Honeywell | 2D Scan Engines

THE POWER OF **CONNECTED**

N3680 Series

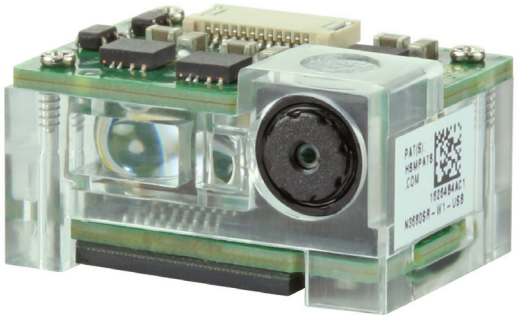
Compact Decoded 2D Imager

The N3680 barcode scan engine is a fully decoded 2D imager that utilizes Honeywell decoding and imaging technology in our most compact design. The N3680 2D imager represents a balance between size, performance and ease of integration, providing an enhanced user experience.

The N3680 2D imager supports a wide variety of symbologies, including 1D, 2D and PDF417 barcodes. It also includes advanced features that support reading poorly-printed barcodes, and can read barcodes directly from smartphone screens. These attributes make the N3680 2D imager useful for reading mobile coupons and loyalty cards, mobile ticketing, paperless boarding passes and barcode payment systems for mobile wallet applications.

Integration is easier, with the N3680 2D imager available in either TTL serial or USB versions, both with an industry-standard, 12-pin ZIF connector. To provide an easier upgrade path for customers desiring a 1D laser with a 2D imaging option, the N3680 2D imager is the same size as the Honeywell N4315 1D laser engine, and features the same mounting holes and electrical pin-out. This provides enhanced flexibility to more quickly provide barcode reading solutions with a lower design cost, in more compact designs.

Compact and ready to power the next generation of intelligent data collection devices, the N3680 2D imager weighs 3,6 g [0.1 oz], simplifying design into a wide range of small devices. Due to its small form factor and fully integrated design, there is no need for an extra decoder board, and no need for extra host decoder programming. In fact, the N3680 2D imager does not require a separate CPU or OS for integration into your device.



With its compact dimensions and integrated decoder, the N3680 2D imager makes it easier to incorporate enhanced performance scanning into your designs.

The N3680 2D imager's enhanced reliability and performance allow for potential use in many imaging applications, including retail, healthcare, point of sale, kiosks and ATMs, wearables and Internet of Things.

FEATURES

Integrated decode minimizes the need for a separate decoder board and extra programming and integration work. The N3680 2D imager can even work without an OS and host CPU.

Multiple interface support, either TTL serial or USB, provides easier integration into the most popular devices and applications.

Compact size and compatibility with the Honeywell N4315 1D laser engine provide enhanced design flexibility and reuse.

Based on Honeywell decoding and imaging technology, users will experience enhanced-performance scanning and imaging capabilities, and support for a wide set of 1D and 2D barcode symbologies.

Ability to scan hard-to-read codes, as well as those displayed on mobile phone screens.

N3680 Series Technical Specifications

TABLE 1. MECHANICAL	
Characteristic	**Parameter**
DIMENSIONS (L X W X H):	
TYPICAL	21,17 mm x 14,6 mm x 11,52 mm [0.83 in x 0.57 in x 0.45 in]
MAXIMUM	21,57 mm x 14,95 mm x 11,73 mm [0.85 in x 0.59 in x 0.46 in]
WEIGHT	3,6 g [0.1 oz]
INTERFACE	12-pin ZIF connector, with both TTL serial and USB configurations

TABLE 2. ELECTRICAL	
Characteristic	**Parameter**
INPUT VOLTAGE:	
TTL SERIAL	3.3 VDC ±5%
USB	5.0 VDC ±5%
TYPICAL CURRENT DRAW:	
TTL SERIAL	3.3 V input: 310 mA RMS while scanning, 65 mA RMS at idle, 3.5 mA while on standby
USB	5.0 V input: 175 mA RMS while scanning, 60 mA RMS at idle, 2.5 mA while on standby

TABLE 3. ENVIRONMENTAL	
Characteristic	**Parameter**
OPERATING TEMPERATURE	-10°C to 40°C [14°F to 104°F]
STORAGE TEMPERATURE	-40°C to 60°C [-40°F to 140°F]
HUMIDITY	up to 95% relative humidity, non-condensing, at 40°C [104°F]
SHOCK	2500 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
MTBF	1,470,000 hrs

TABLE 4. PERFORMANCE	
Characteristic	**Parameter**
SENSOR	CMOS sensor with 640 x 480 pixel resolution
ILLUMINATION	white LED
AIMING	red LED dot aimer
TYPICAL FRAME RATE	30 frames per second
MOTION TOLERANCE	Up to 10 cm/s (4 in/s) for 13 milUPC at optimal focus
FIELD OF VIEW	horizontal: 37.8°, vertical: 28.8°
SCAN ANGLES	tilt: 360°, pitch: ±45°, skew: ±45°
SYMBOL CONTRAST	35% minimum print contrast ratio
WARRANTY	15-month limited warranty; the warranty period starts at date of shipment from Honeywell to customer

TABLE 5. 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
2D Stacked: Codablock A, Codablock F, PDF417, MicroPDF417
2D Matrix: Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin) Code
Postal: Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet

TABLE 6. STANDARD RANGE (SR OPTICS) [1]			
Symbology	**Near Distance (cm [in])**	**Far Distance (cm [in])**	**Delta (cm [in])**
100% UPC	5,5 [2.1]	28,0 [11.0]	22,5 [8.9]
5 MIL CODE 39	6,1 [2.4]	13,0 [5.1]	6,9 [2.7]
20 MIL CODE 3	6,0 [2.4]	38,0 [15.0]	32,0 [12.6]
6.7 MIL PDF417	6,0 [2.4]	12,5 [4.9]	6,5 [2.5]
10 MIL DATA MATRIX	6,0 [2.4]	13,0 [5.1]	7,0 [2.7]
20 MIL QR	5,0 [2.0]	23,0 [9.0]	18.0 [7.0]

[1] 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 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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