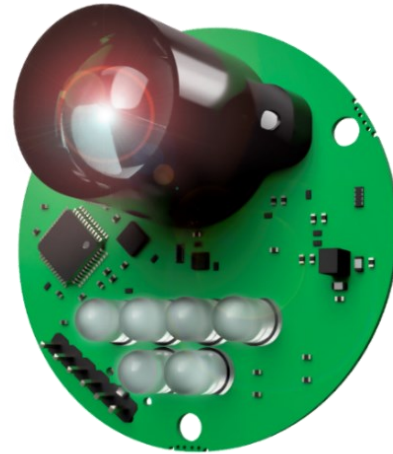


LeddarOne™

Single-Segment LiDAR Sensor Module



Drones



LeddarOne Overview

The LeddarOne single-segment LiDAR sensor module is dedicated to detecting objects and providing precise distance measurements at up to 40 m.

The narrow LED illumination beam offers excellent overall range and performance, supported by Leddar technology's patented digital signal processing algorithms. This single-detection-segment sensor module is particularly suitable for applications such as optical range finding, drone altimetry, level sensing, proximity measurement, security and surveillance, vehicle detection and height warning.

The module's compact size, low power consumption and high accuracy give developers and integrators great flexibility to enhance their own branded products and applications.

Interfaces and Communication

The LeddarOne offers an efficient six-pin interface, including a 3.3 V UART link, or RS-485. The module uses the Modbus protocol, providing a robust, standard register-access interface for easy configuration and acquisition of measurement data. An interrupt signal is also provided to facilitate low-latency data acquisition. The power and interface signals are included on a six-pin standard 0.1-inch pitch header. The RS-485 option, in combination with Modbus, makes it easy to integrate multiple sensors with an RS-485 network.

Configuration Software and Development Kit (SDK)

To facilitate development and integration, dedicated configuration software (Leddar Configurator) and a development kit (Leddar Enabler SDK) are included with the module. The Leddar Configurator enables users to set up the sensor and view, record or play back sensor measurement data. The Leddar Enabler SDK includes an example program and complete source code that demonstrates configuration and data acquisition through the serial link and Modbus protocol. The code can be easily ported to any system, resulting in rapid integration into the final application.

Specific Integration Guidelines are also available, providing the technical information required to successfully integrate the LeddarOne into the user's product.

LeddarOne Features

- 3° diffused beam
- 0 to 40-meter detection range
- Fast data refresh rate (up to 140 Hz)
- Compact (51 mm diameter) and lightweight

Mechanical Integration

- Easy to install (three screws)
- Ideal for NPT fitting

Specifications

- Beam (°): 3
- Diameter (mm): 50.8
- Wavelength (nm): 850
- Power supply (VDC): 5
- Interfaces: 3.3 V UART or RS-485
- Weight (g): 14

Optional Accessories

- USB to 3.3 V UART cable (P/N 74D0002)
- USB to RS-485 cable (P/N 74D0001)
- Bracket for standard tripod mount, 1/4 in –20 (P/N 74D0003)
- Starter kit, including bracket, screws, and cable

System Performance

- Detection range¹ (m): 0 to 40
- Accuracy (cm): ±5
- Data refresh rate (Hz): Up to 140
- Operating temperature range (°C): -45 to +85
- Distance precision (mm): ±5
- Distance resolution (mm): ±3
- Power consumption (W): 1.3
- Eye safety: IEC 62471:2006 (exempt lamp classification)

¹ Varies according to target.

Interface Pinout					
1	2	3	4	5	6
GND	IRQ	5V	RX or RS-485+	TX or RS-485-	RESET_N

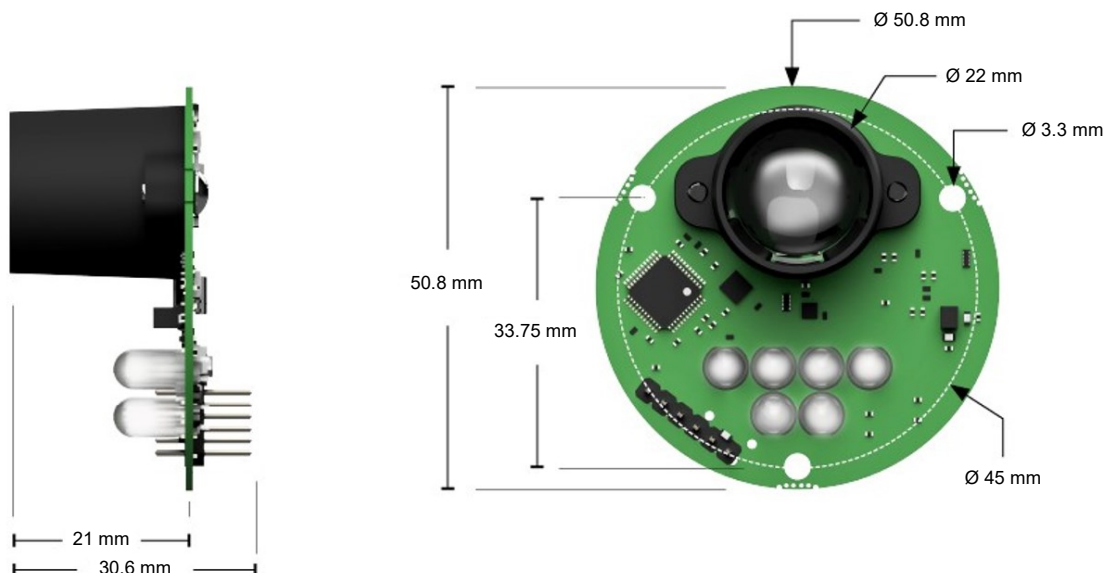
Legend:

RX/TX = 3.3 UART

RS-485+ / RS-485- = RS-485

The power and interface signals are included on a six-pin standard 0.1-inch pitch header.

The RS-485 option, in combination with Modbus, makes it easy to integrate multiple sensors with an RS-485 network.



LeddarTech® has made every effort to ensure that the information contained in this document is accurate. Any information herein is provided "AS IS." LeddarTech shall not be liable for any errors or omissions herein or for any damages arising out of or related to the information provided in this document. LeddarTech reserves the right to modify design, characteristics and products at any time, without notice, at its sole discretion.

LeddarTech does not control the installation and use of its products and shall have no liability if a product is used for an application for which it is not suited. You are solely responsible for (1) selecting the appropriate products for your application, (2) validating, designing and testing your application and (3) ensuring that your application meets applicable safety and security standards.

Furthermore, LeddarTech products are provided only subject to LeddarTech's Sales Terms and Conditions or other applicable terms agreed to in writing. By purchasing a LeddarTech product, you also accept to carefully read and to be bound by the information contained in the User Guide accompanying the product purchased.

LeddarTech®

CANADA – USA – AUSTRIA – FRANCE – GERMANY – ITALY – ISRAEL – HONG KONG – CHINA

Head Office

4535, boulevard Wilfrid-Hamel, Suite 240
Québec (Québec) G1P 2J7, Canada
leddarsensor.com

Phone: + 1-418-653-9000

Toll-free: 1-855-865-9900