

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

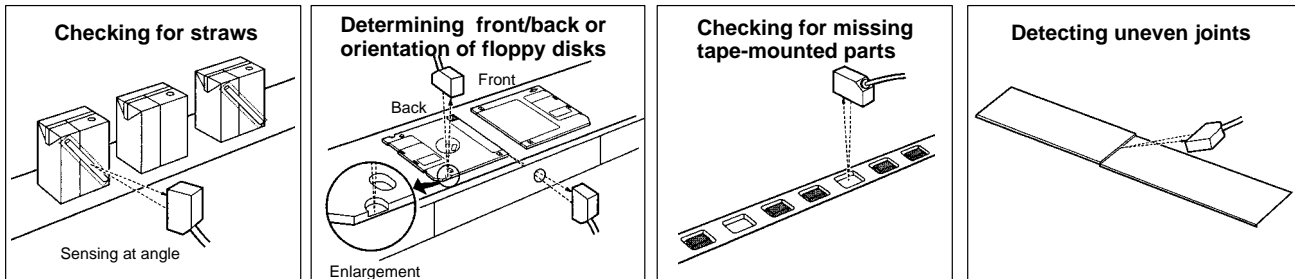
- Tiny workpieces as little as 0.1 mm in diameter can be detected with a 2.5-mm-dia. spot.
- The narrow beam enables sensing from small slots or holes.
- The small spot of light enables visual checking of sensing spot position
- Enclosure rating (IP67), mutual interference prevention, and CE marking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



### ■ Ratings/Characteristics

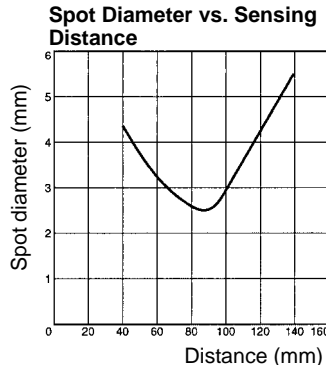
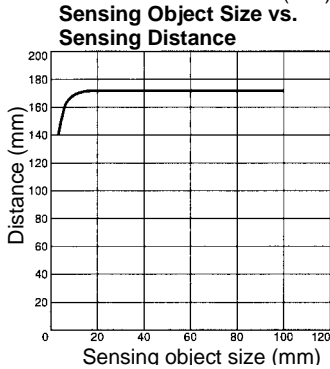
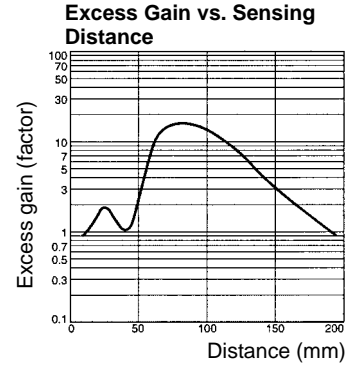
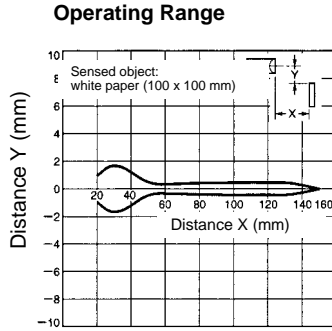
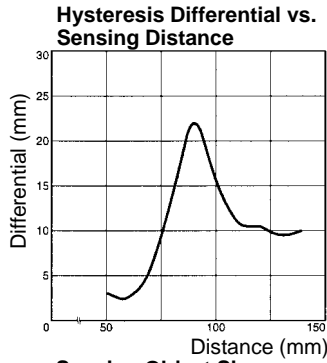
Item	E3Z-L61/L81
<b>Sensing distance</b>	White paper (100 × 100 mm): 90±30 mm
<b>Spot diameter (typical)</b>	2.5-mm dia. min. (at sensing distance of 90 mm)
<b>Minimum sensing object (typical)</b>	0.1-mm dia (copper wire)
<b>Hysteresis (typical)</b>	Refer to the chart on the following page.
<b>Light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

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

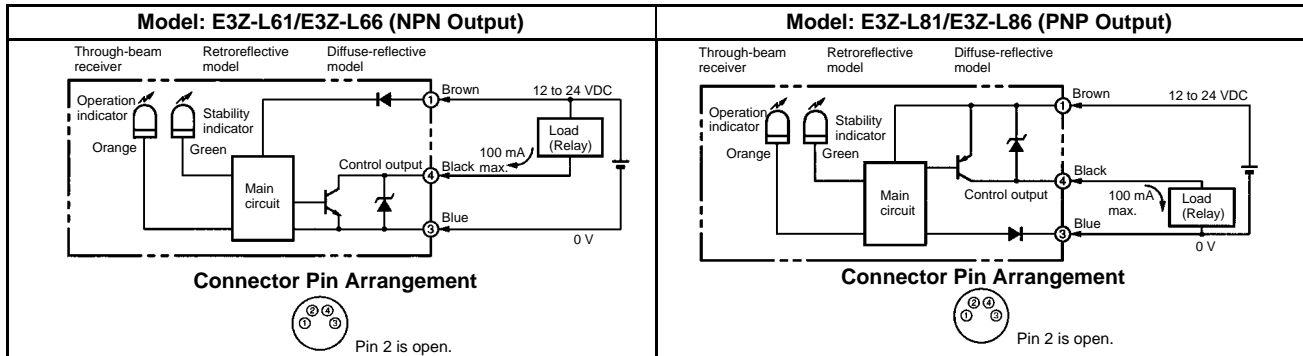
2. Standard cable length is 2 m.

# Engineering Data

## ■ Characteristics (Typical Examples)



## Connection



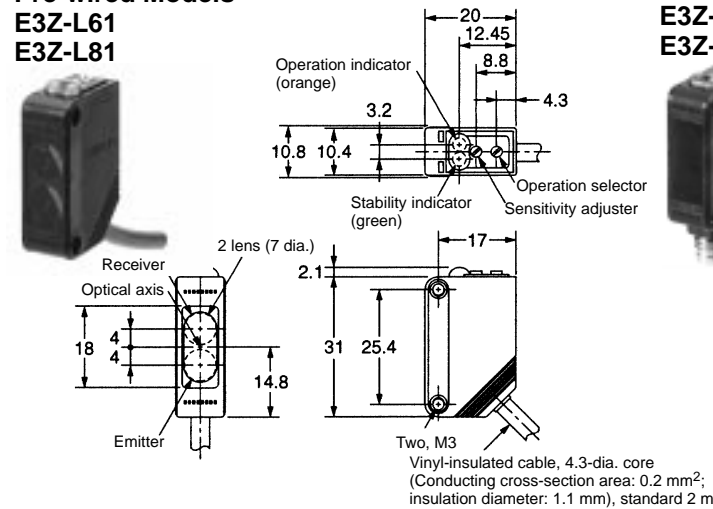
Note: For information regarding operation mode and output, refer to the E3Z data sheet (catalog number E308).

## Dimensions

Note: All units are in millimeters unless otherwise indicated.

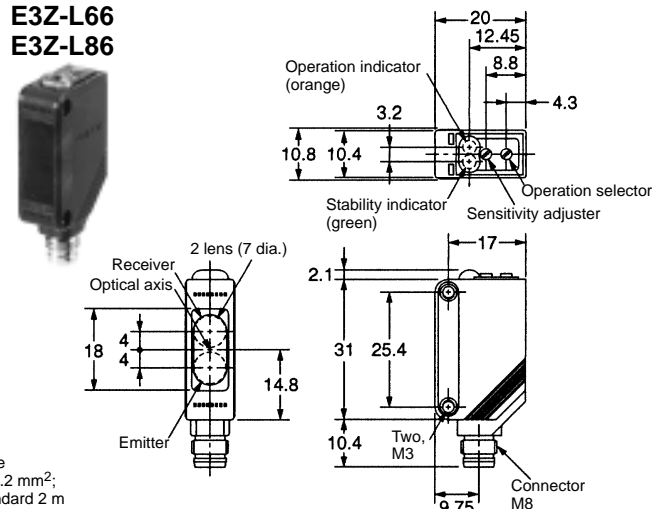
### Pre-wired Models

E3Z-L61  
E3Z-L81



### Connector Models

E3Z-L66  
E3Z-L86



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.