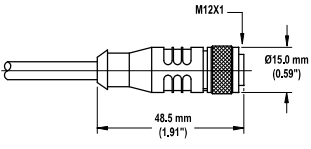
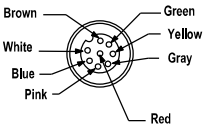
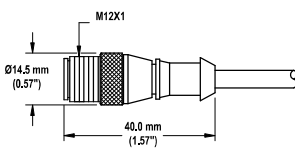
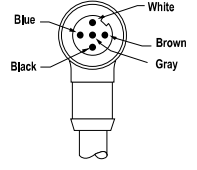
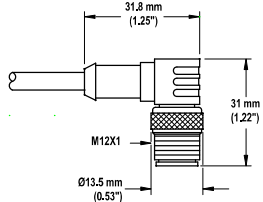
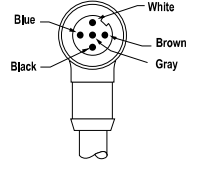
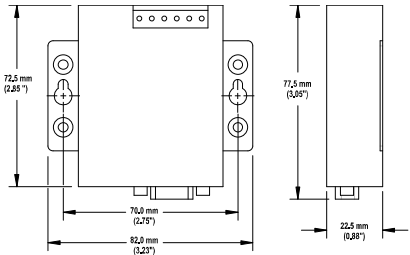


## 2.2 Cables and Connections

### Quick-Disconnect Sensor Cables

Model	Description	Pinout	
MAQDC-815	Straight female connector, 8-pin Euro-style		
MAQDC-830			Female Connector Shown
MAQDC-850			

### Communication Cables and Adapter

Model	Description	Pinout	
<b>Communication Cables</b>			
MQDMC-506	Straight male connector, 5-pin Euro-style		
MQDMC-515			Male Connector Shown
MQDMC-530			
MQDMC-506RA	Right-angle male connector, 5-pin Euro-style		
MQDMC-515RA			Male Connector Shown
MQDMC-530RA			
<b>USB Serial Adapter</b>		<b>Dimensions</b>	
INTUSB485-1	For connection of 5-pin communications cable to computer USB port		

## 2.3 Alignment Aids

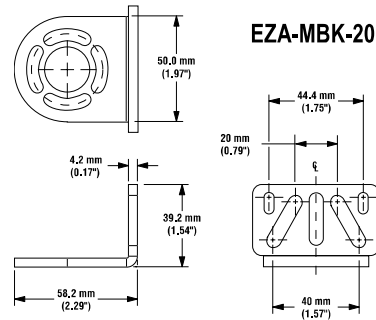
Model	Description
LAT-1-SS	Self-contained visible-beam laser tool for aligning any EZ-ARRAY emitter/receiver pair. Includes retroreflective target material and mounting clip.
EZA-LAT-SS	Replacement adaptor (clip) hardware for EZ-ARRAY models
EZA-LAT-2	Clip-on retroreflective LAT target
BRT-THG-2-100	2" retroreflective tape, 100'
BT-1	Beam Tracker



### 2.4 Accessory Mounting Brackets and Stands

See Section 2.5 for standard brackets. Order one EZA-MBK-20 bracket per sensor, two per pair.

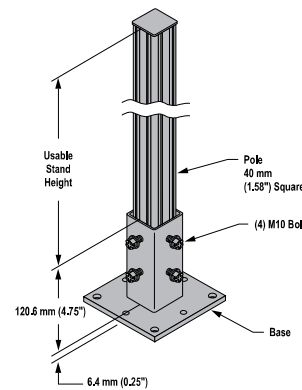
Model	Description
EZA-MBK-20	Universal adaptor bracket for mounting to engineered / slotted aluminum framing (e.g., 80/20™, Unistrut™).



#### MSA Series Stands (Base Included)\*

Stand Model	Useable Stand Height	Overall Stand Height
MSA-S24-1	483 mm (19")	610 mm (24")
MSA-S42-1	940 mm (37")	1067 mm (42")
MSA-S66-1	1549 mm (61")	1676 mm (66")
MSA-S84-1	2007 mm (79")	2134 mm (84")

\*Available without a base by adding suffix "NB" to the model number, e.g., MSA-S24-1NB.



NOTE: Standard brackets shipped with sensors connect directly to MSA series stands, using hardware included with the stands.

### 2.5 Replacement Parts

Description	Model	
Access cover with label – receiver	EA5-ADR-1	
Access cover security plate (includes 2 screws, wrench)	EZA-TP-1	
Wrench, security	EZA-HK-1	
Standard bracket kit with hardware (includes 2 end brackets and hardware to mount to MSA Series stands)	Black	EZA-MBK-11
	Stainless Steel	EZA-MBK-11N
Center bracket kit (includes 1 bracket and hardware to mount to MSA Series stands)	EZA-MBK-12	

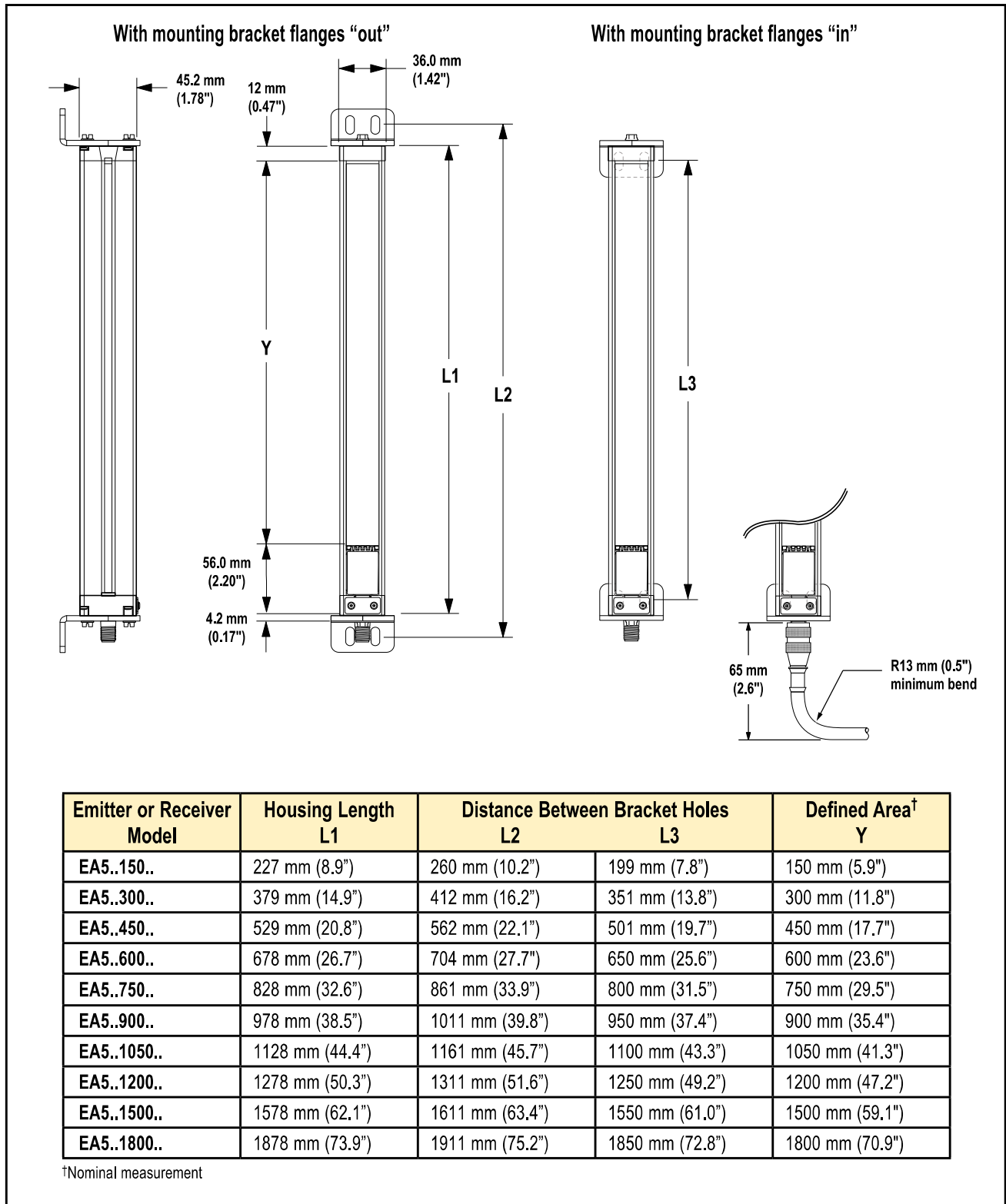
### 2.6 Specifications

Emitter/Receiver Range	400 mm to 4 m (16" to 13')
Field of View	Nominally ± 3°
Beam Spacing	5 mm (0.2")
Light Source	Infrared LED
Minimum Object Detection Size	<b>Straight Scan, Low-Contrast:</b> 5 mm (0.2") <b>Straight Scan, High-Excess-Gain:</b> 10 mm (0.4") See Figure 1-5 for other scan mode values; size is tested using a rod.
Sensor Positional Resolution	<b>Straight Scan:</b> 5 mm (0.2") <b>Double-Edge Scan:</b> 2.5 mm (0.1") <b>Single-Edge Scan:</b> 2.5 mm (0.1")

### 2.6 Specifications, continued

<b>Supply Voltage (Limit Values)</b>	<b>Emitter:</b> 12 to 30V dc <b>Receiver Analog Current Models:</b> 12 to 30V dc <b>Receiver Analog Voltage Models:</b> 15 to 30V dc
<b>Supply Power Requirements</b>	Emitter/Receiver Pair (Exclusive of Discrete Load): Less than 9 watts <b>Power-up delay:</b> 2 seconds
<b>Teach Input (Receiver Gray Wire)</b>	<b>Low:</b> 0 to 2 volts <b>High:</b> 6 to 30 volts or open (input impedance 22 K ohms)
<b>Two Discrete Outputs</b>	Solid-State NPN or PNP (current sinking or sourcing) <b>Rating:</b> 100 mA maximum each output <b>OFF-State Leakage Current:</b> NPN: less than 200 uA @ 30V dc PNP: less than 10 uA @ 30V dc <b>ON-State Saturation Voltage:</b> 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.
<b>Two Analog Outputs</b>	<b>Voltage Sourcing:</b> 0 to 10V (maximum current load of 5 mA) <b>Current Sourcing:</b> 4 to 20 mA (maximum resistance load = $(V_{\text{supply}}-3)/0.020$ )
<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. See Figure 1-7 for all combinations.
<b>Status Indicators</b>	<b>Emitter:</b> Red Status LED ON Red — Status OK 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 (see Section 1.4) Sensor Status Bi-Color Indicator LED Red — Hardware Error or Marginal Alignment (see Section 1.4) Green — OK Modbus Activity Indicator LED: Yellow Modbus Error Indicator LED: Red
<b>System Configuration (Receiver Interface)</b>	6-position DIP switch: Used to set scanning type, measurement modes, analog slope, and discrete output 2 function (see Section 4.1). Alternate software GUI interface provides additional options; see Section 1 and Section 5 of the full manual (p/n 130426).
<b>Push Buttons (Receiver Interface)</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. <b>Other Sensor connections:</b> 8-conductor quick-disconnect cables (one each for emitter and receiver), ordered separately; see Section 2.2 for available lengths (may not exceed 75 meters long), PVC-jacketed cables measure 5.8 mm diameter, have shield wire; 22-gauge conductors.
<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 (-40° to 122° F) <b>Maximum relative humidity:</b> 95% at 50° C (non-condensing)

2.7 Emitter and Receiver Dimensions



## 2.8 Standard Bracket Dimensions

