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OMRON

Miniature Square Photoelectric Sensor in plastic housing

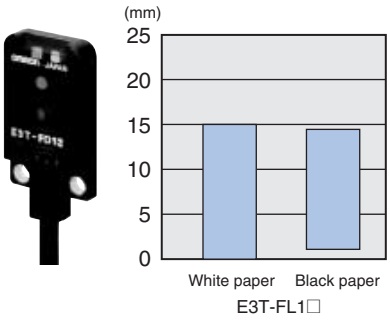
E3T

- Precision pinpoint LED
- 3.5 mm thin flat shape or 6.6 mm side view shape where space is crucial
- IP67
- Pulse synchronisation for high ambient light immunity
- Models for mounting with M2 or M3 screws

Features

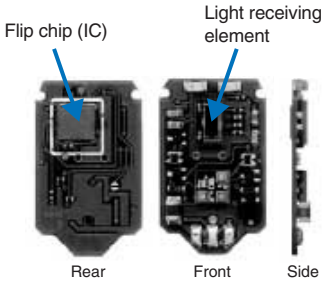
3.5 mm flat model with background supression (BGS) with highest repeatability even for differently coloured objects.

Minimal black/white error



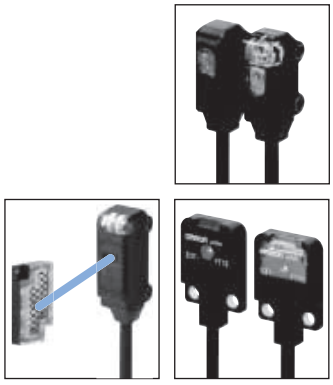
Unique light receiving lens shape for high precision alignment

New mounting technology for reliable background suppression in 3.5 mm flat housing



Object detection through small holes

- The precision pinpoint LED of the through-beam models provides appropriate sensing distances for very precise and reliable detection even through smallest slits and gaps with e.g. 0.5 mm dia.
- The coaxial optics and the small focal lens of the retro-reflective models allow the detection of small (dia 2 mm) objects or through small holes (dia 2 mm).



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Application

E3T-SL limited-reflective models (side view)

- Minimum detection object: 0.15 mm dia.
- Limited-reflective optics reduce the influence of changing backgrounds and surrounding metal for enhanced detection stability.

Models with M2 or M3 mounting holes

- space saving M2 screw mounting (screws included)
- standard M3 screw mounting (order screws sets from accessories)

E3T-FD Diffuse-reflective Models (Flat)

- Minimum detection object: 0.15 mm dia.
- 3.5 mm thickness for installations with limited space.

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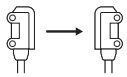
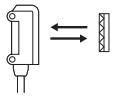
Ordering Information

Sensors

Sensor type	Sensing distance	Connection method				Operation mode	Mounting screw size	Order code[*1]	
								NPN output	PNP output
Through-beam 	2 m	–	–	2 m	For ordering pigtail versions replace '2M' of cable types with: - M1J: M12 with 30 cm cable, - M3J: M8 4-pin with 30 cm cable - M5J: M8 3-pin with 30 cm cable	Light-ON	M2	E3T-ST31 2M	E3T-ST33 2M
						Dark-ON	M2	E3T-ST32 2M	E3T-ST34 2M
	1 m					Light-ON	M2	E3T-ST11 2M	E3T-ST13 2M
							M3	E3T-ST11M 2M	E3T-ST13M 2M
						Dark-ON	M2	E3T-ST12 2M	E3T-ST14 2M
							M3	E3T-ST12M 2M	E3T-ST14M 2M
	300 mm					Light-ON	M2	E3T-ST21 2M	E3T-ST23 2M
							M3	E3T-ST21M 2M	E3T-ST23M 2M
						Dark-ON	M2	E3T-ST22 2M	E3T-ST24 2M
							M3	E3T-ST22M 2M	E3T-ST24M 2M
Through-beam	500 mm					Light-ON	M2	E3T-FT11 2M	E3T-FT13 2M
						Dark-ON	M2	E3T-FT12 2M	E3T-FT14 2M
	300 mm					Light-ON	M2	E3T-FT21 2M	E3T-FT23 2M
						Dark-ON	M2	E3T-FT22 2M	E3T-FT24 2M
Retro-reflective 	30 to 200 mm[*2] on reflectors/ 10 to 100 mm[*2] on reflective foils					Light-ON	M2	E3T-SR41-C 2M[*3]	E3T-SR43-C 2M[*3]
						Dark-ON	M2	E3T-SR42-C 2M[*3]	E3T-SR44-C 2M[*3]
Diffuse-reflective	5 to 30 mm					Light-ON	M2	E3T-FD11 2M	E3T-FD13 2M
							M3	E3T-FD11M 2M	E3T-FD13M 2M
						Dark-ON	M2	E3T-FD12 2M	E3T-FD14 2M
							M3	E3T-FD12M 2M	E3T-FD14M 2M
Limited-reflective	5 to 15 mm					Light-ON	M2	E3T-SL11 2M	E3T-SL13 2M
							M3	E3T-SL11M 2M	E3T-SL13M 2M
						Dark-ON	M2	E3T-SL12 2M	E3T-SL14 2M
							M3	E3T-SL12M 2M	E3T-SL14M 2M
	5 to 30 mm					Light-ON	M2	E3T-SL21 2M	E3T-SL23 2M
							M3	E3T-SL21M 2M	E3T-SL23M 2M
						Dark-ON	M2	E3T-SL22 2M	E3T-SL24 2M
							M3	E3T-SL22M 2M	E3T-SL24M 2M
Diffuse-reflective (background suppresion)	1 to 15 mm					Light-ON	M2	E3T-FL11 2M	E3T-FL13 2M
						Dark-ON	M2	E3T-FL12 2M	E3T-FL14 2M
	1 to 30 mm					Light-ON	M2	E3T-FL21 2M	E3T-FL23 2M
						Dark-ON	M2	E3T-FL22 2M	E3T-FL24 2M

*1. For pre-wired models with robotic cables add '-R' to the order code (example: E3T-FT21R 2M)
*2. The distances are measured with reflector E39-R4 and reflective foil E39-R37-CA. For applications with shorter distances between the sensor and the reflector contact your OMRON representative.
*3. Order reflector separately. Models with included reflectors are available.

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Accessories (Order Separately)

Slits

Minimum detectable object (typical)	Sensing distance	Applicable sensor	Quantity	Order code
0.5mm dia	200 mm	E3T-ST3	2	E39-S63
	100 mm	E3T-ST1		
	30 mm	E3T-ST2		
1mm dia	600 mm	E3T-ST3		
	300 mm	E3T-ST1		
	100 mm	E3T-ST2		
0.5mm dia	50 mm	E3T-ST1		E39-S64
	30 mm	E3T-ST2		
1mm dia	100 mm	E3T-ST1		
	50 mm	E3T-ST2		
0.5mm dia	100 mm	E3T-ST1_M		E39-S67A
	30 mm	E3T-ST2_M		
1mm dia	300 mm	E3T-ST1_M		E39-S67B
	100 mm	E3T-ST2_M		

Mutual Interference Prevention Filters

Sensing distance	Applicable sensor	Quantity	Order code
300 mm	E3T-ST1_M	4 (two for receivers and two for emitters)	E39-S67B
100 mm	E3T-ST2_M		

Reflectors

Shape	Type	Sensing distance*1	Minimum detectable object (typical)	Remarks	Order code
	Small reflector	200 mm (30 mm)	2 mm dia		E39-R4
		100 mm (10 mm)		Reflectors E39-_-CA are optimised for operation with E3T-SR4. Please verify the performance when using other reflectors and reflective tapes.	E39-R37-CA
	Tape reflector	100 mm (10 mm)			E39-RS1-CA
		100 mm (10 mm)			E39-RS2-CA
		100 mm (10 mm)			E39-RS3-CA

*1. Values in parentheses indicate the minimum required distance between the Sensor and Reflector.

Sensitivity Adjustment Unit

Appearance	Sensing distance (typical)	Quantity	Remarks	Model
	300 to 800 mm	1	Can be used with the E3T-ST1□ Though-beam Models.	E39-E10

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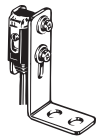
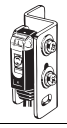
Mounting Brackets

Appearance	Quantity	Remarks	Model
	1	Can be used with the E3T-S□□□ Side-view Models. (A securing nut plate is provided with the Mounting Bracket.)	E39-L116
			E39-L117 for M2 mounting
			E39-L166 for M3 mounting
			E39-L118
		Can be used with the E3T-F□□□ Flat Models.	E39-L119
			E39-L120 for M2 mounting
			E39-L167 for M3 mounting
		Spacer for mounting flat sensors with M3 screws	E39-L168

Note: When using Through-beam models, order one bracket for the Receiver and one for the Emitter.

Screw Sets

Type	Comment	Applicable sensor	Quantity	Order code
Screw set for M2 side view sensors	Iron Phillips screws (M2×14), Hexagonal nuts, Spring washers, Flat washers	E3T-S	2	E39-L164
Screw set for M2 flat sensors	Iron Phillips screws (M2×8), Hexagonal nuts, Spring washers, Flat washers	E3T-F		E39-L165
SUS Screw set for M2 side view sensors	Stainless steel bolt with hexagonal hole (M2 x 6)	E3T-S		E39-L172
SUS Screw set for M2 flat sensors	Stainless steel bolt with hexagonal hole (M2×12), Hexagonal nuts, Spring washers, Flat washers	E3T-F		E39-L173
SUS Screw set for M3 side view sensors	Stainless steel bolt with hexagonal hole (M3 x 6)	E3T-S_M		E39-L170
SUS Screw set for M3 flat sensors	Stainless steel bolt with hexagonal hole (M3×15), Hexagonal nuts, Spring washers, Flat washers	E3T-F_M		E39-L171

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Rating and Specifications

Item		Through-beam				Retro-reflective		Diffuse-reflective	
		Side-view		Flat		Side-view		Flat	
		NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
		E3T-ST1_ E3T-ST2_	E3T-ST1_ E3T-ST2_	E3T-FT1_ E3T-FT2_	E3T-FT1_ E3T-FT2_	E3T-SR41 E3T-SR42	E3T-SR43 E3T-SR44	E3T-FD11 E3T-FD12	E3T-FD13 E3T-FD14
Sensing distance		E3T-ST1□ 1 m E3T-ST2□ 300 mm E3T-ST3□ 2 m		E3T-FT1□ 500 mm E3T-FT2□ 300 mm		200 mm (30 mm) with E39-R4[*1] 100 mm (10 mm) with E39-R37-CA[*1]		5 to 30 mm (50 x 50 mm white paper)	
Minimum detectable object (typical)		2 mm dia opaque object (E3T-ST1 and E3T-ST2) 3 mm dia opaque object (E3T-ST3)		1.3 mm dia opaque object		2 mm dia. (sensing distance of 100 mm)		0.15 mm dia. (sensing distance of 10 mm)	
Hysteresis (white paper)		---						6 mm max.	
Directional angle		Emitter: 2° to 20° Receiver: 2° to 70°		Emitter: 3° to 25° Receiver: 3° min.		2° to 20°		---	
Light source (wavelength)		Red LED (“Pin-point” LED) λ = 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.				20 mA max.			
Control output		Load power supply voltage: 26.4 VDC max. Load current: 50 mA max. (residual voltage: 2 V max. for load current of 10 to 50 mA, 1 V max. for load current of less than 10 mA) Open collector output Light ON: E3T-□□□1 and E3T-□□□3 Dark ON: E3T-□□□2 and E3T-□□□4							
Protection circuits		Power supply and control output reverse polarity protection Output short-circuit protection				Power supply and control output reverse polarity protection Output short-circuit protection, Mutual interreference prevention, surge suppressor		Power supply and control output reverse polarity protection Output short-circuit protection, Mutual interreference prevention	
Response time		Operate or reset: 1 ms max.							
Ambient illumination		Incandescent lamp: 5,000 lx max. Sunlight: 10,000 lx max.							
Ambient temperature range		Operating: -25 to 55 °C Storage: -40 to 70 °C (with no icing or condensation)							
Ambient humidity range		Operating: 35% to 85% Storage: 35% to 95% (with no condensation)							
Insulation resistance		20 MΩ min. at 500 VDC							
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min							
Vibration resistance		Destruction: 10 to 2,000 Hz, 1.5 mm double amplitude or 300 m/s^2 for 0.5 hrs each in X, Y, and Z directions							
Shock resistance		Destruction: 1,000 m/s^2 3 times each in X, Y, and Z directions							
Degree of protection		IP67 (IEC60529)							
Connection method		Pre-wired (standard length: 2 m)							
Weight		Approx. 40 g				Approx. 20 g			
Materials	Case	PBT (polybutylene terephthalate)							
	Display window	Denatured polyarylate							
	Lens	Denatured polyarylate				Methacrylic resin		Denatured polyarylate	
Accessories		Instruction manual, (screw set E39-L164 for E3T-ST (2 sets) and E3T-SR (1 set); screw set E39-L165 for E3T-FT (2 sets) and E3T-FS (1 set). For E3T-_M order screw sets separately)							

*1. Values in parentheses indicate the minimum required distance between Sensor and Reflector.

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Item		Limited-reflective				Diffuse-reflective (background suppression)			
		Side-view				Flat			
		NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
		E3T-SL11 E3T-SL12	E3T-SL13 E3T-SL14	E3T-SL21 E3T-SL22	E3T-SL23 E3T-SL24	E3T-FL11 E3T-FL12	E3T-FL13 E3T-FL14	E3T-FL21 E3T-FL22	E3T-FL23 E3T-FL24
Sensing distance		5 to 15 mm (50 x 50 mm white paper)		5 to 30 mm (50 x 50 mm white paper)		1 to 15 mm (50 x 50 mm white paper)		1 to 30 mm (50 x 50 mm white paper)	
Standard sensing object		---							
Minimum detectable object (typical)		0.15 mm dia. (sensing distance of 10 mm)				0.15 mm dia non-glossy object (sensing distance of 10 mm)			
Hysteresis (white paper)		2 mm max.		6 mm max.		0.5 mm max.		2 mm max.	
Black/white error		---						15% max.	
Directional angle		---							
Light source (wavelength)		Red LED (“Pin-point” LED) λ = 650 nm							
Power supply voltage		12 to 24 VDC ±10%, ripple (p-p) 10% max.							
Current consumption		20 mA max.							
Control output		Load power supply voltage: 26.4 VDC max. Load current: 50 mA max. (residual voltage: 2 V max. for load current of 10 to 50 mA, 1 V max. for load current of less than 10 mA) Open-collector output Light ON: E3T-□□□1 and E3T-□□□3 Dark ON: E3T-□□□2 and E3T-□□□4							
Protection circuits		Power supply and control output reverse polarity protection Output short-circuit protection, Mutual interference prevention							
Response time		Operate or reset: 1 ms max.							
Ambient illumination		Incandescent lamp: 5,000 lx max. Sunlight: 10,000 lx max.							
Ambient temperature range		Operating: -25 to 55 °C Storage: -40 to 70 °C (with no icing or condensation)							
Ambient humidity range		Operating: 35% to 85% Storage: 35% to 95% (with no condensation)							
Insulation resistance		20 MΩ min. at 500 VDC							
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min							
Vibration resistance		Destruction: 10 to 2,000 Hz, 1.5 mm double amplitude or 300 m/s^2 for 0.5 hrs each in X, Y, and Z directions							
Shock resistance		Destruction: 1,000 m/s^2 3 times each in X, Y, and Z directions							
Degree of protection		IP67 (IEC60529)							
Connection method		Pre-wired (standard length: 2 m)							
Weight		Approx. 20 g							
Materials	Case	PBT (polybutylene terephthalate)							
	Display window	Denatured polyarylate							
	Lens	Denatured polyarylate							
Accessories		Instruction manual, (screw set E39-L164 for E3T-SL (1 set); screw set E39-L165 for E3T-FL (1 set). For E3T-_M order screw sets separately)							

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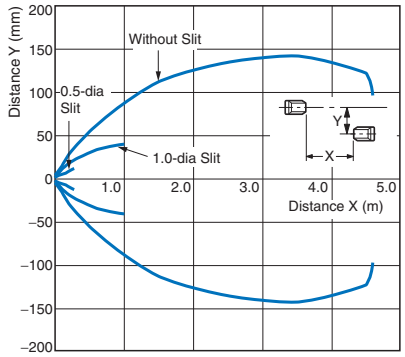
Engineering Data (Typical)

M2-mounting and M3-mounting Sensors

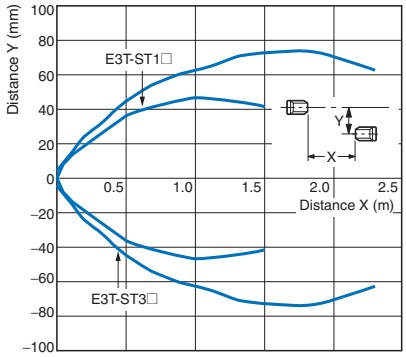
Parallel Operating Range

Through-beam

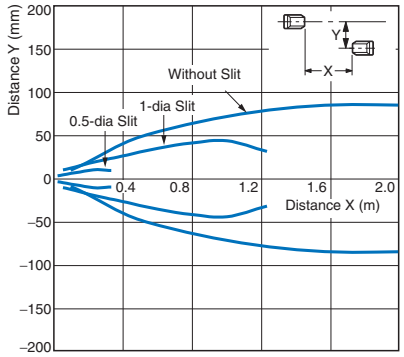
E3T-ST3□ + E39-S63 Slit
(A Slit is mounted to the Emitter and Receiver.)



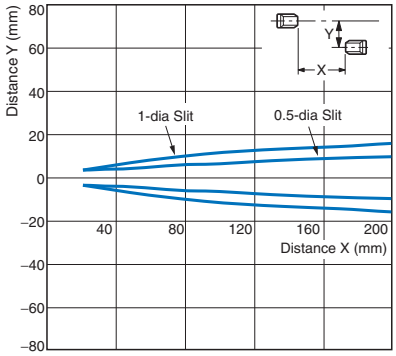
E3T-ST□□ + E39-E14 Mutual interference prevention filter
(A Slit is mounted to the Emitter and Receiver.)



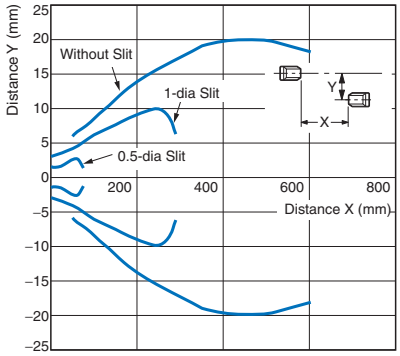
E3T-ST1□(M) + E39-S63 Slit
(A Slit is mounted to the Emitter and Receiver.)



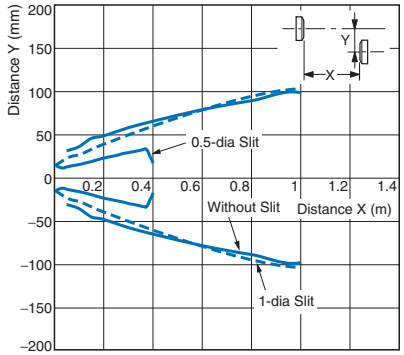
E3T-ST1□(M) + E39-S63 Slit (Enlarged graph)
(A Slit is mounted to the Emitter and Receiver.)



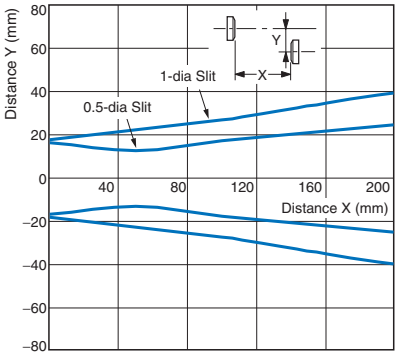
E3T-ST2□(M) + E39-S63 Slit
(A Slit is mounted to the Emitter and Receiver.)



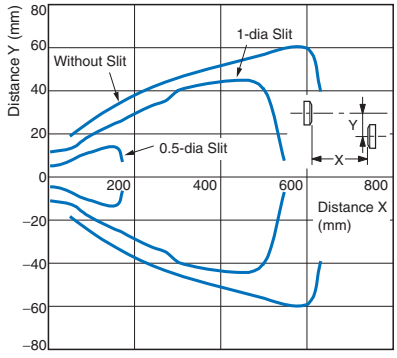
E3T-FT1□ + E39-S64 Slit
(A Slit is mounted to the Emitter and Receiver.)



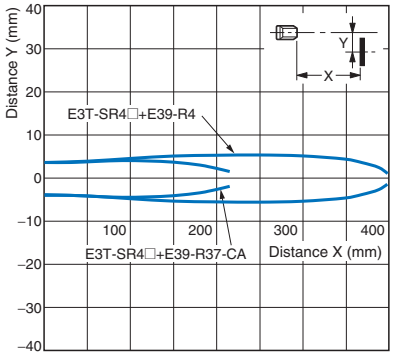
E3T-FT1□ + E39-S64 Slit (Enlarged graph)
(A Slit is mounted to the Emitter and Receiver.)



E3T-FT2□ + E39-S64 Slit
(A Slit is mounted to the Emitter and Receiver.)

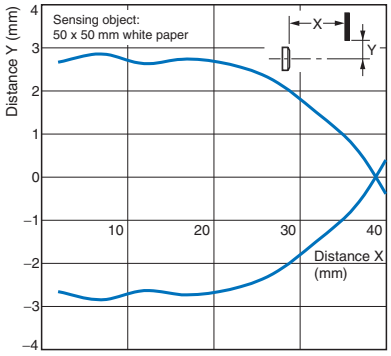


Retro-reflective
E3T-SR4□

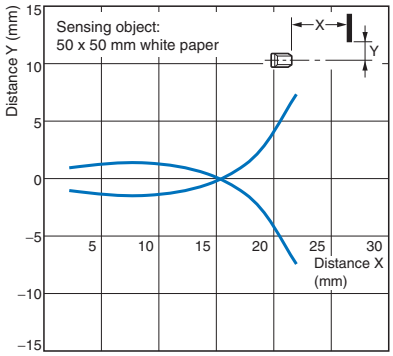


Operating Range

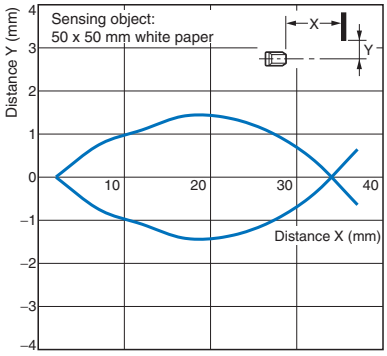
Diffuse-reflective
E3T-FD1□(M)



Convergent-reflective
E3T-SL1□(M)



E3T-SL2□(M)



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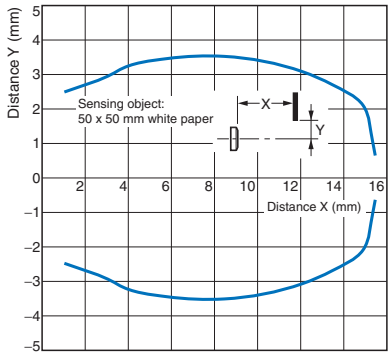
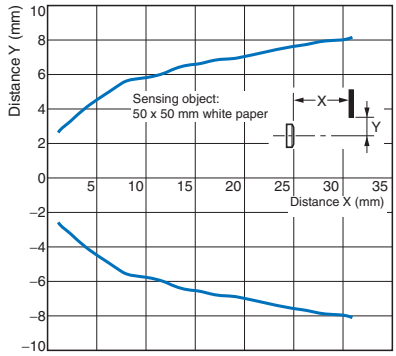
Inclination Detection Area Characteristic

BGS-reflective

E3T-FL1□

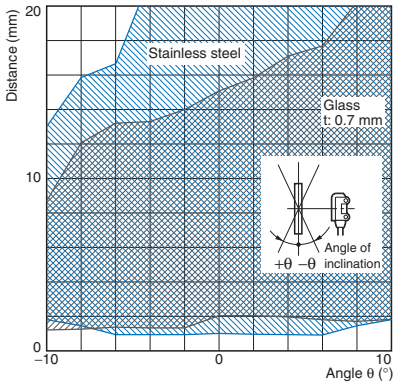


E3T-FL2□

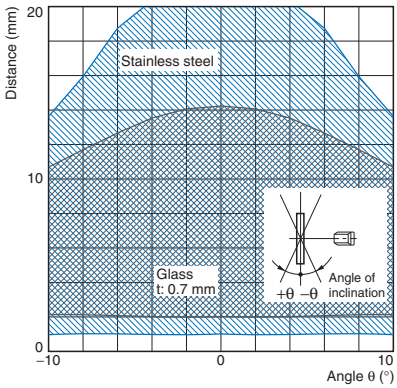


Convergent-reflective

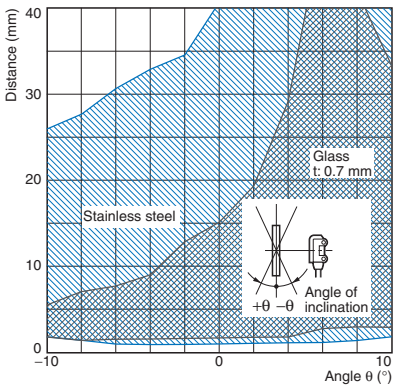
E3T-SL1□(M) (Top to Bottom)



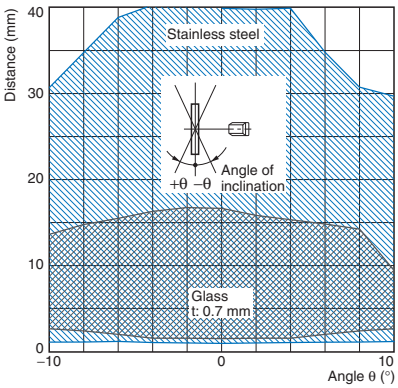
E3T-SL1□(M) (Right to Left)



E3T-SL2□(M) (Top to Bottom)

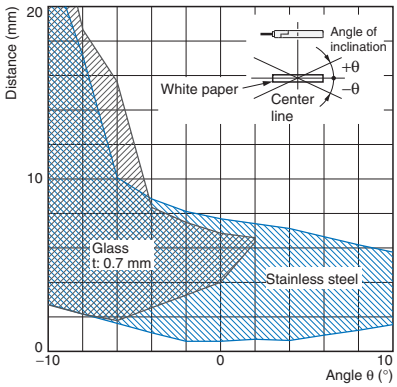


E3T-SL2□(M) (Right to Left)

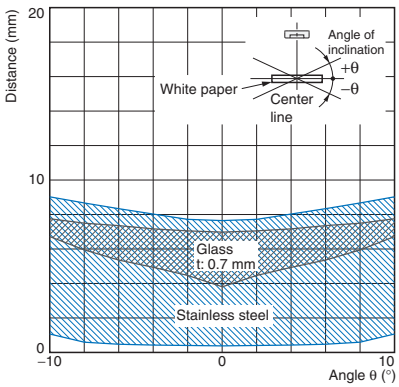


BGS-reflective

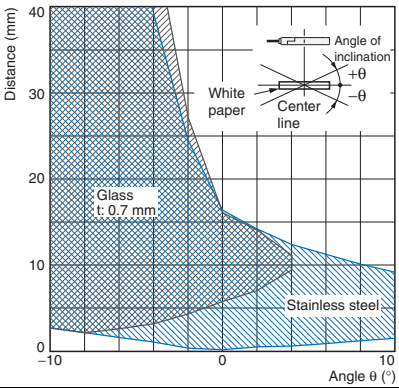
E3T-FL1□ (Top to Bottom)



E3T-FL1□ (Right to Left)



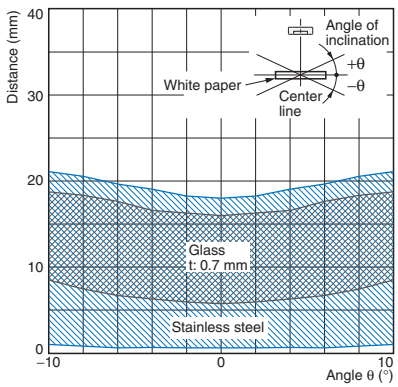
E3T-FL2□ (Top to Bottom)



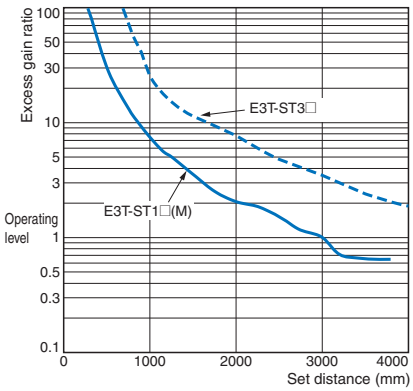
Excess Gain vs. Set Distance

Through-beam

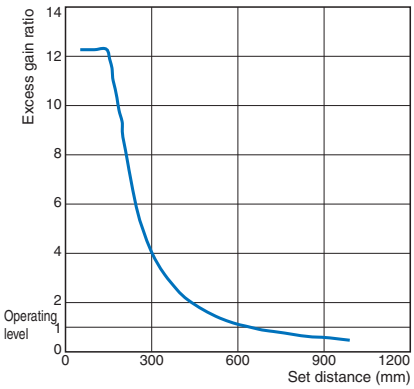
E3T-FL2□ (Right to Left)



E3T-ST1□(M)/E3T-ST3□



E3T-ST2□(M)



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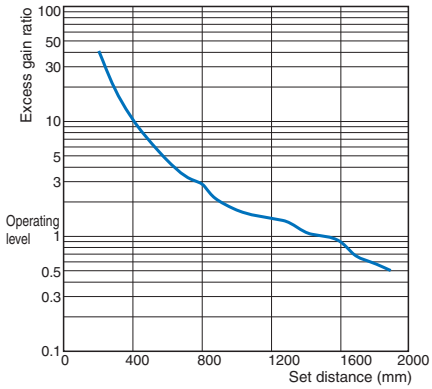
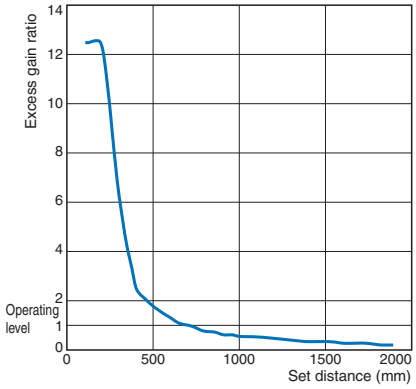
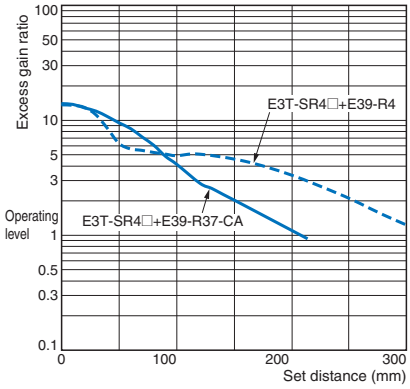
E3T-FT1□



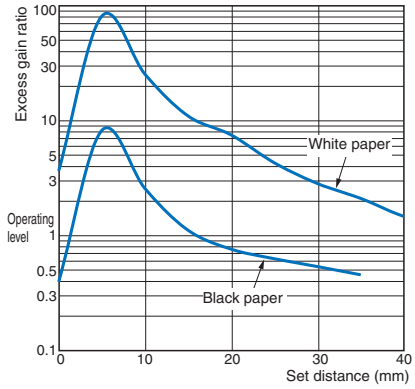
E3T-FT2□



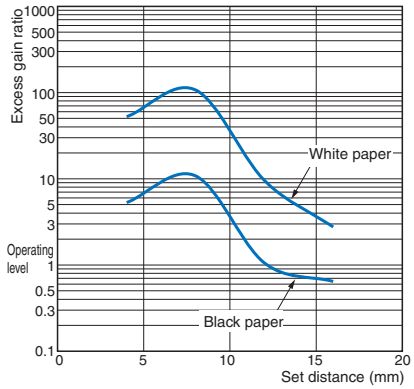
Retro-reflective
E3T-SR4□



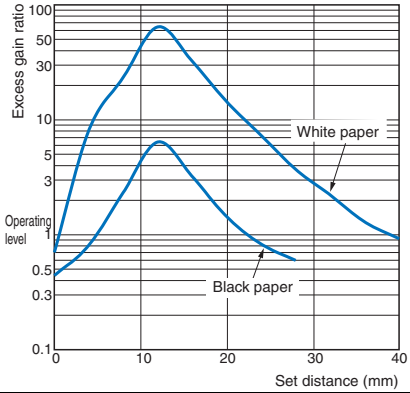
Diffuse-reflective
E3T-FD1□(M)



Convergent-reflective
E3T-SL1□(M)

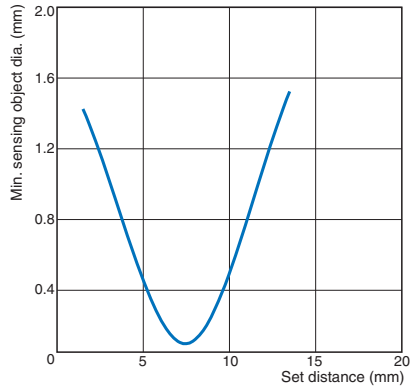


E3T-SL2□(M)

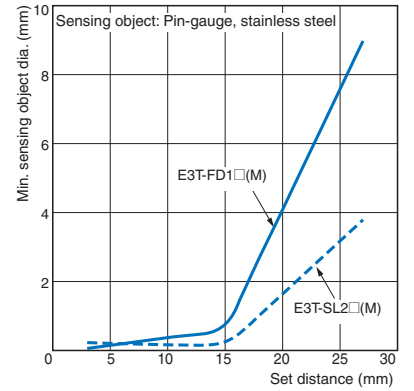


Sensing Object Size vs. Sensing Distance

Convergent-reflective
E3T-SL1□(M)

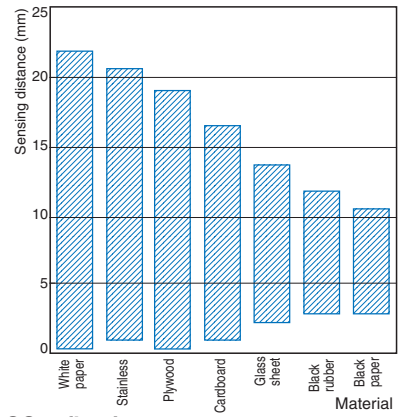


Diffuse/Convergent-reflective
E3T-FD1□(M)/E3T-SL2□(M)

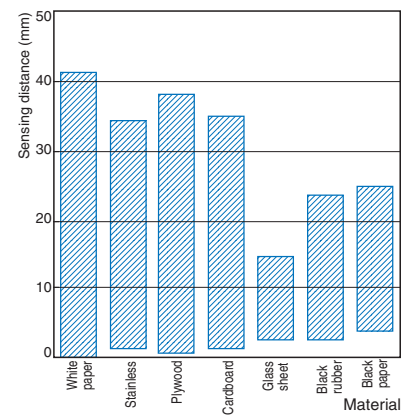


Sensing Distance vs. Material

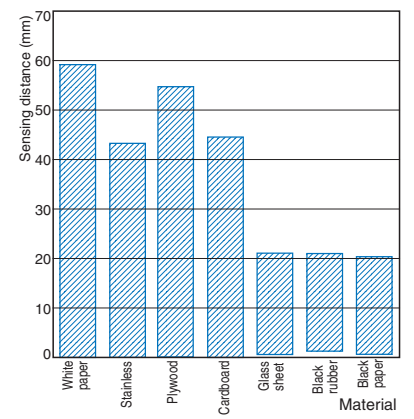
Convergent-reflective
E3T-SL1□(M)



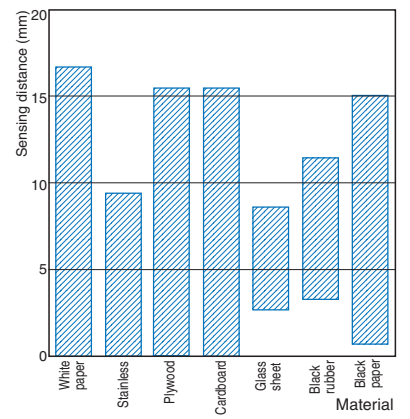
E3T-SL2□(M)



Diffuse-reflective
E3T-FD1□(M)



BGS-reflective
E3T-FL1□



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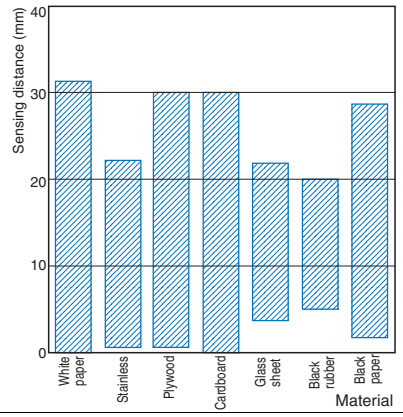
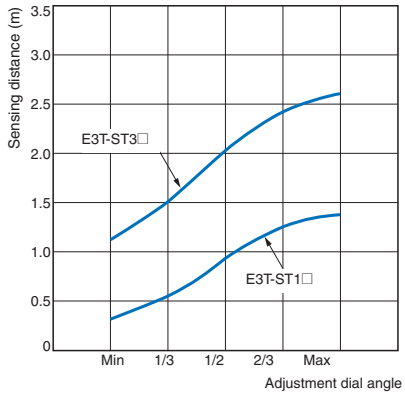
E3T-FL2□



Sensing Distance Characteristics of Sensitivity Adjustment Unit (when Completing Optical Axis Adjustment)

E3T-ST1□ + E39-E10 Sensitivity Adjustment Unit
E3T-ST3□ + E39-E10 Sensitivity Adjustment Unit



I/O Circuit Diagrams

NPN Output

Model	Operation mode	Timing charts	Output circuit
E3T-_1 E3T-_1M	Light-ON	Light incident Light interrupted Operation indicator (orange) ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between brown and black)	Through-beam Receivers, Retroreflective and Reflective Models Operation indicator (Orange) Stability indicator (Green) Photo-electric Sensor Main Circuit (Control output) Brown Black Blue 12 to 24 VDC 50 mA max. Load (Relay) 0 V Through-beam Emitters Photo-electric Sensor Main Circuit Brown Blue 12 to 24 VDC
E3T-_2 E3T-_2M	Dark-ON	Light incident Light interrupted Operation indicator (orange) ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between brown and black)	

PNP Output

Model	Operation mode	Timing charts	Output circuit
E3T-_3 E3T-_3M	Light-ON	Light incident Light interrupted Operation indicator (orange) ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between blue and black leads)	Through-beam Receivers, Retroreflective and Reflective Models Operation indicator (Orange) Stability indicator (Green) Photo-electric Sensor Main Circuit (Control output) Brown Black Blue 12 to 24 VDC 50 mA max. Load (Relay) 0 V Through-beam Emitters Photo-electric Sensor Main Circuit Brown Blue 12 to 24 VDC
E3T-_4 E3T-_4M	Dark-ON	Light incident Light interrupted Operation indicator (orange) ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between blue and black leads)	

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Safety Precautions

Refer to *Warranty and Limitations of Liability*.

⚠ WARNING

This product is not designed or rated for ensuring safety of persons. Do not use it for such purpose.

Do not apply AC power to the E3T, otherwise the E3T may rupture.

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

Wiring

The maximum power supply voltage is 26.4 VDC. Before turning the power ON, make sure that the power supply voltage be not more than maximum voltage.

Load short-circuit protection

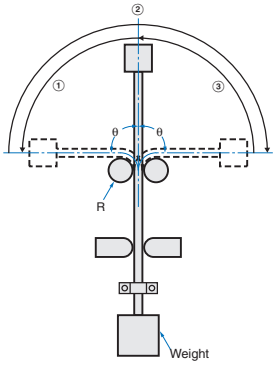
The E3T incorporates a load short-circuit protection function. If the load short-circuits, the output of the E3T will be turned OFF. Then, recheck the wiring and turn on the E3T again to reset the load short-circuit protection function. The load short-circuit protection function will work if there is a current flow that is 1.5 times larger than the rated load current. When using a capacitance load, be sure that the inrush current will not exceed 1.5 times larger than the rated current.

Mounting

When mounting the Sensor, never strike it with a heavy object, such as a hammer. Doing so may reduce its watertight properties. Use screws with spring, flat, or toothed washers to secure the Sensor.
Tightening Torque
M2-mounting Sensors: 0.15 N·m max
M3-mounting Sensors: 0.5 N·m max

Mounting the Sensor on Moving Parts

Consider models that use break resistant cables (e.g., Robotics Cables) if the Sensor will be mounted on a moving part, such as a robot hand. The flexing resistance of Robotics Cable at approximately 400 thousand times is far superior to that of standard cable at approximately 14 thousand times.



Cable Bending Rupture Test (Tough Cable Breaking Test)

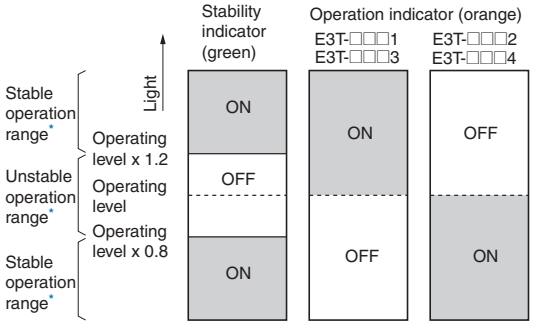
The cable is repeatedly bent with power supplied to check the number of bends until the current is turned OFF.

Test	Specimen	Standard cable 2.4-mm dia. (7/0.127-mm dia.), 3 conductors	Robotics cable 2.4-mm dia. (20/0.08-mm dia.), 3 conductors
Contents/conditions	Bending angle (θ)	90° each to the left and right	
	Bending speed	50 times/min	
	Load	200 g	
	Operation per bend	Once in 1 to 3 in the diagram	
	Curvature radius of support point (R)	5 mm	
Result		Approx. 14,000 times	Approx. 400,000 times

Adjusting

Indicators

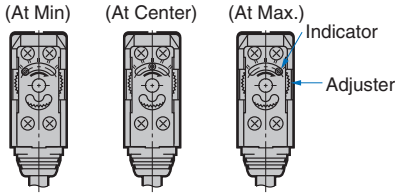
- The following graphs indicate the status of each operating level.
- Be sure to use the E3T within the stable operating range.



* If the E3T fs operating level is set to the stable operation range, the E3T will be in most reliable operation without being influenced by temperature change, voltage fluctuation, dust, or setting change. If the operating level cannot be set to the stable operation range, pay attention to environmental changes while operating the E3T.

Use of E39-E10 Sensitivity Adjustment Unit

(Dark-ON: E3T-ST12)



1. Mount the Unit on the Receiver.
2. Set the adjuster of the Sensitivity Adjustment Unit to Max. (Before shipping: Max.)
3. After mounting on the Sensor, adjust the optical axis and secure the Sensor.
4. Place a workpiece between the Emitter and Receiver and gradually turn the adjuster counterclockwise toward the Min. side. Stop turning the adjuster when the operation indicator and stability indicator (green) turn ON.
5. Remove the workpiece and confirm that the operation indicator is OFF and the stability indicator (green) is ON. This completes the adjustment.

Note: If the light attenuation rate due to a workpiece is 40% or less, the stability indicator will not turn ON whether or not light is received. When the variation of light is small such as when sensing semi-transparent workpieces, carefully perform preliminary testing.

Others

Do not install the E3T in the following locations.

- Locations subject to excessive dust or dirt
- Locations subject to direct sunlight
- Locations subject to corrosive gas
- Locations subject to contact with organic solvents
- Locations subject to vibration and shock
- Locations subject to contact with water, oil, or chemicals
- Locations subject to high humidities that might result in condensation

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Dimensions

(Unit: mm)

Sensors

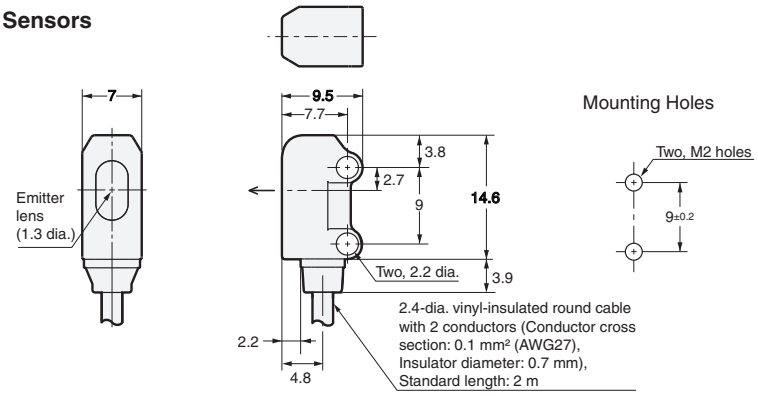
Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

M2-mounting Sensors

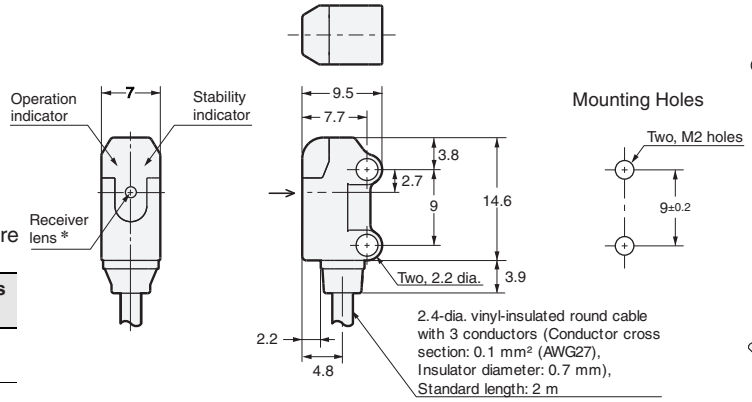
Through-beam Side-view Sensors

E3T-ST1□ (Emitter)
E3T-ST2□ (Emitter)
E3T-ST3□ (Emitter)

Emitter: E3T-ST□□-L
Receiver: E3T-ST□□-D



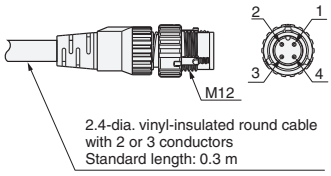
E3T-ST1□ (Receiver)
E3T-ST2□ (Receiver)
E3T-ST3□ (Receiver)



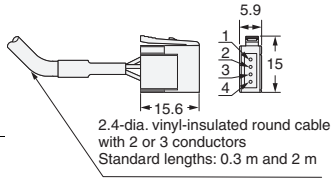
*The receiver lens diameters are given below.

Model	Receiver lens diameter
E3T-ST1□-D E3T-ST2□-D	(1.3 dia.)
E3T-ST3□-D	(2.4 dia.)

M12 Smartclick Pre-wired Connector Model (E3T-ST□□-M1TJ/E3T-FT□□-M1TJ)



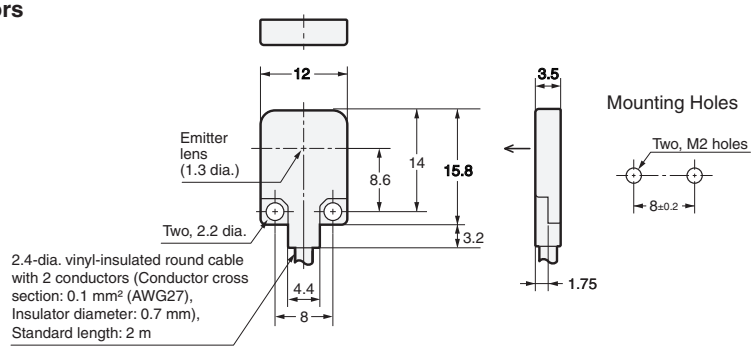
e-CON Pre-wired Connector Model (E3T-ST□□-ECON/E3T-FT□□-ECON)



Through-beam Flat Sensors

E3T-FT1□ (Emitter)
E3T-FT2□ (Emitter)

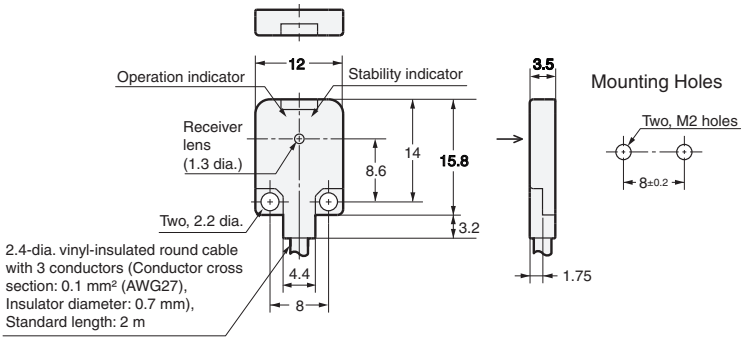
Emitter: E3T-FT□□-L
Receiver: E3T-FT□□-D



Terminal No.	Specifications
1	+V
2	---
3	0 V
4	Output (receiver only)

* Refer to <Italic>Mounting the Sensor on Moving Parts on page 12 for details on Robotics Cable models.

E3T-FT1□ (Receiver)
E3T-FT2□ (Receiver)



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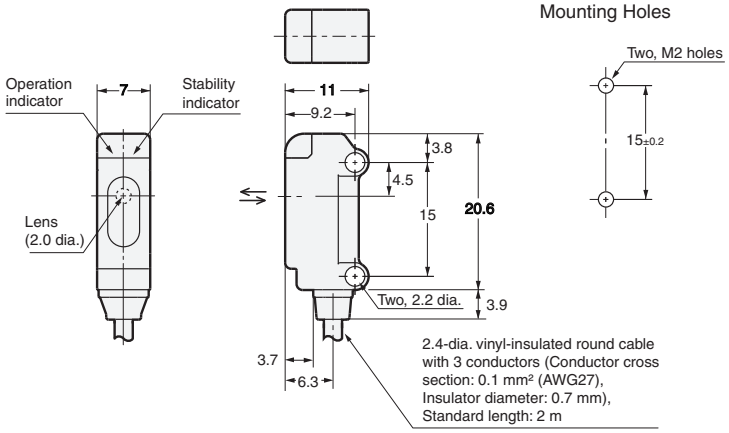
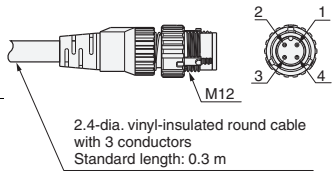
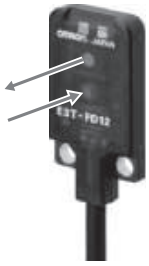
Retro-reflective Side-view Sensors
E3T-SR4□

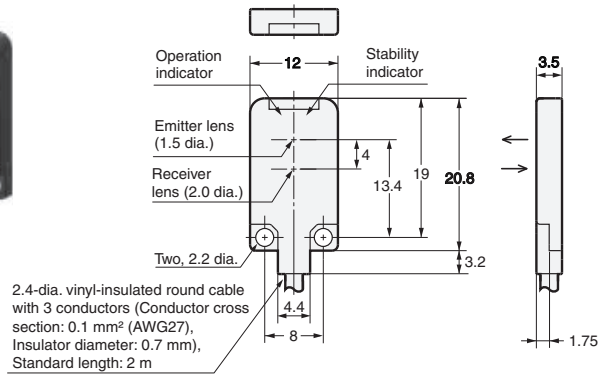


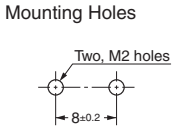
M12 Smartclick Pre-wired Connector Model (E3T-SR□□-M1TJ/E3T-FD□□-M1TJ/ E3T-SL□□-M1TJ)



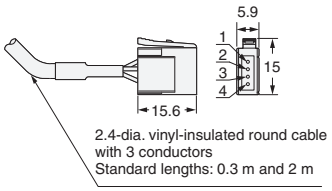
Diffuse-reflective Flat Sensors
E3T-FD1□





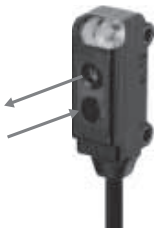


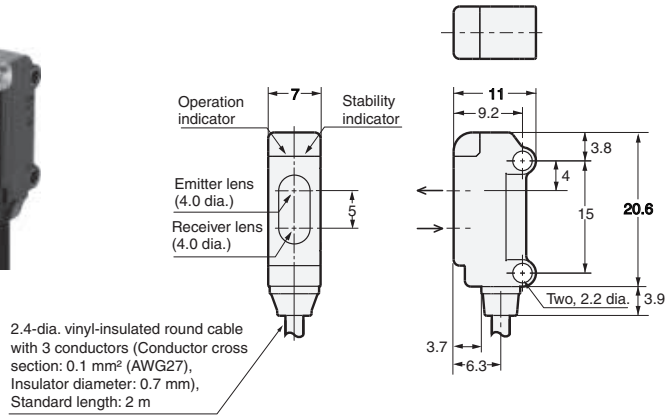
e-CON Pre-wired Connector (E3T-SR□□-ECON/E3T-FD□□-ECON/ E3T-SL□□-ECON)

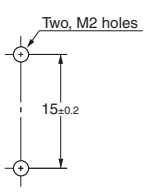


Terminal No.	Specifi-cations
1	+V
2	---
3	0 V
4	Output

Convergent-reflective Side-view Sensors
E3T-SL1□
E3T-SL2□







* Refer to <Italic>Mounting the Sensor on Moving Parts on page 12 for details on Robotics Cable models.

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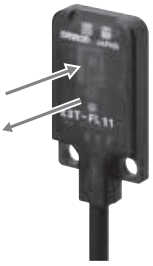
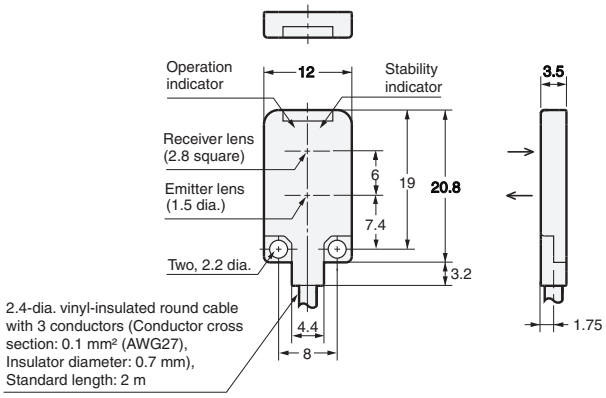
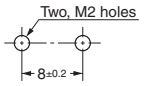
BGS-reflective Flat Sensors
E3T-FL1□
E3T-FL2□

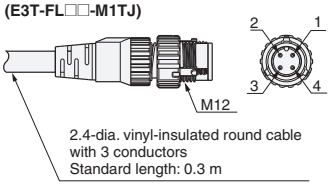




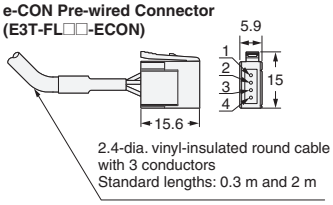
Mounting Holes



M12 Smartclick Pre-wired Connector Model (E3T-FL□□-M1TJ)



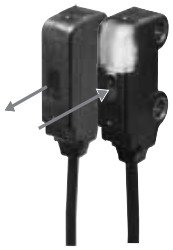
e-CON Pre-wired Connector (E3T-FL□□-ECON)



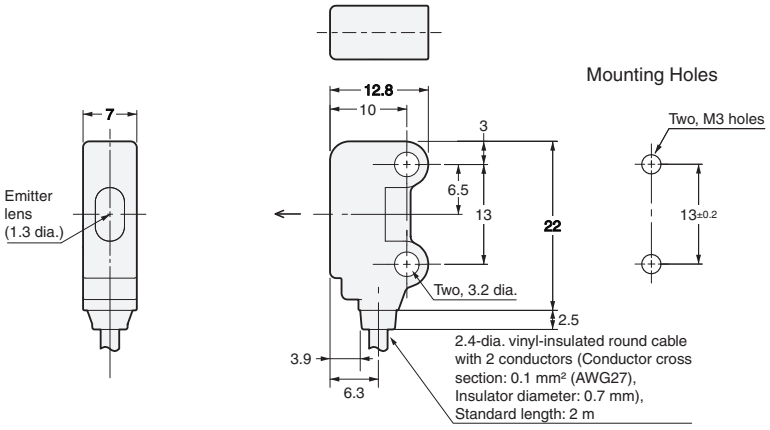
Terminal No.	Specifications
1	+V
2	---
3	0 V
4	Output

* Refer to <Italic>Mounting the Sensor on Moving Parts on page 12 for details on Robotics Cable

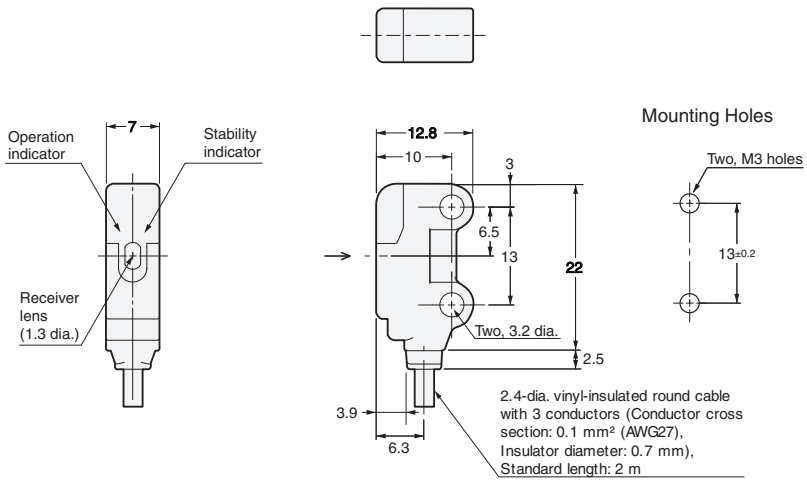
M3-mounting Sensors
Through-beam Side-view Sensors
E3T-ST1□M (Emitter)
E3T-ST2□M (Emitter)



Emitter: E3T-ST□□M-L
Receiver: E3T-ST□□M-D



E3T-ST1□M (Receiver)
E3T-ST2□M (Receiver)



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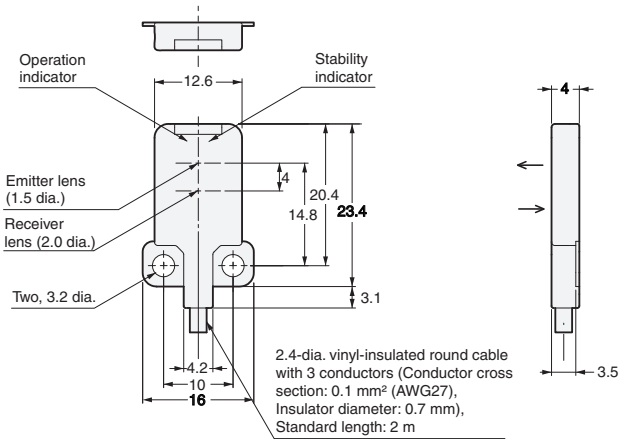
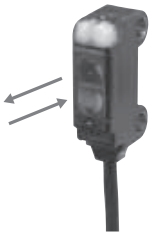
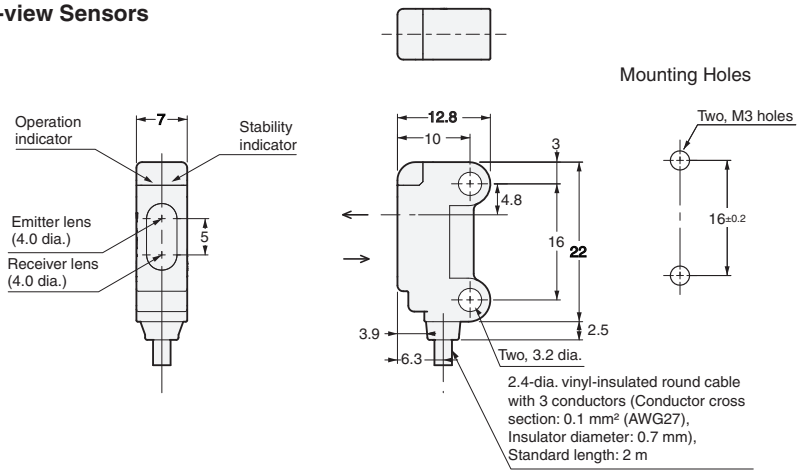
Diffuse-reflective Flat Sensors
E3T-FD1□M



Convergent-reflective Side-view Sensors
E3T-SL1□M
E3T-SL2□M





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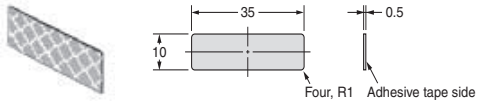
Accessories (Order Separately)

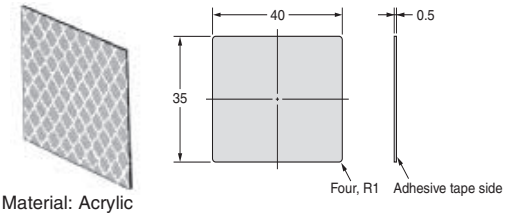
Tape Reflectors

E39-RS1-CA



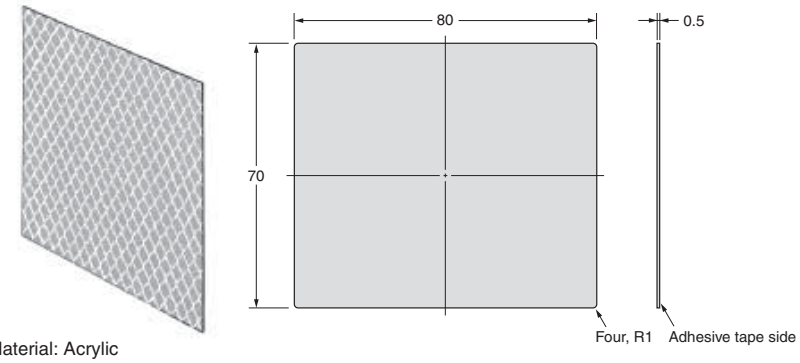
Material: Acrylic

E39-RS2-CA



Material: Acrylic

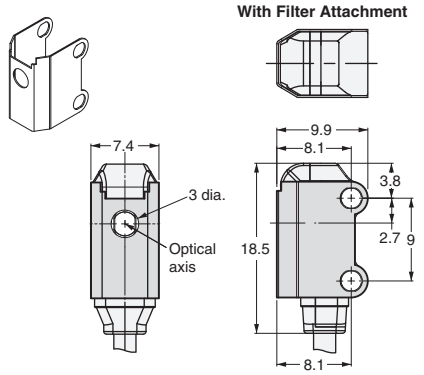
E39-RS3-CA



Material: Acrylic

Mutual Interference Prevention Filter for E3T-ST3□/ST1□ Through-beam Sensors

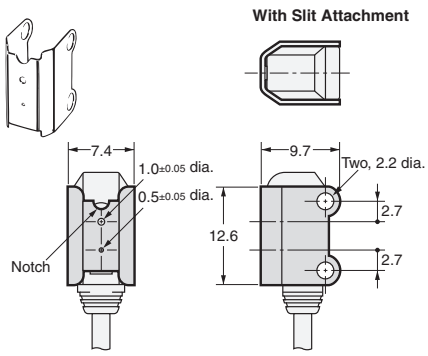
E39-E14



Material: 0.2-mm thick stainless steel (SUS301)

Slit for E3T-ST□□ Through-beam Sensors

E39-S63

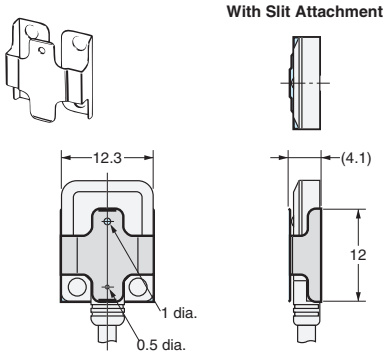


Material: 0.2-mm thick stainless steel (SUS301)

Note: Align the notch direction of the Slit when installing on the Emitter and Receiver.

Slit for E3T-FT□□ Through-beam Sensors

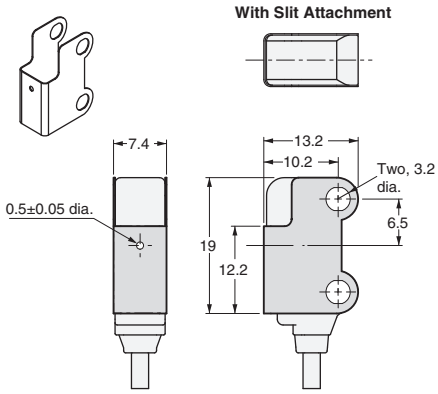
E39-S64



Material: 0.1-mm thick stainless steel (SUS301)

0.5-dia Slit for E3T-ST□□M Through-beam Sensors

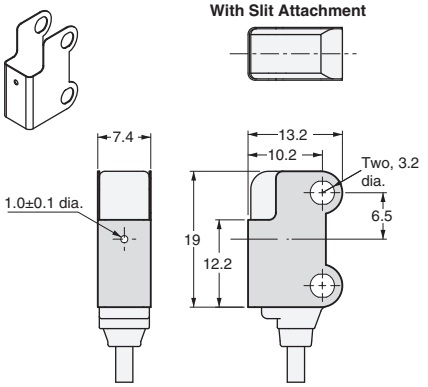
E39-S76A



Material: 0.2-mm thick stainless steel (SUS301)

1-dia Slit for E3T-ST□□M Through-beam Sensors

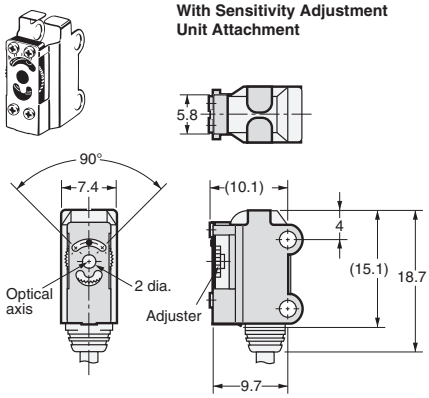
E39-S76B



Material: 0.2-mm thick stainless steel (SUS301)

Sensitivity Adjustment Unit for E3T-ST1□/ST3□ Through-beam Sensors

E39-E10



Material: stainless steel (SUS301)

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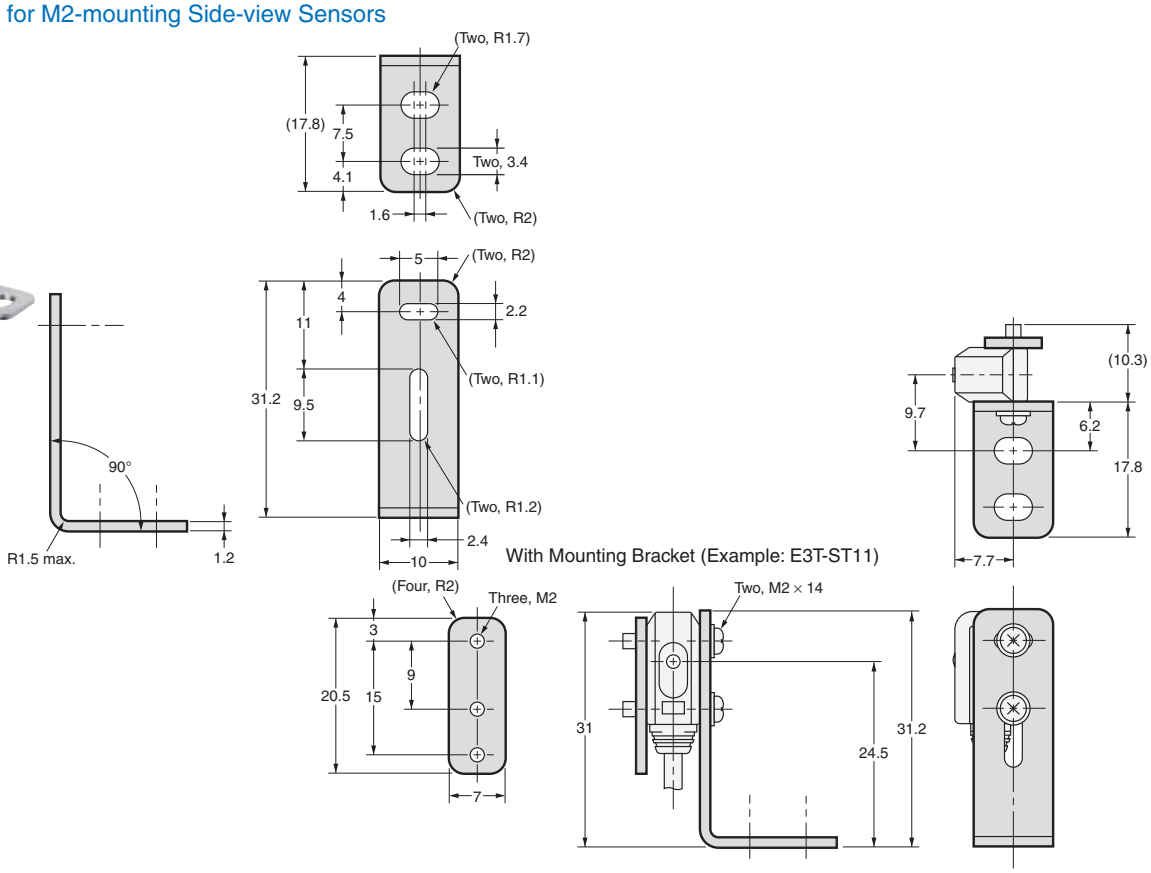
Mounting Bracket for M2-mounting Side-view Sensors

E39-L116

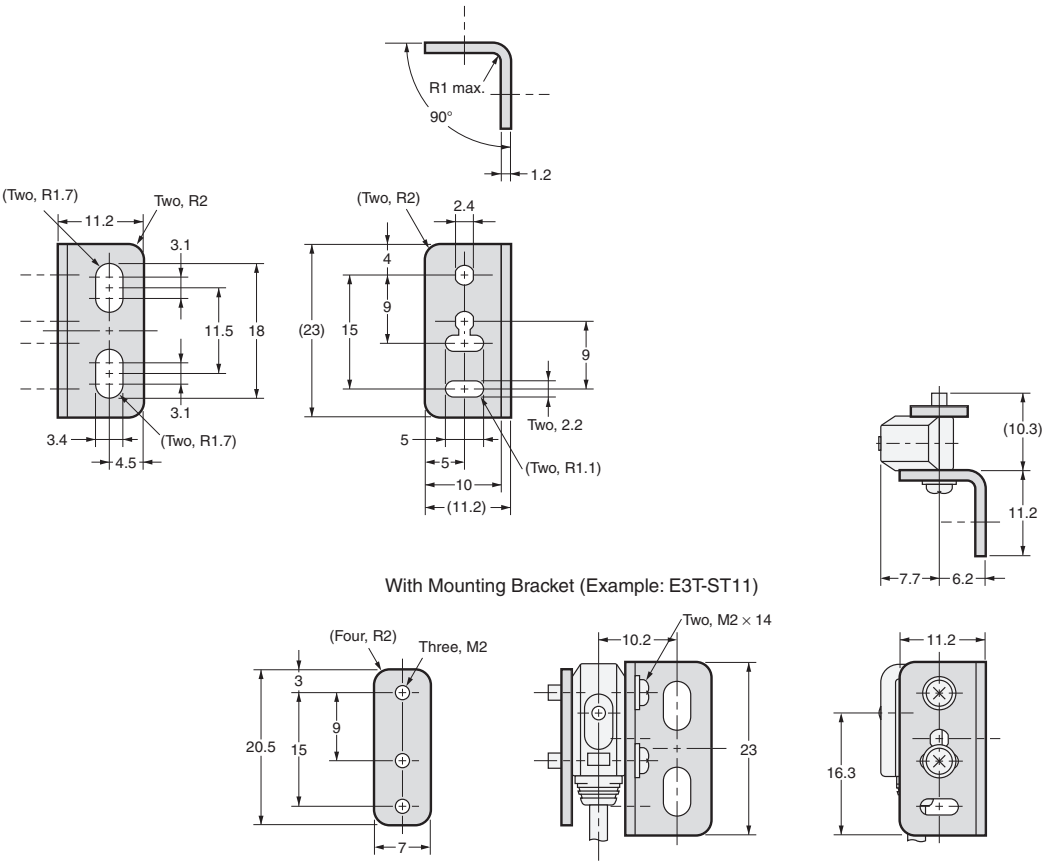
Material: 1.2-mm-thick stainless steel (SUS304)



Mounting Bracket for M2-mounting Side-view Sensors

E39-L117

Material: 1.2-mm-thick stainless steel (SUS304)



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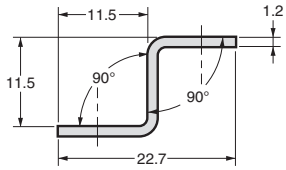
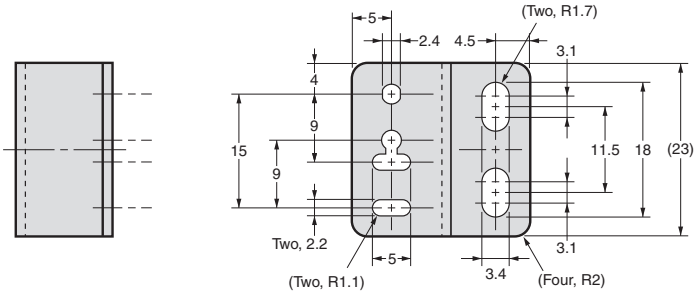
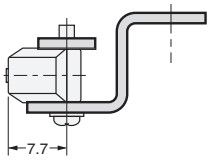
Mounting Bracket for M2-mounting Side-view Sensors

E39-L118

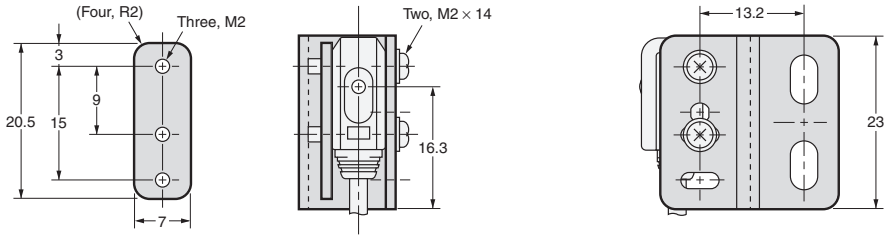
Material: 1.2-mm-thick stainless steel (SUS304)







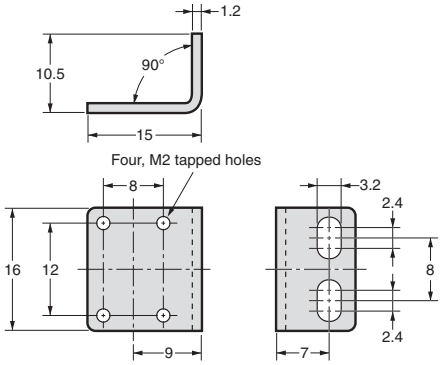
With Mounting Bracket (Example: E3T-ST11)



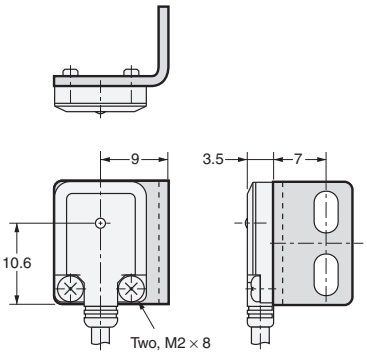
Mounting Bracket for M2-mounting Flat Sensors

E39-L119

Material: 1.2-mm-thick stainless steel (SUS304)



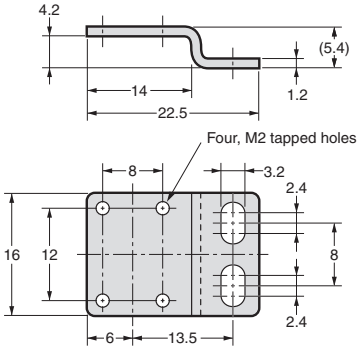
With Mounting Bracket (Example: E3T-FT11)



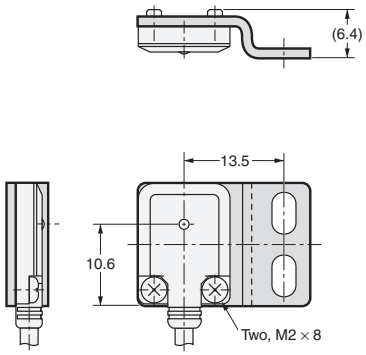
Mounting Bracket for M2-mounting Flat Sensors

E39-L120

Material: 1.2-mm-thick stainless steel (SUS304)



With Mounting Bracket (Example: E3T-FT11)



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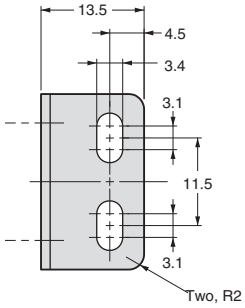
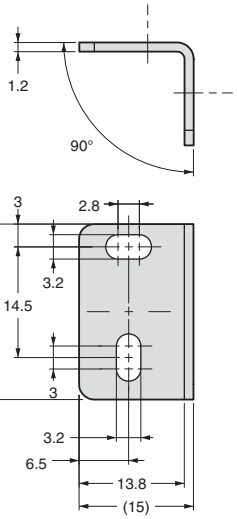
Mounting Bracket for M3-mounting Side-view Sensors

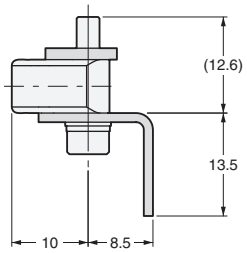
E39-L166

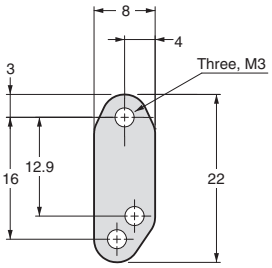
Material: 1.2-mm-thick stainless steel (SUS304)

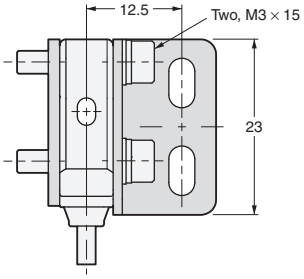


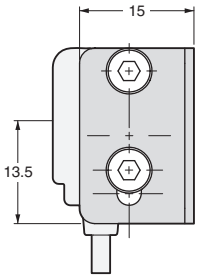


With Mounting Bracket
(Example: E3T-ST11M)







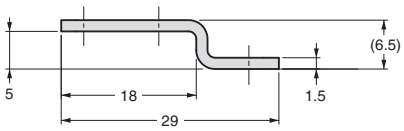


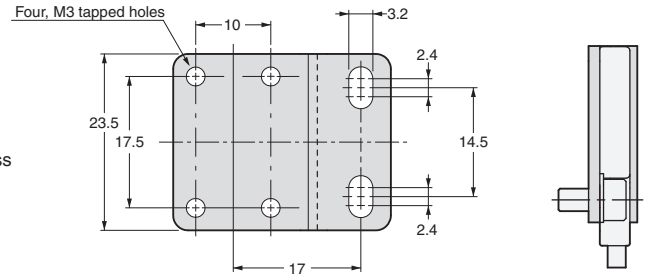
Mounting Bracket for M3-mounting Flat Sensors

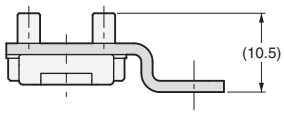
E39-L167

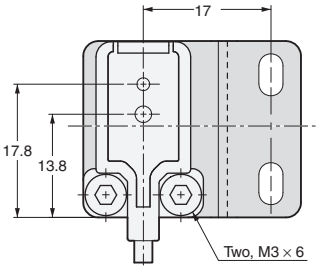
With Mounting Bracket
(Example: E3T-FD11M)

Material: 1.5-mm-thick stainless steel (SUS304)



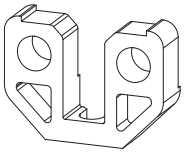




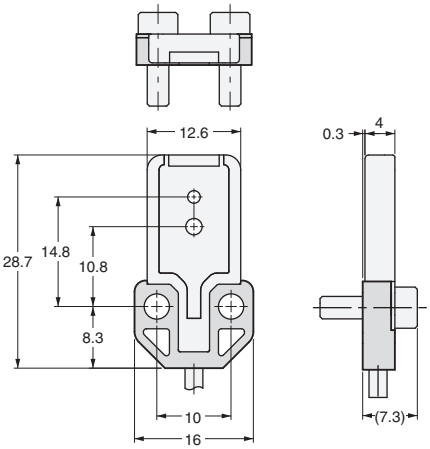


Back-mounting Spacer for M3-mounting Flat Sensors

E39-L168



Material: PBT (polybutylene terephthalate)



Note: Use this Spacer when mounting the Sensor from the back.

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Cat. No. E71E-EN-01 **In the interest of product improvement, specifications are subject to change without notice.**

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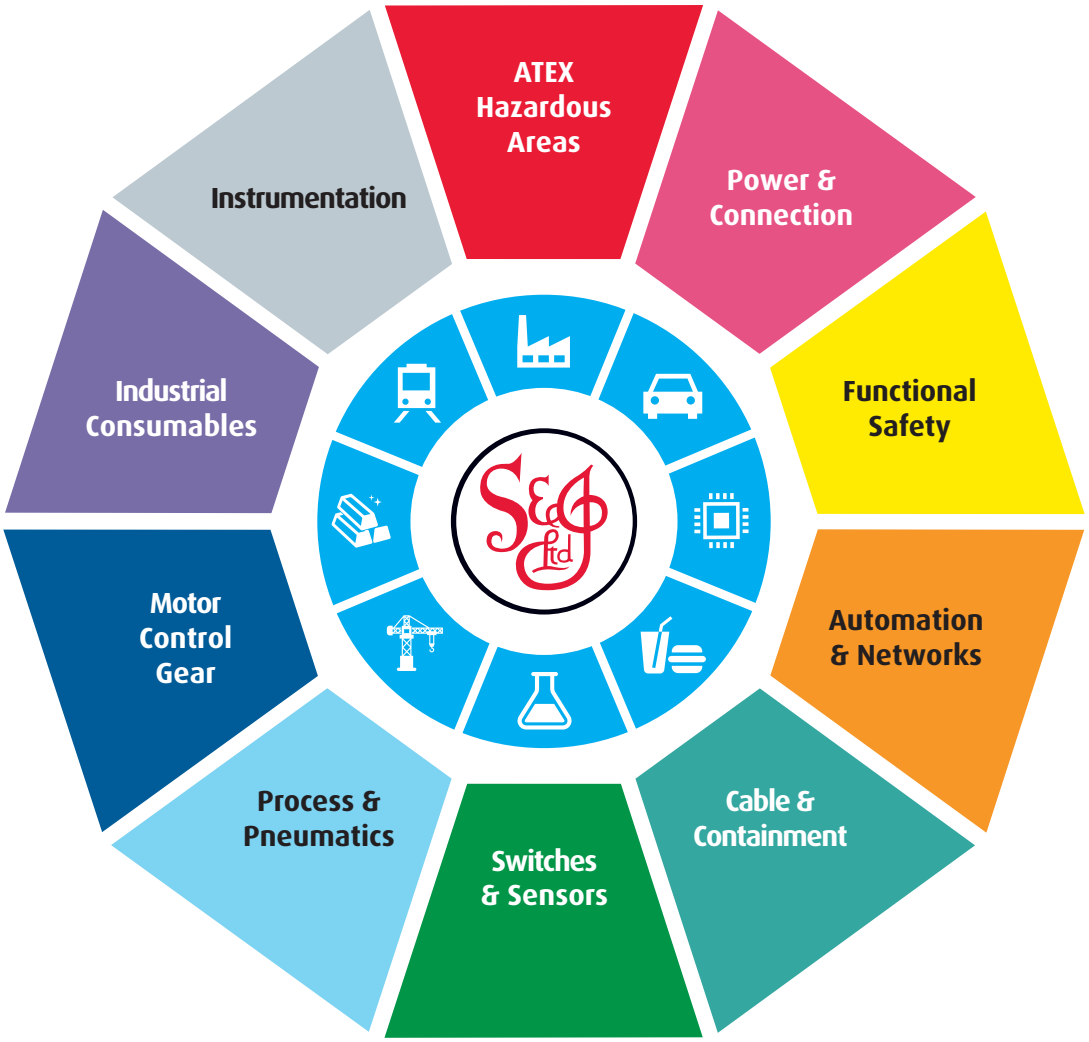

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