

FLEXRANGE™ N6803 SERIES

Compact, Undecoded 2D Scan Engines

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

Whether working in a distribution center, logistics, or in the field, workers need the ability to scan at close, middle, and long ranges 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: a comprehensive series of optic engines to meet your needs in transportation logistics and warehouses. The N6803MR, N6803FR, and the newly launched N6803LR 2D scan engines all feature the same ultra-slim form factor (6.8 mm [0.27 in] height x 23.5 mm [0.93 in] width x 16.2 mm [0.64 in] depth) with read ranges up to 6m [20 ft] for the N6803MR, 10m [30 ft] for the N6803FR, and 25m [80 ft] for the N6803LR. This enables virtually every use case in a single, compact, lightweight device that doesn't compromise on range, ergonomics, or speed.

The N6803MR scan engine is unlike legacy designs; it is entirely solid-state and uses the latest Smart Adaptus™ 8.0 technology to adjust optical parameters and algorithms for reading even out-of-focus images. This extends the depth-of-field (DOF) beyond what traditional single-lens architecture can achieve, providing an efficient and comfortable working range needed in the transportation and logistics industries.

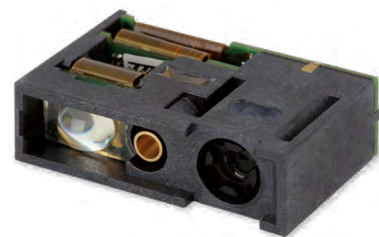
The N6803FR scan engine further extends the reading range needed in warehouses and distribution centers. With its dual-lens architecture and fast near-and-far switching mechanism, there's no time spent refocusing. From picking to the pallet rack, it handles a broad range of workflows, making it the optimal choice for workers who need to scan a wide variety of ranges with a single device.

The N6803LR scan engine pushes the limits of the ultra-slim series, delivering the close-to-furthest distances needed in warehouses and distribution centers. Whether you need to reach the top of a shelf or scan a pallet from a moving forklift, the range enables you to effectively improve productivity and worker satisfaction.

Honeywell's FlexRange™ N6803 series of 2D scan engines are compact enough to be easily integrated into mobile devices. For mobile devices running an OS, Honeywell offers the latest host decoder software that leverages the device's processing power. For customers developing devices without an OS, the Gen8 DB decoder board is perfectly designed to provide a seamless barcode reading experience with a minimal footprint, making it ideal for wearable devices.

POTENTIAL APPLICATIONS

Professional-grade mobile devices such as handheld terminals, tablets, wearable scanners, and accessories in retail stores, warehouses, as well as for delivery, pick-up/drop-off, and field servicing.



N6803MR



N6803FR



N6803LR

FEATURES AND BENEFITS



Ultra-slim form factor: a small and light long-range scanner series, designed 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 optics and features a dual-lens design for simultaneous close and far image capture. Reads barcodes from 6 cm to 6 m [2.3 ins to 20ft] for N6803MR, up to 10m [30ft] for N6803FR and 25m [80ft] for N6803LR.



Extremely lightweight at 3g, but designed for the most rugged environments, with shock resistance up to 3500G.



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



Flexible decoding options with host decoder software or the Gen8 DB decoder board to suit your integration needs.



Sharp laser dot aimer to assist the user in locating the barcode with ease under various lighting conditions, even at several meters/feet away.

N6803 SERIES Technical Specifications

TABLE 1. MECHANICAL

Characteristic	Parameter		
	N6803MR	N6803FR	N6803LR
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	N6803LR
Input voltage	1.71 V to 3.45 V	3.3 Vdc ±5%	
Current	303 mA (typical)	270 mA (typical)	230 mA (typical)

TABLE 3. PERFORMANCE

Characteristic	Parameter		
	N6803MR	N6803FR	N6803LR
Sensor technology	Global shutter		near: Global shutter far: Rolling shutter
Resolution	1920 pixel x 800 pixel	near: 1920 pixel x 800 pixel far: 1280 pixel x 800 pixel	near: 1920x 800 pixel far 1920 x 800 pixel
Scan rate	60 fps default	40 fps default (60 fps max.)	30 fps default
Illumination	white		
Aimer	N6803MR: 650nm laser dot, N6803FR (green aimer): 520nm laser dot, N6803LR: 650 nm red laser dot		
Field of view	37° x 16°	near: 48° x 21° far: 20° x 12°	near: 48 x 21° far: 13.7 x 7.6°
Symbol contrast	20%		
Minimum resolution	3 mil 1D	5 mil 1D	3mil 1D

TABLE 4. ENVIRONMENTAL

Characteristic	Parameter		
	N6803MR	N6803FR	N6803LR
Operating temperature ¹	-30°C to 60°C [-22°F to 140°F]	-30°C to 60°C [-22°F to 140°F]	-25° to 50° C (-13° to 122° F)
Storage temperature	-40°C to 70°C [-40° to 158°F]	-40° to 70°C [-40° to 158°F]	-30° to 70°C (-22°F to 158°F)
Humidity (non-condensing)	Up to 95% at 60°C [140°F]	Up 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	395,000 hours	307,000 hours
Warranty	15-month limited warranty; the warranty period starts at date of shipment from Honeywell to customer.		

TABLE 5. READ RANGES⁴

Symbology	N6803MR			N6803FR			N6803LR		
	Near Distance (mm [in])	Far Distance (mm [in])	Delta (mm [in])	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]	67 [2.63]	1923 [75.7]	1856 [73.08]
5 MIL C39	85 [3.3]	350 [13.8]	265 [10.4]	137 [5.4]	396 [15.6]	259 [10.2]	146 [5.74]	437 [17.2]	291 [11.46]
10 MIL DM	–	–	–	–	–	–	148 [5.82]	448 [17.63]	300 [11.82]
10 MIL C128	65 [2.6]	760 [30.0]	695 [27.3]	90 [3.5]	1399 [55.1]	1309 [51.5]	95 [3.74]	1928 [75.9]	1833 [72.17]
20 MIL C39	85 [3.3]	1500 [59.0]	1415 [55.7]	66 [2.6]	2848 [104.1]	2760 [108.7]	77 [3.03]	6066 [238.81]	5989 [235.79]
55 MIL C39	–	3200 [126.0]	–	–	7060 [278.0]	–	–	15040 [592.12]	–
100 MIL C39	–	5500 [216.5]	–	–	11370 [447.6]	–	–	26782 [1054.4]	–
100 MIL DM	–	–	–	–	6221 [244.9]	–	–	13634 [536.77]	–
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	2D Stacked	2D Matrix	Postal
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, Coupon Code 32 (PARAF), EAN-UCC Emulation	Codablock A, Codablock F, PDF417, MicroPDF417	Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin), Grid Matrix, Dot Code	Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet

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.

ADDITIONAL INFORMATION

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

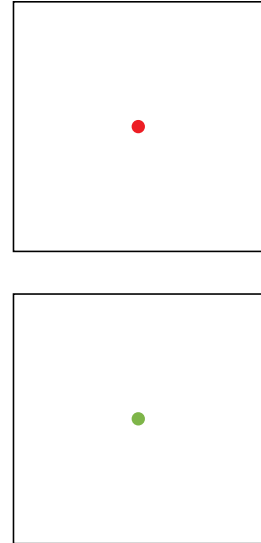
WARRANTY/REMEDY

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.

FIGURE 1. LASER DOT AIMERS




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

LASER LIGHT-DO NOT STARE INTO BEAM
RAYONNEMENT LASER-NE PAS REGARDER
DANS LE FAISCEAU. MAX. N6803FR (green aimer)
1 mW: 515-530 nm. N6803FR (red aimer)
1 mW: 645-660 nm. IEC 60825-1:2014.
Pulse duration of 10 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 À LASER DE CLASSE 2. 

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