

Compact Laser Photoelectric Sensor with Built-in Amplifier

E3Z-LT86



Image

Through-beam type, Sensing distance 60 m, Light-ON/Dark-ON selectable, PNP, M8 connector models, Red LD (655 nm)

Sensing method	Through-beam type
Sensing distance	60 m
Light source	Red LD (655 nm)
Connection method	M8 connector models

Ratings/Performance

As of April 20, 2022

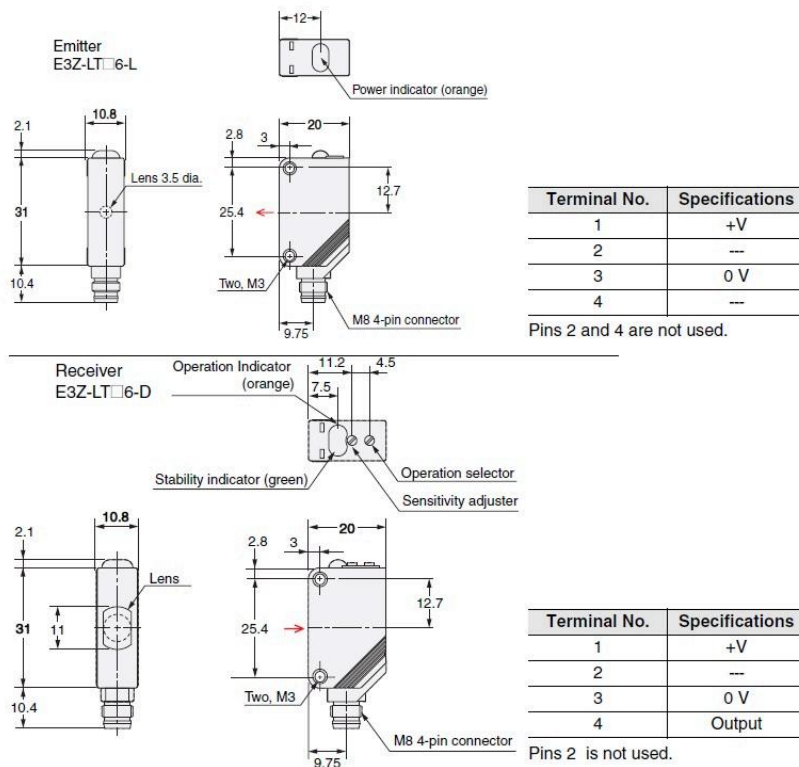
Shape	Square type
Sensing method	Through-beam type
Sensing distance	60 m
Spot size	5 mm dia. max. (sensing distance: 3 m)
Standard sensing object	Opaque: 12 mm dia. min.
Minimum sensing object	6 mm min. dia. (at 3 m)
Directional angle	Receiver: 3 to 15°
Light source	Red LD (655 nm)
Classification of laser	IEC: Class 1 FDA: Class 1 JIS: Class 1
Power supply voltage	12 to 24 VDC±10% ripple (p-p) 10% max.
Current consumption	Emitter: 15 mA max. Receiver: 20 mA max.
Control output	PNP open collector 26.4 VDC max. 100 mA max. Residual voltage: 1 V max. (Load current Less than 10 mA) Residual voltage: 2 V max. (Load current 10 to 100 mA)
Operation mode	Light-ON/Dark-ON selectable
Protective circuit	Output short-cut protection, Output reverse polarity protection, Power supply reverse polarity protection
Response time	Operate or reset: 1 ms max.
Sensitivity setting	Single-turn adjustment

Ambient illuminance	Incandescent lamp: 3,000 lx max. Sunlight: 10,000 lx max.
Ambient temperature range (Operating)	-10 to 55 °C (with no freezing or condensation)
Ambient temperature range (Storage)	-25 to 70 °C (with no freezing or condensation)
Ambient humidity range (Operating)	35 to 85% (with no freezing or condensation)
Ambient humidity range (Storage)	35 to 95% (with no freezing or condensation)
Insulation resistance	20 MΩ min. (500 VDC megger)
Dielectric strength	1000 VAC 50/60 Hz 1 min
Vibration resistance	Destruction: 10 to 55 Hz, 1.5 mm double amplitude each in X, Y, and Z directions for 2 h
Shock resistance	Destruction: 500 m/s ² 3 times each in X, Y and Z directions
Degree of protection	IEC: IP67
Connection method	M8 connector models
Indicator	Operation indicator (orange), Stability indicator (green), Power indicator (orange)
Weight	Package: Approx. 30 g
Accessories	Instruction manual
Material	Case: Polybutylene terephthalate (PBT) Lens: Denatured Polyarylate

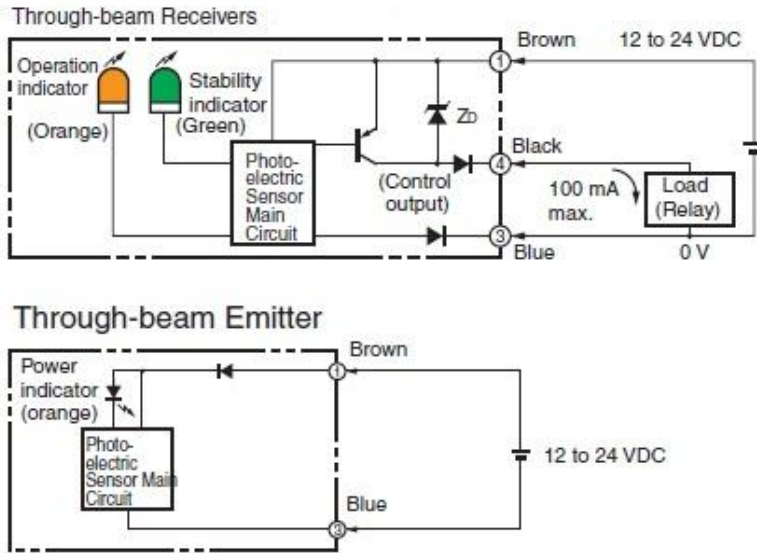
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Dimensions

As of April 20, 2022



Output circuit diagram

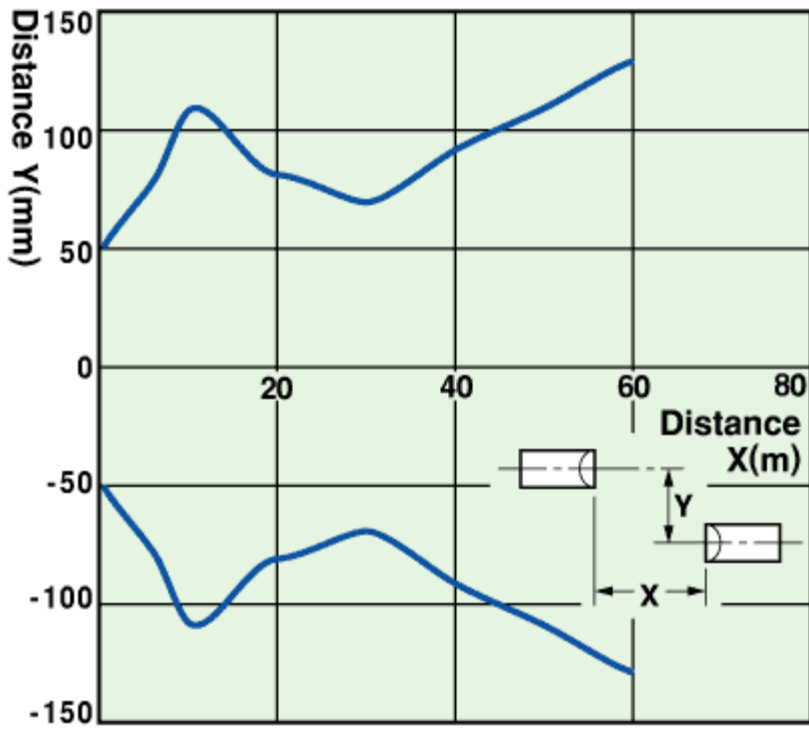


Timing chart

Operation mode	Timing chart	Mode switch
Light ON	<p>Incident light: </p> <p>No incident light: </p> <p>Operation Indicator (orange): ON OFF </p> <p>Output transistor: ON OFF </p> <p>Load (Relay): Operate Reset </p> <p>{Between blue(3) and black(4)}</p>	L side (LIGHT ON)
Dark ON	<p>Incident light: </p> <p>No incident light: </p> <p>Operation indicator (orange): ON OFF </p> <p>Output transistor: ON OFF </p> <p>Load (Relay): Operate Reset </p> <p>{Between blue(3) and black(4)}</p>	D side (DARK ON)

Parallel operating range

As of April 20, 2022



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Setting distance

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Excess gain ratio vs. setting distance

