

Mounting Brackets A Mounting Bracket is not provided with the Sensor. Order a Mounting Bracket separately if required.
(Refer to *Dimensions* on E39-L/E39-S/E39-R.)

Appearance	Model	Quantity	Remarks	Appearance	Model	Quantity	Remarks
	E39-L153 *1	1	Mounting Brackets		E39-L98 *2	1	Metal Protective Cover Bracket
	E39-L104 *1	1			E39-L150	1 set	(Sensor adjuster)
	E39-L43 *2	1	Horizontal Mounting Bracket		E39-L151	1 set	Easily mounted to the aluminum frame rails of conveyors and easily adjusted. For left to right adjustment
	E39-L142 *2	1	Horizontal Protective Cover Bracket				
	E39-L44	1	Rear Mounting Bracket		E39-L144 *2	1	Compact Protective Cover Bracket (For E3Z only)

Note: When using a Through-beam Sensor, order one Mounting Bracket for the Receiver and one for the Emitter

*1. Cannot be used for Standard Connector models with mounting surface on the bottom. In that case, use Pre-wired Connector models.

*2. Cannot be used for Standard Connector models.

Sensor I/O Connectors (Sockets on One Cable End)

(Models for Connectors and Pre-wired Connectors: A Connector is not provided with the Sensor. Be sure to order a Connector separately.)

(Refer to *Dimensions* on XS3)

Size	Cable	Appearance	Cable type		Model
M8	Standard	Straight *1 	2 m	4-wire	XS3F-M421-402-A
			5 m		XS3F-M421-405-A
		L-shaped *1 *2 	2 m		XS3F-M422-402-A
			5 m		XS3F-M422-405-A

Note: When using a Through-beam Sensor, order one Mounting Bracket for the Receiver and one for the Emitter

*1. The connector will not rotate after connecting.

*2. The cable is fixed at an angle of 180° from the sensor emitter/receiver surface.

Ratings and Specifications

Sensing method		Through-beam	Retro-reflective with MSR function	Distance-settable (BGS models)		
Response		Standard response			High-speed response	
Item	Model	NPN output	E3Z-LT61/-LT66	E3Z-LR61/-LR66	E3Z-LL61/-LL66	E3Z-LL63/-LL68
		PNP output	E3Z-LT81/-LT86	E3Z-LR81/-LR86	E3Z-LL81/-LL86	E3Z-LL83/-LL88
Sensing distance		60 m	0.2 to 7 m (when using E39-R12)	White paper (100 × 100 mm): 20 to 300 mm Black paper (100 × 100 mm): 20 to 160 mm		White paper (100 × 100 mm): 25 to 300 mm Black paper (100 × 100 mm): 25 to 100 mm
Set distance range		---			White paper (100 × 100 mm): 40 to 300 mm Black paper (100 × 100 mm): 40 to 160 mm	White paper (100 × 100 mm): 40 to 300 mm Black paper (100 × 100 mm): 40 to 100 mm
Spot diameter (reference value)		5-mm dia. at 3 m			0.5-mm dia. at 300 mm	
Standard sensing object		Opaque: 12-mm dia. min.		Opaque: 75-mm dia. min.		---
Minimum detectable object (reference value)		6-mm-dia. opaque object at 3 m			0.2-mm-dia. stainless-steel pin gauge at 300 mm	
Differential travel		---			5% max. of set distance	
Black/white error		---			5% at 160 mm	5% at 100 mm
Directional angle		Receiver: 3 to 15°		---		
Light source (wavelength)		Red LD (655 nm), JIS CClass 1, IEC Class 1, FDA Class 2				
Power supply voltage		12 to 24 VDC±10%, ripple (p-p): 10% max.				
Current consumption		35 mA (Emitter 15 mA, Receiver 20 mA)		30 mA max.		
Control output		Load power supply voltage: 26.4 VDC max., Load current: 100 mA max., Open collector output				
Residual output voltage		Load current of less than 10 mA: 1 V max. Load current of 10 to 100 mA: 2 V max.				
Output mode switching		Switch to change between light-ON and dark-ON				
Protection circuits		Reversed power supply polarity protection, Output short-circuit protection, and Reversed output polarity protection		Reversed power supply polarity protection, Output short-circuit protection, Mutual interference prevention, and Reversed output polarity protection		
Response time		Operate or reset: 1 ms max.				Operate or reset: 0.5 ms max.
Sensitivity adjustment		One-turn adjuster			Five-turn endless adjuster	
Ambient illumination (Receiver side)		Incandescent lamp: 3,000 lx max. Sunlight: 10,000 lx max.				
Ambient temperature range		Operating: -10 to 55°C, Storage: -25 to 70°C (with no icing or condensation)				
Ambient humidity range		Operating: 35% to 85%, Storage: 35% to 95% (with no icing or condensation)				
Insulation resistance		20 MΩ min. at 500 VDC				
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min				
Vibration resistance		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions				
Shock resistance		Destruction: 500 m/s ² 3 times each in X, Y, and Z directions				
Degree of protection		IP67 (IEC 60529)				
Connection method		Pre-wired cable (standard length: 2 m): Standard M8 Connector:		E3Z-L□□1/-L□□3 E3Z-L□□6/-L□□8		
Indicator		Operation indicator (orange) Stability indicator (green) Emitter for Through-beam Models has power indicator (orange) only.				
Weight (packed state)	Pre-wired cable (2 m)	Approx. 120 g		Approx. 65 g		
	Standard Connector	Approx. 30 g		Approx. 20 g		
Material	Case	PBT (polybutylene terephthalate)				
	Lens	Modified polyarylate resin		Methacrylic resin	Modified polyarylate resin	
Accessories		Instruction manual (Neither Reflectors nor Mounting Brackets are provided with any of the above models.)				