Quadrus® MINI Series

Versatile Mini Imagers for Auto ID

The diverse range of Quadrus MINI imagers easily solves a wide variety of track, trace, and control needs across all industries. The autofocus megapixel imagers read all standard barcodes and 2D symbols, plus multiple codes per capture. ESD-safe and high resolution configurations are available to provide maximum application flexibility.

With easy setup and powerful image processing, the Quadrus MINI series is an ideal solution for virtually all barcode applications.

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® Technology

Wide Field of View, Autofocus

Quadrus MINI Series: At a Glance

- *Decodes/second: up to 10 (SXGA)*
- *Patented Quadrus Technology*
- *Autofocus*
- *Available in three versions for flexible implementation*

Quadrus MINI: 1.3 megapixel configuration with flexibility to solve many applications

Quadrus MINI 3: High resolution 3 megapixel imaging provides widest field of view and decodes highest density codes

Quadrus MINI ESD Safe: 1.3 megapixel imager is ISO Class 3 and Class M1.5 compliant for use in ESD sensitive applications

For more information on these products, visit www.microscan.com.

Autofocus
For real time dynamic autofocus, position the symbol at the center of the field of view, and push the EZ button. The Quadrus MINI automatically adjusts focal distance and sets internal parameters to optimize the symbol.

Megapixel Processing
Each imager features megapixel processing for reading multiple small, high density codes, long 1D codes, and decoding up to 100 symbols in a single read capture.

Wide Field of View
Read symbols as large as 2" (50.8 mm) square as close as 1" (25.4 mm) with diffractive field illumination and optional right angle mirror.

Ease of Use
The imager series includes such user-friendly features as visible performance indicators, ESP® software, and one touch setup and configuration.

Compact Shape/Size
The Quadrus MINI's small form factor allows for flexible positioning in tight spaces or mounting into robotic applications.
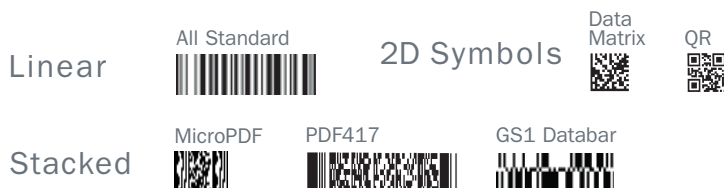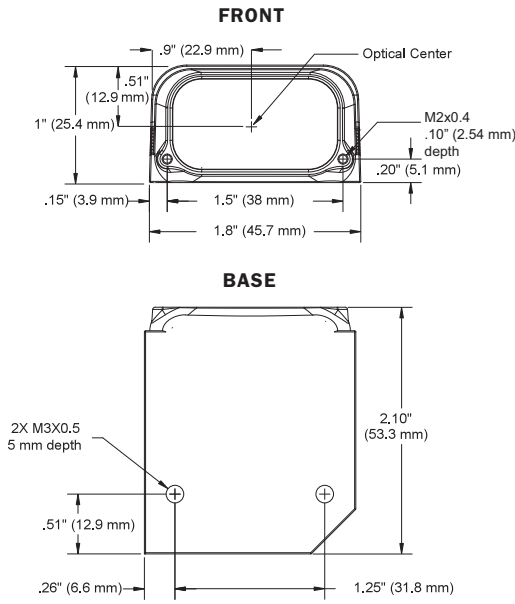
Application Examples
- Printed circuit boards
- Electronics assembly
- Assembly line manufacturing
- Component tracking
- Robotics

Quadrus MINI Series: Available Codes

Linear	All Standard	2D Symbols	Data Matrix	QR

Stacked	MicroPDF	PDF417	GS1 Databar

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Quadrus® MINI Series Specifications and Options

MECHANICAL (drawings)

FRONT

- .9" (22.9 mm)
- Optical Center
- .51" (12.9 mm)
- 1" (25.4 mm)
- M2x0.4 .10" (2.54 mm) depth
- .15" (3.9 mm)
- 1.5" (38 mm)
- .20" (5.1 mm)
- 1.8" (45.7 mm)

BASE

- 2X M3X0.5 5 mm depth
- 2.10" (53.3 mm)
- .51" (12.9 mm)
- .26" (6.6 mm)
- 1.25" (31.8 mm)

READ RANGES (GRAPHS AND TABLES)

Ultra High Density Fields of View (inches/mm) — Ultra High Density Depth of Field (@ Focus Position)

Standard Density Fields of View (inches/mm) — Standard Density Depth of Field (@ Focus Position)

High Density Fields of View (inches/mm) — High Density Depth of Field (@ Focus Position)

QXGA MINI Standard Density Fields of View (inches/mm) — QXGA MINI Standard Density Depth of Field (@ Focus Position)

Narrow-bar-width		Field of View (width)* (maximum)	Read Range (using autofocus)
1D	**2D**		
Ultra High Density			
.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)
High Density			
.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)
Standard Density			
.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.

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 MINI: 1280 by 1024 pixels
QXGA MINI: 2048 by 1536 pixels

WARNING
LED LIGHT
DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 1 LED PRODUCT
Light Output: .564 mW. Wavelength: 470, 525, 617 nm.
IEC 60825-1:1993+A1:1997+A2:2001

SYMBOLOGY TYPES
2D Symbologies: Data Matrix (ECC 0-200), QR Code
Stacked Symbologies: PDF417, Micro PDF417, GS1 Databar (Composite & Stacked)
Linear Bar Codes: Code 39, Code 128, BC 412, I2 of 5, UPC/EAN, Codabar, Code 93

READ PARAMETERS
Pitch: ±30° **Skew:** ±30° **Tilt:** 360°
Decode Rate: Up to 10 decodes per second (SXGA MINI)
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 Type A connector

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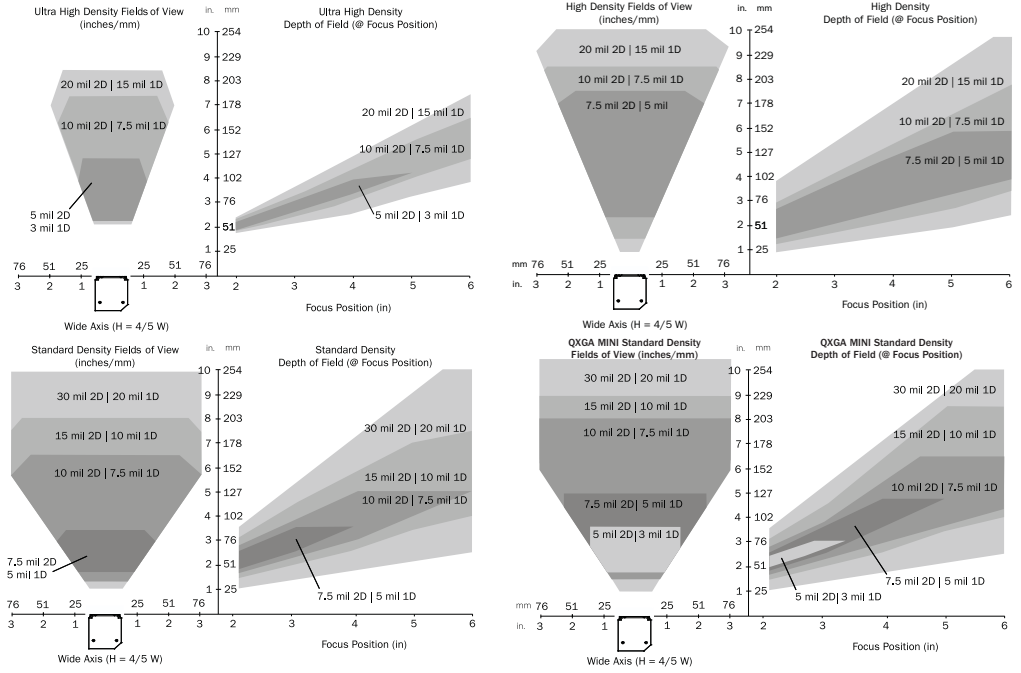**Beeper:** Good read, match/mismatch, noread, serial command confirmation, on/off

ELECTRICAL
SXGA MINI Power: 5 VDC +/– 5 %, 200 mV p-p max. ripple, 554 mA @ 5 VDC (typ.)
QXGA MINI Power: 5 VDC +/– 5 %, 200 mV p-p max. ripple, 494 mA @ 5 VDC (typ.)
Optional Int.: 10-28 V Accy

HOST CONNECTOR/PIN ASSIGNMENTS
High Density 15 Pin D-sub Socket Connector

Pin No.	Host RS-232	Host/Aux RS-232	Host RS-422/485	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[a]			Out
8	Default configuration[b]			In
9	Trigger			In
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 TTL[a]			Out
12	New Master (NPN)			In
13	Chassis ground[c]			
14	Output 2 TTL[a]			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.

COMMUNICATION PROTOCOLS
Standard Interface: RS-232, RS-422, RS-485, or USB

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

ROHS/WEEE COMPLIANT

ISO CERTIFICATION
Issued by TüV USA Inc, Member of TÜV NORD Group, Cert No. 06–1080

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