

Ultracompact, Ultrathin Photoelectric Sensor with Built-in Amplifier

E3T-ST14 2M

Through-beam type, Sensing distance 1 m, Dark-ON, PNP, Pre-wired models (2 m), M2 mounting, Red LED (650 nm)



Image

Sensing method	Through-beam type
Sensing distance	1 m
Light source	Red LED (650 nm)
Connection method	Pre-wired models

Ratings/Performance

As of April 20, 2022

Shape	Square type
Sensing method	Through-beam type
Sensing distance	1 m
Standard sensing object	Opaque, 2 mm dia. min.
Minimum sensing object	2 mm min. dia. (Opaque)
Directional angle	Emitter: 2 to 20° Receiver: 2 to 70°
Light source	Red LED (650 nm)
Power supply voltage	12 to 24 VDC±10% ripple (p-p) 10% max.
Current consumption	Emitter: 10 mA max. Receiver: 20 mA max.
Control output	PNP open collector 26.4 VDC max. 50 mA max. Residual voltage: 1 V max. (Load current Less than 10 mA) Residual voltage: 2 V max. (Load current 10 to 50 mA)
Operation mode	Dark-ON
Protective circuit	Output short-cut protection, Output reverse polarity protection, Power supply reverse polarity protection
Response time	Operate or reset: 1 ms max.
Ambient illuminance	Incandescent lamp: 5,000 lx max. Sunlight: 10,000 lx max.

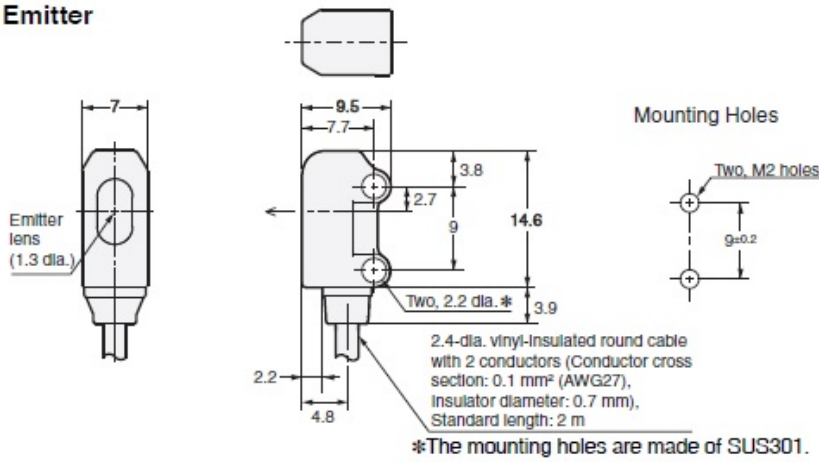
Ambient temperature range (Operating)	-25 to 55 °C (with no freezing or condensation)
Ambient temperature range (Storage)	-40 to 70 °C (with no freezing or condensation)
Ambient humidity range (Operating)	35 to 85% (with no condensation)
Ambient humidity range (Storage)	35 to 95% (with no condensation)
Insulation resistance	20 MΩ min. (500 VDC megger)
Dielectric strength	1000 VAC 50/60 Hz 1 min
Vibration resistance	Destruction: 10 to 2000 Hz, 1.5 mm or 300 m/s ² double amplitude for 0.5 hours each in X, Y, and Z directions
Shock resistance	Destruction: 1000 m/s ² 3 times each in X, Y and Z directions
Degree of protection	IEC: IP67
Connection method	Pre-wired models (Cable length 2 m)
Indicator	Operation indicator (orange), Stability indicator (green)
Weight	Package: Approx. 40 g
Accessories	Instruction manual, Set screws for mounting (M2*14), Nuts
Material	Case: Polybutylene terephthalate (PBT) Lens: Denatured Polyarylate Display: Denatured Polyarylate

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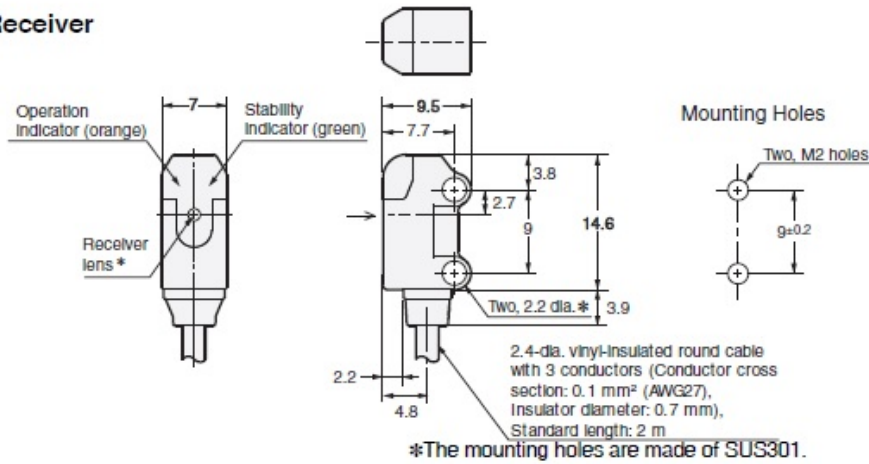
Dimensions

As of April 20, 2022

Emitter



Receiver

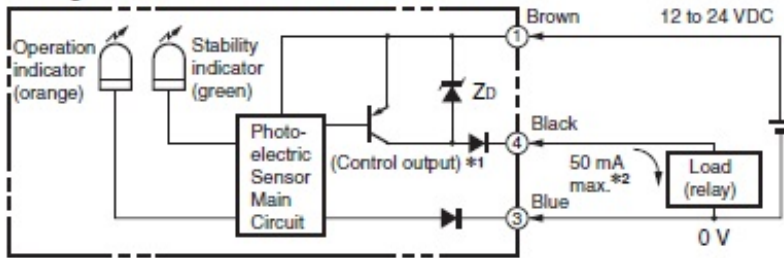


As of April 20, 2022

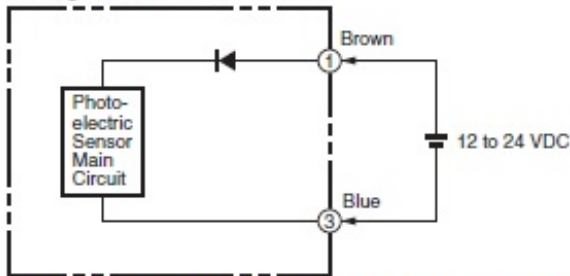
Output circuit diagram

As of April 20, 2022

Through-beam Receivers and Reflective Sensors



Through-beam Emitters



*1. There is no diode for Small Cylindrical Sensors (E3T-C□□□(S)).

*2. This is 80 mA max. for Small Cylindrical Sensors (E3T-C□□□(S)).

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Timing chart

As of April 20, 2022

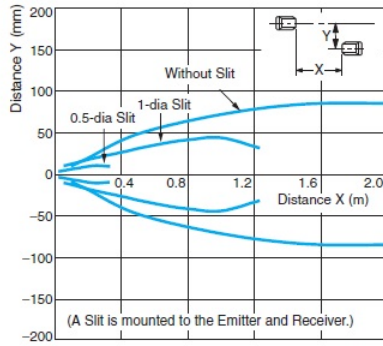
Operation mode	Timing chart	
Dark ON	Incident light	
	No incident light	
	Operation Indicator (orange)	ON: OFF:
	Output transistor	ON: OFF:
	Load (Relay)	Operate:
		Reset: (Between blue(3) and black(4))

As of April 20, 2022

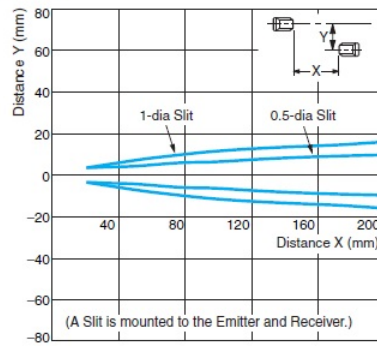
Parallel operating range

As of April 20, 2022

E3T-ST1□ + E39-S63
E3T-ST1□M + E39-S76A/S76B (Overall Diagram)



E3T-ST1□ + E39-S63
E3T-ST1□M + E39-S76A/S76B (Enlarged Diagram)

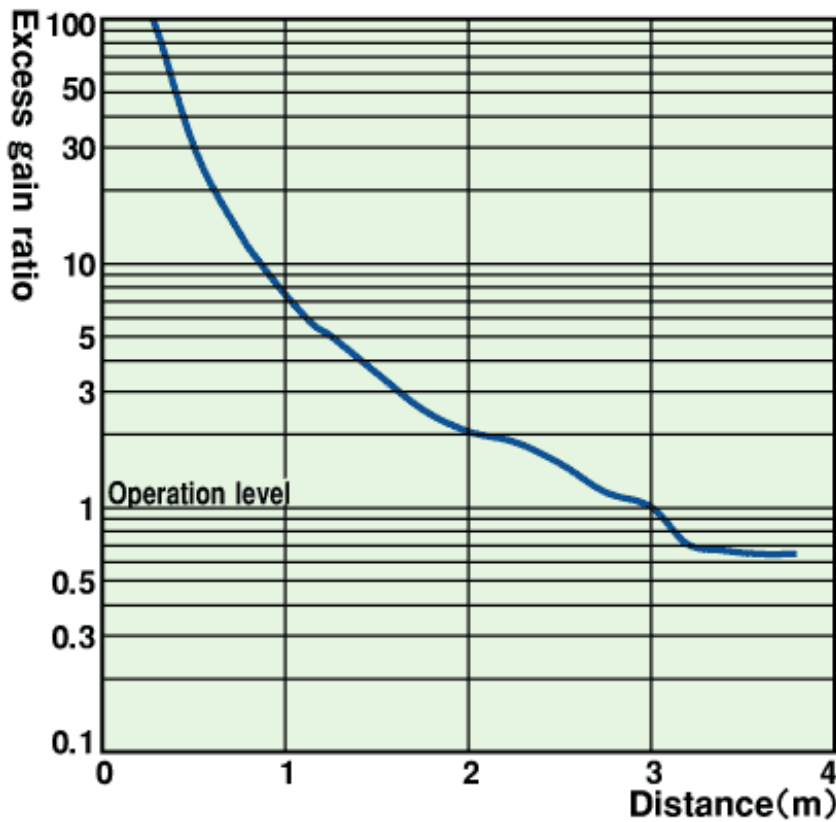


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Setting distance

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Excess gain ratio vs. setting distance



As of April 20, 2022

