FLEXRANGE™ N6803 SERIES

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Issue 1

Compact, Undecoded 2D Scan Engines

Honeywell's ultra slim scan engine innovation continues with the latest FlexRange™ N6803 Series 2D scan engines.

Whether you work in a distribution center, retail, logistics, or in the field, workers need the capability of scanning near, mid, and far range distances to improve workflow efficiency and reduce fatigue. Existing long-range imaging options are available, but may not be suitable, for more compact designs. Introducing the Honeywell FlexRange™ N6803 Series which includes the N6803MR and the N6803FR 2D scan engines. Both of these variants have the same ultra slim form factor of 6,8 mm height x 23,5 mm width x 16,2 mm depth [0.27 in height x 0.93 in width x 0.64 in depth] as their predecessors, with a read range of up to 6 m [20 ft] for the N6803MR and up to 10 m [30 ft] for the N6803FR. This capability enables virtually every potential application by using a single, compact, lightweight device which doesn't compromise on range, ergonomics, or speed.

The N6803MR variant is unlike the legacy scan engine design. It is all solid state and uses the latest Smart Adaptus™ 8.0 technology to adjust the optical parameter and algorithm for reading even out-of-focus images. This allows the depth-of-field (DOF) to extend beyond what traditional single lens architecture is able to achieve, allowing an efficient and comfortable working range needed in transportation and logistics industries.

The N6803FR variant further pushes the boundary of the reading range needed in warehouse and distribution centers. With its dual lens architecture and fast, near and far switching mechanism, there's no time spent refocusing. From picking to the pallet rack, this scan engine is capable of handling the broadest range of workflows to be the optimal choice for workers who need to scan a wide variety of ranges with a single device.

Honeywell's FlexRange™ N6803 Series scan engines are compact enough to be easily integrated into mobile devices. For mobile devices running under an OS,

N6803MR

N6803FR

Honeywell offers its customers the latest Swiftdecoder™ HD host decoder software which leverages the customer's mobility processing power. For customers developing devices without an OS, Gen8 DB decoder boards are perfectly designed to provide a seamless barcode reading experience with minimal footprint, best suited for wearable devices.

POTENTIAL APPLICATIONS

For 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

Ultra slim form factor; the smallest and lightest long-range scanner series to standardize on a single device to meet the needs of multiple workflows with near, mid and far read ranges.

Smart Adaptus™ 8.0 technology extends the single lens read range of standard range optics and dual lens design for simultaneous close and far image capture. Reads barcodes from 6 cm to 6 m [2.3 in to 20 ft] for the N6803MR and up to 10 m [30 ft] for the N6803FR.

Extreme light weight of 3 g [0.11 oz] is best suited for wearables; designed for the most rugged environments with shock up to 3500 G.

Lower power consumption compared to long-range engines within its class translates to longer battery life in a single charge.

Flexible decoding options with SwiftDecoder HD host decoder software or Gen8 DB decoder board to suit every integration need.

Honeywell

N6803 SERIES Technical Specifications

TABLE 1. MECHANICAL

Characteristic	Parameter	
	N6803MR	N6803FR
Dimensions (H x W x D)	6,8 mm x 23,5 mm x 16,2 mm [0.27 in x 0.93 in x 0.64 in]	
Weight	3 g [0.11 oz]	
Interface	MIPI	

TABLE 2. ELECTRICAL

Characteristic	Parameter	
	N6803MR	N6803FR
Input voltage	1.71 V to 3.45 V	3.3 Vdc ±5%
Current	303 mA (typical)	270 mA (typical)

TABLE 3. PERFORMANCE

Characteristic	Parameter	
	N6803MR	N6803FR
Sensor technology	global shutter	
Resolution	1920 pixel x 800 pixel	near: 1920 pixel x 1200 pixel far: 1280 pixel x 800 pixel
Scan rate	60 fps default	40 fps default (60 fps max.)
Illumination	white	
Aimer	650 nm laser dot	
Field of view	37° x 16°	near: 48° x 21° far: 20° x 12°
Symbol contrast	20%	
Minimum resolution	3 mil 1D	5 mil 1D

TABLE 4. ENVIRONMENTAL

Characteristic	Parameter	
	N6803MR	N6803FR
Operating temperature[1]	-30°C to 60°C [-22°F to 140°F]	-25°C to 50°C [-13° to 122°F]
Storage temperature	-40°C to 85°C [-40° to 185°F]	-40° to 70°C [-40° to 158°F]
Humidity (non-condensing)	0% to 95% at 60°C [140°F]	5% to 95% at 50°C [122°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[2]	0 lux to 100,000 lux	
Mean time between failure[3]	320,000 hours	202,000 hours
Warranty	15-month limited warranty; the warranty period starts at date of shipment from Honeywell to customer.	

TABLE 5. READ RANGES[4]

Symbology	N6803MR			N6803FR		
	Near Distance (mm [in])	Far Distance (mm [in])	Delta (mm [in])	Near Distance (mm [in])	Far Distance (mm [in])	Delta (mm [in])
13 MIL UPC	65 [2.6]	965 [38.0]	900 [35.4]	68 [2.7]	1690 [66.5]	1622 [63.9]
5 MIL C39	85 [3.3]	350 [13.8]	265 [10.4]	137 [5.4]	396 [15.6]	259 [10.2]
10 MIL C128	65 [2.6]	760 [30.0]	695 [27.3]	90 [3.5]	1399 [55.1]	1309 [51.5]
20 MIL C39	85 [3.3]	1500 [59.0]	1415 [55.7]	88 [3.4]	2848 [104.1]	2760 [108.7]
55 MIL C39	–	3200 [126.0]	–	–	5912 [232.8]	–
100 MIL C39	–	5500 [216.5]	–	–	9849 [388.0]	–
7 MIL PDF	75 [3.0]	300 [11.8]	225 [10.0]	137 [5.4]	415 [16.3]	278 [10.9]
10 MIL QR	70 [2.8]	320 [12.6]	250 [9.8]	128 [5.0]	412 [16.2]	284 [11.2]

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

2D Stacked

Codablock A, Codablock F, PDF417, MicroPDF417

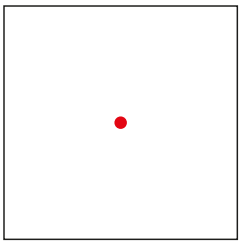
2D Matrix

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, Postnet

FIGURE 1. LASER DOT AIMER



1 Extreme temperatures will reduce the depth of field.

2 Extreme ambient light conditions will reduce the depth of field.

3 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.

4 Barcode quality and environmental conditions may affect performance.

LASER LIGHT-DO NOT STARE INTO BEAM
RAYONNEMENT LASER-NE PAS REGARDER DANS LE FAISCEAU. MAX. 1 mW: 630-680 nm. IEC 60825-1:2014. Pulse duration of 16.8 mSec. Complies with 21CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed.3., as described in Laser Notice No. 56, dated May 8, 2019.

CLASS 2 LASER PRODUCT.
APPAREIL Á LASER DE CLASSE 2.

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, 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.

Honeywell
Sensing and Safety Technologies
830 East Arapaho Road
Richardson, TX 75081
sps.honeywell.com/ast

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