

1535nm LASER RANGEFINDER-0310

OVERVIEW

The LRF1535-0310 pulsed laser rangefinder module integrates a laser, transmitting and receiving optics, along with advanced control circuitry. As a key component in gun sight laser rangefinders and aircraft pod laser ranging systems, it is engineered to accurately measure the target distance in a human-eye safe manner.

This laser rangefinder operates within a pod optoelectronic system, detecting target distances and transmitting the precise measurements to the host computer through serial communication. This functionality is fundamental to its use in gun sight laser rangefinders, ensuring precision and reliability in target acquisition.

Open frame OEM modules and various configurations of LRUs (Line Replaceable Units) are available, reinforcing the versatility and adaptability of this pulsed laser rangefinder module. With its high performance, the LRF1535-3000 is a critical asset in fields requiring accurate distance measurement,

from gun sights to aircraft pods.



TECHNICAL SPECIFICATIONS

Item	Technical parameters
Laser wavelength	1535±5nm
Distance measuring capability	Visibility of not less than 5km, diffuse reflectance ≥ 0.3, humidity ≤ 80%, the vehicle (2.3m × 2.3m target) range of ≥ 3km; personnel (1.75m × 0.75m target) range of ≥ 1.5km
Distance measuring function	Single and continuous ranging; distance selection pass, front and rear target indication; Self-check function
Ranging accuracy	≤±2m (RMS)
Continuous ranging frequency	1~10hz adjustable
Quasi-measurement rate	≥98%
Minimum measurement range	≤20m
Distance measurement resolution	≤30m
Laser divergence angle	≤0.5mrad
Communication interface	RS422
Supply voltage	DC3V~15V; (customizable)
Power	Average power consumption ≤ 1.5W (1Hz work), peak power consumption ≤ 5W
Dimension	≤50mm×37mm×24m
Weight	≤50g
Operating temperature	-40°C~+65°C
Storage temperature	55°C~+70°C

COMMUNICATION INTERFACE

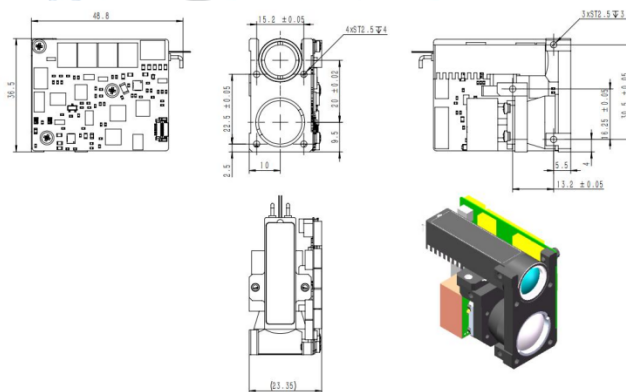
Communication interface: RS422, 115200bps

Electrical interface: The interface model is connector A1257H-8P, see the following table for the interface definition.

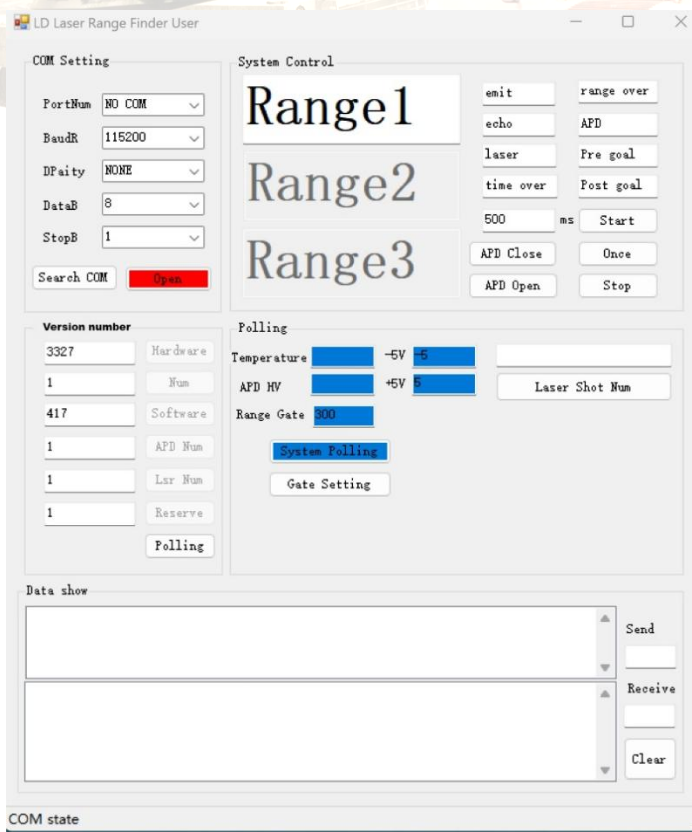
8P socket wiring definition

Line serial number	Definition	Line Color	Remarks
1	RS422 RX+	Brown	RS422 Receive+
2	RS422 RX-	Blue	RS422 Receive-
3	RS422 TX-	Yellow	RS422 Send-
4	RS422 TX+	Purple	RS422 Send+
5	GND	White	Communication interface ground
6	+5V	Red	Power supply
7	GND	Black	Power supply ground
8	Reserved	Empty	Reserved

ELECTRICAL INTERFACE



COMMUNICATION COMMAND CHART



PRECAUTIONS FOR USE

- The laser emitted by this rangefinder is 1535nm which is safe for human eyes, although it is a safe wavelength for human eyes, it is recommended not to look directly at the laser;
- When adjusting the parallelism of the optical axis, be sure to block the receiving lens, otherwise the detector will be permanently damaged due to the strong echoes;
- The rangefinder module is non-gas-tight, be sure to ensure that the relative humidity of the use environment is less than 80% and that the use environment is clean and sanitary to avoid damage to the laser
- The range of the rangefinder is related to the visibility of the atmosphere and the nature of the target, and the range will be reduced in the presence of fog, rain and sand. Green leaf clusters, white walls, exposed limestone and other targets have good reflectivity and can increase the range. In addition, an increase in the inclination of the target to the laser beam will reduce the range;
- It is strictly forbidden to fire the laser at targets with strong reflections such as glass and white walls within 20 meters to avoid damage to the APD detector due to strong echoes;
- Forbid to unplug the cable in the energized state;
- Be sure to ensure that the power supply polarity is connected correctly, otherwise it will lead to permanent damage to the equipment.