



# QUADRUS<sup>®</sup> MINI

## Ultra-Compact Autofocus Imager



**Compact Shape/Size**

**ACTUAL SIZE SHOWN**

Height: 1" (25.4 mm)  
Width: 1.80" (45.7 mm)  
Length: 2.10" (53.3 mm)

Patented Quadrus<sup>®</sup> Technology

Wide Field of View, Autofocus



### Quadrus MINI: At a Glance

- Decodes/second: up to 10
- Autofocus
- Patented Quadrus Technology
- Optional USB Connectivity



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



EZ Trax<sup>™</sup>: Image capture and storage software provides tracking of symbol images.



EZ Button: This performs reader setup and configuration with no computer required.



Visible Indicators: Performance indicators include "good read" green flash and LEDs, as well as the label positioning tool.

For more information on this product, visit [www.quadrusmini.com](http://www.quadrusmini.com).

### Quadrus MINI: Available Codes

Linear

All Standard



2D Symbols

Data Matrix



QR



Stacked

MicroPDF



PDF417



RSS



The Quadrus MINI is the world's smallest high resolution imager. It offers true autofocus for ultimate flexibility and reads both linear bar codes and 2D symbols in any orientation while in motion.

It is the ideal imager for automation engineers who need the flexibility to read multiple codes at varying distances and speeds.

#### Autofocus

Position the symbol at the center of the field of view, and push the EZ button for a true autofocus experience. The Quadrus MINI automatically adjusts focal distance and sets internal parameters to optimize reading of the symbol.

#### Dynamic, Omnidirectional Reading

The Quadrus MINI decodes linear bar codes or 2D symbols omnidirectionally in moving applications at speeds up to 100 feet per minute (30 meters/minute).

#### Megapixel Processing

Megapixel processing allows for reading multiple small, high density codes or long 1D codes. The Quadrus MINI can read high density codes down to 3.3 mil, and can decode up to 100 symbols within the field of view in a single read capture. Multiple optical versions are available.

#### Compact Shape/Size

The Quadrus MINI is the world's smallest high performance imager. Its small form factor allows for flexible positioning in tight spaces or mounting into robotic applications.

#### Wide Field of View

High resolution zero-distortion optics, diffractive full field illumination, and a wide field of view allow linear and 2D codes as large as 2" (50.8 mm) square to be read as close as 1" (25.4 mm) with the optional right angle mirror.

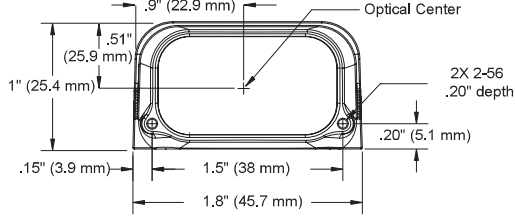
#### Application Examples

- Printed circuit boards
- Electronics assembly
- Assembly line manufacturing
- Component tracking
- Pharmaceutical packaging
- Document handling
- Robotics

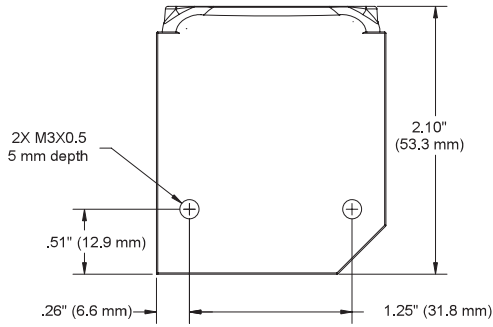
**MICROSCAN<sup>®</sup>**

# QUADRUS<sup>®</sup> MINI SPECIFICATIONS AND OPTIONS

Front



Base



## MECHANICAL

**Height:** 1" (25.4 mm) **Width:** 1.80" (45.7 mm)  
**Depth:** 2.10" (53.3 mm) **Weight:** 2-oz (57 g)

## ENVIRONMENTAL

**Enclosure:** IP54 (category 2)  
**Humidity:** up to 90% (non-condensing)  
**Operating Temperature:** 0° to 40°C (32° to 104°F)  
**Storage Temperature:** -50° to 75° C (-58 to 167°F)

## CE MARK

**General Immunity for Light Industry:**  
 EN 55024: 1998 ITE Immunity Standard  
**Radiated and Conducted Emissions of ITE Equipment:** EN 55022:98 ITE Disturbances

## LIGHT SOURCE

**Type:** High output LEDs

## LIGHT COLLECTION OPTIONS

Progressive scan, square pixel. Software adjustable shutter speed, electronic shutter  
**SXGA:** 1280 by 1024 pixels



## SYMBOLGY TYPES

**2D Symbolgies:** Data Matrix (ECC 0-200), QR Code  
**Stacked Symbolgies:** PDF417, Micro PDF417, RSS (Composite & Stacked)  
**Linear Bar Codes:** Code 39, Code 128, BC 412, I2 of 5, Pharmacode, UPC/EAN, Codabar, Code 93

## READ PARAMETERS

**Pitch:** ±30° **Skew:** ±30° **Tilt:** 360°  
**Decode Rate:** Up to 10 decodes per second  
**Focal Range:** 2 to 6" (50.8 to 152.4 mm) (autofocus)

## CONNECTOR

**Type:** 3 ft. cable terminated with High Density 15-pin D-Sub socket connector or USB

## INDICATORS

**LEDs:** Read Performance, Power, Read Status  
**Green Flash:** Good read **Blue V:** Symbol locator  
**Beeper:** Good read, match/mismatch, noread, serial command confirmation, on/off

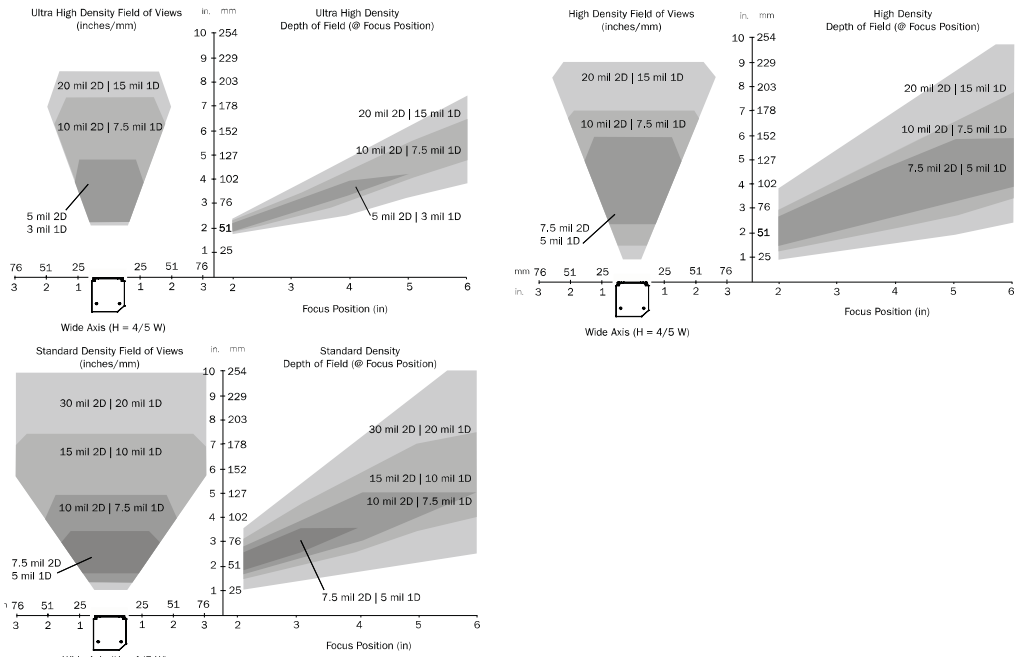
## COMMUNICATION PROTOCOLS

**Standard Interface:** RS-232, RS-422

## ELECTRICAL

**Power:** 5 VDC +/- 5%, 200 mV p-p max. ripple, 440 mA @ 5 VDC (typ.)  
**Optional Int.:** 10-28 V Accy

## READ RANGES (GRAPHS AND TABLES)



Narrow-bar-width		Field of View (maximum)	Read Range (using autofocus)
1D	2D		
<b>Ultra High Density</b>			
.0033" (0.08 mm)	.005" (.13 mm)	2.2" (56 mm)	2.0 to 4.4" (51 mm to 112 mm)
.0075" (0.19 mm)	.010" (.25 mm)	3.6" (91 mm)	1.8 to 6.7" (46 mm to 170 mm)
.015" (0.38 mm)	.020" (.51 mm)	4.0" (102 mm)	1.9 to 7.7" (48 mm to 196 mm)
<b>High Density</b>			
.005" (0.13 mm)	.0075" (.19 mm)	3.1" (79 mm)	1.5 to 6.0" (38 mm to 152 mm)
.0075" (0.19 mm)	.010" (.25 mm)	4.2" (107 mm)	1.2 to 7.0" (30 mm to 178 mm)
.015" (0.38 mm)	.020" (.51 mm)	5.6" (142 mm)	0.9 to 9" (23 mm to 229 mm)
<b>Standard Density</b>			
.005" (0.13 mm)	.0075" (.19 mm)	3.2" (81 mm)	1.8 to 3.5" (46 mm to 89 mm)
.0075" (0.19 mm)	.010" (.25 mm)	4.2" (107 mm)	1.6 to 5.0" (41 mm to 127 mm)
.010" (0.25 mm)	.015" (.38 mm)	6.8" (173 mm)	1.4 to 7.5" (36 mm to 191 mm)
.020" (0.51 mm)	.030" (.76 mm)	9.5" (241 mm)	1.0 to 10" (25 mm to 254 mm)

Subject to change. Contact Microscan for updated graphs.

## HOST CONNECTOR/PIN ASSIGNMENTS

### High Density 15 Pin D-sub Socket Connector

Pin No.	Host RS232	Host/Aux RS232	Host RS422/485	In/Out
1	Power +5 VDC			In
2	TxD	TxD	TxD(-)	Out
3	RxD	RxD	RxD(-)	In
4	Power/Signal Ground			
5	NC			
6	RTS	Aux TxD	TxD(+)	Out
7	Output 1 TTL <sup>a</sup>			Out
8	Default configuration <sup>b</sup>			In
9	Trigger			In
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 TTL <sup>a</sup>			Out
12	New Master (NPN)			In
13	Chassis ground <sup>c</sup>			
14	Output 2 TTL <sup>a</sup>			Out
15	NC			

a. Can sink 10 mA and source 10 mA.  
 b. The default is activated by connecting pin 8 to ground pin 4.  
 c. Chassis ground: Used to connect chassis body to earth ground only. Not to be used as power or signal return.

## DISCRETE I/O

**Trigger Input:** 5 to 28 vdc rated (.16 mA)  
**New Master:** 5 to 28 vdc rated (.16 mA)  
**Outputs (1, 2, 3):** 5V TTL compatible, can sink 10 mA and source 10mA  
**Optional I/O:** Optoisolated (with IC-332 accessory)

## SAFETY CERTIFICATIONS DESIGNED FOR

FCC, UL/cUL, CE, CB



ISO 9001:2000  
**Certified QMS**

## ROHS/WEEE COMPLIANT

## ISO CERTIFICATION

Issued by RWTÜV, USA Inc. Cert No. 03-1212

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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.

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