Honeywell | 2D Scan Engine

# N3680

## Compact Decoded 2D Imager

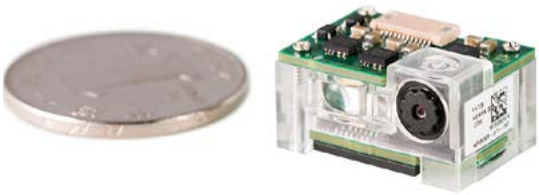
The N3680 barcode scan engine is a revolutionary, fully decoded, compact 2D imager from Honeywell. It inherits the legendary Adaptus™ 6.0 decoding performance in our most compact design. The N3680 2D imager represents a fine balance between size, performance and ease of integration – ensuring an excellent end-user experience.

Not only does the N3680 2D imager support a wide variety of symbologies, including 1D, 2D and PDF417 barcodes, it also includes advanced features that support reading poorly printed barcodes and can even read barcodes directly from smartphone screens. This makes the N3680 2D imager a perfect choice for reading mobile coupons and loyalty cards, mobile ticketing, paperless boarding passes and barcode payment systems for mobile wallet applications.

Integration is simplified, 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 easy 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 even features the same mounting holes and electrical pin-out. This gives you the greatest flexibility to quickly provide barcode reading solutions with the lowest design cost, in the most compact designs.

Super-compact and ready to power the next generation of intelligent data collection devices, the N3680 2D imager weighs in at just 3.6 grams (0.1 ounces) and fits easily into a wide range of small devices. Thanks 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.

The N3680 2D imager offers high reliability and performance, enabling more design freedom inside virtually any kind of device across all market segments, especially for retail, healthcare, point of sale, kiosks and ATMs, wearables and the IoT.



*With its compact dimensions and integrated decoder, the N3680 2D imager makes it easy to incorporate high-performance scanning into your designs.*

## FEATURES & BENEFITS

Integrated decode eliminates 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 easy integration into the most popular devices and applications.

Compact size and fully compatible with the N4315 1D laser engine for maximum design flexibility and design reuse.

Based on advanced Honeywell Adaptus technology, users will experience high-performance scanning and support for a wide set of 1D and 2D barcode symbologies along with advanced imaging capabilities.

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

# **N3680** Technical Specifications

## PERFORMANCE

**Sensor:** CMOS sensor with 640 x 480 pixel resolution

**Illumination and Aiming:** White LED illumination; red LED dot aimer

**Typical Frame Rate:** 30 frames per second

**Motion Tolerance:** Up to 10 cm/s (4 in/s) for 13 mil UPC 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

**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 Codes:** Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet

## MECHANICAL / ELECTRICAL

**Dimensions:**

**Typical (W x D x H):**
21.17 mm x 14.6 mm x 11.52 mm
(0.83 in x 0.57 in x 0.45 in)

**Maximum (W x D x H):**
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

**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 V input – 220 mA RMS while scanning, 60 mA RMS at idle, 2.5 mA while on standby

## ENVIRONMENTAL / OTHER

**Temperature:**

**Operating:** -10°C to 40°C (14°F to 104°F)

**Storage:** -40°C to 60°C (-40°F to 140°F)

**Humidity:** Up to 95% relative humidity, non-condensing, at 40°C (104°F)

**Ambient Light:** 0–100,000 lux (total darkness to bright sunlight)

**Shock Rating:** 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)

**MTBF:** 70,000 hrs

**Warranty:** 15-month limited warranty

| STANDARD RANGE (SR) OPTICS | |
|---|---|
| **SYMBOLOGY / X-DIM** | **TYPICAL RANGE*** |
| **100% UPC** | 55 mm to 280 mm (2.1 in to 11.0 in) |
| **5 MIL CODE 39** | 61 mm to 130 mm (2.4 in to 5.1 in) |
| **20 MIL CODE 39** | 60 mm to 380 mm (2.4 in to 15.0 in) |
| **6.7 MIL PDF417** | 60 mm to 125 mm (2.4 in to 4.9 in) |
| **10 MIL DATA MATRIX** | 60 mm to 130 mm (2.4 in to 5.1 in) |
| **20 MIL QR** | 50 mm to 230 mm (2.0 in to 9.0 in) |

** Typical performance may be impacted by barcode quality and environmental conditions.*

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

For a complete listing of all supported barcode symbologies, please visit www.honeywellaidc.com/symbologies.



**For more information**

www.honeywellaidc.com

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