

## N5600 Series

### Miniature 2D Imagers

Barcode reading has never been so simple. N5600 series miniature 2D imager engines set new standards of performance and ease of integration and use for OEM customers and end users with Honeywell's advanced Adaptus® 6.0 imaging technology. Built on a proven imaging platform, Adaptus 6.0 provides an entirely new level of barcode and Optical Character Recognition (OCR) font reading performance, with enhanced speed and accuracy. At the heart of the system is a new proprietary imaging sensor designed specifically for optimum barcode reading. With an advanced illuminating design, this sensor captures images for barcode decoding with exceptional tolerance for motion. The patented color option captures color images, without sacrificing barcode reading performance.

Adaptus 6.0 also includes a completely redesigned software architecture that leads the industry in its ability to decode hard-to-read barcodes. Built-in versatility with various available options enables N5600 engines to meet the requirements of a wide range of applications. Backed by Honeywell's expert OEM integration support, and proven quality and reliability, N5600 engines provide value to OEM customers by providing enhanced data capture solution, reducing development investment, and decreasing total ownership costs. N5600 series engines are available as imagers with either a hardware decoder, for easy integration, or a licensed software decoder for space and power-constrained applications such as mobile terminals.



*N5680 Decoded 2D Imager*



*N5600 Undecoded 2D Imager*

## FEATURES & BENEFITS

**High Visibility Laser or LED Aiming Option:** Ensures crisp and accurate targeting, even in bright sunlight.

**Supports TotalFreedom®:** An open-system architecture for developing software plug-ins to implement value added custom features such as Honeywell's EasyDL™.

**Remote MasterMind® Ready:** Reduces total cost of ownership by providing a turnkey remote device management solution that easily manages and tracks usage of installed devices.

**Adaptus 6.0 Imaging Technology:** Provides fast and accurate reading of barcodes and OCR fonts with best-in-class range and extraordinary motion tolerance, on paper and smart phone screens.

**Available Color Option:** Patented technology allows color images of signatures, packages, vehicle license plates, identification cards and other objects to be captured, eliminating the need for a separate camera.

# N5600 Technical Specifications


TABLE 1. MECHANICAL	
Characteristic	Parameter
DIMENSIONS (L X W X H)	<b>Imager without mounting tabs (N5600, N5603):</b> 12,5 mm x 20,8 mm x 17,2 mm [0.49 in x 0.82 in x 0.68 in] <b>Decoder board (N56XX DB):</b> 19,1 mm x 39,8 mm x 8,2 mm [0.75 in x 1.57 in x 0.32 in] <b>Assembled imager and decoder board (N56X0, N56X3):</b> 19,4 mm x 39,8 mm x 28,2 mm [0.76 in x 1.57 in x 1.11 in]
WEIGHT	<b>Imager:</b> <7g [0.25 oz] <b>Assembled imager and decoder board:</b> <20g [0.7 oz]
INTERFACE	<b>Imager:</b> 30-pin board-to-board (Molex 51338-0374) <b>Decoder:</b> 12-pin surface mount (Molex 52559-1252) or Micro-B USB

TABLE 2. ELECTRICAL	
Characteristic	Parameter
INPUT VOLTAGE	<b>Imager:</b> 3.3 VDC ±5% <b>Decoder:</b> TTL-RS232: 3.0 VDC – 5.5 VDC USB: 5.0 VDC ±5%
TYPICAL CURRENT DRAW AT 3.3 VDC	<b>N5600:</b> 276 mA (manual trigger); 142 mA (presentation); 90 uA (sleep) <b>N5603:</b> 228 mA (manual trigger); 142 mA (presentation); 90 uA (sleep)

TABLE 3. ENVIRONMENTAL	
Characteristic	Parameter
OPERATING TEMPERATURE	-25°C to 50°C [-13°F to 122°F]
STORAGE TEMPERATURE	-40°C to 85°C [-40°F to 185°F]
HUMIDITY	0% to 95% RH, non-condensing at 50°C [122°F]
SHOCK	3,500 G for 0.4 ms at 23°C [73°F] to mounting surface
VIBRATION	3 axes, 1 hour per axis: 2.54 cm [1 in] peak-to-peak displacement (5 Hz to 13 Hz), 10 G acceleration (13 Hz to 500 Hz), 1 G acceleration (500 Hz to 2,000 Hz)
AMBIENT LIGHT	0 lux to 100,000 lux (total darkness–bright sunlight)
MTBF	<b>N5600:</b> >2,000,000 hours <b>N5603:</b> >375,000 hours

**LASER LIGHT-DO NOT STARE INTO BEAM  
RAYONNEMENT LASER-NE PAS REGARDER  
DANS LE FAISCEAU. MAX. 1 mW: 650 nm.  
IEC 60825-1:2007 and IEC 60825-1:2014.  
Pulse duration of 15.5 mSec. Complies with  
21CFR 1040.10 and 1040.11 except for  
deviations pursuant to Laser Notice No. 50,  
dated June 24, 2007.**

**CLASS 2 LASER PRODUCT.  
APPAREIL À LASER DE CLASSE 2.**



Applies to N5603 and N56X3 laser-aimer models only.

TABLE 4. PERFORMANCE	
Characteristic	Parameter
SENSOR	proprietary CMOS sensor with global shutter and 844 x 640 pixel resolution; 60 frames per second; optional color sensor available
ILLUMINATION	617 nm visible red LED
AIMING	<b>N5600 Imager:</b> 528 nm visible green LED <b>N5603 Imager:</b> 650 nm high-visibility red laser; maximum output 1 mW Class 2 Laser
MOTION TOLERANCE	up to 584 cm [230 in] per second in total darkness with 100% UPC at 10 cm [4 in] distance
FIELD OF VIEW	<b>HD Optics:</b> 41.4° horizontal, 32.2° vertical <b>SR Optics:</b> 42.4° horizontal, 33.0° vertical <b>ER Optics:</b> 31.6° horizontal, 24.4° vertical
SCAN ANGLES	tilt: 360°, pitch: ±45°, skew: ±65°
SYMBOL CONTRAST	20% minimum reflectance
WARRANTY	15-month limited warranty; the warranty period starts at date of shipment from Honeywell to customer

TABLE 5. SYMBOLOGIES	
<b>Linear:</b> UPC/EAN/JAN, GS1 DataBar, Code 39, Code 128, Code 32, Code 93, Codabar/NW7, Interleaved 2 of 5, Code 2 of 5, Matrix 2 of 5, MSI, Telepen, Trioptic, China Post	
<b>2D Stacked:</b> PDF417, MicroPDF417, GS1 Composite	
<b>2D Matrix:</b> Aztec Code, Data Matrix, QR Code, Micro QR Code, MaxiCode, Han Xin Code	
<b>Postal:</b> Intelligent Mail Barcode, Postal-4i, Australian Post, British Post, Canadian Post, Japanese Post, Netherlands (KIX) Post, Postnet, Planet Code	
<b>OCR Option:</b> OCR-A, OCR-B, E13B (MICR)	

TABLE 6. HIGH DENSITY (HD OPTICS) <sup>1,2</sup>			
Symbology	Near Distance (cm [in])	Far Distance (cm [in])	Delta (cm [in])
3 mil C39	3,1 [1.2]	11,4 [4.5]	8,3 [3.3]
5 mil C39	3,4 [1.3]	13,9 [5.5]	10,4 [4.1]
7.5 mil C128	2,1 [0.8]	13,7 [5.4]	11,6 [4.6]
5 mil PDF	3,1 [1.2]	11,6 [4.3]	8,5 [3.1]
5 mil Data Matrix	4,4 [1.7]	8,9 [3.5]	4,6 [1.8]

<sup>1</sup> Barcode quality and environmental conditions may affect performance.

<sup>2</sup> Performance based on firmware 904 and BOM rev AA.

TABLE 7. STANDARD RANGE (SR OPTICS) <sup>1,2</sup>			
Symbology	Near Distance (cm [in])	Far Distance (cm [in])	Delta (cm [in])
5 mil C39	4,7 [1.8]	19,6 [7.7]	14,9 [5.9]
10 mil C39	1,5 [0.6]	43,8 [17.2]	42,3 [16.6]
100% UPC	3,8 [1.5]	43,3 [17.0]	39,6 [15.6]
5 mil PDF	5,3 [2.0]	13,2 [5.1]	7,9 [2.7]
10 mil Data Matrix	3,9 [1.5]	19,9 [7.8]	16,0 [6.3]

<sup>1</sup> Barcode quality and environmental conditions may affect performance.

<sup>2</sup> Performance based on firmware 904 and BOM rev AA.

TABLE 8. EXTENDED RANGE (ER OPTICS)			
Symbology	Near Distance (cm [in])	Far Distance (cm [in])	Delta (cm [in])
100% U.P.C	6,1 [2.4]	53,3 [21.0]	47,2 [18.6]
10 mil Code 39	6,1 [2.4]	44,2 [17.4]	36,1 [15.0]
15 mil Code 39	3,8 [1.5]	54,9 [21.6]	51,1 [20.1]
10 mil PDF417	5,6 [2.2]	39,6 [15.6]	34,0 [13.4]
MaxiCode	7,9 [3.1]	52,8 [20.8]	44,9 [17.7]

Resolution, linear barcodes: 0.127 mm [5.0 mil]

Resolution, 2D matrix codes: 0.191 mm [7.5 mil]

## ADDITIONAL INFORMATION

- Quick Start Guide is available on the Honeywell web site at [honeywellaidc.com](https://www.honeywellaidc.com)
- Installation Guide is available upon request; contact your Honeywell representative
- For a listing of common compliance approvals and certifications, please visit <https://www.honeywellaidc.com/search?q=compliance&t=resources>

## NOTICE

### MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. Do not use this document as a product installation guide.
- A Quick Start Guide is available on the Honeywell website ([honeywellaidc.com](https://www.honeywellaidc.com)). Additional installation information is available upon request. Please contact your Honeywell sales representative.

### Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

### Find out more

To learn more about Honeywell's scan engines and barcode decoding software, visit [honeywellaidc.com](https://www.honeywellaidc.com).

### Honeywell Sensing and Internet of Things

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