MS-Q QUADRUS®

Imager for Direct Part Mark Reading

The MS-Q Quadrus is the most aggressive handled imager available for decoding symbols on low contrast substrates such as metal, plastic, rubber, and glass. It is optimized to read both linear and 2D symbols that use direct part mark (DPM) methods such as dot peen and laser/chemical etch.

With custom optics and advanced decode algorithms, the MS-Q Quadrus provides the decoding power of a smart camera into a powerful handled device.

Patented Quadrus Technology

Optional High Resolution Optics

Durable Ergonomic Handle

RoHS • WEEE COMPLIANT

MS–Q Quadrus: At a Glance

- Decodes/second: up to 10
- Read Range: 2 to 11.5" (51 to 292 mm)
- Patented Quadrus Technology
- Bluetooth, USB, RS232, PS2 Interface Options
- Rugged Handle Options:
  - Cabled
  - 1950 mAH
  - 3900 mAH

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

For more information on this product, visit **www.quadrus-ez.com.**

MS–Q Quadrus: Available Codes

Linear   All Standard   **2D Symbols**   Data Matrix   QR

Stacked   MicroPDF   PDF417   RSS

Optimized Resolution
The MS-Q Quadrus handled 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.

System Integration
All MS-Q imagers are available in 3 configuration options including batch, cabled and wireless Bluetooth.

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

MICROSCAN®

# 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 1950 mAH battery: 4.8 oz. (136 g)
With 1950 mAH battery/imager: 8 oz. (227 g)
With 3900 mAH battery: 6.4 oz. (181 g)
With 3900 mAH battery/imager: 9.6 oz. (272 g)

BATTERY BLANK HANDLE VIEW
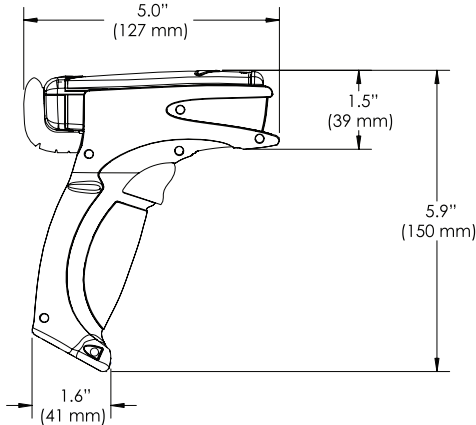
ENVIRONMENTAL
Operating Temperature: 0° to 50°C (32° to 122°F)
Battery Blank Operating Temperature: -35° to 50°C (°-31 to 122°F)
Storage Temperature: -20° to 60° C (-4 to 140°F)
Humidity: 5 to 90% (non-condensing)

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)

> **WARNING**
> **LED LIGHT**
> DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
> CLASS 1M LED PRODUCT
> Light Output: 648cd Wavelength: 464, 518, 635 nm
> IEC 60825-1:1993+A1:1997+A2:2001

SYMBOLOGY TYPES
Linear Bar Codes: Code 39, Code 128, I2 of 5, RSS, UPC/EAN, Codabar, Codablock F, Code 93, PLANET, PostNet, KIX Code, Postal Codes
Stacked Symbologies: PDF417, Micro PDF417
2D Symbologies: Data Matrix, MaxiCode, Aztec Code, QR Code, Micro QR Code
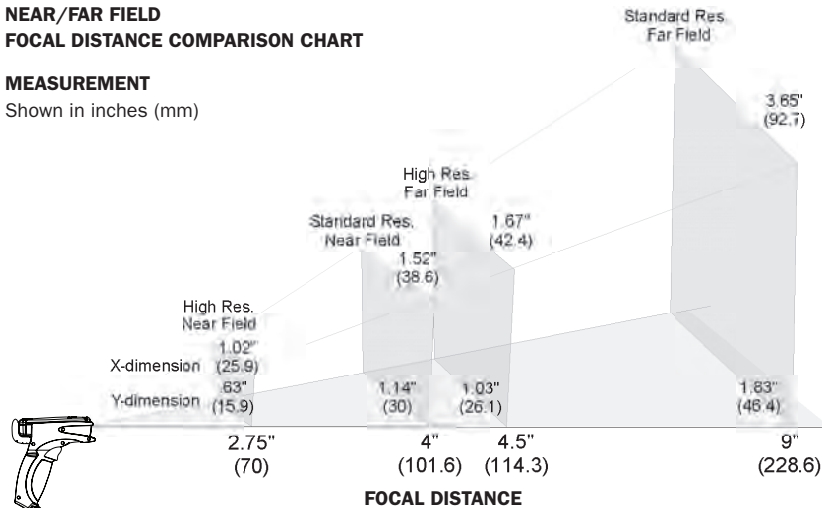
READ PARAMETERS
Pitch: ±60° (front to back) **Skew:** ±60° **Tilt:** 360°
Focal Range: 1 to 11.5" (25 to 292 mm)
Rotational Tolerance: ±180°

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 11.5" (76 to 292 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)

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 **Shock:** Withstands 100+ drops of 6.5' (2 meters) to concrete

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), PS2

ELECTRICAL
Power Requirements: 5 VDC (mA)
Typical: 310 **Peak:** 310 **Sleep:** 3
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 1950 mAH Battery with Radio: Will support 4000 read/transmits per charge including 8 hours of standby interval.
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

ISO CERTIFICATION
Issued by RWTüV, USA Inc.
ISO 9001:2000 – Cert No. 03–1212

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

MICROSCAN®

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