



Compact Laser Photoelectric Sensor with Built-in Amplifier

## **E3Z-LT86**



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

Image

Ratings/Performance

As of April 20, 2022

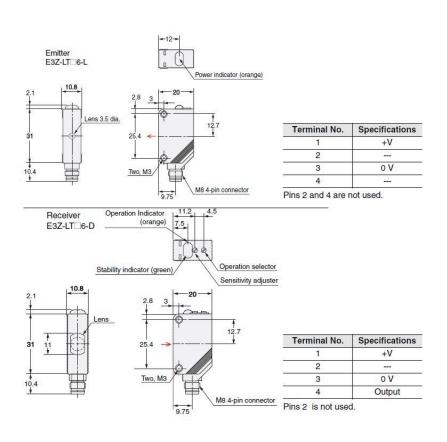
Shape Square type  Sensing method Through-beam type  Sensing distance 60 m  Spot size 5 mm dia. max. (sensing distance: 3 m)  Standard sensing object Opaque: 12 mm dia. min.  Minimum sensing object 6 mm min. dia. (at 3 m)  Directional angle Receiver: 3 to 15°  Light source Red LD (655 nm)  IEC: Class 1  FDA: Class 1  FDA: 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.  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 Operator reset: 1 ms max.  Specificities continued.			
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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  Operate or reset: 1 ms max.	Power supply voltage	12 to 24 VDC±10% ripple (p-p) 10% max.	
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Protective circuit reverse polarity protection  Response time Operate or reset: 1 ms max.	Operation mode	Light-ON/Dark-ON selectable	
	Protective circuit		
Sensitivity setting Single turn adjustment	Response time	Operate or reset: 1 ms max.	
Single-turn adjustment	Sensitivity setting	Single-turn adjustment	

Ambient illuminance	Incandescent lamp: 3,000 lx max.	
	Sunlight: 10,000 lx max.	
Ambient temperature range	-10 to 55 °C (with no freezing or condensation)	
(Operating)		
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 (Strage)	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 <sup>2</sup> 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)	
Material	Lens: Denatured Polyarylate	

As of April 20, 2022

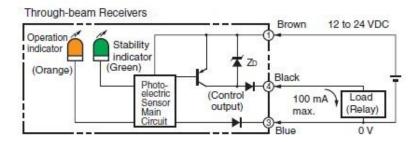
## **Dimensions**

As of April 20, 2022

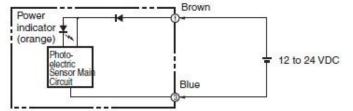


## Output circuit diagram

As of April 20, 2022



## Through-beam Emitter



As of April 20, 2022

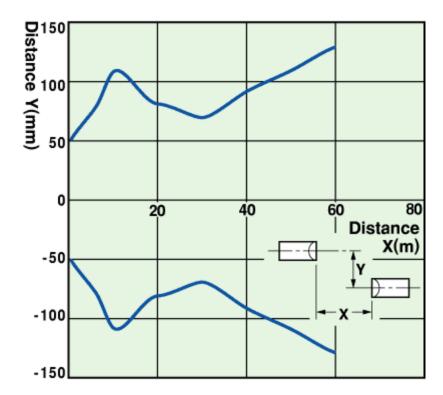
**Timing chart** 

As of April 20, 2022

Operation mode	Timing chart	Mode switch
Light ON	Incident light  No incident light  Operation indicator (orange)  OFF  Output ON Iransisior OFF  Load Operate (Relay)  Reset (Between blue(3)) and black(4))	L side (LIGHT ON)
Dark ON	Incident light No Incident light Operation indicator (orange) OFF Output ON Iransistor OFF Load Operate (Relay) Reset (Between blue(3) and black(4))	D side (DARK ON)

As of April 20, 2022

As of April 20, 2022

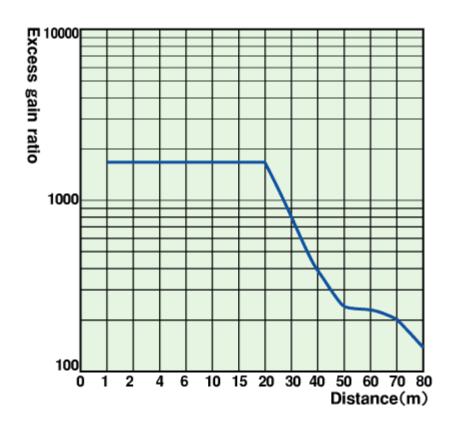


As of April 20, 2022

Setting distance

As of April 20, 2022

Excess gain ratio vs. setting distance



As of April 2	20, 2022
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