HONEYWELL N4603 SERIES

Compact, Undecoded 2D Scan Engines

The compact N4603 Series barcode scan engine is an easy-to-integrate, enhanced performance device that fits into tight mobile device designs.

N4603 Series 2D Scan Engine

The N4603 Series' dimensions 8,1 mm H x 10,8 mm D [0.32 in H x 0.43 in D], mounting holes and electrical pin-out are the same as the N3603 Series, providing an easy migration path for those customers currently using the N3603 Series. The MIPI interface helps simplify integration into mobile devices that require the most current, as well as traditional, processor interfaces.

Based on a VGA global shutter sensor, the N4603 Series scan engine's maximum motion tolerance of 6 m/s [19.7 ft/s] and scan rate of 120 fps maximum, enable increased scanning speed and productivity. The white LED enhances image capture and colored barcode readability and a laser aiming system is available to match application requirements.

Using the latest host decoder platform from Honeywell, the N4603 Series supports a wide variety of symbologies, including 1D, 2D and OCR. The device also includes advanced features that support reading poorly printed and on-screen barcodes.

The wide operational temperature range (-30°C to 60°C [-22°F to 140°F]) allows expansion into more demanding applications and the lower power consumption increases the battery life provided by a single charge.

The N4603 Series is compatible with Honeywell's N660X Series and N670X Series high-performance 2D scan engines. It uses the same connector as these two scan engine families, reducing integration time and design costs while increasing design flexibility and choice.

The N670X is even slimmer than the N4603 Series and both can fit in compact enclosures. Two different levels of barcode scanning performance may be offered to customers without introducing a housing change or additional accessory design.

POTENTIAL APPLICATIONS

Use in professional-grade, mobile devices such as tablets, wearable scanners, mobile terminals, accessories in retail stores, warehouses and healthcare facilities, as well as delivery, pick-up/drop-off and field servicing.

FEATURES AND BENEFITS

- Compact size allows use in tight mobile device designs.
- Improved snappiness with global shutter has much higher motion tolerance of 6 m/s versus 0,1 m/s in rolling shutter.
- Wide operational temperature range increases potential applications.
- Supports optional Honeywell functionalities such as OCR and EasyParse™ for potential use with driving licenses and boarding passes.
- Compatible with other Honeywell scan engine families for reduced integration time and design costs, as well as increased design flexibility and choice.

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HONEYWELL N4603 SERIES Technical Specifications

TABLE 1. MECHANICAL	
CHARACTERISTIC	**PARAMETER**
DIMENSIONS (H X W X D)	8,1 mm x 22 mm x 10,8 mm [0.32 in x 0.87 in x 0.43 in]
WEIGHT	2,1 g [0.07 oz]
INTERFACE	MIPI

TABLE 2. ENVIRONMENTAL	
CHARACTERISTIC	**PARAMETER**
OPERATING TEMPERATURE	-30°C to 60°C [-22°F to 140°F]
STORAGE TEMPERATURE	-40°C to 70°C [-40°F to 158°F]
HUMIDITY (OPERATING AND STORAGE)	up to 95 %RH, non-condensing at 60°C [140°F]
SHOCK	3500 G for 0.4 ms at 23°C [73°F]
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 to bright sunlight)
MEAN TIME BETWEEN FAILURE (MTBF)*	327,786 hours

TABLE 3. PERFORMANCE	
CHARACTERISTIC	**PARAMETER**
SENSOR	global shutter
RESOLUTION	640 x 480
ILLUMINATION	white LED (exempt risk group)
AIMER	650 nm high-visibility red laser: advanced red laser, cross target and framers
SCAN RATE	120 frames/s max.
MOTION TOLERANCE	6 m/s [19.7 ft/s]
FIELD OF VIEW	horizontal: 42°, vertical: 32°
SCAN ANGLES	tilt: 360°, pitch: ±55°, skew: ±70°
SYMBOL CONTRAST	20 % minimum print contrast ratio
WARRANTY	15-month limited warranty; the warranty period starts at date of shipment from Honeywell to customer

TABLE 4. READ RANGES (TYPICAL)**			
SYMBOLOGY	**NEAR DISTANCE (MM [IN])**	**FAR DISTANCE (MM [IN])**	**DELTA (MM [IN])**
5 MIL C39	45 [1.8]	180 [7.1]	135 [5.3]
10 MIL C39	36 [1.4]	360 [14.2]	324 [12.8]
20 MIL C39	71 [2.8]	747 [29.4]	676 [26.6]
5 MIL C128	56 [2.2]	158 [6.2]	102 [4.0]
10 MIL PDF	42 [1.7]	247 [10.8]	205 [8.1]
20 MIL QR	36 [1.4]	367 [14.4]	331 [13.3]
100% UPCA	46 [1.8]	390 [15.4]	344 [13.5]
10MIL DATA MATRIX	41 [1.6]	182 [7.12]	141 [5.6]

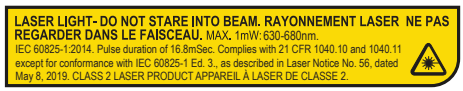
TABLE 5. ELECTRICAL	
CHARACTERISTIC	**PARAMETER**
INPUT VOLTAGE	3.3 Vdc ±5 %
CURRENT	160 mA

TABLE 6. SYMBOLOGIES
LINEAR
Codabar, Code 11, Code 128, Code 2 of 5, Code 39, Code 93 and 93i, EAN/JAN-13, EAN/JAN 8, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MSI, GS1 Databar, UPC-A, UPC E, UPC-A/EAN-13 with Extended Coupon Code, Coupon GS1 Code 32(PARAF), EAN-UCC Emulation, GS1 Data Bar
2D STACKED
Codablock A, Codablock F, PDF417, MicroPDF417
2D MATRIX
Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin), Grid Matrix, Dot Code
POSTAL
Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnett

FIGURE 1. LASER AIMER

* Based on MIL-HDBK-217F (released December 1, 1991). The calculation is based on the part count method for the Ground Benign (GB) environmental conditions.

** Barcode quality and environmental conditions may affect performance.



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
- For a listing of common compliance approvals and certifications, please visit

  sensing.honeywell.com/product-certifications-webpage

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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007632-2-EN | 2 | 03/21

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