



# NLS-EM3296 V4

## OEM SCAN ENGINE

### FEATURES

- **UIMG® Technology**

Built with Newland's sixth-generation of **UIMG®** technology, the scan engine can decode even poor quality barcodes with ease.

- **Miniature and Ultralight Form Factor**

Ultra-compact, light and integrator-friendly, the NLS-EM3296 V4 caters for miniaturization needs of OEM applications.

- **Multiple Interfaces**

The NLS-EM3296 V4 supports USB and TTL-232 interfaces to meet diverse customer needs.

- **All-in-One Design**

Seamless integration of image sensor and decoder board makes the scan engine small, lightweight and easy to fit into even the most space-constrained equipment.

- **Outstanding Power Efficiency**

The advanced  technology incorporated in the scan engine helps reduce the power consumption and prolong the service life of the device.



CMOS



ID Barcode



TTL232



USB



2D Barcode



CHIP

# NLS-EM3296 V4

## Performance

Image Sensor		640*480 CMOS
Illumination		625±10nm red LED
Aiming		625±10nm red LED
Symbologies	2D	PDF417, QR Code, Micro QR, Data Matrix, Aztec
	1D	Code 128, EAN-13, EAN-8, Code 39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN/ISSN, Code 93, UCC/EAN-128, GS1 Databar, Matrix 2 of 5, Code 11, AIM 128, Industrial 2 of 5, Standard 2 of 5, Plessey, MSI-Plessey
Resolution		≥4mil
Typical Depth of Field <sup>1</sup>	EAN-13	50mm-365mm (13mil)
	Code 39	40mm-165mm (5mil)
	Data Matrix	35mm-115mm (10mil)
	QR Code	35mm-145mm (15mil)
	PDF 417	45mm-115mm (6.67mil)
Min. Symbol Contrast		≥25%
Scan Angle <sup>2</sup>		Roll: 360°, Pitch: ±50°, Skew: ±60°
Field of View		Horizontal 44°, Vertical 33.2°

## Physical

Interface		TTL-232, USB (HID-KBW, COM Port Emulation)
Operating Voltage		3.3 VDC±5%
Rated Power Consumption		330mW (typical)
Current@3.3VDC	Operating <sup>3</sup>	100mA (typical), 168mA (max.)
	Idle	8.1mA
	Sleep	<100uA
Dimensions		21.8(W)×15.3(D)×11.8(H)mm (max.)
Weight		4g

## Environmental

Operating Temperature		-20°C to 60°C (-4°F to 140°F)
Storage Temperature		-40°C to 70°C (-40°F to 158°F)
Humidity		5% to 95% (non-condensing)
Ambient Light		0-100,000lux (natural light)

## Certificates

Certificates & Protection		FCC Part 15 Class B, CE EMC Class B, RoHS
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## Accessories

NLS-EVK		Software development board, equipped with a trigger button, beeper and RS-232 & USB interfaces.
Cable	USB	Used to connect the NLS-EVK to a host device.
	RS-232	Used to connect the NLS-EVK to a host device.
Power Adapter		DC 5V power adapter used to provide power for the NLS-EVK

<sup>1</sup> Depth of Field: T=23°C; Illumination=300lux using incandescent lamp; sample barcodes made by Newland.

<sup>2</sup> Scan Angle: Scan Distance=(min. DOF + max. DOF)/2; 2D: QR Code; PCS=I; sample barcodes made by Newland.

<sup>3</sup> Operating Current: Scan Distance=(min. DOF + max. DOF)/2; test in the normal mode.

Specifications are subject to change without notice.

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The following table lists the pin functions of the 12-pin FPC connector.

PIN#	Signal	I/O	Function
1	NC	-	Unconnected
2	VIN	-	3.3V power input
3	GND	-	Power-supply ground
4	RXD	I	TTL level 232 receive data
5	TXD	O	TTL level 232 transmit data
6	USB_DN	-	USB_D- signal
7	USB_DP	-	USB_D+ signal
8	NC	-	Unconnected
9	Buzz	O,od	Beeper signal output
10	LED	O,od	Good Read LED output
11	NRST	I	External reset signal
12	nTRIG	I	Trigger signal input

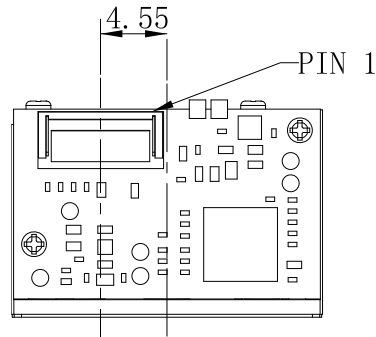
Specifications are subject to change without notice.

Version: V12

# NLS-EM3296 V4

Interface

Pinouts

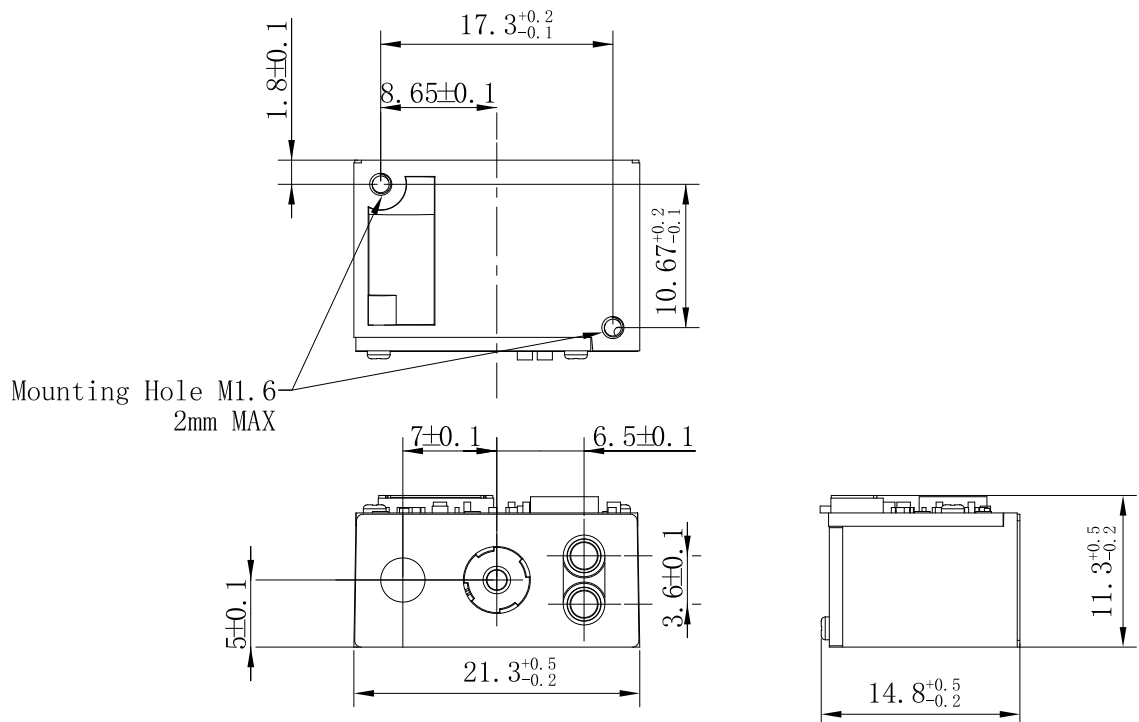


Mechanical

Mounting

Dimensions

(unit: mm)



Dimensions: 21.8(W)×15.3(D)×11.8(H)mm (max)

Specifications are subject to change without notice.

Version: V12

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