

LeddarTech®



LEDDAR M16

16-SEGMENT SOLID-STATE LIDAR
SENSOR MODULES

NEW MODELS/LONGER RANGE

LEDDAR M16

HIGH-PERFORMANCE, COST-EFFECTIVE DETECTION AND RANGING FOR ANY ENVIRONMENT

OVERVIEW

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 into almost any application to add sensing intelligence capability, enabling developers and integrators to make the most of this cutting-edge technology while leveraging its unmatched flexibility.

CHOOSING YOUR CONFIGURATION

The M16 modules are available in two main configuration types: the classic LED family and the new Laser family.

The M16-LED is the proven Leddar workhorse that our clients have come to value for its versatility and reliability. This module's infrared LED light source provides wide-beam illumination at ranges up to 100 m and is offered in six different field-of-view configurations.

The new M16-LSR uses laser sources to achieve longer ranges, providing narrower and better-defined vertical FOV, —all in a smaller form factor.

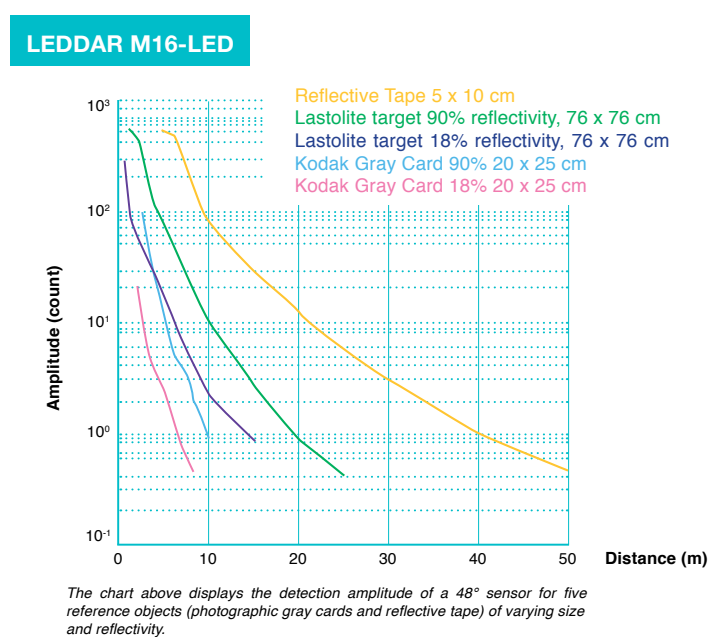
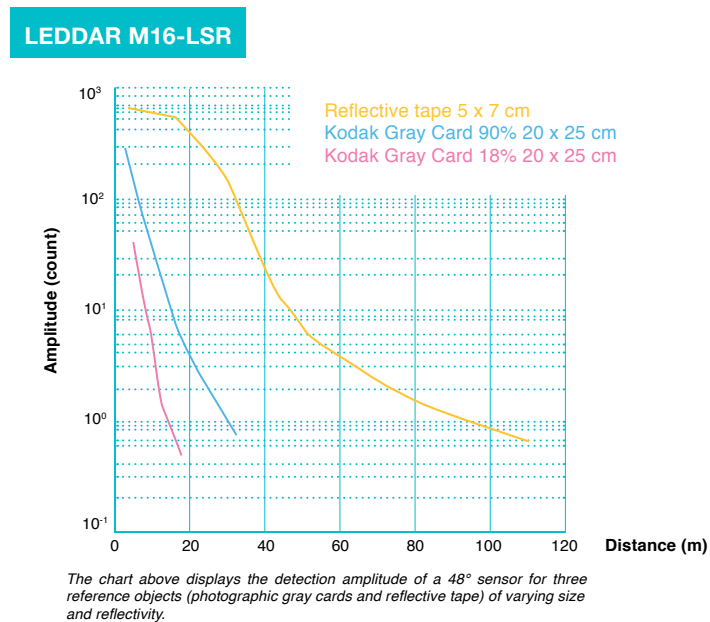
Both M16 families are perfectly suited to outdoor operation: solid-state design with no motorized mechanisms, wide operating temperature ranges, all-weather performance and immunity to lighting variations—both day and night.

INTEGRATION AND INTERFACES

All M16 modules come with a software development kit, the Leddar Enabler SDK, which provides a user-friendly application programming interface (API) with .NET and C libraries, and code examples. Sample code for Windows and Linux, in addition to MATLAB integration examples, are also provided.

Available interfaces for the M16 include: USB, RS-485, CANbus and UART. A 3.81 mm x 8-pin male header is provided for interfacing through a cable harness or terminal block. Also, a USB mini-B connector is provided for use with the Leddar Enabler SDK, and a 2 x 20, 0.050-inch header is provided for custom expansion. Specific information about interface requirements can be obtained by contacting one of our team specialists.

AMPLITUDE VS DISTANCE



FOV SEGMENT DIMENSIONS (EXAMPLE OF A M16-LED 48°X8°)



MODELS AND SPECIFICATIONS

	Horizontal FOV (°)	Vertical FOV (°)	Dimensions ⁴ (mm)	Weight (g)	Range (m)		
M16-LSR					Retro-reflector ¹	White 90% ²	White 18% ³
M16R-75J0003	19	3	71 x 64 x 66	255	110	31	18
M16R-75J0002	36	0.2	64 x 64 x 66	170	146	37	20
M16R-75J0007	48	0.3	64 x 64 x 66	165	105	27	16
M16R-75J0008	48	3	64 x 64 x 66	165	60	16	10
M16R-75J0001	48	5.5	64 x 64 x 66	165	60	16	10
*Available December, 2017	16	0.3	-	-	-	-	-
*Available December, 2017	16	2.25	-	-	-	-	-
*Available December, 2017	95	3	-	-	-	-	-
*Available December, 2017	95	0.3	-	-	-	-	-
M16-LED							
M16D-75B0006	9	1.5	87 x 104 x 66	295	100	35	25
M16D-75B0007	18	3	71 x 104 x 66	255	93	24	15
M16D-75B0009	24	4	60 x 104 x 66	205	85	25	16
M16D-75B0010	36	6	52 x 104 x 66	200	62	17	12
M16D-75B0005	48	8	47 x 104 x 66	175	55	16	10
M16D-75B0008	100	8	63x 104 x 84	210	25	6	3

1. Retro-reflector reference target corresponds to a 5 cm x 7 cm band of retro-reflective tape

2. White reference target corresponds to a 20 cm x 25 cm Kodak Gray Card with 90% reflectivity

3. White reference target corresponds to a 20 cm x 25 cm Kodak Gray Card with 18% reflectivity

4. Depth x Height x Length

CHARACTERISTICS	M16-LSR	M16-LED
Wavelength	905 nm	940 nm
Number of segments	16	
Power supply	10 V to 30 V	12 or 24 Vdc (jumper selectable)
Interfaces	USB, RS-485, CAN, UART	

SYSTEM PERFORMANCE	M16-LSR	M16-LED
Accuracy	±5 cm	
Data refresh rate	Up to 100 Hz	
Distance precision	± 6 mm	
Distance resolution	± 1 cm	
Power consumption	4 W	

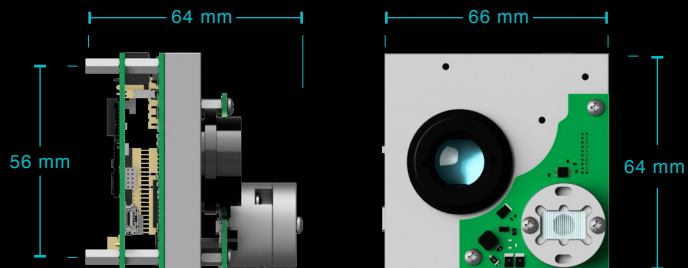
ENVIRONMENTAL PERFORMANCE	M16-LSR	M16-LED
Operating temperature range	-40 °C to 85 °C	
Operation, transport and storage humidity	5% to 95%	

REGULATORY CRITERIA	M16-LSR	M16-LED
FCC Class B	Yes	
RoHS	Yes	
CE	Yes	
Eye Safety	IEC 60825-1: 2014 (class 1)	IEC 62471 2006 criteria: Exempt lamp classification

LEDDAR M16

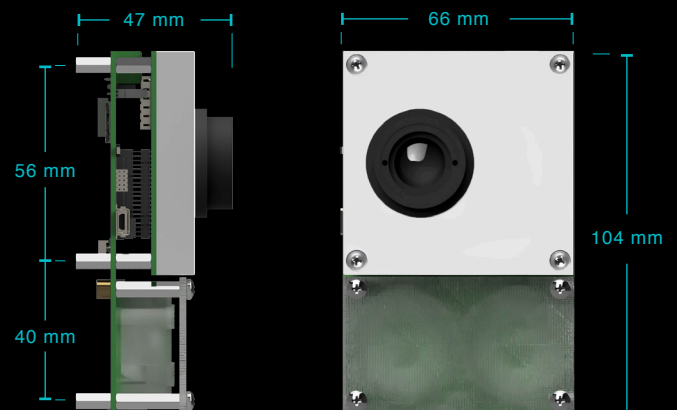
HIGH-PERFORMANCE, COST-EFFECTIVE DETECTION
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LEDDAR M16-LSR



M16-LSR Typical Dimensions

LEDDAR M16-LED



M16-LED Typical Dimensions

✓ Leddar M16 Features

- 16 independent segments with simultaneous acquisition
- Multitarget and lateral discrimination capabilities
- Various beam options for optimized field of view (FOV)
- Up to 132 m detection range (433 ft)
- Rapid data acquisition time (up to 100 Hz)

✓ Leddar M16 Benefits

- Proven reliability, even in harsh conditions
- Immune to ambient light variations
- No moving parts, providing ultimate robustness
- Wide operating temperature range
- Easy to integrate with Leddar Enabler SDK
- Low power consumption
- Powered by Leddar technology for superior sensitivity

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