1535nm Laser Rangefinder-8K16

SKU:LRF1535-8K16

OVERVIEW

LRF1535-8K16 is a high-precision laser ranging module developed by ERDI TECH using erbium glass laser. It determines the distance to an object by detecting the return signal of laser pulses.

The raw materials for this module, including erbium glass and erbium glass laser, are developed and researched by ERDI TECH. With mature technology and stable performance, it can measure the distance of both static and dynamic objects. It can be installed on various devices and has a wide range of applications.

TECHNICAL SPECIFICATIONS

Item	Technical parameter	
Laser wavelength	1.54μm	
Ranging capability	30m~8km	2.3m×2.3m vehicle target, 0.3 diffuse reflectance, visibility ≥5km
	30m~16km	Energy intensity ≥ 16km, 0.3 large reflectivity target
Voltage of operation	4.5V~16V	
False alarm rate	≤1%	
Quasi measurement rate	≥98%	
Minimum geodesic range	30m	
Standby current	≤0.01A (8V power supply)	
Divergence angle	≤0.35mrad	
Accuracy	0.25m~±2m	
Frequency of operation	1 Hz, 5 Hz, emergency 10Hz	
Ranging logic	First and last target selection	
Output interface	RS422	
Storage property	Storage life 12 years	
Dimension	56×48×33mm	
Weight	88.5g	
Operating temperature	-40°C~+ 55°C	
Temperature of storage	-50°C~ +85°C	

MECHICAL INTERFACE

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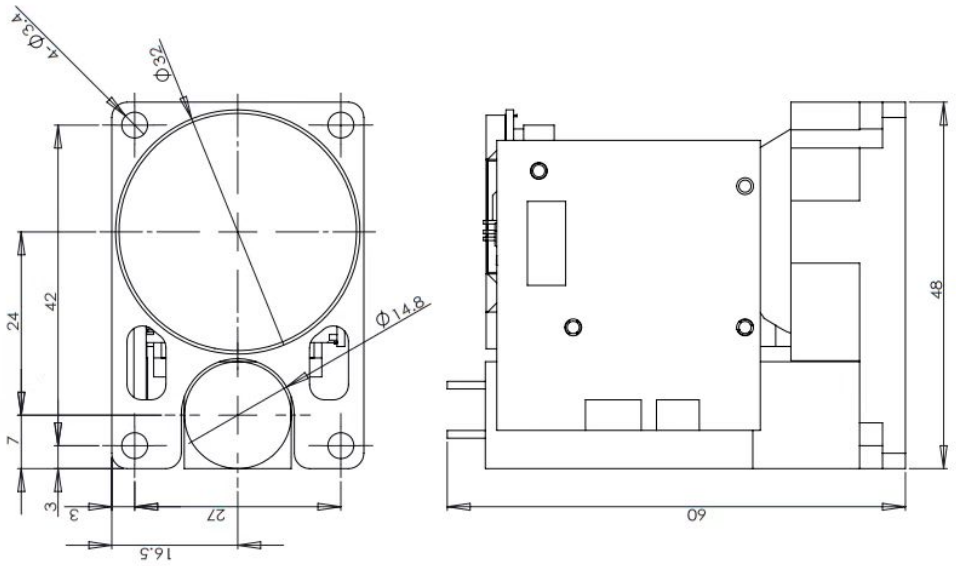
COMMUNICATION INTERFACE



External circuit interface of laser rangefinder adopts external socket, which has the function of external power interface and data communication. External socket 1.25mm spacing 8-core socket, specific pin definition is shown in the table below:

Pin	Symbol	Function	Description
1	T+	Communication signal	Connect PC RX+
2	T-	Communication signal	Connect PCRX-
3	R-	Communication signal	Connect PCTX-
4	R+	Communication signal	Connect PCTX+
5	GND	Place of communication	
6	GND	Power Ground	
7	+8V/2A	Total power supply	
8	+8V/2A	Total power supply	

COMMUNICATION COMMAND CHART

RS422 communication, baud rate 115200

The rangefinder receives a work command and triggers the laser to work according to the command, and then replies to the host computer with the range information after completing a range according to the period of the work command.

The following are all in hexadecimal

Uplink to rangefinder command

4 bytes AA for the head, 0C for the tail, 01, 02, 03 for the command word
AA 01 (01-0A)0C Automatic ranging from 1-10Hz
AA 01 0B 0C Enhanced ranging according to 1Hz
AA 02 00 0C Stop auto-ranging
AA 03 00 0C Single ranging

Rangefinder to host computer reply message
55 is the head 0D is the tail 04, 05, 15, 35 is the command word

No laser 55 04 00 00 00 00 00 0D
With laser without echo 55 05 00 00 00 00 0D Goal 1 is 0, Goal 2 is 0
There is a laser with a target 55 15 DIS1H DIS1L 00 00 0D Target 1 has value, target 2 is 0
There are lasers with two targets 55 35 DIS1H DIS1L DIS2H DIS2L 0D Goal 1 has value, Goal 2 has value
Example:Distance value 100 means 25m, 101 means 25.25m, 102 means 25.50m, 103 means 25.75m.