



# NLS-EM20-85

## OEM SCAN ENGINE

### FEATURES

#### ○ UIMG® Technology

Armed with Newland's six-generation of UIMG® technology, the scan engine can swiftly and effortlessly decode even poor quality barcodes.

#### ○ Snappy On-Screen and Printed Barcode Capture

The NLS-EM20-85 excels at reading on-screen barcodes even when the screen is covered with protective film or set to its lowest brightness level. Besides, it achieves optimal performance in reading commodity barcodes with various materials and printed barcodes.

#### ○ Ultra-Compact Size

At least than 2.0cm, the slim footprint makes this scan engine easier to fit into super-thin devices.

#### ○ Optional Functions

The NLS-EM20-85 with glass or foam provides the NFC or non-NFC function, which greatly satisfies different demands. It supports access card, user card, membership card, etc.

#### ○ Multiple Interfaces

The NLS-EM20-85 supports USB, RS-232 and TTL-232 interfaces to meet diverse customer needs.



1D Barcode



2D Barcode



RS232



USB

# NLS-EM20-85

## Performance

Image Sensor		640 * 480 CMOS
Illumination		White LED
Symbologies	2D	PDF417, Micro PDF417, QR, Micro QR, Data Matrix, Aztec, Maxicode
	1D	Code 128, UCC/EAN-128, AIM 128, EAN-8, EAN-13, ISBN/ISSN, UPC-E, UPC-A, Interleaved 2 of 5, ITF-6, ITF-14, Standard 25, Codabar, Industrial 25, Code 39, Code 93, Code 11, Plessey, MSI-Plessey, GS1-128 (UCC/EAN-128), GS1-DataBarTM (RSS) (RSS-14, RSS-Limited, RSS-Expand), Matrix 2 of 5
Resolution*		≥5mil (ID)
Typical Depth of Field*	EAN-13	30mm-85mm (13mil)
	PDF417	30mm-50mm (6.7mil)
	QR Code	15mm-75mm (15mil)
	Data Matrix	25mm-60mm (10mil)
	Code 39	25mm-70mm (5mil)
Min. Symbol Contrast*		25%
Scan Angle**		Roll: 360°, Pitch: ±60°, Skew: ±60°
Motion Tolerance*		1.5m/s
Field of View		Horizontal 68°, Vertical 51°
NFC Function (Only for NFC version)		Available
Reading Distance of NFC Card (Only for NFC version)		0-40mm (typical)
NFC Card Type (Only for NFC version)		See NFC Card Type Available for the NLS-EM20-85

## Physical

Interface		TTL-232, RS-232, USB
Operating Voltage		5VDC±5%
Rated Power Consumption@5VDC		1.07W (Non-NFC); 1.26W (NFC)
Current@5VDC	Operating	215mA (typical), 578mA (max.) (Non-NFC) 253mA (typical), 736mA (max.) (NFC)
	Standby	120mA (Non-NFC); 144mA (NFC)
Dimensions	With Foam	61.5 (W)×65.5 (D)×18.8 (H)mm (max.)
	With Glass	61.5 (W)×65.5 (D)×18.3 (H)mm (max.)
Weight		27.4g (with foam); 36.4g (with glass)
Notification		Beep

## 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 Part15 Class B, CE EMC Class B, RoHS
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## Accessories

Cable	USB	Used to connect the NLS-EVK to a host device.
	RS-232	Used to connect the NLS-EVK to a host device.
	FFC Cable	Used to connect the NLS-EVK to a host device.

\*Test conditions: T=23°C; Illumination=300lux using incandescent lamp; sample printed barcodes made by Newland; WeChat Pay QR code on a 5.5" Android smartphone with brightness set to 100%.

\*\*Test conditions: Scan Distance= (min. DOF + max. DOF)/2; T=23°C; Illumination=300lux using incandescent lamp;  
2D: QR Code; 10 Bytes; Resolution=15mil; PCS=0.8.

Specifications are subject to change without notice.

Version: V1.1

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