

# NLS-EM3396 V2

## 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.


- **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 (compatible with EM3096).

- **Highly Visible Laser Aimer**

The NLS-EM3396 V2 provides a laser-generated crosshair aiming pattern that is clear and bright even in bright sunlight, ensuring first time accurate aim.

- **Outstanding Power Efficiency**

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



CMOS



1D Barcode



TTL232



Laser Aimer



USB



2D Barcode



CHIP

# NLS-EM3396 V2

## Performance

Image Sensor		752*480 CMOS
Illumination		625±10 nm red LED
Aiming		650nm laser diode
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, GSI-DataBar, Matrix 2 of 5, Code 11, AIM28, Industrial 2 of 5, Standard 2 of 5, Plessey, MSI-Plessey
Resolution		≥3mil
Typical Depth of Field <sup>1</sup>	EAN-13	60mm-290mm (13mil)
	PDF 417	55mm-135mm (6.7mil)
	Code 39	55mm-165mm (5mil)
	Data Matrix	55mm-130mm (10mil)
	QR Code	45mm-175mm (15mil)
Min. Symbol Contrast		20%
Scan Angle <sup>2</sup>		Roll: 360°, Pitch: ±55°, Skew: ±55°
Field of View		Horizontal 36°, Vertical 23°

## Physical

Interface		TTL-232, USB 1.1
Operating Voltage		3.3VDC±5%
Rated Power Consumption		379.5mW (typical)
Current@3.3VDC	Operating <sup>3</sup>	115mA (typical), 195mA (max.)
	Idle	9.1mA
	Sleep	<100uA
Dimensions		21.5(W)×15.3(D)×11.8(H)mm (max.)
Weight		5g

## Environmental

Operating Temperature	-20°C to 55°C (-4°F to 131°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
---------------------------	---

## 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.

# NLS-EM3396 V2

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

PIN#	Signal	I/O	Function
1	NC	-	Not connected.
2	VDD	-	3.3V power supply.
3	GND	-	Power-supply ground.
4	RX	I	TTL level 232 receive data.
5	TX	O	TTL level 232 transmit data.
6	USB_D-	I/O	USB_D- differential data signal (optional)
7	USB_D+	I/O	USB_D+ differential data signal (optional)
8	NC	-	Not connected.
9	Buzz	O	Beeper output. For the information of beeper driver circuit, see the Beeper section in this chapter.
10	LED	O	Good Read LED output. For the information of LED driver circuit, see the Good Read LED section.
11	Reset	I	Reset signal input: Driving this pin low for 100us-500us resets the engine.
12	nTrig	I	Trigger signal input: Driving this pin low for at least 30ms causes the EM3396 V2 to start a scan and decode session.

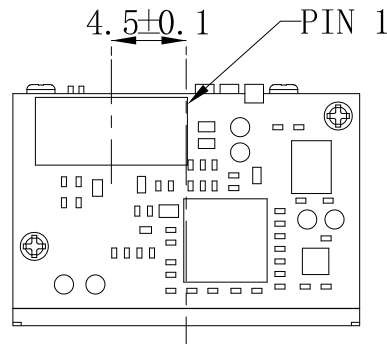
Specifications are subject to change without notice.

Version: V1.1

# NLS-EM3396 V2

## Interface

### Pinouts

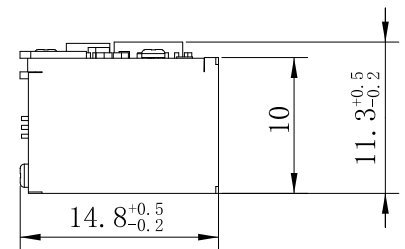
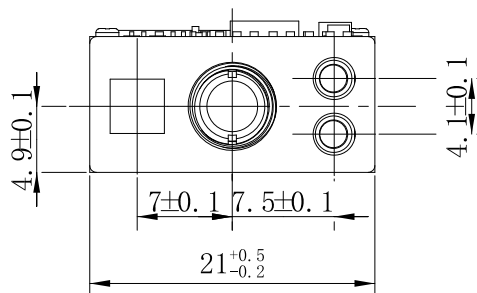
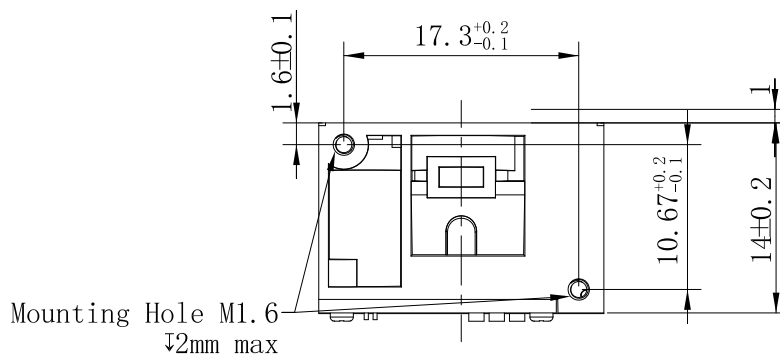


## Mechanical

### Mounting

### Dimensions

(unit: mm)



Dimensions: 21.5 (W)×15.3 (D)×11.8 (H)mm (max)

Specifications are subject to change without notice.

Version: V11

### Newland AIDC

Add: No.1 Rujiang West Rd.,  
Mawei, Fuzhou, Fujian 350001, China  
Tel: +86-591-83979500  
Fax: +86-591-83979216  
Email: info@nlscan.com  
Web: www.newlandaidc.com

### Asia Pacific

Taiwan:  
Add: 7F-6, No. 268, Liancheng Rd.,  
Jhonghe Dist. 235, New Taipei City, Taiwan  
Tel: +886 2 7731 5388  
Email: info@nlscan.com

### Europe & Middle East

Add: Rolweg 25, 4104 AV Culemborg,  
The Netherlands  
Tel: +31 (0) 345 87 00 33  
Email: sales@newland-id.com  
Tech Support: tech-support@newland-id.com

### North America & Latin America

Add: 46559 Fremont Blvd.,  
Fremont, CA 94538, USA  
Tel: +1 510 490 3888  
Fax: +1 510 490 3887  
Email: info@nlscan.com