

Mounting Brackets [Refer to *Dimensions* on page 12.]

A Mounting Bracket is not enclosed with the Sensor. Order as needed.

Appearance	Model (material)	Applicable Sensor E3AS series			
		Pre-wired	M8 Pre-wired Connector	M12 Pre-wired Smartclick Connector	M8 Connector
L-shaped Mounting Bracket 	E39-L201 (SUS304)	Yes	Yes	Yes	---
Horizontal Protective Cover Bracket 	E39-L202 (SUS304)	Yes	Yes	Yes	---
Rear Mounting Bracket 	E39-L203 (SUS304)	Yes	Yes	Yes	Yes ²
Robust Mounting Bracket 	E39-L204 (SUS304)	Yes	Yes	Yes	---
L-shaped Mounting Bracket 	E39-L211 (SUS304)	--- ¹	--- ¹	--- ¹	Yes ³
Horizontal Protective Cover Bracket 	E39-L212 (SUS304)	--- ¹	--- ¹	--- ¹	Yes ³
Robust Mounting Bracket 	E39-L214 (SUS304)	--- ¹	--- ¹	--- ¹	Yes ³

1. Can be used for Pre-wired models, M8 Pre-wired Connector models, and M12 Pre-wired Smartclick Connector models. However, confirm the bracket shape in advance.

2. Confirm the installation environment and bracket shape of the Sensor I/O Connector to be connected.

3. Use an L-shaped Sensor I/O Connector. Straight types cannot be installed.

E3AS-F Series

Ratings and Specifications

Model		Sensing method	TOF (Time of flight)	
		Type	Metal case (□: M), Plastic case (□: P)	
		NPN output	E3AS-F1500I□N	E3AS-F1000I□N
		PNP output/ COM2	E3AS-F1500I□D	E3AS-F1000I□D
Item	PNP output/ COM3		E3AS-F1500I□T	E3AS-F1000I□T
Sensing distance			50 mm to the set distance (White paper or black paper 200 × 200 mm)	50 mm to the set distance (White paper or black paper 200 × 200 mm)
Setting range			100 to 1,500 mm (White paper 200 × 200 mm) 100 to 1,000 mm (Black paper 200 × 200 mm)	100 to 1,000 mm (White paper 200 × 200 mm) 100 to 500 mm (Black paper 200 × 200 mm)
Spot diameter (reference value)			95 mm dia. (at distance of 1,000 mm)	
Differential travel			15% max. of set distance (Set distance 200 mm min.)	
Reflectivity characteristic (black/white error)			10% max. of set distance (Set distance 200 mm min.)	
Light source (wavelength)			Infrared laser (940 nm) Class1 (IEC/EN60825-1:2014)	
Power supply voltage			10 to 30 VDC (including 10% ripple (p-p)), Class2	
Current consumption			30 mA max.	
Input/output	Control output		Load power supply voltage: 30 VDC max., Class2, Load current: 100 mA max. (Residual voltage: Load current of less than 10 mA: 1 V max. Load current of 10 to 100 mA: 2 V max.) Open-collector output (NPN/PNP output depending on model)	
	NPN		OUTPUT 1: NO (Normally open), OUTPUT 2: NC (Normally closed)	
	PNP/COM2 PNP/COM3		OUTPUT 1: NO (Normally open)/COM□, OUTPUT 2: NC (Normally closed)	
Protection circuits			Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection	
Response time			Operate or reset: 150 ms max.	Operate or reset: 90 ms max.
Distance setting			Teaching method/IO-Link communications	
Ambient illumination (Receiver side)			Incandescent lamp: 3,000 lx max., Sunlight: 10,000 lx max.	
Ambient temperature range			Operating: -20 to 55°C, Storage: -40 to 70°C (with no icing or condensation)	
Ambient humidity range			Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)	
Insulation resistance			20 MΩ min. at 500 VDC	
Dielectric strength			1,000 VAC, 50/60 Hz for 1 min	
Vibration resistance			10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	
Shock resistance			500 m/s ² for 3 times each in X, Y, and Z directions	
Degree of protection			IP67 (IEC60529) and IP67G ¹ (JIS C 0920 Annex 1), IP69K (ISO20653)	
Indicators			Operation indicator (orange), stability/communication indicator (green ²)	
Connection method			Pre-wired (standard cable length: 2 m), M8 Connector, M8 Pre-wired Connector (standard cable length: 0.3m), M12 Pre-wired Smartclick Connector (standard cable length: 0.3m)	
Weight (packed state/ Sensor only)	Pre-wired (2 m)		Metal case type: Approx. 135 g/approx. 90 g Plastic case type: Approx. 115 g/approx. 70 g	
	M8 Connector		Metal case type: Approx. 75 g/approx. 30 g Plastic case type: Approx. 60 g/approx. 15 g	
	M8 Pre-wired Connector (0.3m)		Metal case type: Approx. 85 g/approx. 40 g Plastic case type: Approx. 70 g/approx. 25 g	
	M12 Pre-wired Smartclick Connector (0.3m)		Metal case type: Approx. 95 g/approx. 50 g Plastic case type: Approx. 75 g/approx. 30 g	
Materials	Case		Metal case type: Main unit/mounting part/connector part Stainless steel (SUS316L) Plastic case type: Main unit Polybutylene terephthalate (PBT) /polycarbonate (PC), Mounting part/connector part Nickel-plated brass	
	Lens		Methacrylate resin (PMMA)	
	Display		Metal case type: Polyamide 11 (PA11) Plastic case type: Polyethersulfone (PES)	
Main IO-Link functions			Operation mode switching between NO and NC, execution of teaching (2-point teaching, Background teaching), setup of the threshold, timer function of the control output and timer time selecting, monitor output (Detection level, Incident light level), Restore Factory Settings, Key Lock (Unlock, Lock, Lock (No Button))	
IO-Link Communication specifications	IO-Link specification		Ver. 1.1	
	Baud rate		COM2 (38.4 kbps), COM3 (230.4 kbps)	
	Data length		PD size: 4 bytes, OD size: 1 byte (M-sequence type: TYPE_2_V)	
	Minimum cycle time		COM2: 3.5 ms, COM3: 1.2 ms	
Accessories			Instruction manual, compliance sheet, index list (attached for IO-Link type only) and FDA certification label Note: Mounting Brackets must be ordered separately.	

1. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards). The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.

2. IO-Link mode: blinking