

MS-Q QUADRUS®



Imager for Direct Part Mark Reading

The MS-Q Quadrus is an aggressive performance handheld imager for decoding 2D symbols on low contrast substrates such as metal, plastic, rubber, and glass. It is optimized to read both linear barcodes and 2D symbols and excels at challenging marks such as those created by direct part mark (DPM) methods such as dot peen and laser/chemical etch.

The MS-Q Quadrus is a portable reading solution for any barcode or 2D application, even with difficult low contrast codes.

MS-Q Quadrus: At a Glance

- Decodes/second: up to 10
- Read Range: 2 to 16" (51 to 406 mm)
- Bluetooth, USB, RS-232 Interface Options
- Rugged Handle Options:
 - Cabled
 - 3900 mAh



ESP® Easy Setup Program: Single-point software provides quick and easy setup and configuration of all Microscan readers.

For more information on this product, visit www.microscan.com.

MS-Q Quadrus: Available Codes

Linear	All Standard 	Postal Codes 			
Stacked	MicroPDF 	PDF417 	GS1 Databar 		
2D	Data Matrix 	QR 	Micro QR 	Aztec 	Maxicode

Optimized Resolution

The MS-Q Quadrus handheld imager is available in a high resolution optical version which is custom designed to optimize resolution for reading small 2D symbols in direct part mark applications. Also available, a standard resolution version is suitable for reading all printed symbols, plus many directly marked symbols.

User-Friendly Design

All MS-Q imagers feature point-and-click targeting with a red laser spot to quickly center the symbol in the field of view. Beeper, vibrator and multipurpose performance indicators provide real time feedback.

Aggressive Decoding

Patented Quadrus decode algorithms provide outstanding performance on difficult low contrast or damaged 2D symbols.

Security Option

The secured version of the MS-Q Quadrus has disabled image capture and downloading. Permanent removal of its photographic functions allows use within sensitive industrial areas where photographic devices are prohibited.

IUID Codes

The MS-Q Quadrus can read IUID codes on a variety of surfaces. Software enables IUID code format validation and constructs the IUID string for DoD suppliers.

Application Examples

- Automotive
- Aerospace
- Electronics
- Department of Defense suppliers

MS-Q QUADRUS[®] IMAGER SPECIFICATIONS AND OPTIONS

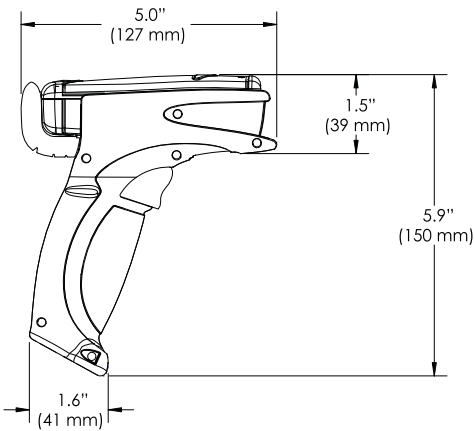
IMAGER MECHANICAL

Height: 1.3" (33 mm)
Width: 1.8" (46 mm)
Depth: 4.3" (109 mm)
Weight: 4 oz. (113g) not including cable
Cable Length: 6' (1.8 m)

HANDLE & BATTERY CHARACTERISTICS

Cabled weight: 4.0 oz. (113)
Cabled weight with imager : 7.2 oz. (204 g)
With 3900 MAH battery: 6.4 oz. (181 g)
With 3900 MAH battery/Imager: 9.6 oz. (272 g)

BATTERY BLANK HANDLE VIEW



ENVIRONMENTAL

Operating Temperature: 0° to 50° C (32° to 122° F)
Battery Blank Operating Temperature: -35° to 50° C (-31° to 122° F)

Storage Temperature: -20° to 60° C (-4 to 140° F)
Humidity: 5 to 90% (non-condensing)
Shock: Withstands 100+ drops of 6.5" (2 meters) to concrete

CE STANDARDS

Immunity: EN 55024 **ESD:** EN 61000-4-2
Radiated RF: EN61000-4-3
Keyed Carrier: ENV50204 **EFT:** EN61000-4-4
Conducted RF: EN61000-4-6
Emissions: EN55022, Class B Radiated, Class B Conducted

LIGHT COLLECTION OPTIONS

Sensor: CMOS, progressive scan, 1.33 MP (1024 by 1280), 256 gray scale
Sensor Array:
 Near Field: 1024 by 640 (default)
 Far Field: 1024 by 640 (default)
Standard Resolution Field of View:
 Near: 21.5° horizontal by 16.2° vertical
 Far: 22.9° horizontal by 11.6° vertical
High Resolution Field of View:
 Near & Far: 21° horizontal by 13° vertical
Standard Resolution Focal Point:
 Near: 4" (101.6 mm) Far: 9" (228.6 mm)
High Resolution Focal Point:
 Near: 2.75" (70 mm) Far: 4.5" (115 mm)



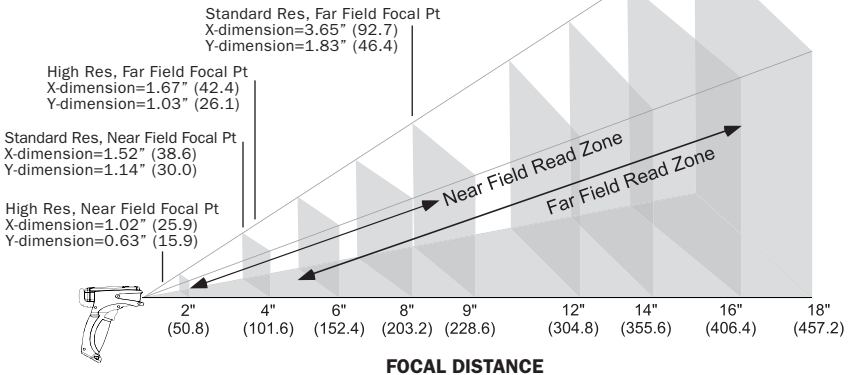
SYMBOLGY TYPES

Linear Barcodes: Code 39, Code 128, I2 of 5, UPC/EAN, Codabar, Codablock F, Code 93, PLANET, PostNet, KIX Code, Postal Codes
Stacked Symbolgies: PDF417, Micro PDF417, GS1 Databar
2D Symbolgies: Data Matrix, MaxiCode, Aztec Code, QR Code, Micro QR Code

NEAR/FAR FIELD FOCAL DISTANCE COMPARISON CHART

MEASUREMENT

Shown in inches (mm)



READ RANGES, STANDARD RESOLUTION

Narrow Bar-Width	Read Range Distance
.0075" (.191 mm)	3.2 to 3.9" (81 to 99 mm)
.015" (.381 mm)	3.0 to 9.0" (76 to 229 mm)
.020" (.508 mm)	3.0 to 16.0" (76 to 406 mm)

READ RANGES, HIGH RESOLUTION

Narrow Bar-Width	Read Range Distance
.005" (.127 mm)	1.75 to 2.5" (44.4 to 63.5 mm)
.0075" (.191 mm)	1.75 to 4" (44.4 to 101.6 mm)
.010" (.254 mm)	1.75 to 4.75" (44.4 to 102.6 mm)
.015" (.381 mm)	1.75 to 6" (44.4 to 152.3 mm)
.020" (.508 mm)	1.75 to 6.5" (44.4 to 165.1 mm)

Ranges based on Grade A symbols. Data subject to change.

READ PARAMETERS

Pitch: ±60° (front to back) **Skew:** ±60° **Tilt:** 360°
Focal Range: 1 to 16" (25 to 406 mm)
Rotational Tolerance: ±180°
Print Contrast Resolution: 25 percent (bar codes); 35 percent (PDF417); absolute dark/light reflectance differential, measure at 650 nm.
Target Beam: Visible Laser Diode at 630 nm. Class 2
Ambient Light Immunity: Sunlight: Up to 9,000 ft-candles 96,890 lux

INDICATORS

LED Indicators: Memory status, Battery power, Successful decode, and Connection status
Programmable Indicators: Beeper or Vibrate option; communicates scanner operation and communication functions to user

IMAGE OUTPUT OPTIONS

Format: Jpeg, Raw (uncompressed)

COMMUNICATION PROTOCOLS

Standard Interface: USB **Optional Interface:** RS-232, Bluetooth Class 1 Radio at 328' (100 m)

ELECTRICAL

Power Requirements: 5 VDC (mA)
Typical: 140 **Peak:** 310 **Idle:** NA/
Bluetooth Radio at 295' (90 m) away (mA):
Typical: 280 **Peak:** 350 **Idle:** 96 **Sleep:** 3
Bluetooth Radio at 33' (10 m) away (mA):
Typical: 260 **Peak:** 350 **Idle:** 96 **Sleep:** 3
Life of 3900 MAH Battery with Radio: Will support 8000 read/transmits per charge including 16 hours of standby interval.

Batch Memory: Minimum of 1MB

SAFETY CERTIFICATIONS

FCC, CE

FIELD OF VIEW, STANDARD RESOLUTION

Near Field of View	
Distance (inches/mm)	Field of View Size (1024 x 640 pixel, Default)
4" (101.6)	1.52 x 1.14" (38.6 x 30 mm)
Far Field of View	
9" (228.6)	3.65 x 1.83" (92.7 x 46.4 mm)

FIELD OF VIEW, HIGH RESOLUTION

Near Field of View	
Distance (inches/mm)	Field of View Size (1024 x 640 pixel, Default)
2" (50.8)	.74 x .46" (18.8 x 11.6 mm)
2.5" (63.5)	.93 x .57" (23.5 x 14.5 mm)
2.75" (69.9)	1.02 x .63" (25.9 x 15.9 mm)
3" (76.2)	1.11 x .68" (28.3 x 17.4 mm)
3.5" (88.9)	1.3 x .80" (33 x 20.3 mm)
4" (101.6)	1.48 x .91" (37.7 x 23.2 mm)
Far Field of View	
2" (50.8)	.74 x .46" (18.8 x 11.6 mm)
2.5" (63.5)	.93 x .57" (23.5 x 14.5 mm)
3" (76.2)	1.11 x .68" (28.2 x 17.4 mm)
3.5" (88.9)	1.3 x .80" (32.9 x 20.3 mm)
4" (101.6)	1.48 x .91" (37.6 x 23.2 mm)
4.5" (114.3)	1.67 x 1.03" (42.4 x 26.1 mm)
5" (127)	1.85 x 1.14" (47.1 x 28.9 mm)
5.5" (139.7)	2.04 x 1.25" (51.8 x 31.8 mm)
6" (152.7)	2.22 x 1.37" (56.5 x 34.7 mm)
6.5" (165.1)	2.41 x 1.48" (61.2 x 37.6 mm)

ROHS/WEEE COMPLIANT

ISO CERTIFICATION

Issued by TÜV USA Inc, Member of TÜV NORD Group, Cert No. 06-1080

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 Read Range and other performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25°C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty**—One year limited warranty on parts and labor. Extended warranty available.

MICROSCAN[®]

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