

LeddarTech®



LA

VU





LeddarVu solid-state LiDAR sensors offer affordable detection and ranging performance in a small, robust form factor over distances up to 185 m.

Leveraging LeddarTech's unique expertise in LiDAR detection and ranging, every LeddarVu sensor contains our proprietary Leddar technology. The patented Leddar signal processing algorithms efficiently acquire, sequence and digitally process light signals, significantly improving solid-state LiDAR sensitivity, immunity to ambient light and performance in inclement weather.

This unique built-in processing ability allows for rapid delivery of accurate measurements, and extends range and measurement capabilities. Additionally, it provides superior lateral discrimination, as well as the critical capability to detect and track multiple objects simultaneously in the sensor's field of view (FOV).

VU8

Weighting only 128.5 grams or less, LeddarVu Vu8 modules use a fixed light source, which significantly increases the sensor's robustness and cost-efficiency as compared to any scanning LiDAR solution.

The Vu8 leverages powerful laser illumination (class 1, eye-safe) and eight independent active detection elements into a single sensor, resulting in rapid, continuous and accurate detection and ranging of objects—including lateral discrimination—along the entire length of the wide beam, without any moving parts.

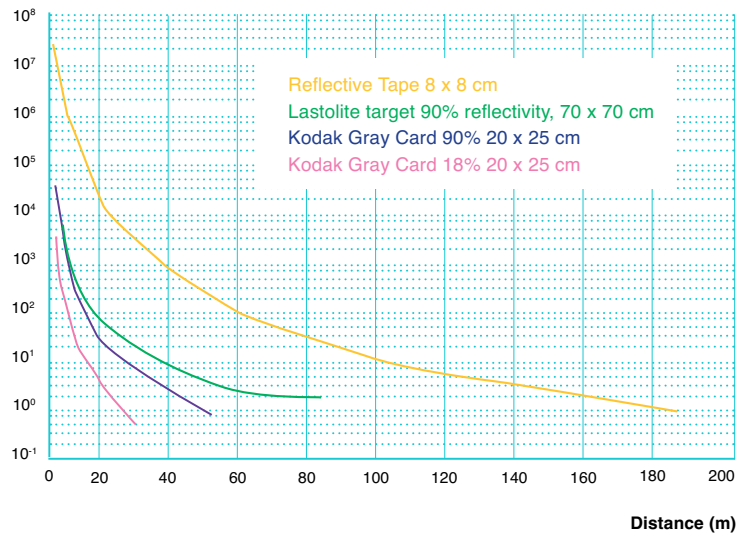
The Vu8 source assembly consists of a 905 nm laser emitter combined with diffractive optics, providing a wide illumination beam that is available in various horizontal FOV configurations from 20 to 100 degrees (each available in different vertical FOVs). The receiver assembly includes eight independent detection elements with simultaneous multi-object measurement capabilities supported by powerful Leddar signal processing algorithms.



All Vu8 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. Two interface configurations are available: SPI or USB-CAN-Serial (UART/RS-485).



Amplitude (count)



The chart above displays the detection amplitude of a 20° x 0.3° sensor for four reference objects (photographic gray cards and reflective tape) of varying size and reflectivity.

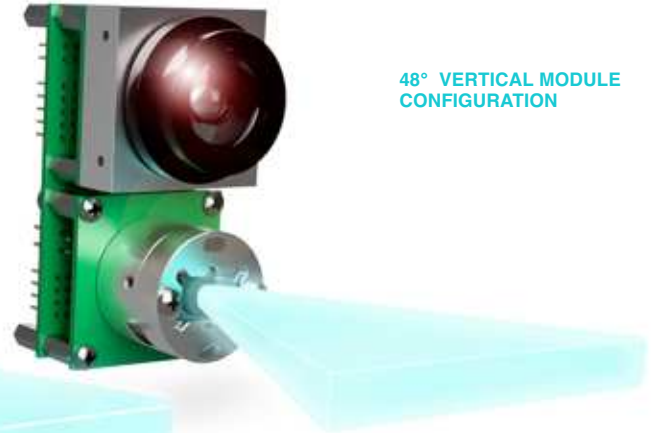


Vu

48° HORIZONTAL MODULE CONFIGURATION



48° VERTICAL MODULE CONFIGURATION



LeddarVu solid-state LiDAR platform offers various sensor configurations for flexible integration into your application.

CONFIGURATIONS		Vu8 - Narrow FoV		Vu8 - Medium FoV		Vu8 - Wide FoV	
Horizontal FoV		Ø	Ø	8	8	Ø	Ø
Vertical FoV		Ø	3	Ø	3	Ø	3
Dimensions (H x W x D)		70 mm x 35.2 mm x 67.5 mm		70 mm x 35.2 mm x 45.8 mm		73 mm x 40 mm x 65 mm	
Weight (for SPI carrier model)		110.3 g		107.6 g		128.5 g	
Range ⁴	Retro-Reflector ¹	185 m	121 m	118 m	85 m	61 m	34 m
	White Target ²	60 m	34 m	31 m	19 m	12 m	9 m
	Gray Target ³	38 m	22 m	18 m	13 m	7 m	6 m

CHARACTERISTICS

- θ_h
 - θ_v
 - θ_{max}
 - θ_{min}
 - θ_{max}
 - θ_{min}
 - θ_{max}
 - θ_{min}
- Fulfills the requirements of IEC 60825-1:2014 (Third Edition); Class 1 laser product

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. Gray reference target corresponds to a 20 cm x 25 cm Kodak Gray Card with 18% reflectivity
4. Data refresh rates used to achieve the ranges are:
 - Narrow FOV: 0.543 Hz;
 - Medium FOV: 1.085 Hz;
 - Wide FOV: 2.17 Hz.

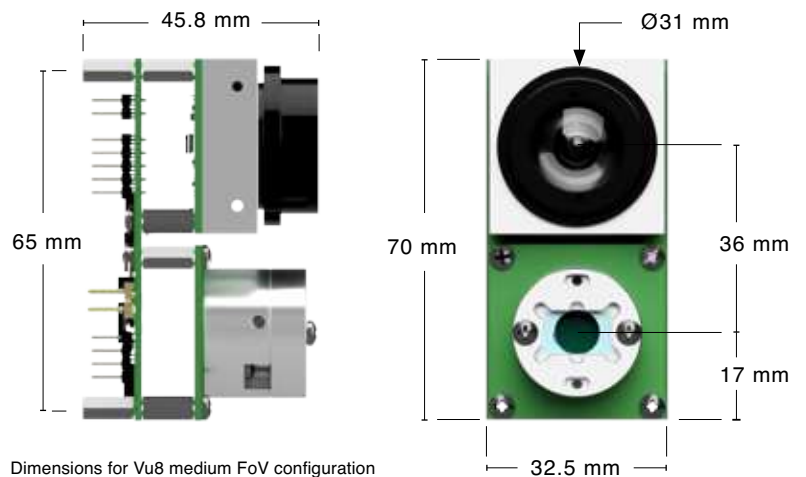
SYSTEM PERFORMANCE

- 5 cm
- ⁵ Up to 100 Hz
- -40 °C to +85 °C
-
-
-

OPTIONAL ACCESSORIES

-
-
-
-

⁵ Depends on configuration



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✓ Vu8 Module Features

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✓ LeddarVu Benefits

- Small, flexible form factor
- Fixed beam, no moving parts
- Proven reliability, even in harsh conditions
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