Barcode Scan Engine

M1

Product Feature

- **Core Technology**
  Adopt the self-developed core decoding technology, with excellent decoding capabilities for 1D/2D.

- **Snappy On-Screen Barcode Capture**
  The engine excels at reading on-screen barcodes even when the screen is covered with protective film or set to its lowest brightness level.

- **Multiple Interfaces**
  The E11 supports USB and TTL-232 interfaces to meet diverse customer needs.

- **Compact & Lightweight Design**
  Seamless integration of imager and decoder board makes the scan engine extremely smallest and lightweight and easy to fit into miniature equipment.

Application Scenarios:

Express Delivery Cabinet, Ticket Verification Device, Display Kiosk and other self-service terminals.

M1/Barcode Scan Engine

Scan Functions	Image Sensor		640*480 CMOS
	Illumination		White LED
	Aiming		Red 625nm
	Symbologies	2D	QR Code、Micro QR、Data Matrix、PDF417、Micro PDF417、Aztec、Maxicode、Hanxin Code、Dotcode
		1D	Code128、EAN-13、EAN-8、UPC-E、UPC-A、ISBN、ISSN、Code11、Interleaved 2 of 5、Code39、Code93、Code32、Codabar、Matrix 2 of 5、Industrial 25、IATA25、MSI Plessey、GS1 DataBar、Plessey、Febraban、Composite, etc
	Resolution*		≥3mil
	Typical Depth of View*	EAN-13	50mm-325mm　(13mil 13 bytes)
		Code39	55mm-135mm　(5mil 7 bytes)
		Code128	50mm-330mm　（13mil 10 bytes）
		QR Code	30mm-190mm　(15mil 30 bytes)
		Data Matrix	40mm-130mm　(10mil 100 bytes)
		PDF 417	50mm-135mm　(6.67mil 30 bytes)
	Symbol Contrast*		≥10%
	Sensitivity**		Roll 360°，Pitch ±60°，Skew ±60°
	Field Angle		Horizontal 43°，Vertical 32°
Mechanical/Electric	Interface		TTL-232,USB
	Size(mm)		21.5mm*8.5mm*7.0mm
	Weight		1.2g
	Operation Voltage		3.3 VDC±5%
	Rated Consumption		528mW（Typical Value）
	Current@3.3 VDC	Operation	160mA（Typical Value）
		Idle	10mA(USB)/22mA(TTL-232)
Environmental	Operation Temperature		-20℃~+55℃
	Storage Temperature		-40℃~+70℃
	Operation Humidity		5%~95%（Non-condensing）
	Ambient Light		0~100,000LUX

Testing distance=(minimum depth of field + maximum depth of field)/2; environment temperature=23℃；environment illumination=300 LUX white bulb LED, 2D：QR CODE; 10 Bytes; minimum width of barcode's empty space =15 mil; PCS=0.8;
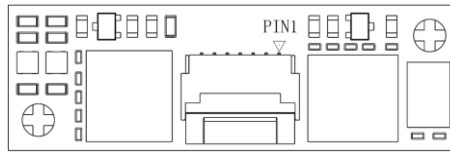
Specification changes without previous notification.

V1.0

Size
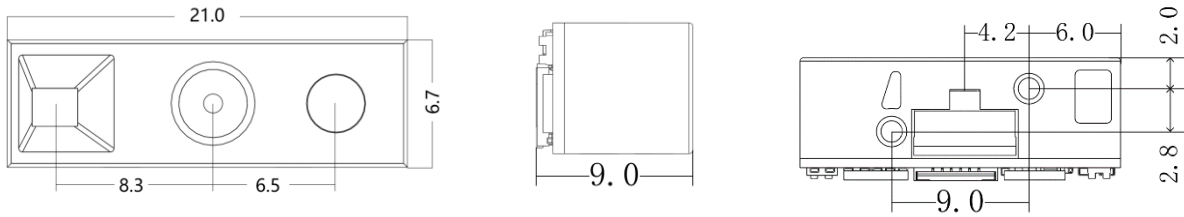
Two m1.4 screw holes are reserved for installation, and the depth of the screws into the shell shall not exceed 2mm.

Interface

The following table lists the pin functions of the 13-pin FPC connector.

PIN#	Signal	I/O	State	Function
1	GND	-	-	Power-supply ground
2	nTRIG	I	Pull-up	Trigger signal input
3	nRST	I	Pull-up	Reset signal input
4	LED	O	Pull-down	Good Read LED output
5	BUZ	O	Pull-down	Beeper output
6	Ext.LED.Crtl	O	Unconnected	External illumination control signal
7	USB_D+	-	-	USB_D+ signal
8	USB_D-	-	-	USB_D- signal
9	TXD	O	-	TTL level 232 transmit data
10	RXD	I	-	TTL level 232 receive data
11	GND	-	-	Power-supply ground
12	VDD	-	-	3.3V power input
13	VDD	-	-	3.3V power input

To be compatible with other engines , the 12-PIN connector (bottom contact) is recommended (spacing: 0.5mm). When the customer's device is used as the host, pin functions of the 12-pin connector is recommended as below. So the definition of TTL-232 interface and IO interface is the opposite of that of E11.

12-pin connector (the host side, not the E11)

PIN#	Signal Name	I/O	State	Function
1	NC	-	-	-
2	VDD	-	-	3.3V power input
3	GND	-	-	Power-supply ground
4	TXD	O	-	TTL level 232 transmit data
5	RXD	I	-	TTL level 232 receive data
6	USB_D-	-	-	USB_D- signal
7	USB_D+	-	-	USB_D+ signal
8	NC	-	-	-
9	BUZ	I	-	Beeper input
10	LED	I	-	Good Read LED input
11	nRST	O	-	Reset signal output
12	nTRIG	O	-	Trigger signal output

The 12-PIN connector (bottom contact) is shown as below（Pin 1-Pin 12 (from left to right)）.