



# FM450

Fixed Mount 2D Image Reader



**FM450 - Interchangeable  
M3 Optic V2 Optic**

## Description

The FM450 is a rugged fixed mount input device, designed at InData Systems utilizing the image engines from Hand Held Products - a leader in imaging technologies, for reading and decoding bar codes presented in front of the unit. The flexible mounting of the FM450 which is able to be mounted from the bottom or either (or both) sides allows mounting in a variety of industrial applications. It also allows the powering of a variety of external illumination for special applications.

The FM450 was originally designed to use the InData Systems LDS Series of direct part mark optics to optimally read and decode exceptionally small Datamatrix bar codes (the code selected as the ATA Spec2000<sup>2</sup> and EIA standard for small parts marking). The FM450 is the scanner of choice for a wide range of applications in fixed mounted applications where the bar code is manually or automatically presented in front of the scanner. Even without the addition of the LDS optics, it is a very robust scanner capable of reading 1D or 2D bar codes or OCR placed in front of the imager.

Because it is both difficult and costly to place a label on small electrical, medical instruments or aircraft components, the small Datamatrix codes are many times applied directly to the surface of the part itself by laser etching, chemical etching or use of the ink jet applied paints. This many times leads to low contrast ratios, and bar codes on irregular surfaces. Both of these factors lead to bar codes that are not easily decoded. The FM450 optimizes the readability by concentrating the lighting on the target bar code at a sharp angle and magnifying the codes. The angle at which the light hits the object minimizes the "wash out" effect caused by irregular and shiny surfaces.

Compact and easy to use, the FM450 can be used in repetitive, high volume automatic and manual scanning operations in even the most demanding environments. The FM450 can be configured for keyboard wedge, USB Serial or USB Keyboard wedge emulation, TTL RS-232, or True RS-232. The FM450 connects to all popular PCs and portable data terminals. The FM450 can be integrated with all types of customer systems. Our optics are available on the Corded 4600, Cordless 4620 and the self contained portable terminals (Dolphin 9500 series) as well.

## Features

**2D Image Reader**

**Supports Omni-Directional Reading of All Popular 1D & 2D Symbologies**

**Fixed Mount Reader**

**"Powered Socket" for enhanced optics illumination**

**Rugged sealed enclosure**

## Benefits

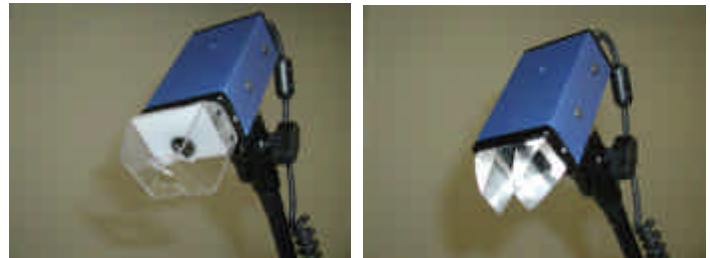
Fixed mount image reader for reading and decoding 2D symbologies.

FM450 supports all DataMatrix, QR Code, Aztec and Micro-PDF417 barcodes. It is specially designed to read ultra small etched or embossed matrix bar codes and OCR fonts through the use of InData Systems LDS series of Optics.

Opens up new 2D bar code and image capture possibilities in fixed scanning applications.

The FM450 was designed as a robust fixed mount scanner that supports a wide variety of illumination optics such as UV (Ultra Violet) illumination and enhanced lightbar optics.

The FM450 is was designed to meet the IP64 requirements for high dust and moist environments with only the addition of it's optional seals on the mounting screws.



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The Electronics Industry Association (EIA) is an industry trade association of key US electronics manufacturers (for example, Intel, Motorola, Texas Instruments)

<sup>2</sup> The Air Transport Association (ATA) is an industry trade association of many of the aircraft manufacturers setting standards for their industry - one being SPEC2000.

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# FM450 Technical Specifications

## Specifications

### Performance:

<b>FM450 Focal Point:</b>	Near Contact (with LDS optics) to 12 inches depending on bar code size
<b>FM450 Minimum bar:</b>	Barcodes with a minimum 4 mil narrow element (3mm DataMatrix, etc.)
<b>Rotational Sensitivity:</b>	360°
<b>Field of view:</b>	0.35-.8 inches/ 0.9 – 2.0 cm (depends on particular lens recommended for target) with LDS optics – see 4600 chart without special optics
<b>Ambient Light:</b>	Total darkness to 1,000 lux
<b>Aiming:</b>	Near Contact, between light pipes on V2, held at angle in Plastic guides on M3 series or green aimer line when used without added optics

### Symbologies:

<b>Matrix:</b>	DataMatrix (ECC 000, 050, 080,100,140, 200), QR Code, Micro-PDF417 and Aztec
<b>Linear:</b>	Code 39, Code 128, I-2 of 5, and most other linear codes. ** Note they MUST be VERY short in length to be viewed in our window** if using the LDS optics.
<b>OCR Fonts:</b>	OCR-A, OCR-B, OCR-Semi
<b>Interfaces:</b>	RS232, Keyboard Wedge, and USB – Serial / USB Keyboard Wedge
<b>Programmable Options:</b>	Baud, Parity, Extensive Data Formatting, and Code Options

### Mechanical/Electrical:

<b>Dimensions:</b>	
<b>Length:</b>	4.63 in. (11.7 cm)
<b>Height:</b>	1.5 in. (3.8 cm)
<b>Width:</b>	2.5 in. (6.3 cm)
<b>Weight w/o cord:</b>	15 oz. (450 g)
<b>Power Requirements:</b>	4.5V - 12 volts
<b>Current Draw:</b>	300 mA or less depending on input voltage (when illumination LEDs are on) – up to 450 if optional light bar or UV optic used



### Environmental:

<b>Temperature:</b>	
<b>Operating:</b>	-0°C to 50°C
<b>Storage:</b>	-40°C to +60°C
<b>Humidity:</b>	100% RH, condensing at 50°C
<b>ESD:</b>	Functional after 15KV discharge – Optional ESD conductive Coating available.
<b>Agency:</b>	FCC Class B, CE

Due to InData Systems continuing product improvement programs, specifications and features herein are subject to change without notice



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