

N660X Series

Ultra-Slim 2D Imager with Standard and Extended Range Optics

Enhanced performance barcode imaging is now slimmer and more compact. The N660X Series 2D imager integrates Honeywell decoding and imaging technology in our most compact design. The enhanced 1D and 2D scanning performance also provides an improved user experience and more integration flexibility.

Built on Honeywell's imaging platform, this technology delivers an enhanced barcode reading experience, with increased speed and improved accuracy. Inside the ultra-compact N660X Series engine, a proprietary imaging sensor is embedded that is designed specifically for professional barcode reading. With its white illumination, this compact sensor captures more detail and is very motion tolerant—making it easier to decode hard-to-read barcodes and tolerate challenging ambient light environments.

Interface flexibility was critical in the design of the N660X Series. It supports both traditional parallel and MIPI interfaces for emerging technologies. This enables easier integration with the latest processors, saves space, reduces overall design cost and shortens the integration and development cycle. The N660X Series is also backwards-compatible with nearly all N560X Series designs, which reduces development complexity and makes it easier and faster to integrate.

The N660X Series is available with an LED-based aimer (N6600) that provides a sharp, green aimer line which is clear and has better visibility, and makes targeting and scanning easier. To better fit our customers'



The N660X Series 2D Imager enables high performance scanning in an incredibly compact footprint.

application requirements a better visible laser aimer (N6603) is also available.

As the next-generation flagship product, the N660X Series utilizes the latest Honeywell decoding and imaging technology. It is also a smart choice for enterprise mobility, tablet, sled and wearable device makers who do not want to compromise thermal management, power consumption, peak current control and EMI for enhanced 2D scanning performance.

FEATURES & BENEFITS



At only 6.8 mm, the slim height makes it easier to fit today's and tomorrow's ultra slim devices.



Supports the latest technology trends for shorter design cycles.



Optimized white illumination enhances barcode reading performance. Choice of better visible LED or laser aimers gives flexibility to better suit customer application requirements.



Delivers improved scan speed, motion tolerance up to 5 m/s, enhanced reading capability for poorly printed barcodes, support for color barcodes, and full symbology support.



Provides faster and more accurate reading of barcodes and OCR fonts with enhanced motion tolerance, even on hard-to-read codes as well as those displayed on mobile phone screens.

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TABLE 1. MECHANICAL	
Characteristic	Parameter
DIMENSIONS (L X W X H)	23,5 mm x 16,2 mm x 6,8 mm [0.93 in x 0.64 in x 0.27 in]
WEIGHT	3 g [0.11 oz]
INTERFACE	parallel or MIPI


TABLE 2. ELECTRICAL	
Characteristic	Parameter
INPUT VOLTAGE	3.3 VDC ±5%
CURRENT DRAW AT 3.3 VDC	N6603 (laser aimer): 315 mA, 150 µA (sleep) N6600 (LED aimer): 375 mA, 150 µA (sleep)

TABLE 3. ENVIRONMENTAL	
Characteristic	Parameter
ILLUMINATION	white LED
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]
VIBRATION	5,1 mm [0.20 in] peak-to-peak displacement from (5 Hz to 22 Hz), 5 G acceleration (22 Hz to 300 Hz)
AMBIENT LIGHT	0 lux to 100,000 lux (total darkness to bright sunlight)
MTBF	laser aimer (N6603): 378,000 hrs LED aimer (N6600): 2,200,000 hrs min.

LASER LIGHT-DO NOT STARE INTO BEAM.

MAX. 1 mW: 650 nm.
IEC 60825-1:2007 and IEC 60825-1:2014.
Pulse duration of 16.8 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.



Applies to N6603 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 max.
ILLUMINATION	white LED (exempt risk group)
AIMING	visible green LED (N6600) or red laser aimer (N6603)
MOTION TOLERANCE	up to 584 cm [230 in] per second in total darkness with 100% UPC at 1.0 cm [4 in] distance
FIELD OF VIEW	Standard Range (SR) : 42.4° (H) x 33°C (V) Extended Range (ER) : 35.6° (H) x 27.5°C (V)
SCAN ANGLES	360°, pitch: ±45°, skew: ±60°
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	
Linear:	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
2D Stacked:	PDF417, MicroPDF417, GS1 Composite
2D Matrix:	Aztec Code, Data Matrix, QR Code, Micro QR Code, MaxiCode, Han Xin Cod
Postal:	Intelligent Mail Barcode, Postal-4i, Australian Post, British Post, Canadian Post, Japanese Post, Netherlands (KIX) Post, Postnet, Planet Code
OCR Option:	OCR-A, OCR-B, E13B (MICR)

TABLE 6. READ RANGES ¹				
Symbology	Standard Range (Typical)		Extended Range (Typical)	
	Start (mm/[in])	Stop (mm/[in])	Start (mm/[in])	Stop (mm/[in])
C39 5mil	64 [2.5]	163 [6.4]	96,5 [3.8]	283 [11.1]
C39 10mil	28 [1.1]	338 [13.3]	72 [2.8]	551 [21.7]
UPC-A 13mil	46 [1.8]	419 [16.5]	51 [2.0]	559 [22.0]
C39 20mil	–	–	56 [2.2]	819 [32.2]
PDF 417 6.7mil	46 [1.8]	185 [7.3]	127 [5.0]	232 [9.1]
QR 20mil	–	–	45 [1.8]	516 [20.3]
DM 10mil	53 [2.1]	203 [8.0]	120 [4.7]	282 [11.1]

¹ Barcode quality and environmental conditions may affect performance.

Figure 1. LED Aimer

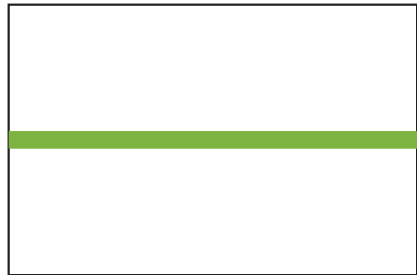
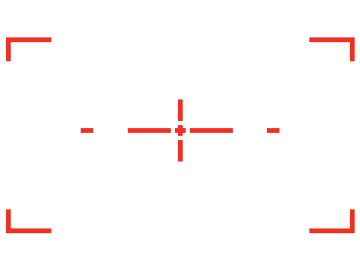


Figure 2. Laser Aimer



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.

ADDITIONAL INFORMATION

- Integration manual is available upon request; contact your Honeywell representative.
- Quick Start Guide is available on our [website](#).
- For a listing of common compliance approvals and certifications, please visit our [website](#).

NOTICE

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. Do not use this document as a product installation guide.
- An installation manual is available by request on our [website](#). Please contact your Honeywell sales representative.

FOR MORE INFORMATION

To learn more about Honeywell scan engines and barcode decoding software, visit our [website](#).

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