MS47 Series Fixed Mount Imager

Multiple options. Single integration effort.

Whether at the food ordering kiosk in a quick-serve restaurant, package inspection on a manufacturing line or within diagnostic equipment at a laboratory, you need a device that will meet your specific needs and easily integrate into your enclosure. The MS47 Series is ready to meet these needs with a diversified offering that includes the MS4717, MS4727 and MS4777. Choose between a standard or flush-mount form factor, illumination and aimer options, enhanced performance modes and more. All versions of the MS47 Series have a small footprint that can be integrated into a wide variety of enclosures from multiple sides enabling ease of installation. Featuring Zebra's exclusive PRZM Intelligent Imaging technology, the MS47 Series can instantly capture virtually any 1D or 2D barcode, providing flexibility for a wide range of applications. Enjoy ease of integration, high reliability and superior performance with the MS47 Series Fixed Mount Imager.



Designed for Quick and Easy Integration

The MS47 Series features a small footprint and mounting hole locations on five sides, so it can easily be positioned to fit into tight locations to accommodate the design of your enclosure. It also includes a Micro USB connector that supports standard off-the-shelf cables to match your design requirements. Multiple cable routing options on the MS47 Series help to minimize cable clutter for a clean overall installation within your enclosure. The MS47 Series comes ready out of the box with all the product approvals and certifications needed to minimize design cycles and regulatory approval cycles.

Integration into your product design is easy—no optical, mechanical or electrical engineering required. And, regardless of which MS47 Series model you choose, the integration is identical.

Enhanced Presentation Mode Performance

The MS47 Series features Zebra's exclusive PRZM Intelligent Imaging technology for unparalleled presentation scanning performance on virtually any 1D and 2D barcode, including dense, poorly printed, damaged, crinkled, faded, distorted, low-contrast, and glossy printed barcodes, as well as barcodes on plastic ID cards or from mobile phone displays. With the popularity of mobile phone applications increasing, electronic versions of tickets, boarding passes, and loyalty cards are easily scanned with the MS47 Series providing a high level of customer convenience. The MS4727 and MS4777 models combine intelligent illumination, a global shutter sensor and high frame rate which is an ideal fit for demanding swipe-and-go use cases such as self-checkout and high-traffic turnstiles, where users present their ticket while walking in one continuous motion. The MS4717 model offers a rolling shutter sensor which is well-suited for everyday presentation applications. Options for either software trigger or presentation mode scanning provide the flexibility for a wide variety of applications.

Optional Flush-Mount Configuration

For kiosk applications that include contact scanning, all versions of the MS47 Series are available as a flush-mount option.

Put the Zebra MS47 Series to work in your organization today.

For more information, visit www.zebra.com/ms47series

This configuration delivers the same aggressive scanning performance, but allows users to simply place their barcode up against our scratch-resistant exit window for quick and easy decoding. Mounting holes for this configuration comply with the European Vending Association (EVA) specification to simplify integration. And, the flush-mount design enhances the aesthetics and ease of use of the kiosk it is integrated into.

Aimer and Illumination Options That Fit Your Needs

Provide customers with a choice of different aimer and illumination options that best meet their application needs. The MS4717 has a familiar red illumination and amber LED aimer dot and is well-suited for everyday applications. The MS4727 offers white illumination with green LED aimer which is the best fit for environments sensitive to red light sources. And, the MS4777 has white illumination with a laser aimer which is ideal for outdoor or high ambient light applications that require improved visibility. Regardless of which aimer and illumination you choose, users will instantly know if they are aiming at the right spot for exceptional ease of use.

Built-to-Last Rugged and Durable Design

With your installations likely spread out across many locations, it is important that your fixed mount imager is made to last with a durable design for maximum uptime. The MS47 Series features a chemically-strengthened scratch resistant exit window, and the standard version is IP54 sealed, which is suitable for outdoor applications such as at the gate admissions turnstile at the local sports arena to uncovered parking access gates. The standard version of the MS47 Series also has a rating of multiple 5 ft./1.5 m drops to concrete to protect it in the unlikely event of a drop during a routine service or field installation of your enclosure. For added reliability, a secure USB cable locking clip is included to prevent it from coming loose or disconnecting.

Proven Technology You Can Count On

When you choose the MS47 Series you get the peace of mind that comes from choosing superior, well-tested technology. Every day, all around the world, our OEM products power millions of devices in thousands of applications across industries. When you choose Zebra, you get an industry leading partner that has been helping OEMs successfully implement enterprise-class barcode scanning for over 50 years.

We know what you need and we provide it– from packaged reference designs and integration documents to a dedicated OEM global sales and support team ready to deliver unsurpassed service–from the moment you place your order to the moment you deliver your products.

Add Vision Capabilities to Your Workflow

The MS47 Series supports Zebra's user-friendly Aurora™ Vision Studio machine vision software for industrial image analysis. This suite of graphical software helps users easily create custom machine vision applications, executed with images from OEM imaging products like the MS47 Series, that give them greater visibility into the status and condition of their goods and assets. Our comprehensive portfolio of Aurora Vision software products can be used by enterprises in a wide range of verticals to develop both simple and advanced vision applications quickly and easily. They can help your customers define and monitor the physical characteristics of any product or packaging–to assess whether an individual item or pack of products meets predetermined quality standards. Adding vision capabilities to any workflow application gives your customers far more information about the physical state of a product than a simple barcode can provide. The adoption and easy integration of machine vision capabilities into real-world industrial imaging applications, enabled by Zebra OEM imaging products like the MS47 Series, helps enterprises save time, cost and resources while protecting end customers as well as their own brand value.

Industry Leading Configuration Wizard

123Scan is Zebra's proprietary software tool, offering a wizard-driven interface that simplifies every step of deployment, from configuration to firmware updates and staging large numbers of devices. 123Scan automatically detects and programs the MS47 Series without scanning a barcode or wiping clean your existing settings.

Application Development Made Easy

Get everything you need to easily integrate scanning into your business applications with our Scanner Software Development Kits (SDKs) for Windows®, Android™, iOS® and Linux®. These SDKs provide documentation, drivers, test utilities and sample source code. Programmatically control your scanner to handle any business need. Set the beeper or LED feedback mechanisms to confirm accurate scanning. Configure scanners to capture images and only those symbologies you want. Minimize downtime with visibility into critical data and simplify management with remote tools that let you upgrade firmware and query asset information.

Specifications

Physical Characteristics

Dimensions	Standard Versions: 1.10 in. H x 2.17 in. W x 1.89 in. D (2.8 cm H x 5.5 cm W x 4.8 cm D) Flush-Mount Versions: 2.98 in. H x 4.13 in. W x 4.04 in. D (7.59 cm H x 10.5 cm W x 10.25 cm D)
Weight	Standard Versions: 3.92 oz/111 g +/- 5% Flush-Mount Versions: 6.67 oz/189 g +/- 5%
Power	MS4717: Maximum: 5 VDC +/- 10% at 480 mA MS4727/MS4777: Maximum: 5 VDC +/- 5% at <500 mA

User Environment

Operating Temp.	MS4717: -4° to 122°F/-20° to 50°C MS4727: -22° to 131°F/-30° to 55°C MS4777: -22° to 131°F/-30° to 55°C
Storage Temp.	-40° to 158°F/-40° to 70°C
Humidity	Operating: MS4717: 95% RH, non-condensing at 50°C MS4727/MS4777: 95% RH, non-condensing at 55°C Storage: MS4717/MS4727/MS4777: 95% RH, non-condensing at 70°C Flush Mount Versions: 85% RH, non-condensing at 70°C
Sealing	Standard Versions: IP54 Flush-Mount Versions: Dust-sealed
Drop Specification	Standard Versions designed to withstand multiple drops at 5.0 ft./1.5 m to concrete at room temperature
Exit Window (Flush-Mount Versions)	2.87 in. L x 2.4 in. W x 0.06 in. D, 0.04 in./0.1 cm corner radius (7.3 cm L x 6.10 cm W x 0.15 cm D)
Integration (Flush-Mount Versions)	4 forward-facing mounting holes, EVA Compliant

Performance Characteristics

Image Sensor	1280 x 800 pixels
Imager Field of View	MS4717: 42° H x 28° V Nominal Flush-Mount Version: 42° H x 28° VMS4727/MS4777: 48° H x 30° V Nominal Flush-Mount Versions: 47.3° H x 30° V
Light Source	Aiming Pattern: MS4717: Circular 610 nm Amber LED MS4727: Circular 525 nm Green LED MS4777: Cross-hair 655 nm Red LaserIllumination: MS4717: 660 nm Red LED MS4727/MS4777: White LED
Minimum Print Contrast	20% minimum reflective difference
OCR Capability	OCR-A, OCR-B, MICR E13B, US Currency Serial Number

Symbology Decode Capability

1D	All major 1D barcodes
2D	All major 2D barcodes including PDF417, DataMatrix, QR Code, Aztec, Composite Codes and MaxiCode PDF417, DataMatrix, QR Code, Aztec, Composite Codes and MaxiCode
Postal	US Postnet, US Planet, UK Postal, Australian Postal, Japan Postal, Postal Codes
Ambient Light	Total darkness to 10,000 ft. candles (107,369 lux)
Image File Formats	BMP, TIFF, JPG

Interfaces

Supported Host Interfaces	USB Certified (USB Full Speed)

Regulatory

Product Safety	IEC/EN 62368-1, UL/cUL 62368-1
Laser Classification	MS4777: Class 2 per IEC 60825-1:2014
Lamp Standard	LED/Classified as Exempt Risk Group per IEC/EN 62471
EMI/RFI	FCC Part 15 Class B, CISPR32 Class B, EN 55032, EN 55035, ICES-003 Issue 7 Class B, IEC 60601-1-2 Medical Electrical Equipment, IEC 61000-6-2 Industrial (MS4727/MS4777)
Environmental	RoHS compliant

Typical Decode Ranges-MS4717

Code 39: 4 mil	3.1 in./7.8 cm (Near); 8.6 in./21.8 cm (Far) Flush-Mount: 0.2 in./0.50 cm (Near); 5.5 in./14.0 cm (Far)
Code 128: 5 mil	2.6 in./6.6 cm (Near); 8.0 in./20.3 cm (Far) Flush-Mount: 0 in./0 cm (Near); 5.0 in./12.7 cm (Far)
Code 39: 5 mil	1.8 in./4.5 cm (Near); 12.4 in./31.5 cm (Far) Flush-Mount: 0 in./0 cm (Near); 9.3 in./23.6 cm (Far)
PDF417: 5 mil	2.9 in./7.3 cm (Near); 8.2 in./20.8 cm (Far) Flush-Mount: 0.1 in./0.25 cm (Near); 4.7 in./11.9 cm (Far)
Datamatrix: 10 mil	2.7 in./6.8 cm (Near); 9.9 in./25.1 cm (Far) Flush-Mount: 0 in./0 cm (Near); 6.7 in./17.0 cm (Far)
UPC: 13 mil (100%)	1.6 in./4.0 cm (Near); 25.8 in./65.5 cm (Far) Flush-Mount: 0 in./0 cm (Near); 17 in./43.2 cm (Far)
Code 39: 20 mil	2.2 in./5.6 cm (Near); 29.8 in./75.6 cm (Far) Flush-Mount: 0 in./0 cm (Near); 19.1 in./48.5 cm (Far)
QR Code: 20 mil	3.0 in./7.6 cm (Near); 15.6 in./39.6 cm (Far) Flush-Mount: 0 in./0 cm (Near); 12.4 in./31.5 cm (Far)

Markets and Applications

Retail/Hospitality

- Restaurant kiosks
- Smart lockers
- Wayfinding kiosks
- Financial service kiosks
- ATMs
- Gate admission turnstiles

Government

- E-voting machines
- Ticket checkers

Transportation and Logistics

- Airline check-in
- Security kiosks
- Access control kiosks
- Ticket turnstiles
- Parking access and payment systems

Typical Decode Ranges-MS4727/MS4777

Code 39: 3 mil	2.8 in./7.1 cm (Near); 5.6 in./14.2 cm (Far) Flush-Mount: 0 in./0 cm (Near); 2.8 in./7.1 cm (Far)
Code 128: 5 mil	2.1 in./5.3 cm (Near); 9.6 in./24.4 cm (Far) Flush-Mount: 0 in./0 cm (Near); 6.8 in./17.3 cm (Far)
Code 39: 5 mil	2.8 in./7.1 cm (Near); 7.7 in./19.6 cm (Far) Flush-Mount: 0 in./0 cm (Near); 4.9 in./12.4 cm (Far)
PDF417: 6.7 mil	2.3 in./5.8 cm (Near); 9.9 in./25.1 cm (Far) Flush-Mount: 0 in./0 cm (Near); 7.1 in./18 cm (Far)
Datamatrix: 10 mil	1.9 in./4.8 cm (Near); 10.8 in./27.4 cm (Far) Flush-Mount: 0 in./0 cm (Near); 8.0 in./20.3 cm (Far)
UPC: 13 mil (100%)	1.6 in./4.0 cm (Near); 24.7 in./62.7 cm (Far) Flush-Mount: 0 in./0 cm (Near); 21.9 in./55.6 cm (Far)
Code 128: 15 mil	2.4 in./6.1 cm (Near); 27.6 in./70.1 cm (Far) Flush-Mount: 0 in./0 cm (Near); 24.8 in./63 cm (Far)
Code 39: 20 mil	1.6 in./4.0 cm (Near); 35.9 in./91.2 cm (Far) Flush-Mount: 0 in./0 cm (Near); 33.1 in./84 cm (Far)
QR Code: 20 mil	0.9 in./2.3 cm (Near); 17.3 in./43.9 cm (Far) Flush-Mount: 0 in./0 cm (Near); 14 in./35.6 cm (Far)

Warranty

Subject to the terms of Zebra's hardware warranty statement, the MS47 Series is warranted against defects in workmanship and materials for a period of 15 months from the date of shipment. For the complete Zebra hardware product warranty statement, go to:
www.zebra.com/warranty

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