ABR Series

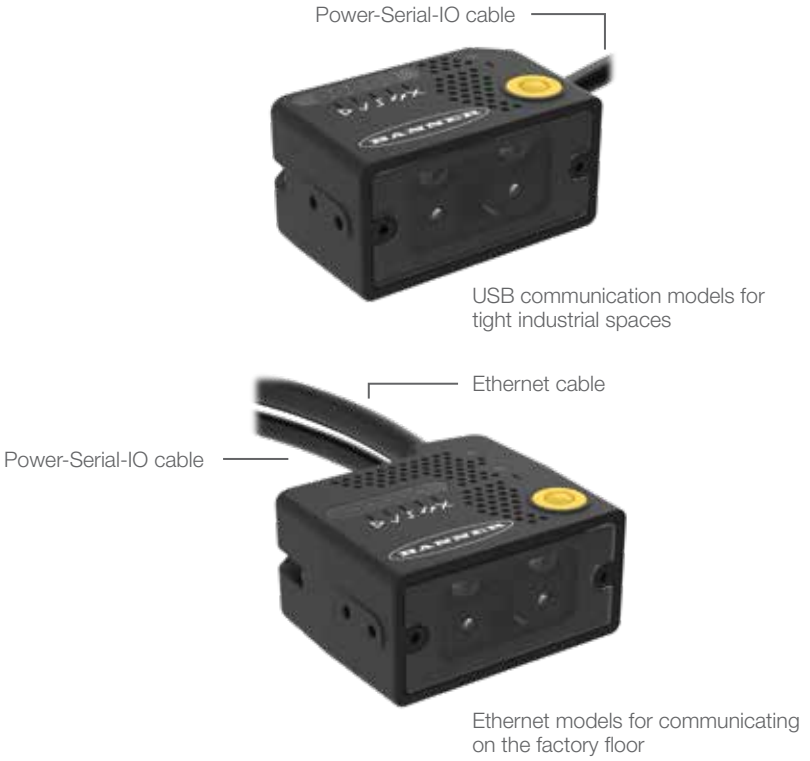
Imager-Based Barcode Readers

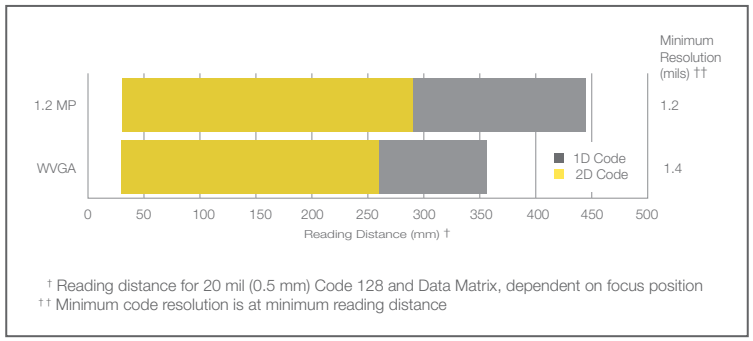
- Reliably reads the most difficult 1D and 2D barcodes
- Compact, all-in-one solution for industrial environments
- Advanced capabilities to solve tough traceability applications

BANNER®

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





† Reading distance for 20 mil (0.5 mm) Code 128 and Data Matrix, dependent on focus position
†† Minimum code resolution is at minimum reading distance

Series	Family	Resolution/ Lens		Lighting	Front Window	Communication Type	Code Type
ABR	3	106	–	W	S	U	1
	3			W = White	S = Standard P = Polarized*	U = USB E = Ethernet	1 = 1D 2 = 1D + 2D

009 = WVGA 752x480 pixels (9 mm lens)
106 = 1.2MP 1280x960 pixels (6 mm lens)

* Only available in 1.2MP models

Challenges

- Inconsistent quality of barcodes printed on gloss packaging material
- Multiple product labels with barcodes printed in different orientations
- Limited space available to deploy barcode reader

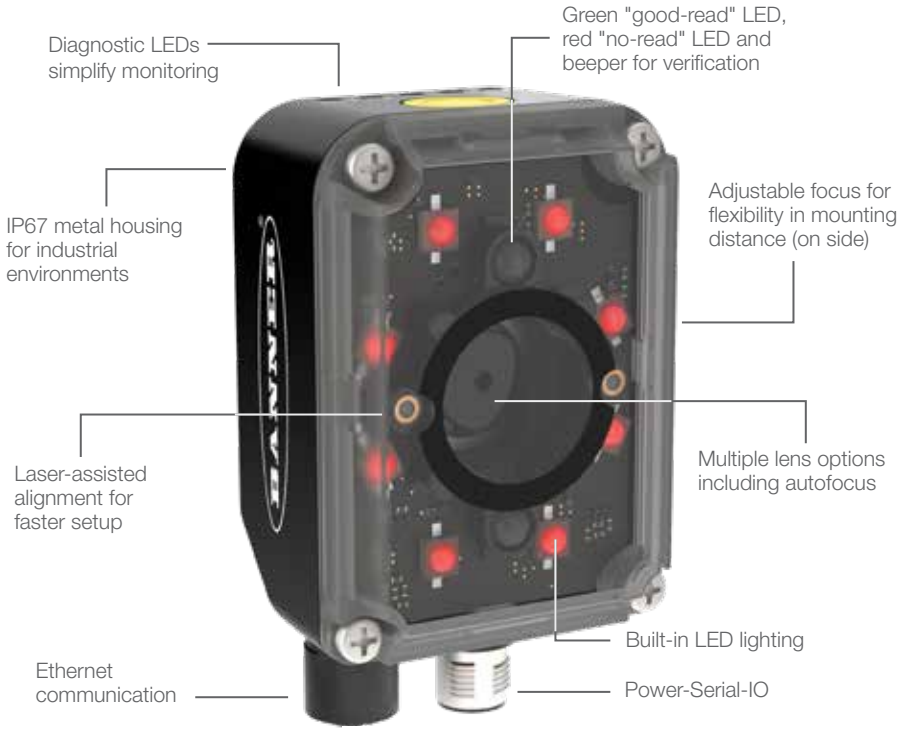
Solution: ABR 3000

- 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

Datamatrix UPC

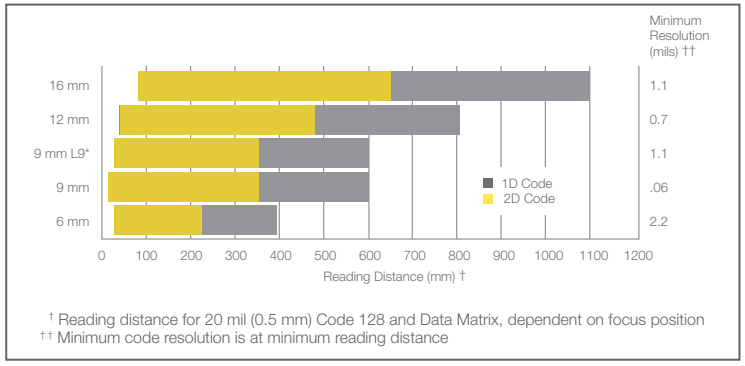
ABR 7000 Series – Power and Versatility to Solve Any Application

- 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



Red Models

Multicolored DPM Models



† Reading distance for 20 mil (0.5 mm) Code 128 and Data Matrix, dependent on focus position
†† Minimum code resolution is at minimum reading distance

Series	Family	Resolution	Lens		Lighting	Front Window	Communication Type	Code Type
ABR	7	1	06	–	R	S	E	2

- Family: **7**
- Resolution: **1** = 1.3MP 1280x1024 pixels
- Lens: **06** = 6 mm; **09** = 9 mm; **L9*** = 9 mm; **12** = 12 mm; **16** = 16 mm
- Lighting: **R** = Red; **M** = Multicolored**
- Front Window: **S** = Standard
- Communication Type: **E** = Ethernet
- Code Type: **2** = 1D + 2D

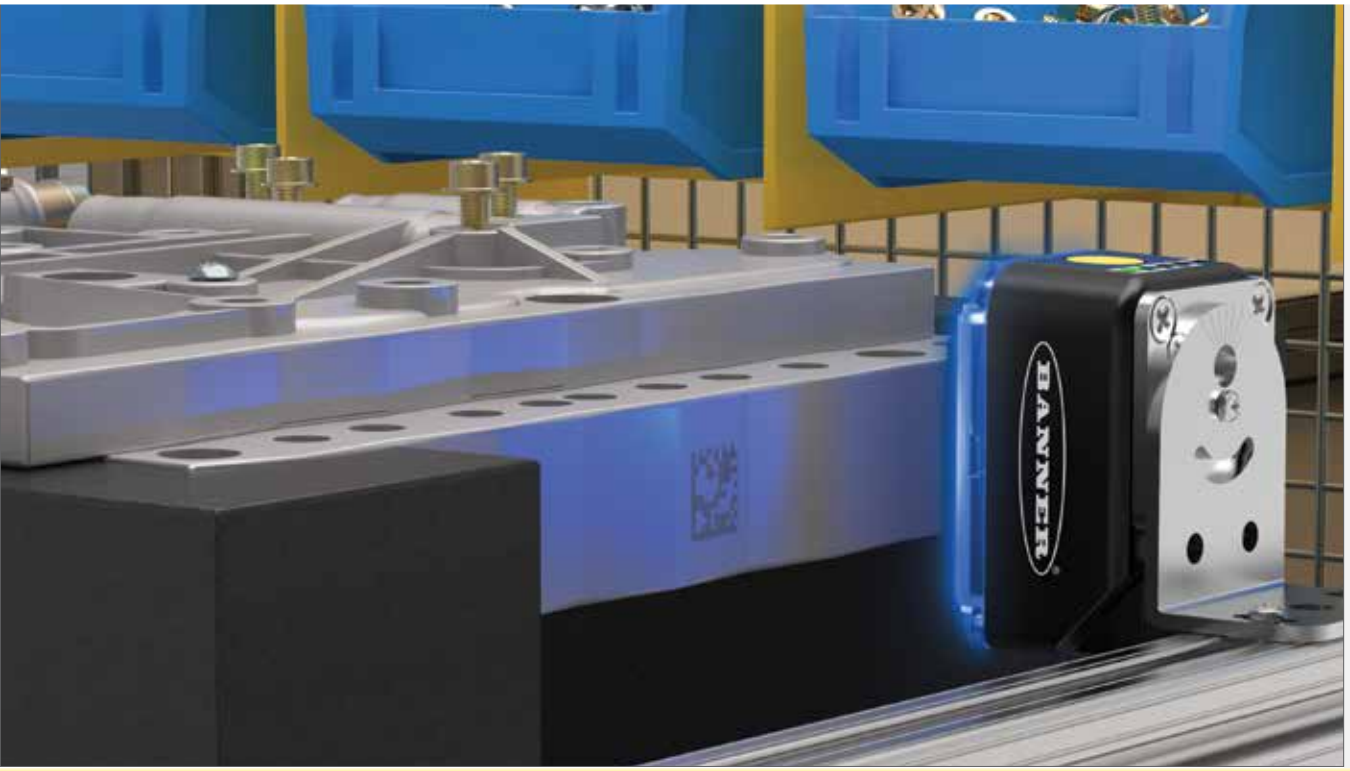
* Liquid lens autofocus
** Red and blue LEDs for optimized reading of DPM codes, available on 6 mm and 9 mm models only

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

- Capable of reading multiple 1D and 2D barcodes in a single inspection
- The wide field of view enables inspections over a large area
- The high-resolution imager and autofocus lens easily adapt to changes in box size when the line changes over



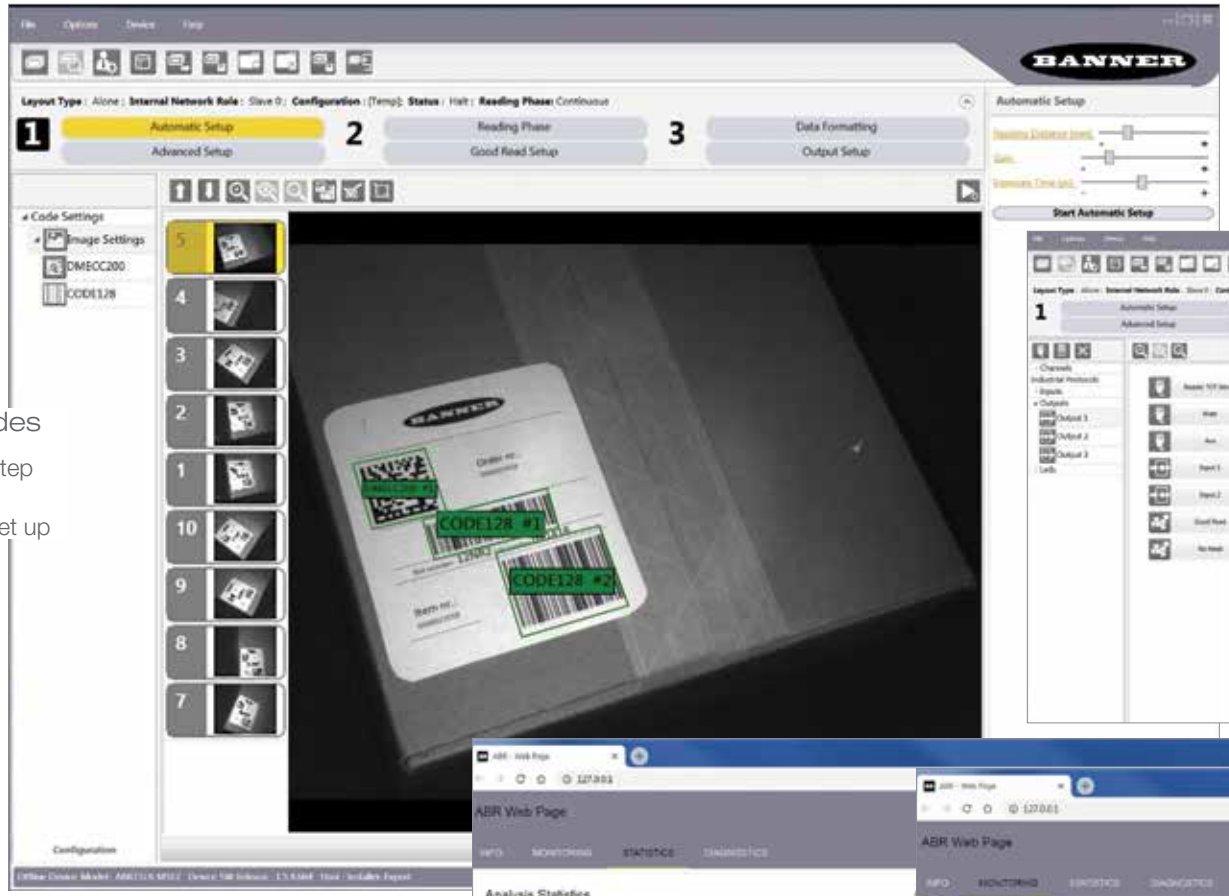
Challenges

- 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

- 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

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



Learn Codes

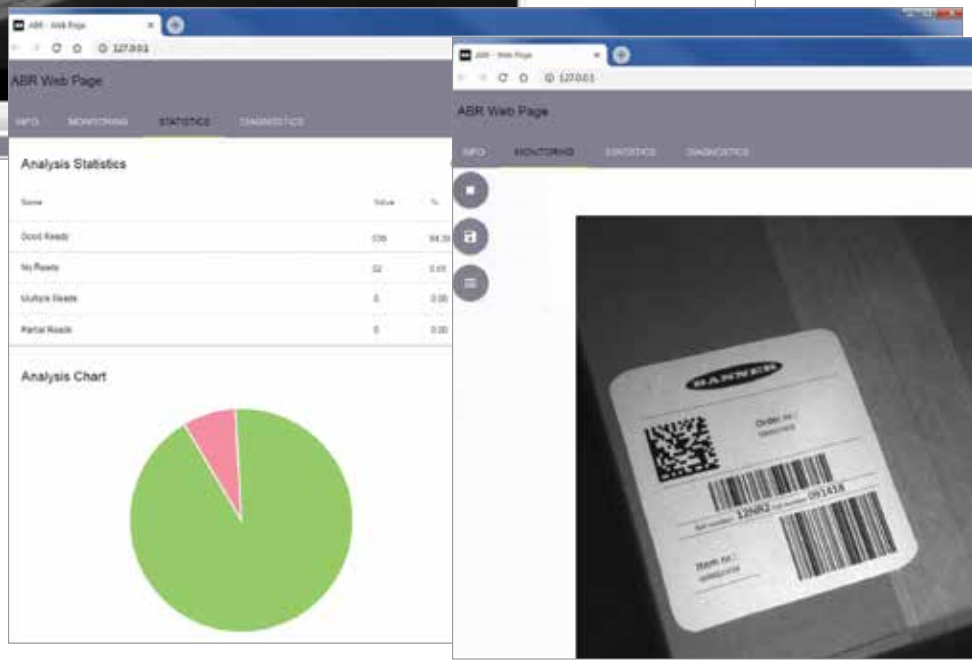
Quick, one-step process for automated set up

Configure

Intuitive flowchart programming and diverse configuration options

Remotely Monitor

Web interface for monitoring status and statistics

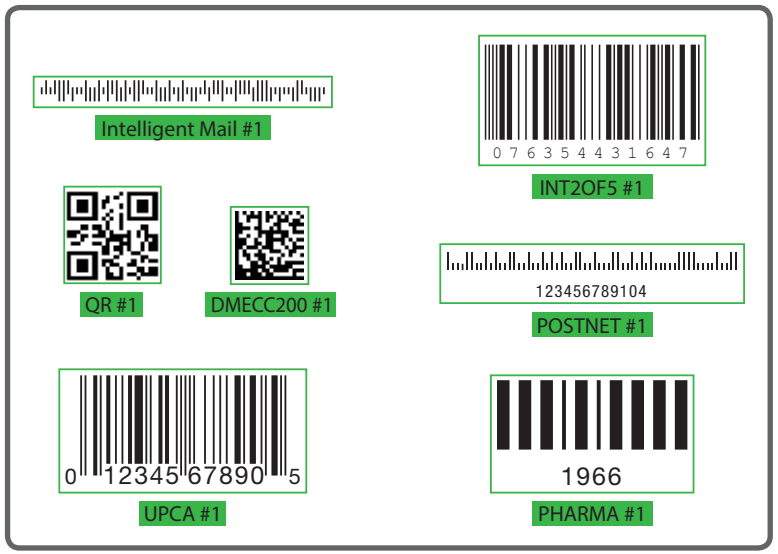


Barcode Manager Features

Image Filtering: The following image filters are available: Erode, Dilate, Close, Open, Contrast Stretching, Histogram Equalization, Smoothing, Sharpening, Deblurring, Black Enhancement, White Enhancement

Code Grading: 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

Multihead Networking: Connect multiple ABR 7000 models together with ID-Net for complex applications



Capable of reading the following codes

1-D and Stacked

- PDF417 (Standard and Micro)
- Code 128 (GS1-128)
- Code 39 (Standard and Full ASCII)
- Code 32
- MSI
- Standard 2 of 5
- Matrix 2 of 5
- Interleaved 2 of 5
- Codabar
- Code 93
- Pharmacode
- UPC (EAN-8/13-UPC-A/E)
- GS1 DataBar Family
- Composite Symbologies
- Plessey

2D

- Data Matrix ECC 200 (Standard, GS1, DPM)
- QR Code (Standard, DPM)
- Micro QR Code
- MAXICODE
- Aztec Code
- Dotcode

Postal

- Australia Post
- Royal Mail 4 State Customer
- Kix Code
- Japan Post
- PLANET
- POSTNET
- POSTNET (+BB)
- Intelligent Mail
- Swedish Post

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

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

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)

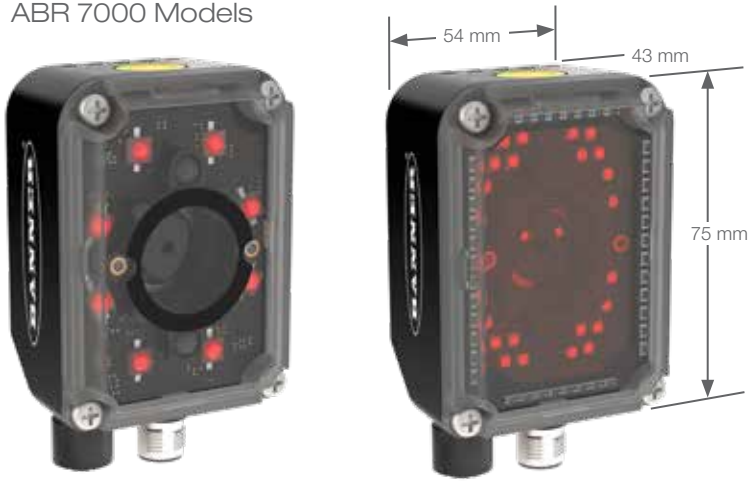
MQDEC-1706SS
2 m (6.5 ft)
MQDEC-1715SS
5 m (15 ft)
MQDEC-1730SS
9 m (30 ft)

Connection Box

TCNM-ACBB1

ABR 3000 Models

ABR 7000 Models



Specifications

	3000 Models	7000 Models
Supply Voltage	5 to 30 V dc	10 to 30 V dc
Consumption	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
Communication Protocols	EtherNet/IP, Modbus/TCP, USB, RS-232, RS422, FTP	EtherNet/IP, Modbus/TCP, RS-232, RS422, FTP
Communication Speed	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
Inputs	Input 1 (External Trigger) and Input 2: Protected against short-circuits	Input 1 (External Trigger) and Input 2: Opto-isolated and polarity insensitive
Outputs	2 NPN or PNP short circuit protected	3 NPN or PNP short circuit protected
Imager	WVGA: 752 × 480 pixels, CMOS 1.2MP: 1280 × 960 pixels, CMOS	1.3 MP: 1280 × 1024 pixels, CMOS
Frame Rate	WVGA: 57 frames/sec 1.2MP: 36 frames/sec	60 frames/sec
Construction	Aluminum, Plastic Window	Aluminum, Plastic Window
Operating Conditions	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
Environmental Rating	IEC IP65	IEC IP67
Other	Smart Teach button (configurable via Barcode Manager), beeper	Smart Teach button (configurable via Barcode Manager), beeper
Parameter Storage	Permanent memory (Flash)	Permanent memory (Flash)
Certifications	CE cULus	

Replacement Brackets

SMBABR3RA
(included with product)

SMBABR7RA
(included with product)

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