

N4300 Series

N430X, N431X, N43XXHD

Miniature Laser Engines

From a leading provider of OEM scanning solutions, Honeywell's N4300 series miniature laser engines offer high levels of performance and reliability for OEM customers and end users.

Designed from the ground up with Honeywell's patented and patent-pending technologies, the N4300 series delivers aggressive bar code scanning performance with a standard form factor and interface. Whether upgrading existing devices or adding a scanning solution to a new application, OEM customers will find N4300 series engines easy to integrate, offering a durable, electrically-grounded metal chassis and standard mounting hole locations. The TTL model supports full duplex RS232 communication at a higher max baud rate, providing more flexibility and faster data communication than competing products.

With new, advanced Honeywell decoding technologies, poor quality codes can be scanned quickly and easily. Reading errors cost companies time and money. The N4300 series engines achieve the highest reading accuracy among available laser scanning engines.

Unlike competing engines, the N4300 brings high performance scanning and unique capabilities to a wide range of applications, from mobile computers to scanners, kiosks and other self service devices. When scanning one bar code that is surrounded by other codes, use the Smart Pick List mode to improve targeting accuracy. The N4300 is the only laser engine that includes built-in object detection for hands-free applications.

The N4300 series meets strict Honeywell quality standards and is designed to meet a wide range of OEM requirements.



Features

- **Compact and Lightweight:** Delivers a standard form factor and communication for easy integration, even in tight spaces
- **Metal Chassis:** Provides durability with a grounded metal case, single board design, non-ZIF connector and shock protection up to 2,000G
- **Advanced Decoding Technology:** Offers lowest misread rate compared to competing laser engines; configurable decoding security levels eliminate costly reading errors on hard-to-read poor quality codes
- **Smart Pick List:** Program the device to read only bar codes found at the center, or any other location on the scan line, improving targeting accuracy
- **Built-in Discrete Object Detection:** Makes history as the first available miniature engine to facilitate hands-free operation, eliminating the cost of adding external object detection on the host
- **SR and HD available:** We provide both SR (standard range) and HD (high density) versions, to meet multiple applications with vertical focus.

N4300 Series Technical Specifications

Mechanical/Electrical

Dimensions (HxWxD)	11.8 mm x 21.6 mm x 15.5 mm (0.46" x 0.85" x 0.61")
Weight	9.1g (0.32 oz)
Laser Diode	650 nm
Classification	CDRH Class II/IEC Class 2
Input Voltage	SR: N43X3: 3.3 ± 10% VDC; N43X5: 5.0 ± 10% VDC; HD: N43XX HD: 3.3 ± 10% VDC
Operating Current	N4313: <100 mA, typical; N4315: <105 mA typical; N4303 <105 mA typical
Sleep Current	N4313: <1.5 mA, typical; N4315: <1.2 mA typical; N4303 <0.5 mA typical
Connector	N430X: 10-pin non-ZIF; N431X: 12-pin non-ZIF
Interface	SR: N431X: TTL RS232 or USB Full Speed, HD: N43XX HD: TTL RS232

Environmental/Other

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% RH, non-condensing
Ambient Light Immunity	Direct Sunlight: 100,000 lux; Artificial light: 4,500 lux
Shock Protection	2,000 G for 0.85 msec, mounted on any surface, -20°C to 60°C
Vibration Protection	Random vibration along each of the X, Y, Z axes for a period of one hour: 0.04 G ² /Hz over 10-500 Hz
ESD Protection	±8KV indirect discharge
RF Immunity	10 V/m
Warranty	15 month limited warranty

Performance

Scan Rate	SR: 114 ± 10 scans/sec, HD: 108 ± 16 scans/sec
Scan Angle	SR: Standard: 48° ±2°; optional 35° ±2°, HD: Standard 55° ±2°
Tilt, Pitch and Skew Angles	SR: ±35°, ±60°, ±65°; HD: ±35°, ±50°, ±50°
Maximum Resolution	SR: 0.102 mm (4 mil), HD: 2.5 mil
Minimum Print Contrast	SR: 20% Absolute reflectance, HD: 30%
Symbolologies	All standard 1D bar codes

For a complete listing of all compliance approvals and certifications, please visit www.honeywellaidc.com/compliance
 For a complete listing of all supported bar code symbolologies, please visit www.honeywellaidc.com/symbolologies

Typical Working Range (SR)	
Symbology/X-Dim	Typical Range*
4 mil Code 39	109 mm - 149 mm (4.3" - 5.9")
5 mil Code 39	94 mm - 201 mm (3.7" - 7.9")
7.5 mil Code 39	68 mm - 305 mm (2.7" - 12.0")
10 mil Code 39	55 mm - 381 mm (2.2" - 15.0")
13 mil 100% UPC	52 mm - 457 mm (2.0" - 18")
15 mil Code 39	45 mm - 547 mm (1.77" - 21.5")
20 mil Code 39	43 mm - 680 mm (1.7" - 26.8")
40 mil Code 39	85 mm - 891 mm (3.4" - 35.1")
55 mil Code 39	119 mm - 976 mm (4.7" - 38.4")

Typical Working Range (HD)	
Typical Depth of Field	Typical Range*
3.0mil Codes 39	60mm - 100mm (2.4" - 3.9")
3.5mil Codes 39	57mm - 118mm (2.2" - 4.6")
4.0 mil Code 39	55mm - 135mm (2.2" - 5.3")
5.0 mil Code 39	49mm - 162mm (1.9" - 6.4")
7.5 mil Code 39	37mm - 200mm (1.5" - 7.9")
10 mil Code 39	33mm - 225mm (1.3" - 8.9")
13 mil 100% UPC	35mm - 232mm (1.4" - 9.1")
20 mil Code 39	44mm - 315mm (1.7" - 12.4")



*Performance may be impacted by bar code quality and environmental conditions

For more information:
www.honeywellaidc.com

Honeywell Scanning & Mobility
 9680 Old Bailes Road
 Fort Mill, SC 29707
 800.582.4263
www.honeywell.com

CONSULTING DISTRIBUTOR

POHL Electronic GmbH

Eduard-Maier-Straße 11a • 16761 Hennigsdorf
 Tel. +49 3302 81893-0 • Fax +49 3302 81893-99
www.pohl-electronic.de • info@pohl-electronic.de

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