Quadrus EZ™ is a true out-of-the-box solution for decoding linear, stacked, and 2D bar code symbols.
Specializing in reading low contrast applications, Quadrus EZ™ decodes symbols directly marked by dot peen, laser etch, chemical etch, ink jet, and thermal transfer that are applied to materials such as metals, plastic, rubber, and glass. Quadrus EZ™ provides the read performance of a vision system in an easy-to-use smart camera device.

Compared to vision systems, Quadrus EZ™:
- Is a one-piece solution including illumination, camera, and decoding platform
- Is easy to use, no pc or external illumination required
- Is more cost effective

Compared to laser bar code scanners Quadrus EZ™:
- Reads 2D symbols
- Has omni directional reading
- Decodes low contrast etched or dot peen symbols

QUADRUS EZ™

DYNAMIC 1D & 2D BAR CODE READER

Ease of Use:
Designed into every aspect of Quadrus EZ™, initial set up can be done in seconds.

A 2-step setup:
1. Position symbol using the "X" pattern.
2. Push the EZ™ button to read.

Field of View Locator & Good Read Indicator:
A red "X" identifies the field of view center, allowing fast and accurate placement. After the symbol has been targeted, Quadrus EZ™ emits a bright green flash (visible from all angles) signaling a successful read.

EZ button:
- Enables locator pattern
- Enables the calibrate mode
- Enables read rate mode
- Defaults the reader

This simplifies initial set up process and allows the reader to be configured directly on the line, without the aid of a PC.

Extensive Focal Range:
Quadrus EZ™ offers four optical versions, factory adjustable from 2 to 10 inches (50.8 to 254 mm).
Additional focal points and field of views can be achieved by using an analog RS-170 progressive scan camera to capture and receive images.

Dynamic Reading:
High decode speeds and superior light collection allow the Quadrus EZ™ to meet the needs of applications that have line speeds of several meters a second.

Ethernet Connectivity:
Embedded Ethernet is an option available for high speed data and image transfer.

2D Symbol Validation:
Quadrus EZ™ provides 17 different validation parameters that are useful in gauging readability. Some key parameters are:
- Symbol contrast
- Axial non-uniformity
- Center shape/offset
- Dot quality
- Print growth
- Cell fill
- Angle of distortion

Video Input/Output:
Quadrus EZ™ offers optional video input and output ports. This allows standard analog RS-170 cameras to be used, and a live video feed to view images. Adding a camera can expand optical flexibility to increase focal ranges, or be used where there may be physical size constraints.

Symbologies:
Quadrus EZ™ reads various 2D, stacked and linear symbologies. Some examples include:

2D Symbologies
- Data Matrix (ECC 0-200)
- QR Code

Stacked Symbology
- PDF417
- RSS (Stacked,Composite)
- Micro PDF

Linear Bar Code
- BC412
- Code 39
- Code 128
- I-2 of 5
- UPC/EAN
- Pharmacode

Codes depicted above are for display purposes only. For a sample packet, contact Microscan, info@microscan.com.

ESP™ Software:
Microscan's ESP Setup program is Windows-based and used for configuring and testing Quadrus EZ™.

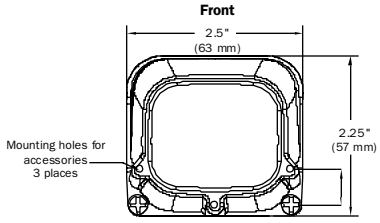
MICROSCAN®

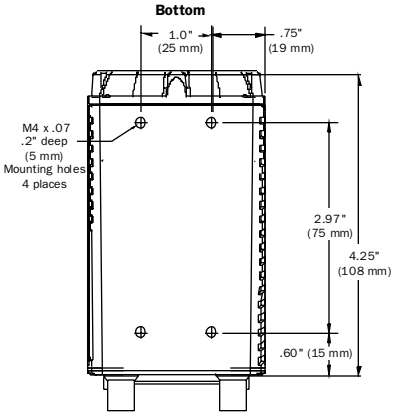
QUADRUS EZ™ DYNAMIC 1D & 2D BAR CODE READER

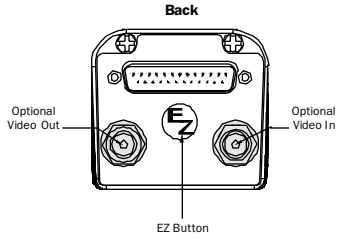
Specifications and Options

MECHANICAL

Height: 2.25" (57 mm)
Width: 2.5" (64 mm)
Depth: 4.2" (107 mm)
Weight: 12 oz. (340 g)







ENVIRONMENTAL

Enclosure: IP65 (standard unit)
With Video I/O Option: IP55
Operating Temperature: 0° to 43°C
(32° to 109°F), if mounted on a Microscan stand. If mounted on non-metal surface, maximum operating temperature is 40°C (104°F)
Storage Temperature: -50° to 75° C
(-58 to 167°F)
Humidity: up to 90% (non-condensing)

EMISSIONS/IMMUNITY

ITE Distubances: EN55022: 1998 (radiated and conducted). Class A
General Immunity: EN55024:1998 (residential)
Heavy Industrial Immunity: EN61000-6-2:1999

LIGHT SOURCE

Type: High output LEDs

LIGHT COLLECTION OPTIONS

Progressive scan, square pixel.
Software adjustable shutter speed, electronic mechanism
CCD Array: 659 x 494 pixels
CMOS Array: 640 by 480 pixels

SYMBOLOGY TYPES

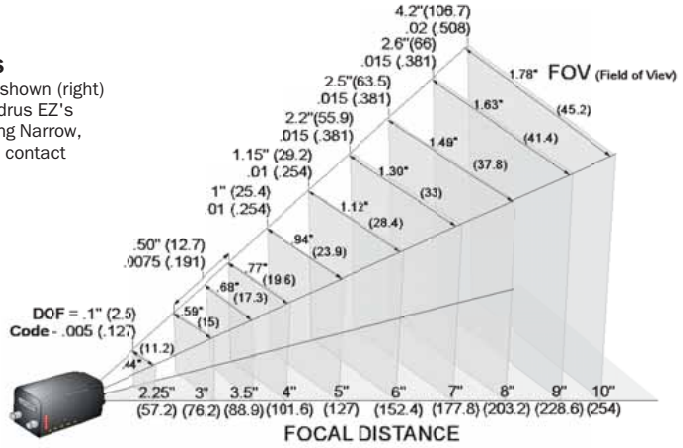
2D Symbologies:
Data Matrix (ECC 0-200), QR Code
Stacked Symbologies: PDF417, Micro PDF417, RSS (Composite & Stacked)
Linear Bar Codes: Code 39, Code 128, IBM BC412, I2 of 5, Pharmacode, UPC/EAN

FOUR OPTICAL VERSIONS

Medium Density CCD option shown (right)
For more information on Quadrus EZ's other optical versions including Narrow, Wide, and Extra Wide, please contact Microscan.

MEASUREMENT

Shown in inches (mm)



STANDARD OFFERING

CONNECTORS/PIN ASSIGNMENTS

Host Connector: 25-pin D-subminiature plug

Pin No.	Host RS232	Host & Aux RS232	Host RS422/485	In/ Out
1	Chassis ground[a]			
2	TxD			Out
3	RxD			In
4	RTS	TxD		Out
5	CTS	RxD		In
6	Output 1 (+)			Out
7	Signal Ground[b]			
8	Output 2 (+)			Out
9	Trigger (–)			In
10	Trigger (+)			In
11	Default configuration[c]			In
12	Input 1 (+)			In
13			RxD (+)	In
14			TxD (–)	Out
15	Output 3 (+)			Out
16			RxD (–)	In
17	Power Ground[d]			
18	Power +10 to 28 VDC			In
19			TXD +	Out
20	Output 1 (–)			Out
21	Output 2 (–)			Out
22	Output 3 (–)			Out
23	Input 1 (–)			In
24	New master (–)			In
25	New master (+)			In

[a]Chassis ground: Used to connect chassis body to earth ground only. Not to be used as power or signal return.
[b]Signal ground: Used for communication and signal line grounds only. Not to be used as power or chassis return.
[c] The default is activated by connecting pin 11 to ground pin 7.
[d] Power ground: Used for power return only.
Caution: If using your own power supply, verify correct connection of power and ground lines. Incorrect connections or use of "Chassis ground," "Power ground," and "Signal ground" lines could cause equipment or software failure.

ETHERNET OPTION

Host Connector: Pins Utilized

Pin No.	Function	In/Out
13	Ethernet RxD (+)	In
14	Ethernet RxD(–)	In
16	Ethernet TxD (–)	Out
19	Ethernet TxD (+)	Out

VIDEO INPUT (Option)

Signal System: Progressive scan
Number of Scanning Lines: 525 lines/non-interlaced
Input: Analog 1 Vp-p

VIDEO OUTPUT (Option)

Signal System: EIA
Number of Scanning Lines: 525 lines/ 2:1 interlaced
Output: Analog 1 Vp-p/75 ohm

READ PARAMETERS

Pitch: ±30° **Skew**: ±30° **Tilt**: 360°
Decode Rate: Up to 60 decodes per second
Focal Range: 2 to 10 inches (factory adjustable)

INDICATORS

LEDS: Read Performance, Power, Read Status, and Network Status
Beeper: Good read, match/mismatch, noread, serial command confirmation, on/off

COMMUNICATION PROTOCOLS

Standard Interface: RS-232, RS-422, RS-485, RS-232, Daisy Chain
Optional Interface: Ethernet

ELECTRICAL

Power Requirements: Input, 10 to 28 VDC, 200 mV p-p max ripple, 270 mA at 24 VDC (typ.- CMOS), 333 mA at 24 VDC (typ.-CCD).
Trigger, New Master, Input 1: (Optoisolated) 5 to 28 VDC rated, (12mA at 24 VDC).
Outputs 1/2/3: (Optoisolated) 1 to 28 VDC rated, (I_{CE} < 100mA at 24 VDC, current limited by user).

SAFETY CERTIFICATIONS

Designed for: FCC, CE, cUL, UL, BSMI

ISO CERTIFICATION

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

Specification, 11/04–Base FE
Specifications subject to change.

Product specifications are given for typical performance at 25° Celsius (77° Fahrenheit) using grade A labels. Some performance characteristics may vary at high temperatures or other environmental extremes.
Warranty — One year limited warranty on parts and labor. Extended warranty available.

MICROSCAN

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For more details and virtual product tour go to **www.quadrus-ez.com.**