

Ideal for detecting small workpieces with a small spot: 2.5 mm diameter

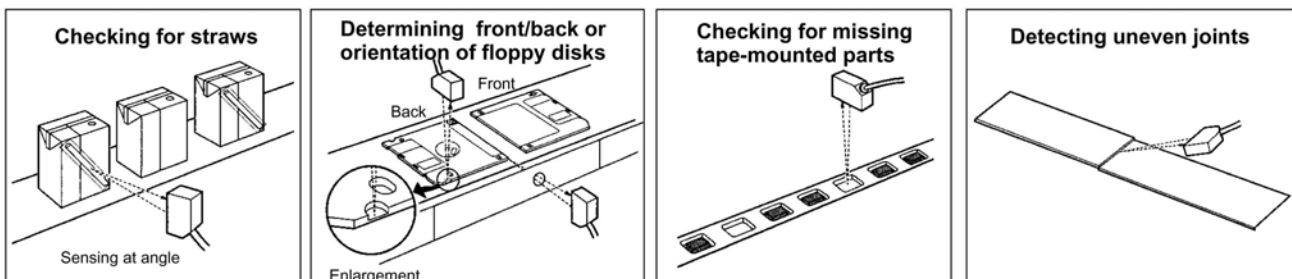
- Tiny workpieces as little as 0.1 mm in diameter can be detected with a 2.5-mm-dia. spot.
- The narrow beam enables sensing from small slots or holes.
- The small spot of light enables visual checking of sensing spot position
- Enclosure rating (IP67), mutual interference prevention, and CE marking are all standard features in the E3Z Series.



Ordering Information

Sensing method	Appearance	Connection method	Sensing distance	Model	
				NPN output	PNP output
Narrow-beam reflective		Pre-wired		E3Z-L61	E3Z-L81
		Connector		E3Z-L66	E3Z-L86

Application Example



Specifications

■ Ratings/Characteristics

Item	E3Z-L61/L81
Sensing distance	White paper (100 × 100 mm): 90±30 mm
Spot diameter (typical)	2.5-mm dia. min. (at sensing distance of 90 mm)
Minimum sensing object (typical)	0.1-mm dia (copper wire)
Hysteresis (typical)	Refer to the chart on the following page.
Light source (emitted wavelength)	Red light-emitting diode (670 nm)
Power supply voltage	12 to 24 VDC ±10% including 10% (p-p) max. ripple
Current consumption	30 mA max.
Control output	Load power supply voltage: 26.4 V max.; Load current: 100 mA max. (Residual voltage: 1 V max.) Open collector output (NPN or PNP depending on model); L-ON/D-ON selectable
Protective circuits	Power supply reverse connection protection, output short-circuit protection, mutual interference prevention
Response time	Operation or reset: 1 ms max.
Sensitivity adjustment	Single-turn adjustment
Ambient lighting	Incandescent lamp: 3,000 lx max.; Sunlight: 10,000 lx max.
Ambient temperature	Operating: -25 to 55°C (with no icing or condensation); Storage: -40 to 70°C (with no icing or condensation)
Enclosure rating	IP67 (IEC60529)
Connection method	Pre-wired cable (length: 2 m or 500 mm) (see note 2), M8 connector
Indicators	Operation indicator (orange); Stability indicator (green)
Weight (packed state)	Pre-wired type, 2 m: Approx. 65 g; Connector type: Approx. 20 g
Material	Case; PBT (polybutylene terephthalate), Lens; Methacrylate resin
Accessories	Operation manual (Mounting Brackets must be purchased separately.)

Note: 1. For other ratings/characteristics, refer to the E3Z datasheet (Catalog number E308).

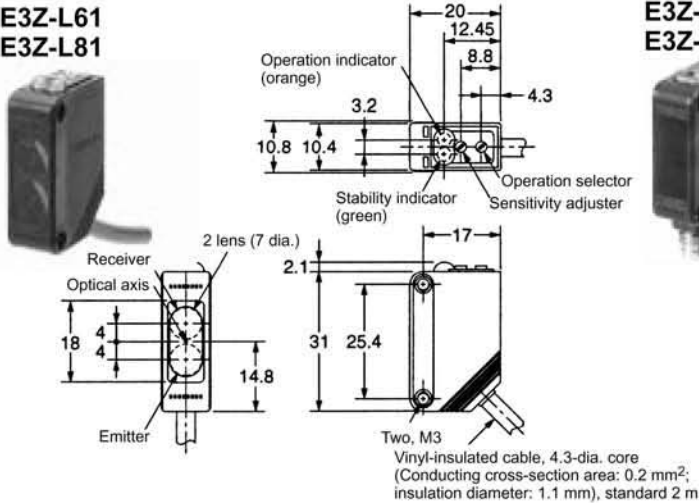
2. Standard cable length is 2 m.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

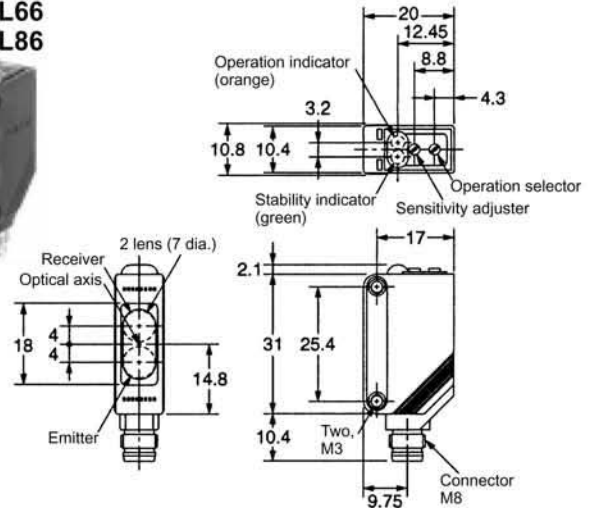
Pre-wired Models

E3Z-L61
E3Z-L81



Connector Models

E3Z-L66
E3Z-L86



Accessories (Order Separately)

Reflectors (For E3Z-R□□)

Red light

Name	Sensing distance (typical)	Model	Number
Reflector	2.5 m(100 mm)	E39-R9	1
	3.5 m(100 mm)	E39-R10	1

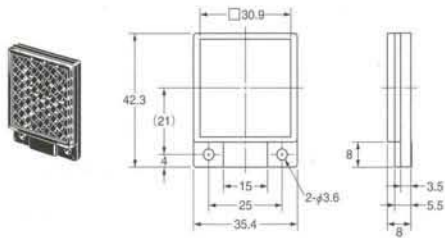
Mounting Brackets

Appearance	Model	Number
	E39-L142	1
	E39-L144	1

Note: Order two for through-beam models, for emitter and receiver.

Reflectors (For E3Z-R□□)

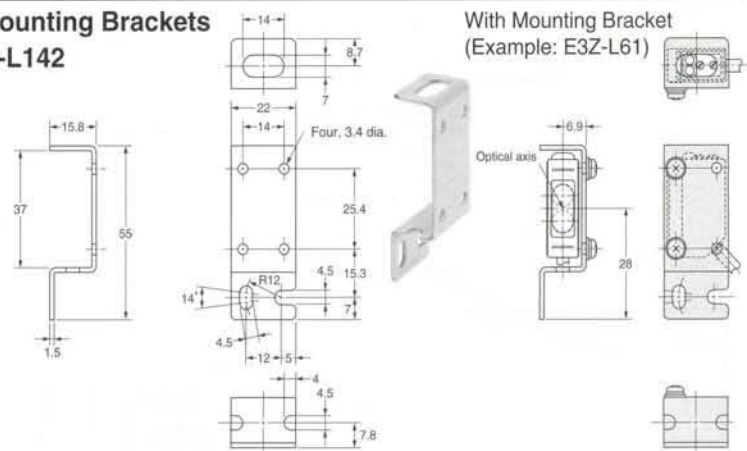
E39-R9



Material: Reflecting surface: Acrylic resin
Back: ABS resin

Mounting Brackets

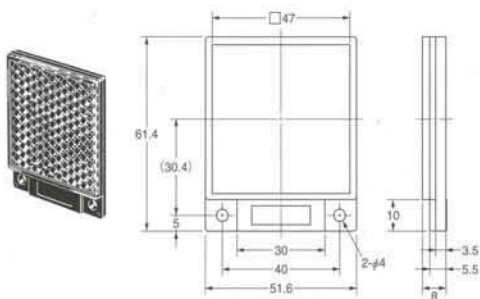
E39-L142



Material: SUS304 stainless steel

Reflectors (For E3Z-R□□)

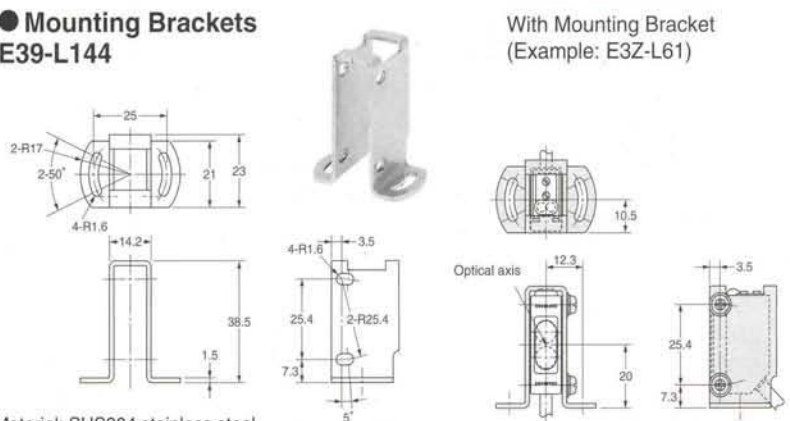
E39-R10



Material: Reflecting surface: Acrylic resin
Back: ABS resin

Mounting Brackets

E39-L144



Material: SUS304 stainless steel



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Authorised Distributors:-

ASH & ALAIN INDIA PVT LTD

S-100, F.I.E.E., Okhla Industrial Area, Phase-ii, New Delhi-110020(India)

Tel : 011-43797575 Fax : 011-43797574 E-mail : sales@ashalain.com