

MiniScan MS 22XX Series



FIXED-MOUNT SCANNERS

High-Performance, Fixed-Mount Scanning Made Simple

The MS 22XX Series from Symbol Technologies is a compact, affordable industrial fixed-mount scanners that provides fast, aggressive performance on a full range of 1D and 2D symbologies including PDF417, RSS and composite codes.

Available in standard and a VHD version to read high-density bar codes, the MS 22XX offers a "smart" raster pattern optimized to read 2D symbols and poorly printed linear bar codes, making this scan module ideal for use in a variety of automated data collection devices:

Applications	Users
Fixed-mount or industrial standalone	
Manufacturing and warehousing Assembly lines Conveyor belts	Security and ID verification Library and document tracking Backroom receiving Driver Licenses and DMV
OEM	
Interactive kiosks and ATMs Healthcare and medical equipment Clinical diagnostic devices Security and ID verification Robotic equipment	Blood analysis Gas pumps Data storage systems Gaming and lottery terminals Vending machines Turnstiles/Access control

Plug-and-Play Installation Speeds Time to Market

MS 22XX scan modules are easy to program and configure, enabling you to shorten your development time and bring your product to market faster—even if you don't have in-house technical resources for scanner integration. With its rugged durable housing, exit window, integrated beeper and interface options, the MS 22XX enables your project teams to quickly and confidently integrate high-performance 1D and 2D bar code data capture into standalone and OEM applications.

Proven Embedded Technology and Services

With millions of installations worldwide, Symbol Embedded Technology solutions are hard at work in a variety of industries and everyday applications. Proven technology from Symbol Technologies allows you to offer your customers superior products and services. In addition, comprehensive training and integration services are available to support your design, testing and approval needs.

For more information about Symbol Embedded Technology, contact us at +1.800.722.6234 or +1.631.738.2400, or visit us on the web at: www.symbol.com/ms22xx



Features	Benefits
"Smart" raster pattern automatically tailors the pattern to the height of the PDF417 symbol	Enables you to build your device with the confidence that even novice users can scan items quickly and accurately
Versatility with adaptive scan patterns: 1D linear and PDF raster	Application can be customized using multiple triggering methods to produce the appropriate scan pattern
Compact rugged, durable housing with integrated beeper, mounting holes, LEDs, decoder and a variety of interfaces	Provides plug-and-play installation to reduce development time and speed up time to market
Sealed to IP54 standards	Protects against water and dust ensuring reliable performance in rough conditions
High speed scan rate—640 scans per second	Ensures fast, reliable data collection on all 1D and 2D codes such as PDF417, MicroPDF, RSS, and composite codes for maximum productivity
Automatic, software controlled or manual triggering	Offers flexible control of unattended or hands-free applications
Integrated beeper with external beeper support	Allows internal or external beeper to be driven depending on application
Easy to program simple serial interface (SSI)	Provides fast, simple interface communication with advanced features and functionality between scanner and host
Optional Software Developer's Kit (SDK)	Enables creation of applications using Windows 98, 2000, and XP platforms
Supports 123Scan utility (multi-interface, 07 versions only)	Easy to use PC based utility reduces end-user installation time
Multiple mounting options	Increases development flexibility

MS 22XX (Standard and VHD) Specification Highlights

Physical Characteristics

Dimensions:	1.60 in. H x 2.28 in. W x 2.94 in. D 4.06 cm H x 5.79 cm W x 7.47 cm D
Weight:	4.73 oz./134 gm

Performance Characteristics

Light Source:	Visible Laser Diode 650 nm
Scan Rate:	640 scans per second
Scan Angle:	Horizontal: 34° ±1.5° Vertical: 12.5° ±1.5°
Scan Patterns:	Linear, smart PDF raster
Skew (Yaw):	±15° from plane parallel to symbol ("side to side")
Pitch Angle:	±30° from normal ("front to back")
Rotation:	±4° from vertical (for scanning benchmark label assuming 3:1 code word aspect ratio)
Minimum Print Contrast:	Minimum 35% absolute dark/light reflectance measured at 650 nm.
Symbologies:	1D: UPC/EAN, Code 128, UCC.EAN128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI 2D: PDF417, MicroPDF, RSS and Composite codes
Programmable Parameters:	Laser On Time, Power Mode, Trigger Mode, Bidirectional Redundancy, Symbology types/lengths, Data formatting, Serial Parameters, Beeper Tone, Pattern Controls
Interfaces:	MS 2204/MS 2204 VHD: RS 232 MS 2207: TTL RS 232, USB, Synapse

User Environment

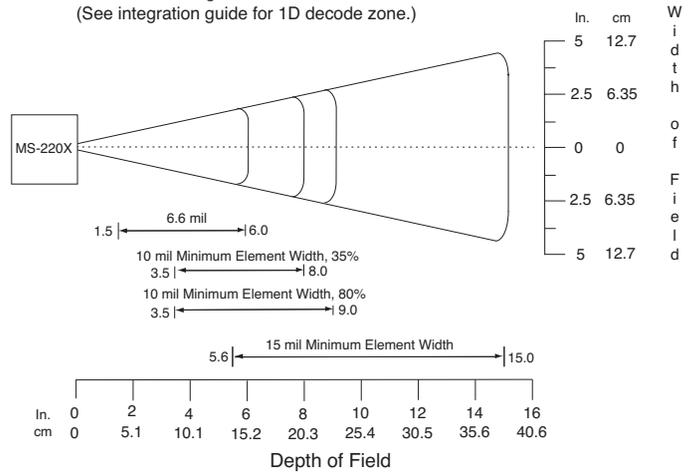
Ambient Light:	Artificial Light 450 ft. candles (4,844 Lux) Sunlight 8,000 ft. candles (86,112 Lux)								
Operating Temperature:	-4° to 122°F (-20° to 50°C)								
Storage Temperature:	-40° to 158°F (-40° to 70°C)								
Humidity:	5% to 95% non-condensing								
Power:	<table border="1"> <tr> <td>Input Voltage:</td> <td>5.0 VDC ±10%</td> </tr> <tr> <td>Scanning Current:</td> <td>250 mA typical</td> </tr> <tr> <td>Standby Current:</td> <td>25mA typical +/- 5mA (MS 2204, MS 2204 VHD) 45mA typical +/- 5mA (MS 2207)</td> </tr> <tr> <td>Vcc Noise Level:</td> <td>200 mVp to p max</td> </tr> </table>	Input Voltage:	5.0 VDC ±10%	Scanning Current:	250 mA typical	Standby Current:	25mA typical +/- 5mA (MS 2204, MS 2204 VHD) 45mA typical +/- 5mA (MS 2207)	Vcc Noise Level:	200 mVp to p max
Input Voltage:	5.0 VDC ±10%								
Scanning Current:	250 mA typical								
Standby Current:	25mA typical +/- 5mA (MS 2204, MS 2204 VHD) 45mA typical +/- 5mA (MS 2207)								
Vcc Noise Level:	200 mVp to p max								
Drop:	Unit functions normally after multiple 30 in./76 cm drops to concrete								
Environmental Sealing:	IP54								

Regulatory

Laser Classification:	CDRH Class II, IEC Class 2
Electrical Safety:	Certified to UL1950, CA C22-2 NO950 ENG60950/IEC950
EMI/RFI:	FCC Part 15 Class B, ICES-003 Class B European Union EMC Directive, Australian SMA

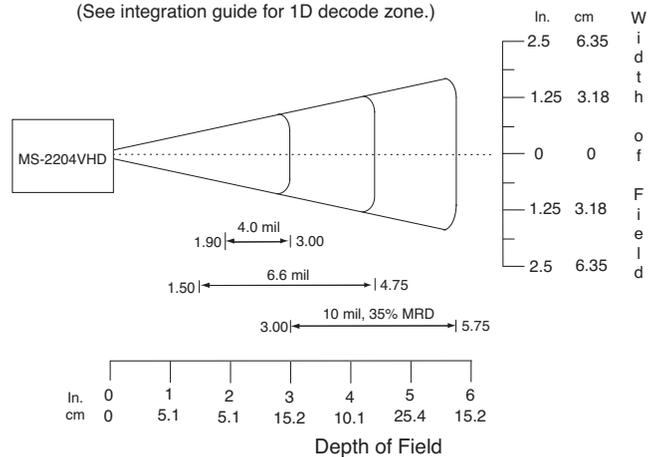
MS 22XX 2D Decode Zone

Note: Typical performance at 68°F (20°C) on high quality symbols in normal room light. Y-module dimension = 3X.
(See integration guide for 1D decode zone.)



MS 22XX VHD 2D Decode Zone

Note: Typical performance at 68°F (20°C) on high quality symbols in normal room light. Y-module dimension = 3X.
(See integration guide for 1D decode zone.)



EN410 CE



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