

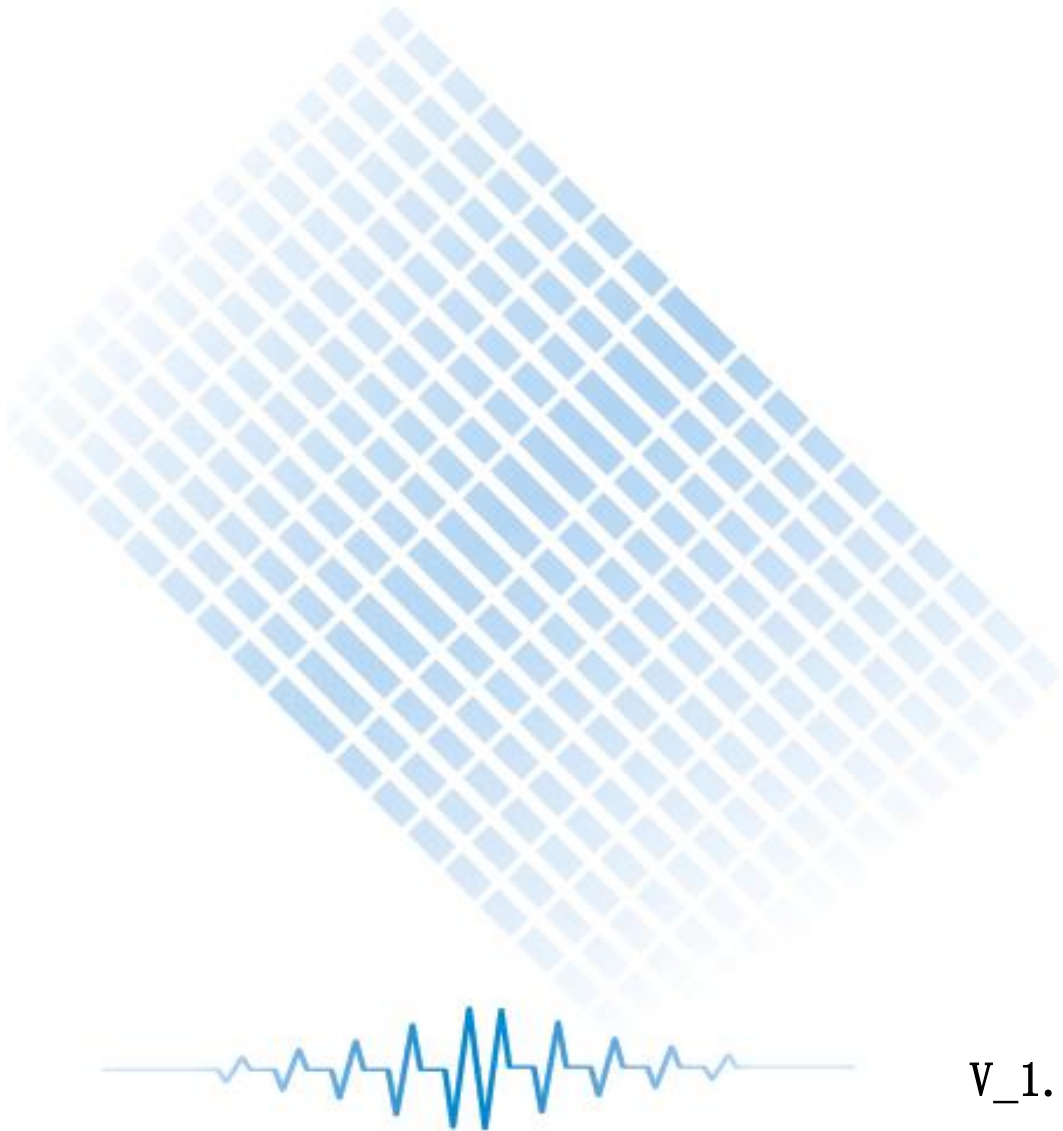
DL-ER007D module usage document

DL-ER007D

Embedded 2D

module

User manual



V_1.1

Disclaimer

Please read all the contents of the manual carefully before using the products described in this manual to ensure that the product is safely and effectively stored for future use.

Do not disassemble the terminal by itself or tear the seal on the terminal, otherwise the company will not be responsible for the warranty or replacement of the terminal.

The pictures in this manual are for reference only. If there are individual pictures that do not match the actual products, please refer to the actual products. The company reserves the right to modify the documentation at any time without notice for the improvement of this product.

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Version record

version number	Version description	
V1.0	initial version	
V1.1	Optimize the transmission speed and add the billing function.	

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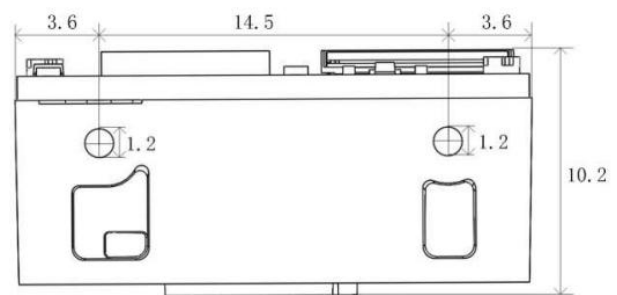
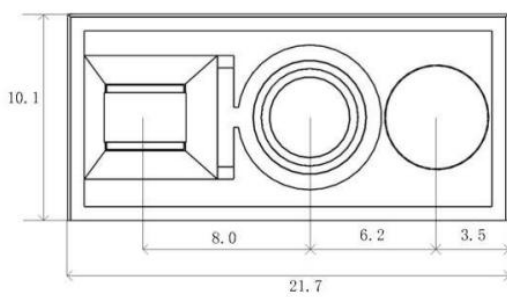
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Introduction

The DL-ER007D is a cost-effective embedded 2D engine featuring advanced 2D image recognition technology and intelligent image recognition system. With excellent reading performance, you can easily read barcodes on media such as paper, merchandise, and screens. The integrated compact design allows for easy insertion into a wide range of equipment. Can be widely used in various types of self-service machines, price checking machines, lockers and other scenarios.

One: appearance

The figure below shows the appearance of the DL-ER007D. The upper surface has electronic components such as MCU. The front azimuth scanning window is used to scan the bar code, the rear azimuth wire interface, and the bottom has four screw holes and two positioning posts for fixing the DL-ER007D to other devices.



【DL-ER007D Unit: mm 】

n

note:

1: The reference Positioning column customers can choose, do not have to remove it!

2: In order to maintain the excellent reading performance of the scanner, please keep the product clean.

3: Please use a soft cloth to clean the window and do not spray any liquid on the window.

Two: product characteristics

1: Small in size, with multiple fixed holes for users to choose, easy to integrate into other devices;

2: A variety of interfaces USB, TTL, RS232 are available for different application scenarios;

3: Read 4MIL and 4MIL barcodes to easily identify all mainstream 1D barcodes and QR codes in the market;

4: Support multiple working modes (manual, long bright, flashing, command control), which can meet different reading requirements;

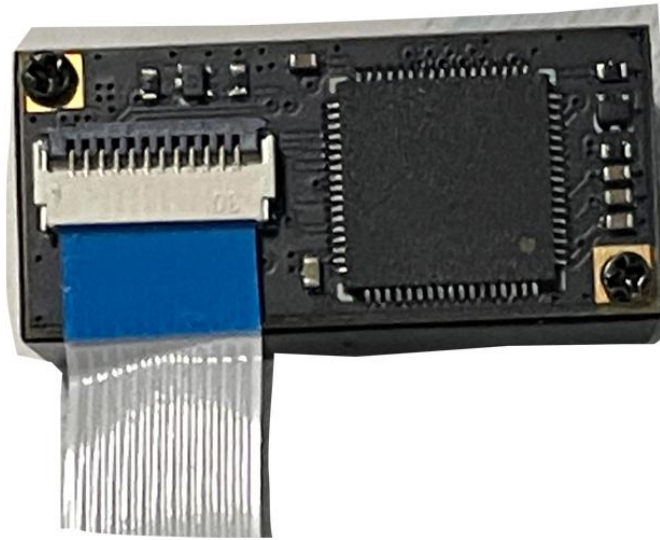
Three: application areas

This high-performance embedded 2D module is designed to provide OEM products for customers. It can be easily embedded into various devices as barcode reading component applications, such as queuing machines, self-checking machines, ticket gates, vending machines. , supermarket lockers, manufacturing and so on.



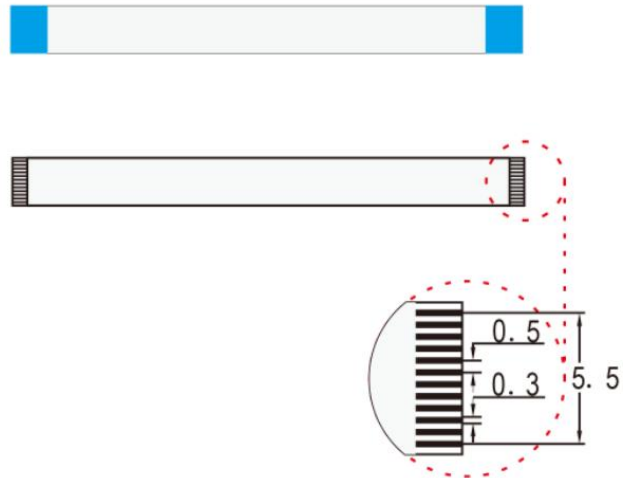
Four: data cable

The DL-ER007D is equipped with an FPC cable connection with 12PIN on both ends. One end is connected to the data interface plug and the other end is connected to the peripheral. The figure below shows the connection of the cable to the data interface.



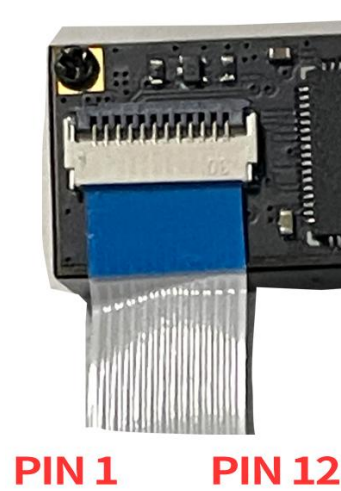
PIN 1 **PIN 12**

FPC cable diagram



Five: 12PIN interface definition

The DL-ER007D uses the 12pin pitch 0.5 data interface. The names and signal descriptions for the individual PIN pins of the 12PIN connector are listed in the table below.



PIN	input /Output	definition	Description
PIN 1	NC	-	Suspended or connect to low voltage, do not connect to high voltage
PIN 2	Power	VCC	Input +3.3V.
PIN 3	Ground	GND	Ground
PIN 4	Input	RXD	Serial receive end signal
PIN 5	Output	TXD	Serial transmit end signal
PIN 6	Input	D-	USB port is D- signal
PIN 7	Output	D+	USB port is D+ signal
PIN 8	NC	-	-
PIN 9	Output	BEEP	Passive buzzer output signal, idle low voltage
PIN10	Output	LED	Decode succeeds indicator, idle low voltage
PIN11	NC		
PIN12	Input	TRIG	Weak pull-up, low-level trigger engine decoding

The DL-ER007D reading engine provides a TTL-232 serial communication interface and a USB communication interface for communication with the host. Through the communication interface, it is possible to receive reading data, control the reading of the engine, and change the function parameters of the reading engine.

Serial communication interface

The serial communication interface is a common way to connect the reading engine to the host device (such as PC, POS, etc.). When the reading engine is connected to the host using a serial cable, the system uses the serial communication mode by default. When using the serial communication interface, the communication engine and the host device must be completely matched in the communication parameter configuration to ensure smooth communication and correct content.

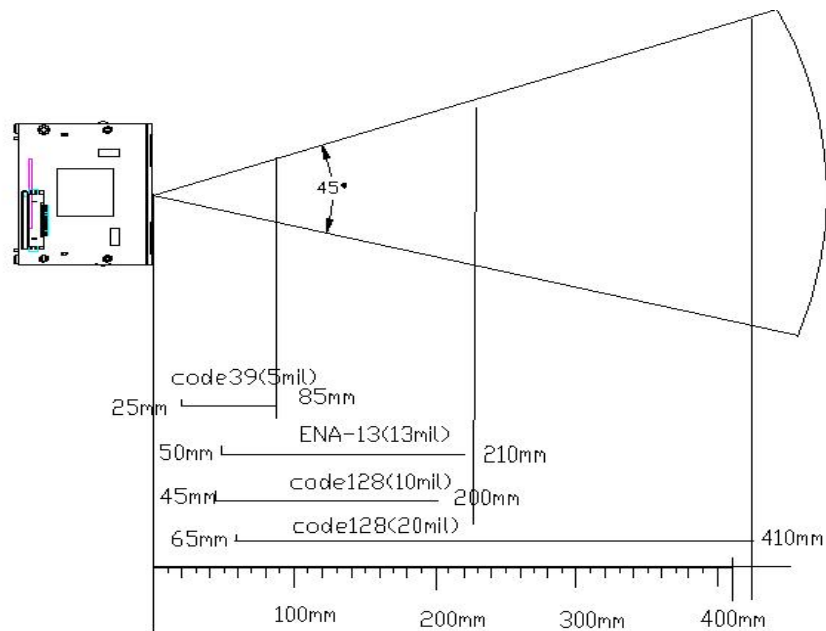
The serial communication interface of the reading engine uses TTL level signals (TTL-232), which adapts to most system architectures. If the system needs to use the RS-232 form of architecture, you need to add a conversion circuit externally.

The default serial communication parameters of the reading engine are as follows. Among them, the baud rate of the reading engine can be repaired by reading the setting code.

Change, but the rest of the parameters

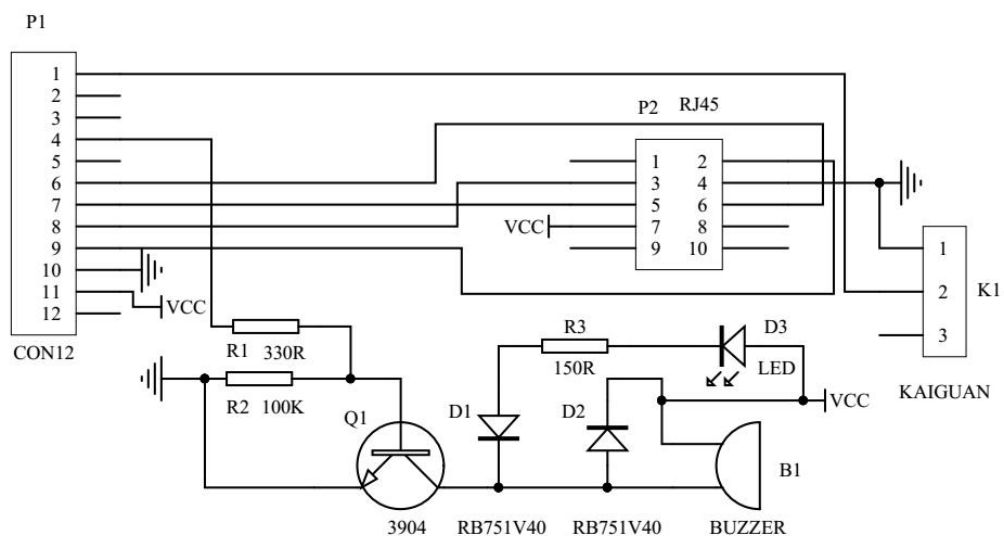
parameter	default
Serial communication type	standard TTL-232
Baud rate	9600
check	no
Data bit	8
Stop bit	1
Hardware flow control	no

Six: Reading perspective and depth of field



Test conditions: room temperature 25 ° C, ambient illuminance 200 LUX, PCS = 0.9

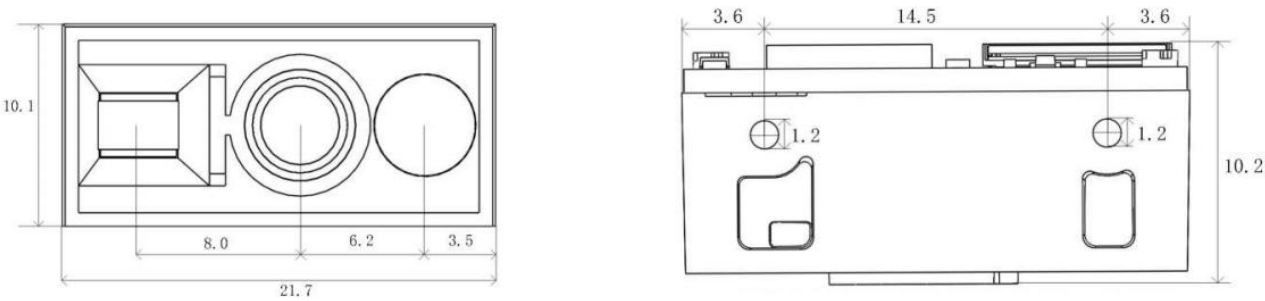
Seven: user external circuit principle reference diagram



DL-ER007D external circuit board reference
schematic

Eight: structure size

The DL-ER007D embedded 2D module is an integrated design. When using the DL-ER007D for integrated applications, you can refer to the following physical size specifications. **Unit:mm**



way of communication	USB, TTL, RS232 /Optional
Aiming optical system	620nm Red-light Emitting Diodes
Resolution	752×480Pixel
Resolution	≥4mil/0.1mm (PCS90%,CODE 39)
Decoding speed	Up to 300 times / sec
Reading mode	Manual reading, constant reading, flashing reading, command control
Prompt mode	Buzzer, LED (external circuit)
Reading angle	Rotating Roll: ±30°, Tilt Pitch: ±60°, Skewed Skew: ±60°
Print contrast	≥25%
Ambient light	Indoor natural light,
	2D: PDF417, QR Code(Model 1/2),Micro PDF417,DM

Reading code system	Data Matrix(ECC200, ECC000,050, 080, 100,140), 1D:Code 128, EAN-13, EAN-8, Code 39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ISBN, Code 93, UCC/EAN-128, GS1 Databar, etc.
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Mechanical / electrification performance

Body weight	4g
Wire length	1.5Meter(optional)
Interface Type	FFC 12PIN Pitch 0.5
Operating Voltage	DC 3.3V
Working current	130mA
Peak current	198mA

Operating temperature	-20°C to 50°C
Storage temperature	-40°C to 60°C
Working humidity	5% to 95%(no condensation)

working environment

Ten: accessories list

FPC cable	12P interval 0.5mm FPC cable
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Development board (optional)	It is used to connect modules and wires, output functions with different interfaces, and scanning prompts.
Wire (optional)	It is used to connect the development board to the communication host, and can be equipped with different interface wires.