

# FM-5

## Product Overview

FM-5 fixed mount barcode scanner is designed for applications that require aggressive 1D and 2D barcode scanning but may also require machine vision image processing functions.

At the heart of the FM-5 is the latest in barcode imaging technology. Utilizing the only area sensor designed specifically for reading barcodes, the FM-5 has longer product life cycles than devices using off the shelf area sensors. The FM-5 not only excels at reading barcodes the dual-functionality sensor provides both dedicated black & white mode (ideal for barcode) and color mode (ideal for image analysis).

Trying to read barcodes in motion or concerned about users presenting barcodes by hand? With motion tolerance up to 584cm (230") per second, the FM-5 is ready to take on applications where the barcode is moved by the scanner, either mechanically or by hand.

The great performance provided by the FM-5 comes in a small compact package that is ideal for OEM devices such as clinical analyzers, industrial robotic systems, kiosks and other devices looking to integrate a worry-free barcode scanner. The FM-5 is also a great fit for End-User applications such as manufacturing, or other applications requiring a fixed mount scanner.

- **Dual Purpose Sensor**

Flexible - Designed and optimized to read barcodes and capture/process color images

- **No Moving Parts**

Reliable - Constructed of Solid-State electronics the FM-5 is free from any moving parts that can break, come out of alignment or wear

- **Long Product Life**

Reduce design risk - With a dedicated barcode sensor the FM-5 drastically reduces the risk of product changes and product retirements.



# FM-5 Specifications

## Performance

- Sensor: Purpose Built CMOS Sensor, Global shutter, 844 x 640 pixel resolution  
60 frames per second, B&W and Color
- Illumination: 617nm visible Red LED (White LEDs available on Color units)
- Aiming: 528nm Visible Green LED
- Motion Tolerance: Up to 584 cm (230") per second in total darkness with .013" UPC at 4"
- Scan Angles: Tilt: 360 Pitch +/- 45 Skew: +/- 65
- Symbol Contrast: 20% Minimum Reflectance
- Ambient Light: 0-100,000 lux (total darkness – bright sunlight)
- Barcode Resolution: Down to 3 mil (.003")
- Symbologies:
  - Linear: UPC/EAN/JAN, GS1 DataBar, Code 39, Code 128, Code 32, Code 93, Codabar/NW7, Interleaved 2 of 5, Code 2 of 5, Matrix 2 of 5, MSI, Telepen, Trioptic, China Post; 2D Stacked: PDF417, MicroPDF417, GS1 Composite
  - 2D Matrix: Aztec Code, Data Matrix, QR Code, Micro QR Code, MaxiCode, Han Xin Code
  - Postal: Intelligent Mail Barcode, Postal-4i, Australian Post, British Post, Canadian Post, Japanese Post, Netherlands (KIX) Post, Postnet, Planet Code;
  - OCR: OCR-A, OCR-B, E13B (MICR) (OCR Optional)
- Field Of View:
  - SR Optics: 42.4° (Horizontal), 33.0° (Vertical)
  - ER Optics: 31.6° (Horizontal), 24.4° (Vertical)
  - HD Optics: 41.4° (Horizontal), 32.2° (Vertical)

## Electrical

- Interface: True RS-232, USB 1.1 (HID COMM or Keyboard), USB 2.0 (HID COMM or Keyboard)
- Input Voltage: +5VDC +/- 5%
- Current Draw: <500mA

## Environmental/Other

- Temperature: Operating: -25C to 50C  
Storage: -40c to 85C
- Humidity: 0-95% relative humidity, non-condensing at 50C
- Agency: FCC Class B, CE, RoHS Compliant

High Density (HD) Optics	
Symbology/X-Dim	Typical Range*
3 mil Code 93	48 mm to 91 mm (1.9" to 3.6")
6 mil Code 93	90 mm - 127 mm (3.5" - 5.0")
7.5 mil Code 93	93 mm - 162 mm (3.7" - 6.4")
6 mil MicroPDF417	90 mm - 182 mm (3.5" - 7.2")
6 mil Data Matrix	41 mm - 86 mm (1.6" - 3.4")

Resolution, linear bar codes: 0.076 mm (3.0 mil)  
 Resolution, 2D matrix codes: 0.127 mm (5.0 mil)

Standard Range (SR) Optics	
Symbology/X-Dim	Typical Range*
100% U.P.O.	46 mm to 419 mm (1.8" to 16.5")
6 mil Code 93	64 mm - 163 mm (2.5" - 6.4")
10 mil Code 93	28 mm - 93 mm (1.1" - 3.7")
8.7 mil PDF417	46 mm - 186 mm (1.8" - 7.3")
10 mil Data Matrix	63 mm - 203 mm (2.5" - 8.0")

Resolution, linear bar codes: 0.127 mm (5.0 mil)  
 Resolution, 2D matrix codes: 0.169 mm (6.7 mil)

Extended Range (ER) Optics	
Symbology/X-Dim	Typical Range*
100% U.P.O.	61 mm to 639 mm (2.4" to 25.1")
10 mil Code 93	61 mm - 442 mm (2.4" - 17.4")
16 mil Code 128	98 mm - 649 mm (3.9" - 25.5")
10 mil PDF417	66 mm - 396 mm (2.6" - 15.6")
MaxiCode	79 mm - 628 mm (3.1" - 24.7")

Resolution, linear bar codes: 0.127 mm (5.0 mil)  
 Resolution, 2D matrix codes: 0.191 mm (7.6 mil)

\*Performance may be impacted by bar code quality and environmental conditions.



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