

# NLV-3101

## 2D CMOS Imager Scanner



### Highlights

- Full spectrum illuminated 2D CMOS imager
- World's most compact 2D imager in its class
- Rapidly scans and decodes a wide variety of 1D or 2D barcodes
- Fast global shutter technology with auto exposure – easily scan barcodes of a wide variety of surfaces
- Custom configuration capabilities including multi-read
- Exceptional motion tolerance for moving applications
- Improved scanning of curved, wide and poorly printed barcodes
- Green bar LED aim function providing laser-free aiming with no laser class warning
- Complete unit with integrated decoder
- Durable – survives five foot drop to concrete
- IP 65 rating against dust and moisture
- Low power consumption provides design flexibility
- Communication interface: USB, RS232 or keyboard wedge
- Backed by a two year warranty

# NLV-3101

## Product Specifications

### OPERATING INDICATORS

**VISUAL:** 1 LED (red/green/orange)

**AUDIBLE:** Buzzer

### OPERATING KEYS

**ENTRY OPTIONS:** 1 scan key

### COMMUNICATION

**RS232:** DB9 PT F connector with external power supply

**KEYBOARD WEDGE:** Mini-DIN6 connector with external power supply

**USB:** Version 2.0, VCP, US B-A connector

### POWER

**VOLTAGE REQUIREMENT:** 6V ± 5%

**CURRENT CONSUMPTION:** Maximum 200mA

### 2D IMAGER OPTICS

**LIGHT SOURCE:** Aiming green LED, illumination LEDs

**SCAN METHOD:** CMOS area sensor, 752 x 480 pixels, gray scale

**SCAN RATE:** Up to 60 fps

**IMAGE FORMAT:** Windows Bitmap, JPEG, TIFF

**GRADULATION:** 256, 16, 2

**IMAGE OUTPUT MODE:** 4 resolutions (full, 1/2, 1/3, 1/4), 2 ranges (horizontal, vertical)

**READING PITCH ANGLE:** -50 to 0°, 0 to +50°

**READING SKEW ANGLE:** -50 to 0°, 0 to +50°

**READING TILT ANGLE:** 360°

**CURVATURE:** R>16 mm (10-digit Codabar), R>20 mm (12-digit UPC)

**MINIMUM RESOLUTION AT PCS 0.9:** 7 mil (0.169 mm) at PDF417, 0.212 mm / 8 mil at QR Code and DataMatrix

**MINIMUM PCS VALUE:** 0.3

**FIELD OF VIEW:** Horizontal 40.6°, Vertical 26.4°

**DEPTH OF FIELD AT CODE 39:**

5 mil (0.127) 3.35 - 4.92 in (85 - 125 mm)

10 mil (0.254 mm) 2.56 - 8.07 in (65 - 205 mm)

20 mil (0.508 mm) 2.36 - 11.61 in (60 - 295 mm)

**DEPTH OF FIELD AT QR CODE:**

8.4 mil (0.212 mm) 3.54 - 4.53 in (90 - 115 mm)

15 mil (0.381 mm) 2.17 - 7.68 in (55 - 195 mm)

### SUPPORTED SYMBOLOGIES

**BARCODE (1D):** UPC -A, UPC -A Add-on, UPC -E, UPC -E Add-on, EAN-13, EAN-13 Addon, EAN-8, EAN-8 Add-on, JAN-8, JAN-13, Code 39, Tri-Optic, Codabar (NW-7), Industrial 2 of 5, Interleaved 2 of 5, S-Code, IATA, Code 93, Code 128, MSI/Plessey, UK/Plessey, TELEPEN, Matrix 2of5, Code 11, GS1 DataBar, GS1 DataBar Limited, GS1 DataBar Expanded, Composite GS1-DataBar, Composite GS1-128, Composite EAN, Composite UPC

**BARCODE (2D):** PDF417, MicroPDF417, Codablock F, QR Code, Micro QR Code, DataMatrix (ECC 0 - 140 / ECC 200), MaxiCode (Modes 2 to 5), Aztec Code, Chinese Sensible Code

**BARCODE (POSTAL CODES):** Chinese Post, Korean Postal Authority code

### DURABILITY

#### TEMPERATURE:

Operation: -4 - 122 °F (-20 - 50 °C)

Storage: -4 - 140 °F (-20 - 60 °C)

#### HUMIDITY

Operation: 20 - 85% (noncondensing)

Storage: 20 - 90% (non-condensing)

#### AMBIENT LIGHT IMMUNITY:

Fluorescent :10,000 lx max

Direct sun: 100,000 lx max

Incandescent: 10,000 lx max

**ANTISTATIC ELECTRICITY:** 15kV (non-destructive)

**DROP TEST:** 2.5 ft (0.75 m) drop onto concrete surface

**VIBRATION TEST:** 10 - 100 Hz with 2G for 1 hour

**PROTECTION RATE:** IP 65

### PHYSICAL

**DIMENSIONS (WXHXD):** 1.62 x 1.30 x 0.94 in (41.1 x 33 x 24 mm)

**WEIGHT BODY:** 1.06 oz (Ca. 30 g) (excl. cable)

**CASE:** ABS, Black

### REGULATORY AND SAFETY

**PRODUCT COMPLIANCE:** CE, FCC Class B, VCCI Class B, RoHS, IEC 62471, EN55022, EN55024, FDA CDRH Class II

### MODELS

**SR:** Standard Range

**HD:** High Definition

### Model HD

Symbology	Resolution	Depth of Field @ PCS 0.9
Code 39	5 mils (0.127 mm)	2.36 ~ 3.35 in (60 ~ 85 mm)
Code 39	10 mils (0.254 mm)	2.36 ~ 4.33 in (60 ~ 110 mm)
Code 128	7.08 mils (0.18 mm)	2.16 ~ 3.94 in (55 ~ 100 mm)
UPC	13 mils (0.33 mm)	2.36 ~ 4.92 in (60 ~ 125 mm)
PDF417	6.65 mils (0.169 mm)	2.56 ~ 3.15 in (65 ~ 80 mm)
PDF417	10 mils (0.254 mm)	2.56 ~ 4.33 in (65 ~ 110 mm)
QR Code	8.34 mils (0.212 mm)	2.75 ~ 3.15 in (70 ~ 80 mm)
QR Code	15 mils (0.381 mm)	1.77 ~ 4.33 in (45 ~ 110 mm)
Data Matrix	10 mils (0.254 mm)	2.56 ~ 3.54 in (65 ~ 90 mm)

### Model SR

Symbology	Resolution	Depth of Field @ PCS 0.9
Code 39	5 mils (0.127 mm)	3.54 ~ 4.92 in (90 ~ 125 mm)
Code 39	10 mils (0.254 mm)	2.75 ~ 7.48 in (70 ~ 190 mm)
Code 39	20 mils (0.508 mm)	2.56 ~ 9.25 in (65 ~ 235 mm)
Code 128	7.87 mils (0.2 mm)	3.15 ~ 6.29 in (80 ~ 160 mm)
UPC	13 mils (0.33 mm)	2.16 ~ 7.28 in (55 ~ 185 mm)
PDF417	6.65 mils (0.169 mm)	3.35 ~ 5.12 in (85 ~ 130 mm)
PDF417	10 mils (0.254 mm)	2.56 ~ 7.08 in (65 ~ 180 mm)
QR Code	8.34 mils (0.212 mm)	3.74 ~ 4.53 in (95 ~ 115 mm)
QR Code	15 mils (0.381 mm)	2.36 ~ 7.28 in (60 ~ 185 mm)
Data Matrix	10 mils (0.254 mm)	3.15 ~ 5.71 in (80 ~ 145 mm)

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