance ratio

Leddar Configurator Main Window



Raw Detections Dialog Box



Receiver Assembly

The Leddar receiver includes 16 independent segments with simultaneous acquisition capabilities. Several beam options are available, ranging from 9° to 95° (see back page). The beam width and height depend on the selected beam option.

Source and Control Assembly

The Leddar source and control assembly includes IR LED emitters with a dominant wavelength of 940 nm and incorporates the processing and I/O for the targeted applications. The source and control assembly beam matches the receiver assembly.

Interfaces

A 3.81 mm x 8 pin male header is provided for interfacing through a cable harness or terminal block. A USB "Mini-B" connector is also provided for use with the Leddar® Software Development Kit, and a 2 x 20, 0.050" header is provided for custom expansion. Please contact the factory for specific interface requirements.

Software Development Kit (SDK)

The Leddar Enabler SDK provides a user-friendly application programming interface (API) with .Net and C libraries and code examples. Sample code for RS-485/MODBUS for both Windows and Linux, as well as LabVIEW and MATLAB integration examples, are also provided.

Leddar® M16

Features

Beams	9º, 18º, 24º, 34º, 45º, 95º
Interfaces	USB, RS-485, CAN, UART
Wavelength	940 nm
Power supply	12 or 24 VDC (jumper - selectable)
Dimensions	104 mm x 66mm x 48mm [1]
Weight	180 g

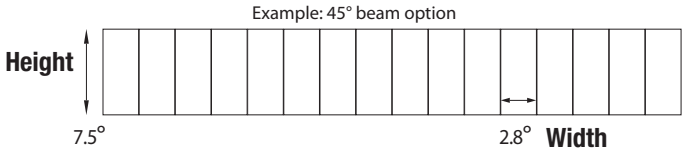
[1] Apply to 45-degree model; different dimensions apply to other models, according to optics.

System performance

Detection range	0 to 100 meters (325 ft.) [2]
Accuracy	5 cm
Data refresh rate	6.25 Hz to 100 Hz [3]
Operating temperature range	-40ºC to + 85ºC
Meets IEC 62471: 2006 criteria	Exempt lamp classification
Distance precision	6 mm
Distance resolution	10 mm
Power consumption	4 W

[2] Varies according to optics and target. [3] Depends on configuration

Height and Width of 45º Beam Option



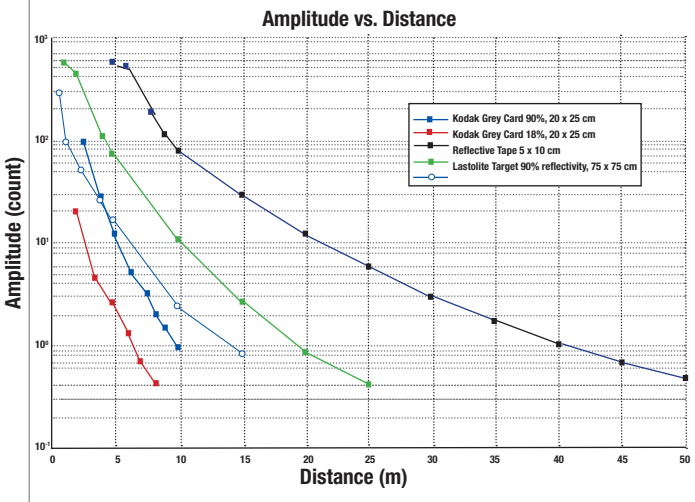
Ordering Information

LED - MOD - XX - 10

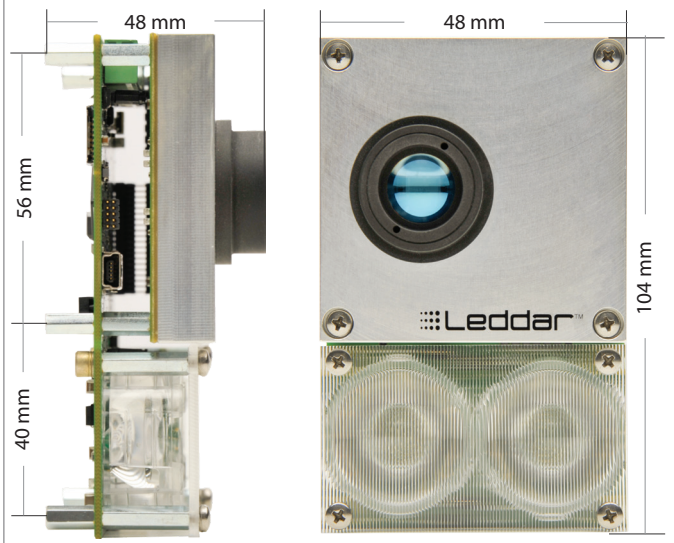
Interfaces
10 = USB, RS-485, CAN, UART

Beam selection
9º, 18º, 24º, 34º, 45º, 95º

Amplitude vs. Distance



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



The module can be mounted from the back with six M3 machine screws.

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