On account of DTOF. The list of technology Spot Lidar LL series

Two00 Hz Measure the speed; TwoZero Meter measurement distance; outdoor resistance to ambient light 100KLux; Excellent cost performance

Distinguishing feature

- Based on the time-flight algorithm (DimensionIrect Time Of Flight)
- Maximum measuring range:TwoZero Medium size
- Measure the blind spot:Five Cm
- Frequency of ranging:Two00 Hz
- AbsoluteAccuracy: ±5cm(<5m), 1%(≥5m)
- Resolution:OneMillimeter
- Working temperature:-Two0℃~+ sixZero℃
- Supply electricityVoltage:Three~3.6VDC
- Small volume: 21x 15 x 7.43 Millimeter
- Weight: Two Generation
- Resistant to ambient light: One hundred thousand Large sizeUx

Apply

- The drone set the height and avoid obstacles.
- Robot obstacle avoidance
- Industrial-grade light curtain
- AGV. Avoid obstacles
- High-speed measurement and safety monitoring in the field of tr

One,Product overview

LL series Lidar is a new laser ranging launched by our company for drones, sweeping robots, industrial robots and other fields.Product. This product is based on the principle of DTOF ranging, with small size, low cost, excellent performance and strong resistance to environmental light interference.And other characteristics.ProductEasy to use, flexible installation, convenient expansion, extremely cost-effective.

Two,Specification parameters

#	Model	LL series
One	Measuring range	0.05~20m (90% reflectivity),0.05~10m (10% reflectance)
Two	Frequency of ranging	Two00 Hz
Three	Absolute accuracy	±5cm(<5m), 1%(≥5m)
Four	Repeat accuracy	10 millimeters
Five	Ability to resist ambient light	8m@One hundred thousand Large sizeUx
6	Measure the wavelength of the laser	905nm
Seven	MeasureLaser grade	ClassOne
Eight	Measure the laser field of view angle	3.4°
Nine ULZ 000138	Indicator laser wavelength	N/A
Ten	Indicate the laser level	N/A
11	InputVoltage	Three~3.6VDC
12	Peak current	OneFourZero mA
13	Average current	75 mA
OneFour	AveragePower consumption	<0.FourW
15	Communication method	UART,IIC. ULZ 000171 One
One6	Protection level	N/A
OneSeven	Size (long.UnknownWide.UnknownHigh)	21 x 15 x 7.43 Millimeter
18	Weight	Two grams
19	Working temperature	-Two0℃~ + sixZero℃
20	Cable specifications	6pin 0.8mm terminal,ULZ 000199 20 20Cm tin-soaked wire

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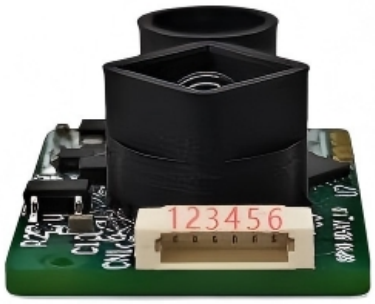
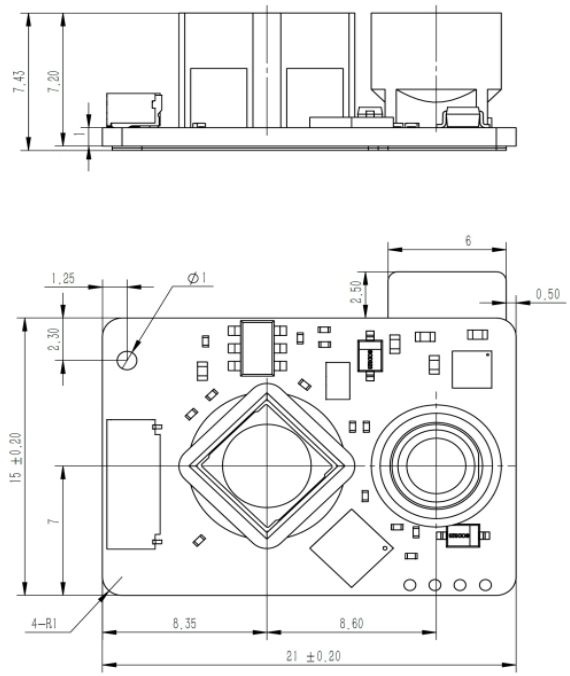
Twenty-one	Scope of customization	Support shape structure customization, support output protocol customization

3、Pin definition



Pin	Definition / Wire color	User interface
One	NC (red)	
Two	3.3V (black)	The external power supply is
Three	TX (yellow)	RX
Four	RX (green)	TX
Five	NC (blue)	
6	GND (white)	External power supply is

4、Product size



Distance	One meter	Two minutes	Five meters	10 meters	20 meters
Light spot diameter	Six centimeters	12 centimeters	30 centimeters	60 centimeters	1.2 meters

5、Characteristics of ranging

UART	
Default rate	460800 (adjustable)

Due to the existence of a certain divergence angle of the detection light source, in the actual measurement, if you need to obtain an accurate distance value, it is required that the surface area of the measured object is greater than the light spot diameter of the light source at this distance.

At different distancesLL seriesThe diameter of the light spot is shown in the following table:

6、Communication protocol

6.1 Communication interface

Data bit	Eight
Stop bit	One
Oddity check	Not have

6.2 Output format

The input and output of this product adopt hexadecimal small terminal mode.

4 bytes output

FiveC: Fixed frame header 1 byte

02 11: The distance value of two bytes means that the measured distance is 4354Mm, small end mode, range 0-65535, output when it can't be measured20,000

EC.: Check bit one byte, from the second byte02Start from the penultimate byte11End, seek sum and take inverse

6.3 UART DirectiveULZ 000279 #

Frame head	The distance value is two		Check
5C	02	11	EC.

#	Function description	Go up to the capital from other part of the country	Go down line	Remarks
One	Read the serial number of the product	5A 0D 02 0D OD checksum	5A 8D 02 10 01 Checksum	10 01Indicates that the serial number of the product is272: Small terminal mode, the product serial number displayed on the upper computer is: S00272(Add S in front of the 5-digit number)

Two	Read the software version number	5A 16 02 16 16 checksum	5A 96 02 03 02 Checksum	03 02Indicates that the software version number of the product is V.Two.Three: Small terminal mode,02ExpressTwo,03ExpressThree , add a dot in the middle (.) Express
Three	Modify the baud rate	5A 06 02 80 04 Checksum	5A 86 02 80 04 Checksum	60 00(9,600) C0 00(19200) 80 01(38,400) 80 04(115,200) 00 09(230,400) 00 0A ULZ 000338 (256,000) (256000) 00 12(460,800) Other baud rates are not supported.ULZ 000342 Quick test

7. Quick Test

Test material list: TTL to USB adapter board,3.3V power supply, upper computer/serial assistant.

LL seriesAfter connecting correctly, select the baud rate and click OK to observe the required data on the host computer.

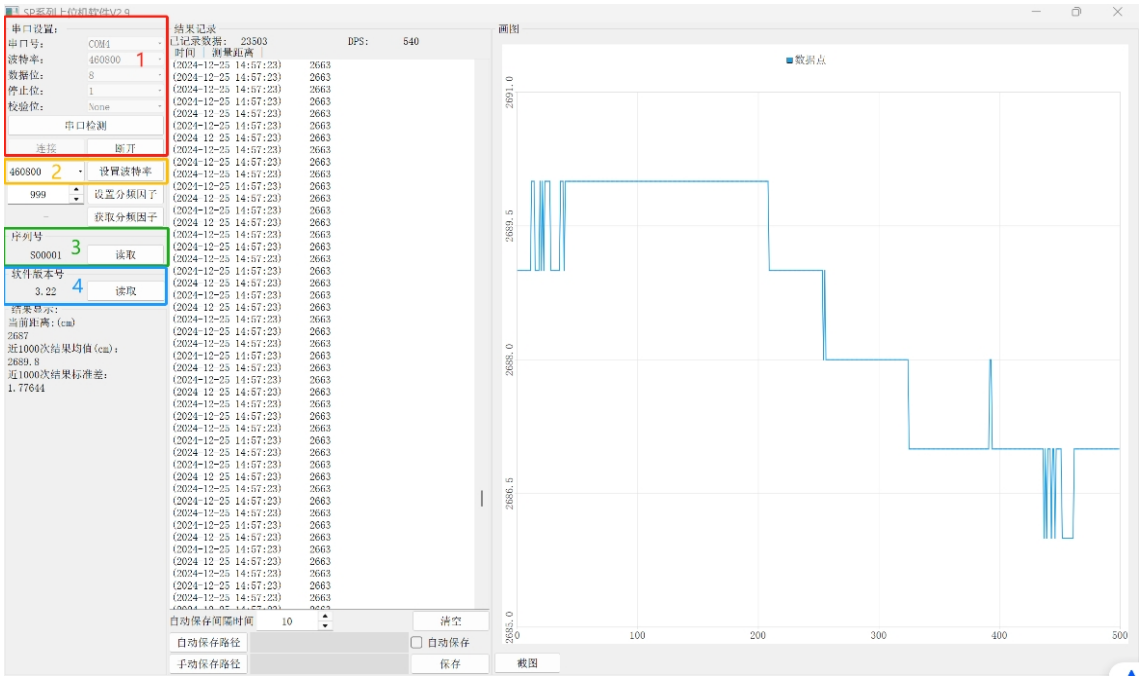
The upper computer is as follows:

Area 1: Set the corresponding serial parameters and click to connect

Area 2: Set the baud rate

Area 3: Read the product serial number

Area 4: Read the software version number



8. Precautions for use

- The product has no reverse connection and overvoltage protection. Please supply and wire the power and wiring correctly according to the specifications.

- The product laser is Class1. Please do not look directly at the lens after the product is powered.

- When used in a dusty environment, it is recommended to add red glass or acrylic panels on the product lens (905nm band transmittance is not less than 85%)

- When touching the product, please wear anti-static gloves to avoid product failure.

- The product is at risk of failure when measuring high-altitude objects (such as 3M tape), mirrors, etc.

9. Update the resume

File version	Update time	Updated content
V1.0	December 24th and 30th	According to the current design scheme, sort out the first version
V2.0 ULZ 000367 March 25, 05	25/03/05	Modify some parameter data