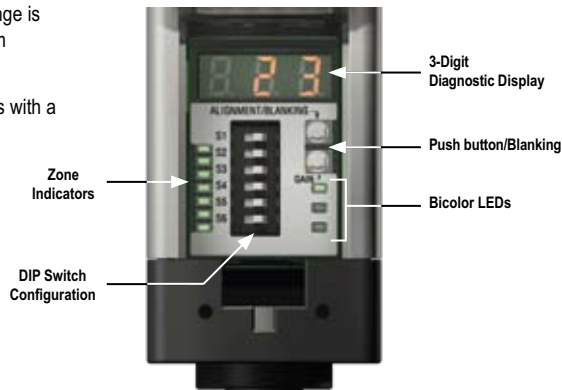


# A-GAGE® EZ-ARRAY™ Two-Piece Measuring Light Screens

- Applications include edge and center guarding, loop tension control, hole sizing, parts counting and on-the-fly product sizing and profiling.
- Two-piece design eliminates the needs for a separate controller.
- Two push buttons are provided for gain method selection and alignment/ blanking.
- High-excess-gain option for detecting opaque objects and maximizing range in dirty environments.
- Edge resolution of 2.5 mm on opaque objects in single and double edge scan mode.
- Low-contrast sensing of semi-transparent materials and objects as small as 5 mm.
- Seven Zone LED's provide instant alignment and beam blockage information.
- Remote TEACH-wire option is included for alignment, blanking, sensitivity, inverted display and DIP switch enabled/disabled.
- Aluminum housing is compact and rugged for demanding applications.

### Provides powerful configuration capabilities

- Straightforward applications can be configured using six-position DIP switch on front of the receiver.
- Easy-to-use graphic user interface software is included for advanced configuration using a PC (USB serial adapter required—sold separately).
- Integrated 3-digit diagnostic display indicates number of beams blocked, blanking configuration and troubleshooting codes.
- Bicolor LEDs indicate system and serial communication status.
- Array lengths range from 150 to 2400 mm.
- Standard working range is 0.4 to 4 m, with 5 mm beam spacing.
- Shorter range models with a 0.3 to 1.5 m working range are available.



**EZ-ARRAY Light Screen**  
W = 36.0 mm D = 45.2 mm



Photoelectrics  
Sensors  
Fiber Optic  
Sensors  
Special Purpose  
Sensors

**Measurement & Inspection Sensors**

Vision

Wireless

Lighting & Indicators

Safety Light Screens

Safety Laser Scanners

Fiber Optic Safety Systems

Safety Controllers & Modules

Safety Two-Hand Control Modules

Safety Interlock Switches

Emergency Stop & Stop Control



LIGHT GAUGING

ULTRASONIC

MEASURING ARRAYS

EZ-ARRAY

High-Resolution

MINI-ARRAY

MINI-ARRAY

RADAR

## Specialty Application Solutions

### Clear Object Detection



Clear plate glass profiling  
(Measure width of glass)



Clear plastic bottle detection  
(Detect presence/absence of bottle)

- Clear object models (0.3 m to 1.5 m) are designed to detect low-contrast, translucent objects in clean industrial environments.
- Short-range and low-contrast models are available for plate glass, clear film and bottle detection.

### Carpet Edge Detection



Air-to-backing and backing-to-tufting monitoring

- Short-range models with carpet-specific algorithm automatically detect both the carpet tufting and backing edges.
- Kits are available with an emitter, short-range receiver and mounting bracket for ease of installation and alignment.

Contact Banner Engineering at 1-888-373-6767 or visit [bannerengineering.com/ezarray](http://bannerengineering.com/ezarray) for detailed application and ordering information.

## A-GAGE® EZ-ARRAY™, 12-30V dc–5 mm Beam Spacing

Housing Length (L)	Array Length	Total Beams	Connection	Range*	Analog Output	Emitter Model	Receiver Model NPN Outputs	Receiver Model PNP Outputs
227 mm	150 mm	30	8-pin Euro QD	0.4–4 m	Current (4–20 mA)	EA5E150Q	EA5R150NIXMODQ	EA5R150PIXMODQ
					Voltage (0–10V)		EA5R150NUXMODQ	EA5R150PUXMODQ
379 mm	300 mm	60			Current (4–20 mA)	EA5E300Q	EA5R300NIXMODQ	EA5R300PIXMODQ
					Voltage (0–10V)		EA5R300NUXMODQ	EA5R300PUXMODQ
529 mm	450 mm	90			Current (4–20 mA)	EA5E450Q	EA5R450NIXMODQ	EA5R450PIXMODQ
					Voltage (0–10V)		EA5R450NUXMODQ	EA5R450PUXMODQ
678 mm	600 mm	120			Current (4–20 mA)	EA5E600Q	EA5R600NIXMODQ	EA5R600PIXMODQ
					Voltage (0–10V)		EA5R600NUXMODQ	EA5R600PUXMODQ
828 mm	750 mm	150			Current (4–20 mA)	EA5E750Q	EA5R750NIXMODQ	EA5R750PIXMODQ
					Voltage (0–10V)		EA5R750NUXMODQ	EA5R750PUXMODQ
978 mm	900 mm	180			Current (4–20 mA)	EA5E900Q	EA5R900NIXMODQ	EA5R900PIXMODQ
					Voltage (0–10V)		EA5R900NUXMODQ	EA5R900PUXMODQ
1128 mm	1050 mm**	210			Current (4–20 mA)	EA5E1050Q	EA5R1050NIXMODQ	EA5R1050PIXMODQ
					Voltage (0–10V)		EA5R1050NUXMODQ	EA5R1050PUXMODQ
1278 mm	1200 mm**	240			Current (4–20 mA)	EA5E1200Q	EA5R1200NIXMODQ	EA5R1200PIXMODQ
					Voltage (0–10V)		EA5R1200NUXMODQ	EA5R1200PUXMODQ
1578 mm	1500 mm**	300			Current (4–20 mA)	EA5E1500Q	EA5R1500NIXMODQ	EA5R1500PIXMODQ
					Voltage (0–10V)		EA5R1500NUXMODQ	EA5R1500PUXMODQ
1878 mm	1800 mm**	360			Current (4–20 mA)	EA5E1800Q	EA5R1800NIXMODQ	EA5R1800PIXMODQ
					Voltage (0–10V)		EA5R1800NUXMODQ	EA5R1800PUXMODQ
2178 mm	2100 mm**	420	Current (4–20 mA)	EA5E2100Q	EA5R2100NIXMODQ	EA5R2100PIXMODQ		
			Voltage (0–10V)		EA5R2100NUXMODQ	EA5R2100PUXMODQ		
2478 mm	2400 mm**	480	Current (4–20 mA)	EA5E2400Q	EA5R2400NIXMODQ	EA5R2400PIXMODQ		
			Voltage (0–10V)		EA5R2400NUXMODQ	EA5R2400PUXMODQ		

QD models: A model with a QD requires a mating cordset (see page 343).


\* Models with a range of 100 mm to 1.5 m models are available upon request. Contact factory at 1-888-373-6767 for more information.

\*\* Models with array lengths 1050 mm and longer ship with a center bracket and two end-cap brackets.

A-GAGE® EZ-ARRAY™ Specification	
Supply Voltage (Limit Values)	Emitter: 12 to 30V dc Receiver Analog Current Models: 12 to 30V dc    Receiver Analog Voltage Models: 15 to 30V dc
Supply Power Requirements	Emitter/Receiver Pair (Exclusive of discrete load): Less than 9 watts    Power-up delay: 2 seconds
Emitter/Receiver Range	400 mm to 4 m
Field of View	Nominally ± 3°
Beam Spacing	5 mm
Light Source	Infrared LED
Minimum Object Detection Size	Straight Scan, Low-Contrast: 5 mm Straight Scan, High-Excess-Gain: 10 mm
Sensor Positional Resolution	Straight Scan: 5 mm    Double-Edge Scan: 2.5 mm    Single-Edge Scan: 2.5 mm
Teach Input (Receiver Gray Wire)	Low: 0 to 2 volts    High: 6 to 30 volts or open (input impedance 22 kΩ)
Two Discrete Outputs	Solid-State NPN or PNP (current sinking or sourcing) Rating: 100 mA max. each output OFF-State Leakage Current: NPN: less than 200 uA @ 30V dc    PNP: less than 10 uA @ 30V dc ON-State Saturation Voltage: NPN: less than 1.6V @ 100 mA    PNP: less than 2.0V @ 100 mA Protected against false pulse on power-up and continuous overload or short circuit.
Two Analog Outputs	Voltage Sourcing: 0 to 10V (maximum current load of 5 mA) Current Sourcing: 4 to 20 mA (maximum resistance load = $(V_{supply} - 3) / 0.020$ )

More on next page


# A-GAGE® EZ-ARRAY™ Specification (cont'd)

<b>Serial Communication Interface</b>	EIA-485 Modbus RTU (up to 15 nodes per communication ring) RTU binary format <b>Baud Rate:</b> 9600, 19.2K or 38.4K 8 Data Bits, 1 Stop Bit, and Even, Odd, or 2 Stop Bits and No Parity
<b>Scan Time</b>	Scan times depend on scan mode and sensor length. Straight scan times range from 2.8 to 26.5 milliseconds.
<b>Status Indicators</b>	<b>Emitter:</b> Red Status LED ON Steady—Status Flashing at 1 hz—Error <b>Receiver:</b> 7 Zone Indicators Red—Blocked channels within zone      Green—All channels clear within zone 3-digit 7-segment indicators for measurement mode / diagnostic information Sensor Status Bicolor Indicator LED Red—Hardware Error or Marginal Alignment      Green—OK Modbus Activity Indicator LED: Yellow Modbus Error Indicator LED: Red
<b>System Configuration (Receiver Interface)</b>	<b>6-position DIP switch:</b> Used to set scanning type, measurement modes, analog slope and discrete output 2 function. Alternate software GUI interface provides additional options; see full manual. <b>Push Buttons</b> Two momentary push buttons for alignment and gain level selection.
<b>Connections</b>	<b>Serial communication:</b> The receiver uses a PVC-jacketed, 5-conductor 22-gauge quick-disconnect cable, 5.4 mm diameter. QD cordsets are ordered separately. See page 343. <b>Other Sensor connections:</b> 8-conductor quick-disconnect cordsets (one each for emitter and receiver), ordered separately (may not exceed 75 m long), PVC-jacketed cordsets measure 5.8 mm diameter, have shield wire; 22-gauge conductors. QD cordsets are ordered separately. See page 343.
<b>Construction</b>	Aluminum housing with clear-anodized finish; acrylic lens cover
<b>Environmental Rating</b>	IEC IP65
<b>Operating Conditions</b>	<b>Temperature:</b> -40° to +70° C <b>Relative humidity:</b> 95% at 50° C (non-condensing)
<b>Certification</b>	
<b>Hookup Diagrams</b>	<b>NPN models:</b> MI23 (p. 763) <b>PNP models:</b> MI24 (p. 763)

- Photoelectrics Sensors
- Fiber Optic Sensors
- Special Purpose Sensors
- Measurement & Inspection Sensors**
- Vision
- Wireless
- Lighting & Indicators
- Safety Light Screens
- Safety Laser Scanners
- Fiber Optic Safety Systems
- Safety Controllers & Modules
- Safety Two-Hand Control Modules
- Safety Interlock Switches
- Emergency Stop & Stop Control
- LIGHT GAUGING
- ULTRASONIC
- MEASURING ARRAYS**
- EZ-ARRAY**
- High-Resolution MINI-ARRAY
- MINI-ARRAY
- RADAR

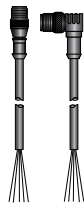
## Cordsets

Euro QD (With Shield)	
See page 689	
Threaded 8-Pin	
Length	Straight
4.58 m	MAQDC-815
9.14 m	MAQDC-830
15.2 m	MAQDC-850



Additional cordset information available. See page 679.

Communication Cordsets		
See page 703		
Threaded 5-Pin		
Length	Straight	Right-Angle
1.83 m	MQDMC-506	MQDMC-506RA
4.57 m	MQDMC-515	MQDMC-515RA
9.14 m	MQDMC-530	MQDMC-530RA



**ENCLOSURES**




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**STANDS**





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**LENS SHIELDS**





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## Brackets

EZ-ARRAY™	
	
pg. 629	pg. 656
EZA-MBK-20	SMBLCZB

Additional brackets and information available. See page 620.

## Serial Adapters

See page 739		Model
	USB to RS-485 serial adapter with integral communication cordset and USB cable for advanced configuration with a PC.	EZA-USB485-01
	USB to RS-485 serial adapter for advanced configuration with a PC. NOTE: Communication cordset ordered separately.	INTUSB485-1