Barcode Scan Engine
M0V2

Product features

- **Core Technology**
  Adopting core decoding technology with independent intellectual property rights, it has excellent 1D/2D decoding capabilities。
- **Excellent screen coding ability**
  Special adjustments are made for screen barcodes, which can adapt to low brightness and various types of film applied large data volume screen barcodes.
- **Multiple Interface**
  Provide USB and TTL232 interfaces to meet more application needs。
- **High Integration**
  Integrated design of image collector and decoding board, high integration, suitable for various product integration applications。

Application scenarios

Express cabinets, ticket machines, display booths, various self-service application devices, etc。

M0V2/Barcode Scan Engine

Scanning performance	sensor		640*480 CMOS
	lighting		White LED
	focusing		Red LED
	Reading code system	2D	QR Code、Micro QR、Data Matrix、PDF417、Micro PDF417、Aztec、 Maxicode、Hanxin Code、Dotcode、Composite
		1D	Code 128(ISBT 128、 AIM 128、 GS1 128)、 EAN-13、 EAN-8、 UPC-E、UPC-A 、ISBN、ISSN、Codell、 Intereaved 2 of5、 Code39、 Code93、Code32、Codabar、 Matrix 2of5、 Industrial25 IATA25、MSI Plessey、GS 1 DataBar、 Plessey 、 Febraban、Composite and so on
	Reading accuracy*		≥5mil
	Typical Reading Depth of Field*	EAN-13	60mm-320mm (13mil 13 byte)
		Code39	65mm-120mm (5mil 7 byte)
		Code128	60mm-350mm （13mil 10 byte）
		QR Code	30mm-250mm (15mil 30 byte)
		Data Matrix	45mm-155mm (10mil 100 byte)
		PDF 417	60mm-155mm (6.67mil 30 byte)
	Sign contrast*		≥10%
	Scanning angle**		corner360°，elevation±55°，deflection±55°
	Field of view angle		level 34°，vertical 26°
Mechanical/ Electrical Parameters	communication interface		TTL serial port, USB (HID-KBW, virtual serial port)
	size(mm)		21.5mm*8.5mm*7.1mm
	Working voltage/current		DC 3.3V/160mA
	Standby current		40mA(USB)/60mA(UART)
Environmental parameters	working temperature		-20℃~+55℃
	Storage temperature		-40℃~+70℃
	Working humidity		5%~95%(No condensation)
	Environmental lighting		0~100,000LUX
authentication			CE、FCC、ROHS、Light safety(IEC62471)

Test conditions: ambient temperature=23 ° C: ambient illumination=360LUX. Fluorescent lamp: paper code. Use custom test code:

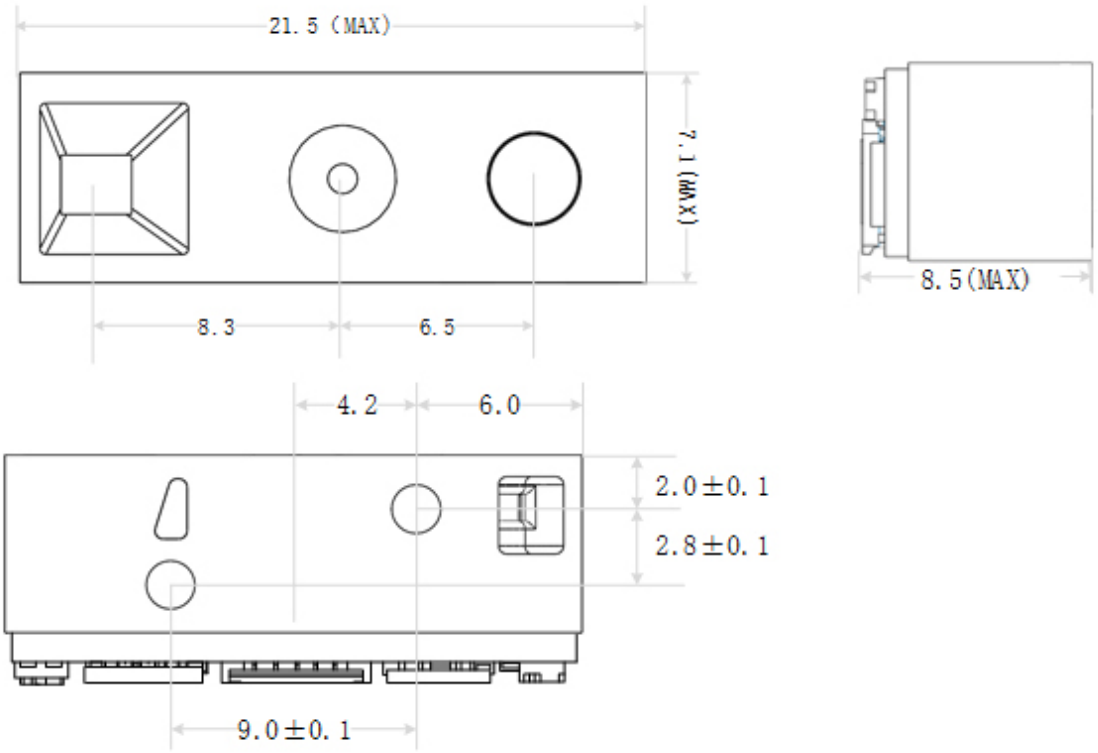
*Deviation angle testing conditions: testing distance=(minimum deepest+maximum deepest)/2; 2D： QR V2:

*Specifications subject to change without prior notice

*V1.0 Release

size(mm)

When integrating M1V2, you can refer to the physical dimension specifications in the following figure (default tolerance: ± 0.5mm). Attention should be paid to the structural design that other components cannot compress the M1V2 device (unit: mm)。



There are 2 M1.4 screw holes at the bottom for optional installation. When the screw installation holes are facing downwards, the following image shows the appearance when correctly placed or installed (note: screws)
The installation depth shall not exceed 2mm.

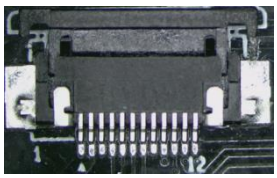
The specific signal definition of 13-PIN FPC is as follows:

PIN	definition	I/O	explain
1	GND	-	Power input negative pole
2	nTRIG	I	Trigger key input signal, maintain low level for more than 5ms to trigger code reading
3	nRST	I	Reset signal input, low level effective. Keep the low level above 100us and reset the device
4	LED	O	Indicator light output signal, idle output low level
5	BUZZER	O	Passive buzzer output signal, idle output low level
6	EXT.LED.CTRL	O	External lighting control signal
7	USB_D+	-	USB_D+ signal
8	USB_D-	-	USB_D- signal
9	UART_TX	O	TTL Level transmission
10	UART_RX	I	TTL Level reception
11	GND	I	Power input negative pole
12	VCC	I	Power input positive pole 3.3V
13	VCC	I	Power input positive pole 3.3V

In order to facilitate compatibility with other commonly used engines on the market with a 12 pin interface, it is recommended that customers use a 12 pin down contact connector (with a spacing of 0.5mm) during design. When using the user's device as the host, it is recommended to have the following 12-pin lower contact connector interface wire sequence on the device (TTL serial port and IO port are defined based on the user's device as the host, so the definition of serial port reception, transmission, and IO port input and output is exactly opposite to E11):

Pin number	Signal Name	I/O type	Default state	Function Description
1	NC	-	-	-
2	VDD	-	-	3.3V Power input
3	GND	-	-	Power supply ground
4	TXD	output	-	TTL level 232 serial port signal transmission
5	RXD	input	-	TTL level 232 serial port signal reception
6	USB_D-	-	-	USBD-D-Signal
7	USB_D+	-	-	USB_D+Signal
8	NC	-	-	-
9	BUZ	input	-	Buzzer input signal, highly effective
10	LED	input	-	Indicator light input signal, highly effective
11	nRST	output	-	Reset output signal, low effective
12	nTRIG	output	-	Trigger output signal, low effective

The recommended 12-Pin bottom contact connector is shown in the following figure, with Pin1-Pin12 from left to right



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