



# 1D Scan Engine

## DE1400 Specification

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## Product Description



DE1400 is a practical embedded barcode scanner module with leading CCD image recognition technology and intelligent image recognition system. It can scan universal 1D codes, support USB, TTL, PS2 multiple interfaces, read the paper, goods, screens, other media barcodes. Easily embedded in a variety of OEM products handheld, portable, fixed and barcode collector, etc.

## Features

- ☆ Simple structure, can be used in various types of mechanical equipment.
- ☆ Read all the mainstream 1D codes in the market easily.
- ☆ High-performance processor, fast decoding , high-precision reading ability. (3mil)
- ☆ Simple configuration, support upgrade online.
- ☆ Support interfaces: USB, TTL, PS2.
- ☆ Support multiple systems and languages.
- ☆ Support secondary development and customization.

## Application

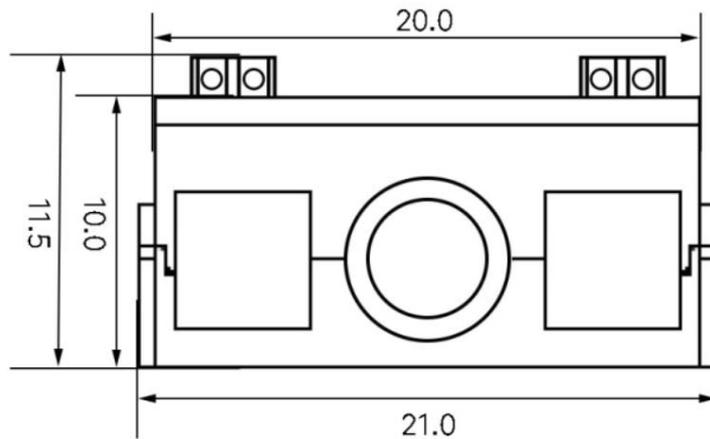
- Lockers
- Medical research
- Lottery machines
- Queuing calling equipment
- Microcontroller development
- Mobile coupons, tickets
- Mobile payment barcode scanning
- Self-service terminals
- Self-service vending machines



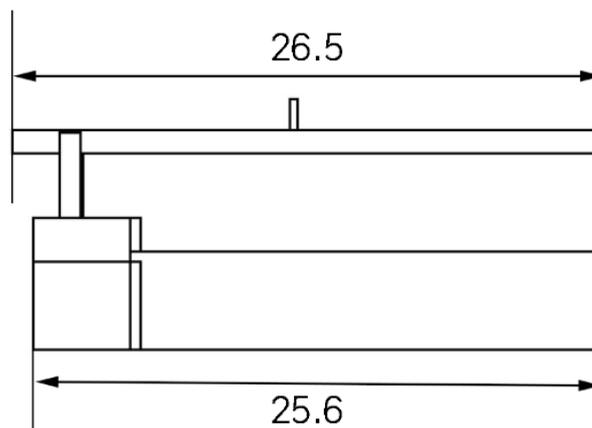
## Mounting

The illustrations below show the mechanical mounting dimensions for the DE1400. The structural design should leave some space between components.

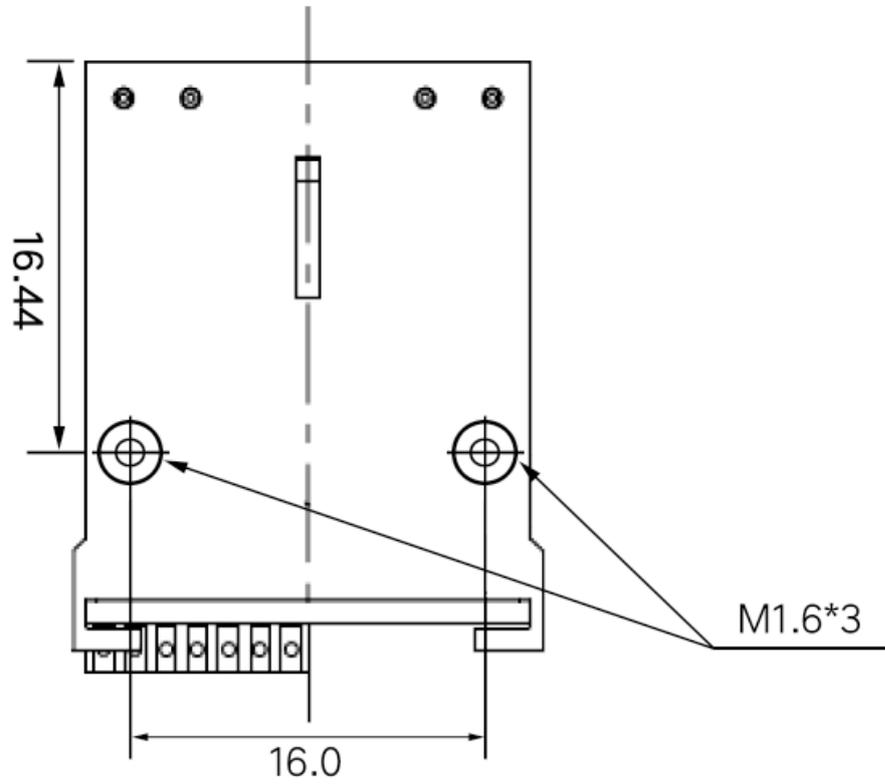
### Front View (unit: mm)



### Side View (unit: mm)

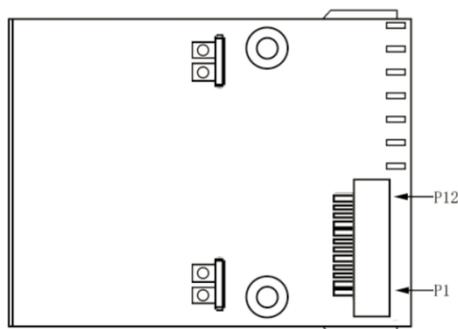


**Top View (unit: mm)**



## Host Interface Connector

The following table lists the pin functions of the ffc 12pin pitch 0.5,host interface connector on the DE1400



PIN#	Signal	Type	Definition
1	N/C	-	Hang
2	VCC	P	DC 3.3-5V
3	GND	P	Ground
4	RX	Input	TTL receive
5	TX	Output	TTL transmission
6	D-/HOST DATA	Input/Output	USB_D-/PS2_HOST DATA
7	D+/HOST CLK	Input/Output	USB_D+/PS2_HOST CLK
8	KB DATA	-	PS2_KB DATA
9	BUZ	Output	Buzzer output signal
10	LED	Output	LED output signal
11	KB CLK	-	PS2_KB CLK
12	TRIGGER	Input	Trigger pin, keep low power level more than 20ms can trigger decoding.

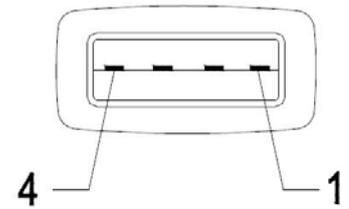


## Cable Interface

DE1400 scanner must be connected with terminals, PC host, POS and Android host etc.

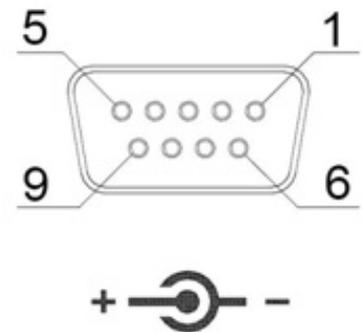
### USB

Pin No.	Function
1	Vcc
2	D-
3	D+
4	GND



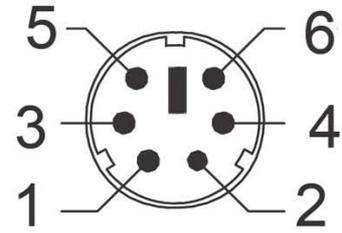
### TTL/RS232

Pin No.	Function
2	TXD
3	RXD
5	GND
9	Vcc/+5V
Power Lead	Vcc/+5V

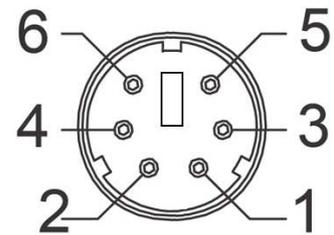


**PS2****Mini DIN HOST MALE**

Pin No.	Function
1	HOST DATA
3	GND
4	Vcc(+5V)
5	HOST CLK

**Mini DIN KB FEMALE**

Pin No.	Function
1	KB DATA
3	GND
4	Vcc(+5V)
5	KB CLK



## Performance

<b>Scan Type</b>	Linear CCD
<b>Light Source</b>	Visible red light, 625±10nm
<b>CPU</b>	32-bit
<b>Resolution</b>	2500
<b>Reading precision</b>	≥3mil/0.076mm(PCS90%,Code 39)
<b>Decoding speed</b>	300times/s
<b>Depth of field</b>	30mm-700mm
<b>Scan Mode</b>	Manual ,Continuous, Auto Sense, Fashing
<b>Scan angle</b>	<i>Test Conditions: CODE39,10mil/0.25mm,PCS90%</i>
	Pitch:±60°
	Roll: ±30°
	Skew: ±60°
<b>Print Contrast Signal</b>	≥20%
<b>Ambient Light</b>	Dark environment, indoor natural light
<b>Symbologies</b>	UPC-A, UPC-E, EAN-8, EAN-13, ISSN, ISBN, Code 128, GS1-128, ISBT 128, Code 39, Code 93, Code 11, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Standard 2 of 5 (IATA) , Codabar (NW-7) , Plessey, MSI Plessey, RSS, China Post, etc.

## Physical Parameter

<b>Weight</b>	<6g
<b>Dimension</b>	(L)26.5mm * (W)20.0mm *(H)11.5mm
<b>Communication</b>	USB(USB-KBW、 USB-COM) , TTL, PS2
<b>Interface Type</b>	FFC 12PIN Pitch 0.5
<b>Power Supply</b>	DC 3.3-5V@50mA(work)

## Environmental

<b>Operating</b>	-20°C to 50°C
<b>Storage</b>	-40°C to 70°C
<b>Humidity</b>	5% to 95% (non-condensing)
<b>Drop Height</b>	1.2m
<b>Temp. Test</b>	30 minutes for high Temp., 30 minutes for low Temp.,
	<i>High Temp.</i> 60°C
	<i>Low Temp.</i> -20°C
<b>Transport</b>	10H@125RPM

## Accessories List

<b>Cable (Optional)</b>	USB Cable, used to connect the DE1400 to a host device.
	RS232 Cable, used to connect the DE1400 to a host device, with USB supply cable.
	PS2 Cable, used to connect the DE1400 to a host device and keyboard input device.
Test board (Optional)	With trigger button and buzzer, it has USB or RS232 output function.
Power Adaptor	Output: DC5V 1A, input: AC100~240V 50~60Hz (serial port optional).

## Depth of field

Barcode	Precision	near	far
Code 39	0.076(3mil)	80mm	120mm
Code 39	0.1mm(4mil)	70mm	140mm
Code 39	0.127mm(5.0mil)	60mm	150mm
Code 39	0.5mm(20mil)	30mm	450mm
Code 39	1.0mm(40mil)	130mm	700mm
EAN-13	0.33mm(13.0mil)	30mm	320mm

**Test Condition: T=25°C, Illumination=200LUX, PCS=0.9**