

# ABR Series



## Imager-Based 1D and 2D Barcode Readers

- Reliable with advanced capabilities to solve tough traceability applications
- Compact, flexible, all-in-one solution for industrial environments
- Easy integration, connection, and programming





## Tracking Products through Packaging

### Challenges

- Inconsistent quality of barcodes printed on glossy, shiny, or reflective packaging material
- Multiple product labels with barcodes printed in different orientations
- Limited space available to deploy barcode reader

### Solution

- ABR 3000 has robust decoding capability to read damaged, deformed, and overprinted codes
- Ability to read multiple 1D or 2D codes in any orientation
- Complete, all-in-one solution in an ultra-compact housing



## Reliable Detection of Small 2D Codes on Vials

### Challenges

- 2D codes store lot codes, formulation, and expiration dates on pill bottles
- Presence and accuracy of codes must be verified for product recalls/quality assurance
- Limited space requires a reader with small housing and adjustable focus

### Solution

- Compact housing and adjustable focus of ABR 3000 enables flexible deployment in limited space
- USB communication interfaces with laboratory equipment
- Detects missing or incorrect codes and sends an output alarm



## Small DPM Codes on Electronic Components

### Challenges

- 2D codes are directly marked on electronic components
- Contains dense information on the component, such as serial number
- DPM codes are low-contrast and thus more difficult to read
- A reader must read the multiple component codes with high accuracy

### Solution

- ABR 7000 features 2 MP for small, challenging DPM codes
- Polarized windows reduce glare from shiny materials
- Customizable light configurations ensure higher contrast for reliable code reads
- Autofocus allows for product line changeover without readjusting on the device



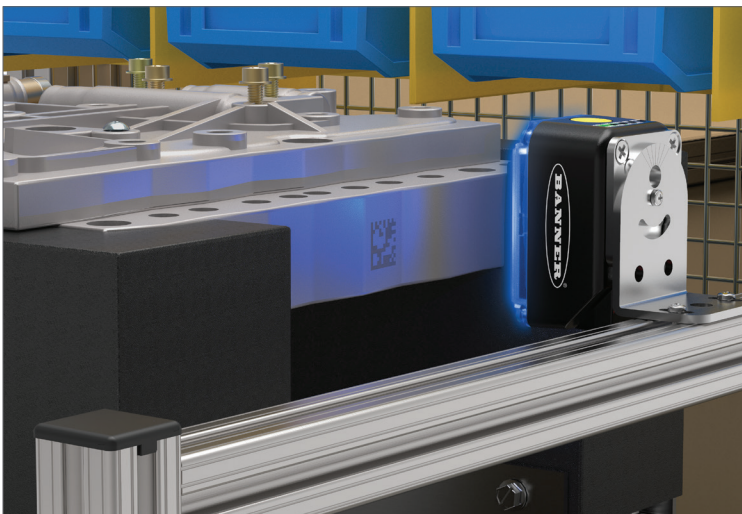
## Packages of Varying Height with Multiple 1D and 2D Barcodes

### Challenges

- Multiple 1D and 2D barcodes printed on each label
- Barcode position and orientation varies with the location of each package on the conveyor
- Box height varies with each line changeover

### Solution

- ABR 7000 is capable of reading multiple 1D and 2D barcodes in a single inspection
- Wide field-of-view enables inspections over a large area
- Autofocus lens easily adapt to changes in box size when the line changes over



## Low Contrast DPM Codes on Automotive Components

### Challenges

- 2D codes are etched into automotive components
- Low contrast between the barcodes and the metal background
- Challenging environment with physical hazards common to manufacturing
- Each component must be tracked through the manufacturing process

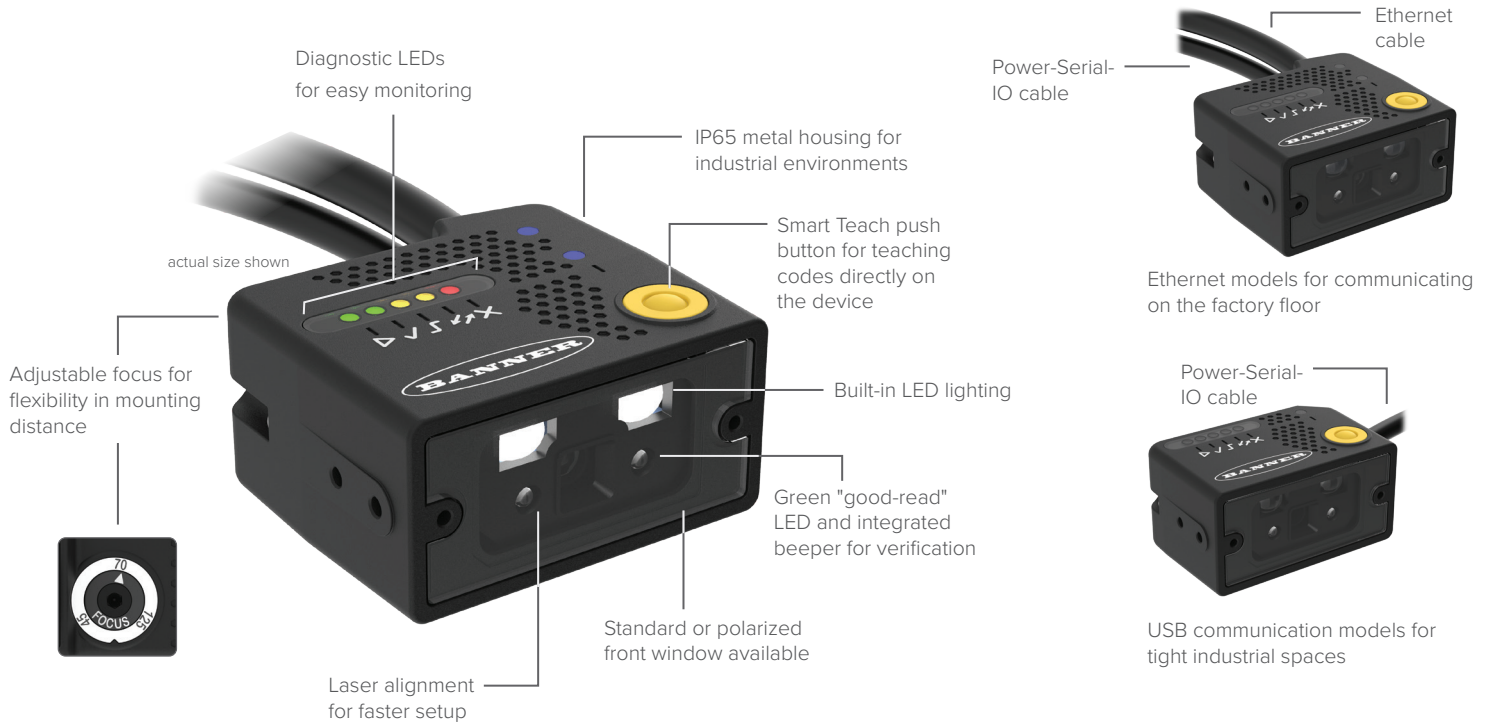
### Solution

- ABR 7000's superior decoding capabilities and a high-resolution imager enable reliable reading of Direct Part Mark (DPM) and other difficult barcodes
- Powerful multicolored DPM lighting provides optimal illumination on etched, reflective, textured, and other challenging surfaces
- Rugged, IP67-rated housing protects against industrial hazards
- Ethernet connectivity for communicating with factory floor

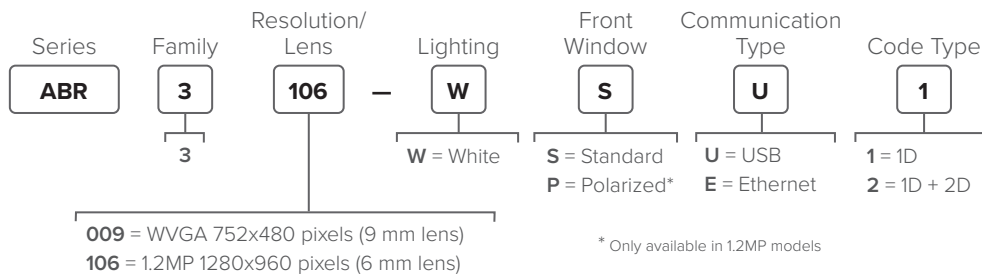
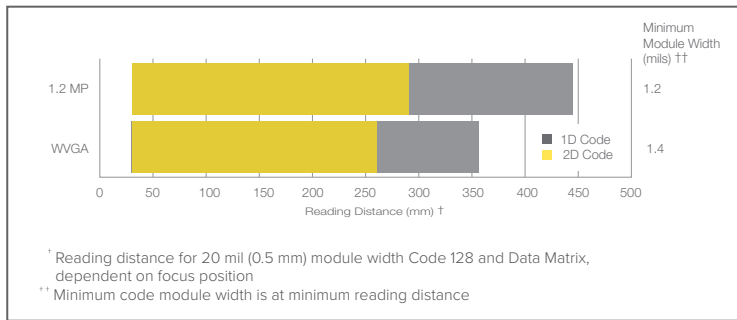


# ABR 3000 Series – Ultracompact Design, Powerful Capabilities

- Barcode reader with compact housing for tight spaces
- Two resolutions and adjustable focus for application flexibility
- Easy setup and operation using a push button or remotely with software interface

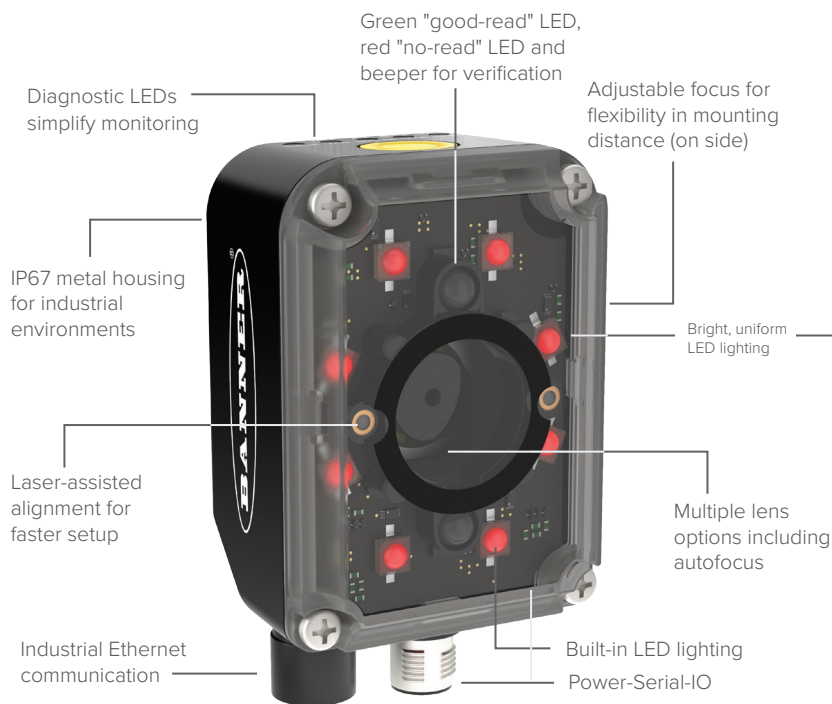


1D and 2D Reading Range by Model

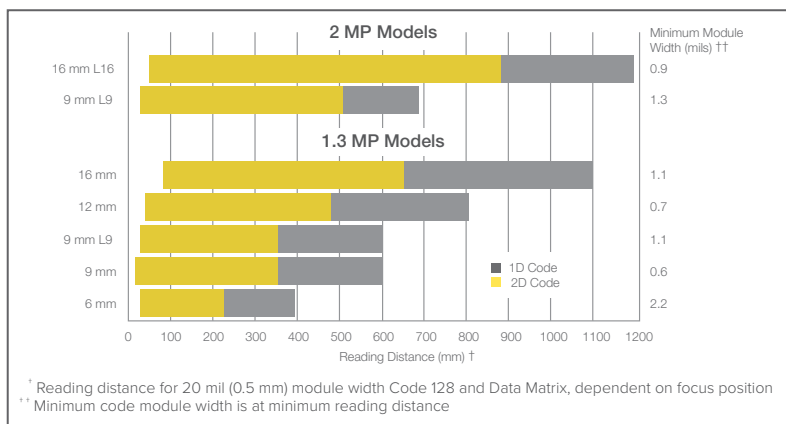


# ABR 7000 Series – Power and Versatility to Solve Any Application

- High-resolution imager and fast processing time to solve tough applications on the assembly line
- Autofocus model available for faster setup and product line changes
- Superior integrated lighting for long-range use, low-contrast codes, and direct part marking (DPM) applications

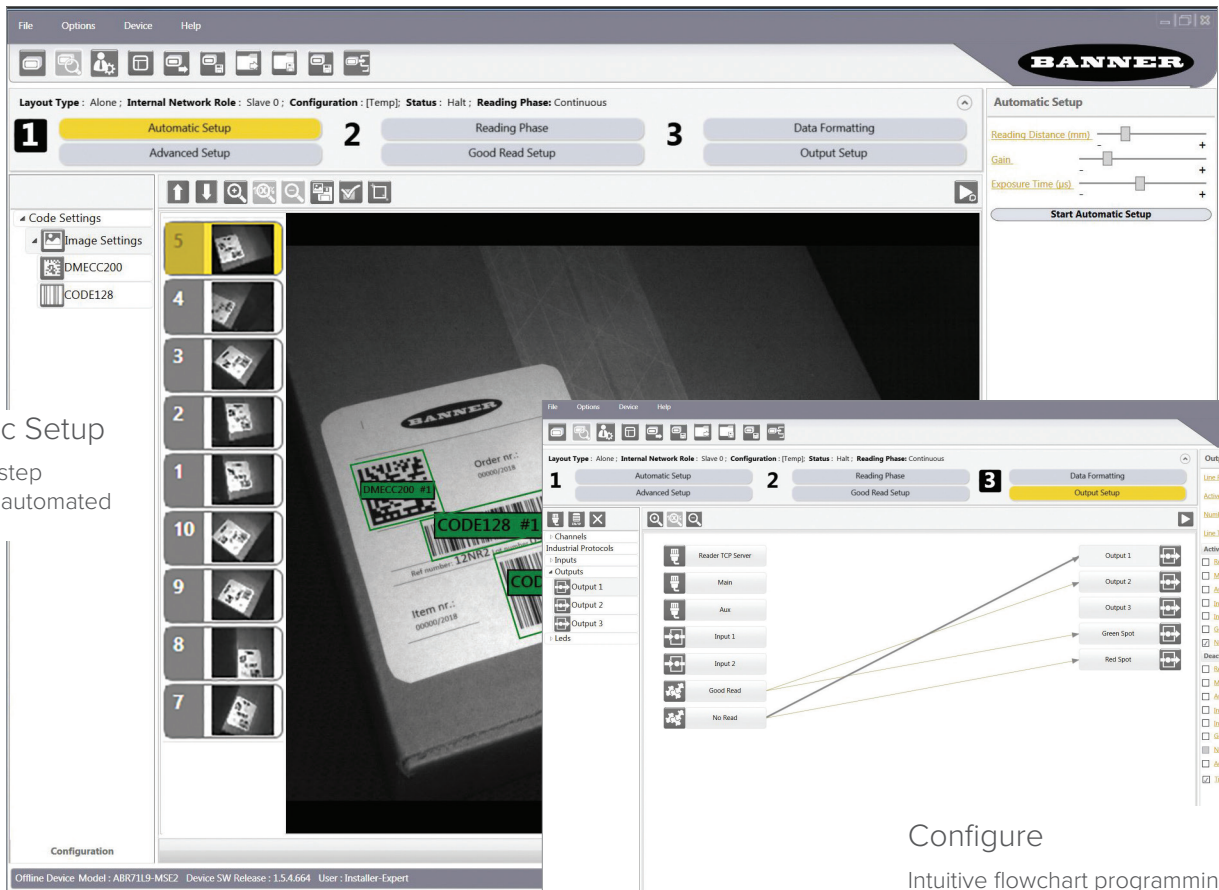


1D and 2D Reading Range by Model

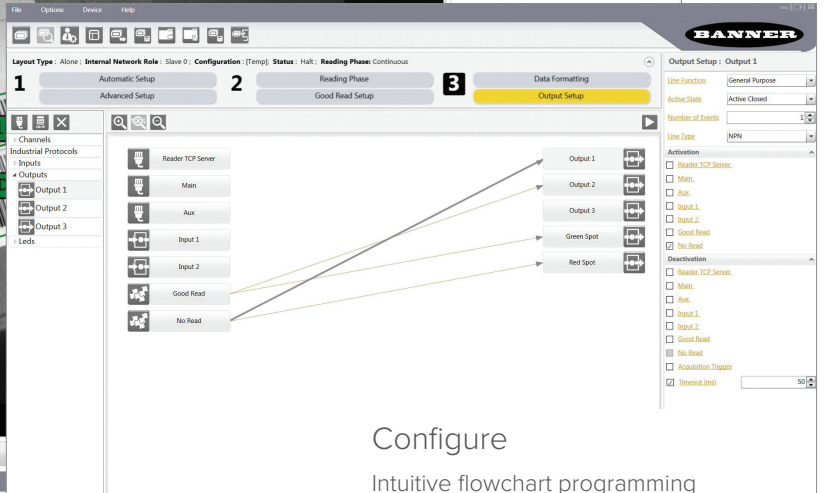


Series	Family	Resolution	Lens	Lighting	Front Window	Communication Type	Code Type
<b>ABR</b>	<b>7</b>	<b>1</b>	<b>06</b>	<b>R</b>	<b>S</b>	<b>E</b>	<b>2</b>
1 = 1.3MP 1280x1024 pixels		06 = 6 mm 09 = 9 mm L9* = 9 mm 12 = 12 mm 16 = 16 mm	R = Red M = Multicolored** W = White	S = Standard P = Polarized***	E = Ethernet	2 = 1D + 2D	* Liquid lens autofocus ** Red and blue LEDs for optimized reading of DPM codes, available on 6 mm and 9 mm models only *** White light only, L9 lens
2 = 2MP 1600x1200 pixels		L9* = 9 mm L16* = 16 mm	R = Red W = White	S = Standard† D = Diffused†† P = Polarized††			† White light only †† Red light only

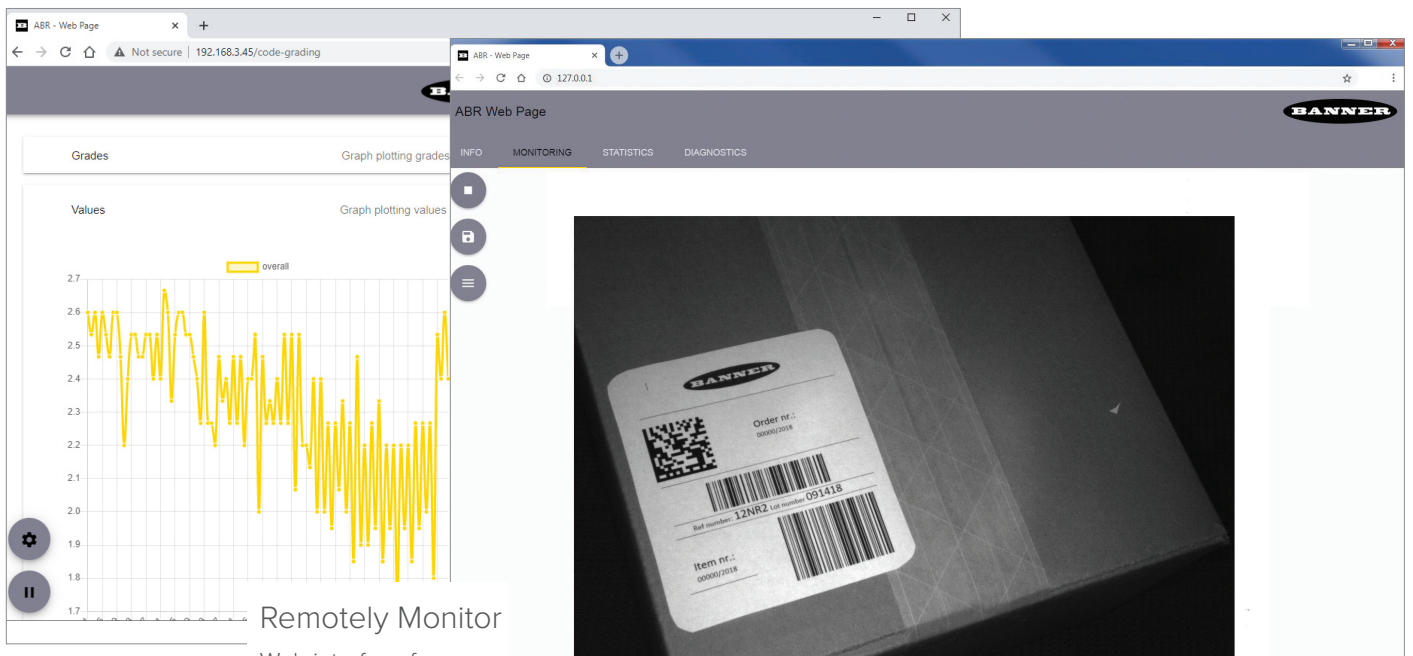
# Barcode Manager Software – Easy-to-Use, Advanced Capabilities



Automatic Setup  
Quick, one-step  
process for automated  
set up



Configure  
Intuitive flowchart programming  
and diverse configuration options



Remotely Monitor  
Web interface for  
monitoring, configuring  
and reviewing statistics

## Barcode Manager Features

<b>Image Filtering:</b>	The following image filters are available: Erode, Dilate, Close, Open, Contrast Stretching, Histogram Equalization, Smoothing, Sharpening, Deblurring, Black Enhancement, White Enhancement
<b>Code Grading:</b>	ABR readers can be used to evaluate printed or marked symbols according to the ISO/IEC 16022, 18004, AIM DPM, and ISO/IEC 15416 standards
<b>Multihead Networking:</b>	Connect multiple ABR 7000 models together with ID-Net for complex applications
<b>Presentation Mode:</b>	Automatically reads the barcode when a part is presented to the reader and motion is detected
<b>Webserver:</b>	Available for all models for viewing, monitoring and making changes remote from any device



## Capable of Reading the Following Codes

1-D and Stacked	2D	Postal
<ul style="list-style-type: none"> <li>• PDF417 (Standard and Micro)</li> <li>• Code 128 (GS1-128)</li> <li>• Code 39 (Standard and Full ASCII)</li> <li>• Code 32</li> <li>• MSI</li> <li>• Standard 2 of 5</li> <li>• Matrix 2 of 5</li> <li>• Interleaved 2 of 5</li> <li>• Codabar</li> <li>• Code 93</li> <li>• Pharmacode</li> <li>• UPC (EAN-8/13-UPC-A/E)</li> <li>• GS1 DataBar Family</li> <li>• Composite Symbologies</li> <li>• Plessey</li> </ul>	<ul style="list-style-type: none"> <li>• Data Matrix ECC 200 (Standard, GS1, DPM)</li> <li>• QR Code (Standard, DPM)</li> <li>• Micro QR Code</li> <li>• MAXICODE</li> <li>• Aztec Code</li> <li>• Dotcode</li> </ul>	<ul style="list-style-type: none"> <li>• Australia Post</li> <li>• Royal Mail 4 State Customer</li> <li>• Kix Code</li> <li>• Japan Post</li> <li>• PLANET</li> <li>• POSTNET</li> <li>• POSTNET (+BB)</li> <li>• Intelligent Mail</li> <li>• Swedish Post</li> </ul>

## Cordsets

### For Use with ABR Ethernet Models

17-pin M12 female shielded (for power, serial and IO)



**MQDC2S-1706**  
2 m (6.5 ft)  
**MQDC2S-1715**  
5 m (15 ft)  
**MQDC2S-1730**  
9 m (30 ft)

4-pin M12 D-code to RJ45 Ethernet for Ethernet Communication



**STP-M12D-406**  
2 m (6.5 ft)  
**STP-M12D-415**  
5 m (15 ft)  
**STP-M12D-430**  
9 m (30 ft)

### For Use with ABR USB Models (ABR 3000 only)

Power and USB Communication only

17-pin M12 female to USB



**MQDEC-1703SS-USB**

OR

Power, USB Communication, IO and Serial Communication

17-pin M12 female shielded (for power, serial and IO)



**MQDC2S-1706**  
2 m (6.5 ft)  
**MQDC2S-1715**  
5 m (15 ft)  
**MQDC2S-1730**  
9 m (30 ft)

Splitter cable. 17-pin M12 female trunk with one 17-pin M12 male branch and one USB branch

**CSB-M121701USB02M121702**



## Memory Module

### TCNM-ACMK-100

Provides backup and restore capability when used with a Connection Box

## Connection Box

### TCNM-ACBB1

Provide simplified wiring and connection for ABR readers



### For Use with TCNM-ACBB1 Connection Box

17-pin M12 female to DB25 (replaces MQDC2S-17xx)



**MQDEC-1703SS-DB25**  
0.9 m (3 ft)


17-pin female to 17-pin male shielded (optional extension cable)



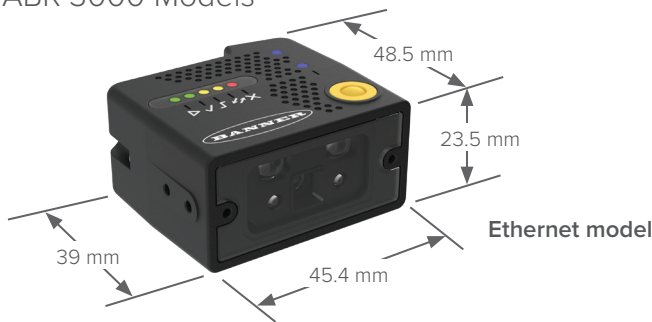
**MQDEC-1706SS**  
2 m (6.5 ft)  
**MQDEC-1715SS**  
5 m (15 ft)  
**MQDEC-1730SS**  
9 m (30 ft)



# Specifications

	3000 Models	7000 Models
<b>Supply Voltage</b>	5 to 30 V dc	10 to 30 V dc
<b>Consumption</b>	0.4 A ( at 5 V) to 0.1 A (at 30 V) maximum	0.7 A ( at 10 V) to 0.2 A (at 30 V) maximum
<b>Communication Protocols</b>	EtherNet/IP, Modbus/TCP, USB, RS-232, RS422, FTP, SLMP, PROFINET compatible	EtherNet/IP, Modbus/TCP, RS-232, RS422, FTP, SLMP, PROFINET compatible
<b>Communication Speed</b>	Main RS232 or RS422 full duplex: 2400 bit/s to 115200 bit/s USB Models: USB 2.0 Hi-Speed Ethernet Models: 10/100 Mbit/s	Main RS232 or RS422 full duplex: 2400 bit/s to 115200 bit/s Auxiliary - RS232: 2400 to 115200 bit/s Ethernet: 10/100 Mbit/s
<b>Inputs</b>	Input 1 (External Trigger) and Input 2: Protected against short-circuits	Input 1 (External Trigger) and Input 2: Opto-isolated and polarity insensitive
<b>Outputs</b>	2 NPN or PNP short circuit protected	3 NPN or PNP short circuit protected
<b>Imager</b>	WVGA: 752 × 480 pixels, CMOS 1.2MP: 1280 × 960 pixels, CMOS	1.3 MP: 1280 × 1024 pixels, CMOS 2MP: 1600 × 1200 pixels, CMOS
<b>Frame Rate</b>	WVGA: 57 frames/sec 1.2MP: 36 frames/sec	1.3MP: 60 frames/sec 2MP: 45 frames/sec
<b>Construction</b>	Aluminum, Plastic Window	Aluminum, Plastic Window
<b>Operating Conditions</b>	0 to +45 °C (+32 to +113 °F) 90% maximum relative humidity	0 to +50 °C (+32 to +122 °F) Liquid Lens: 0 to +45 °C (+32 to +113 °F) 90% maximum relative humidity
<b>Environmental Rating</b>	IEC IP65	IEC IP67
<b>Other</b>	Smart Teach button (configurable via Barcode Manager), beeper	Smart Teach button (configurable via Barcode Manager), beeper
<b>Parameter Storage</b>	Permanent memory (Flash)	Permanent memory (Flash)
<b>Certifications</b>		

## ABR 3000 Models



## ABR 7000 Models



Banner Engineering Corp.

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