

Authorised Distributors:-

ASH & ALAIN INDIA PVT LTD

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Small Spot/Mark (Separate Amplifier)

E3C-VS/VM

Photo-electric Sensors

Sensing Guide

Optical Fibers

Separate Amplifiers

Built-in Amplifiers

Built-in Power Supplies

Application Specific

Peripheral Devices

Other Information

Extremely thin beam ideal for detection of minute objects and marks

- Ideal for detection of small objects and slight color differences
- Bad mark detection
- Detection of thin wire of 200 μ
- Detection of slight level differences.



Be sure to read Safety Precautions on page 229.

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Ordering Information

Sensors

Sensor Heads

█ Red light █ Green light

Sensing method	Appearance	Connection method	Sensing distance	Model
Reflective model (for mark detection)		Pre-wired	█ 10 \pm 2 mm	E3C-VS1G
			█ 30 \pm 5 mm	E3C-VS3R
	█ 35 \pm 5 mm		E3C-VM35R	
	█ 70 \pm 1 mm		E3C-VS7R	

Amplifier Units

Power supply	Application	Appearance	Function	Model
AC	General-purpose models		—	E3C-A
			Timer	E3C-C
DC	Slim body		Self-diagnosis	E3C-JC4P
	Compact body		—	E3C-GE4
	Front terminal		—	E3C-WE4 E3C-WH4F

Accessories (Order Separately)

Mounting Brackets

Appearance	Model	Quantity	Remarks
	E39-L42	2	Can be used with the E3C-VS1G, or E3C-VS3R.

Note: For details, refer to Mounting Brackets on page 292.

* If a through-beam model is used, order two Mounting Brackets; one for the Emitter and one for the Receiver.

Ratings and Specifications

Sensor Head

Item	Sensing method Model	Reflective model (for mark detection)			
		E3C-VS1G	E3C-VS3R	E3C-VM35R	E3C-VS7R
Sensing distance		10±2 mm	30±5 mm	35±5 mm	7±10 mm
Minimum detectable object (black mark on white)		0.7 mm at central sensing distance	2 mm at central sensing distance	0.2 mm at central sensing distance	0.6 mm at central sensing distance
Light source (wavelength)		Green LED (565 nm)	Red LED (680 nm)	Red LED (660 nm)	
Ambient illumination		Incandescent lamp: 1,000 lx max. (on light-receiving side) Sunlight: 3,000 lx max. (on light-receiving side)			
Ambient temperature		Operating: -10 to 70°C (with no icing or condensation) Storage: -25 to 70°C (with no icing or condensation)		Operating/storage: -25 to 70°C (with no icing or condensation)	
Ambient humidity		Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)			
Insulation resistance		20 MΩ min. (at 500 VDC)			
Dielectric strength		500 VAC, 50/60 Hz for 1 min			
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions			
Shock resistance (destruction)		500 m/s ² 3 times each in X, Y, and Z directions			
Degree of protection		IEC IP64 (indoors only)		IEC IP50 (indoors only)	
Connection method		Pre-wired cable (standard length: 2 m)			
Weight (packed state)		Approx. 50 g		Approx. 60 g	
Material	Case	Polycarbonate		Heat-resistant ABS	
	Lens	Polycarbonate		Glass	
	Mounting Bracket	---		Steel	
Accessories		Instruction manual		Mounting Bracket, Slotted/ Phillips screws M3 × 16, Spring washer, Flat washer, M3 nuts	Mounting Bracket, Slotted/ Phillips screws M3 × 16, Spring washer, Flat washer, M3 nuts, Instruction manual

For details on [Amplifier Units](#), refer to page 115.

For details on [I/O circuit diagrams](#), refer to page 118.

For details on [connections](#), refer to page 119.

For details on [connection sockets](#), refer to page 113.

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E3MC

E3C-VS/VM

F3C-AL

E3L

E3X-NL

E3S-CR62/67

E3S-R

E3HQ

E3S-LS3□

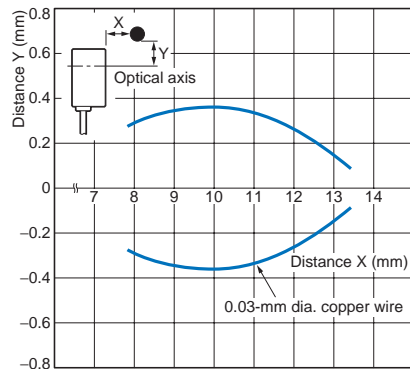
F3UV

E3C-VS/VM

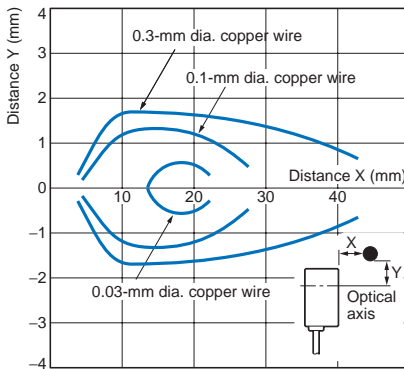
Engineering Data (Typical)

Operating Range

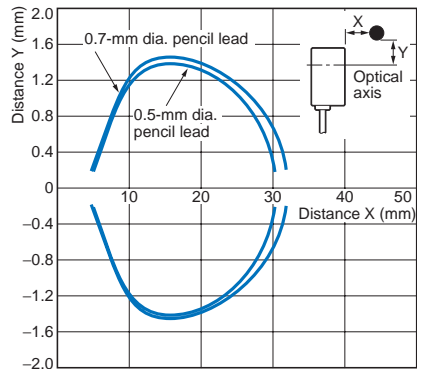
E3C-VS1G



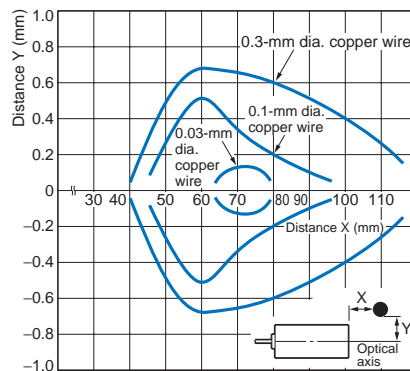
E3C-VS3R



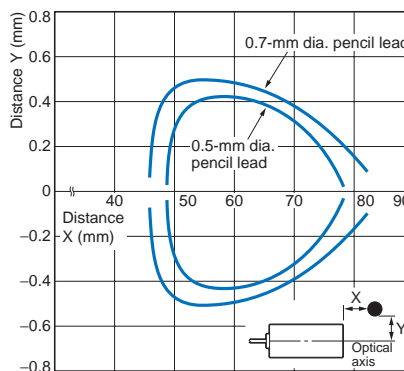
E3C-VS3R



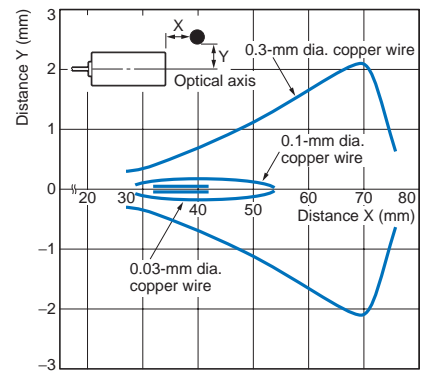
E3C-VS7R



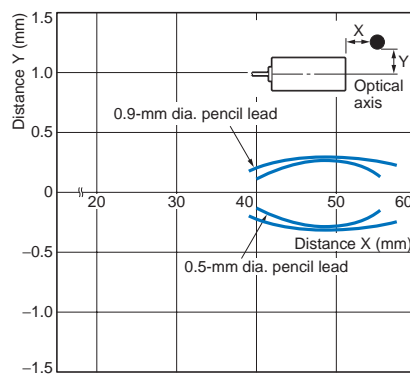
E3C-VS7R



E3C-VM35R

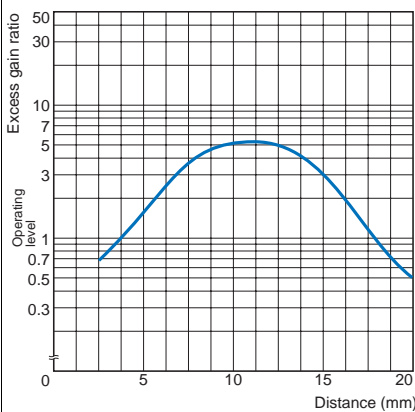


E3C-VM35R

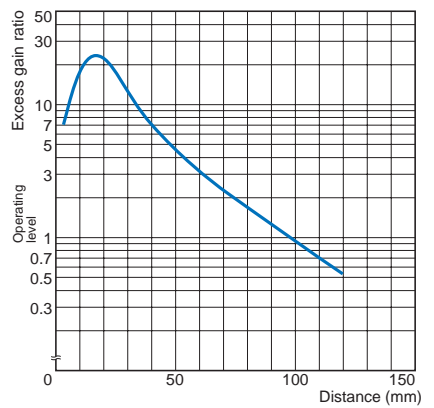


Excess Gain vs. Set Distance

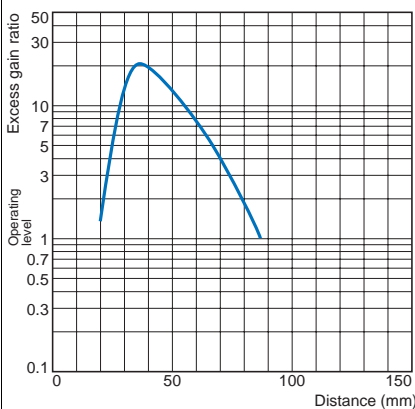
E3C-VS1G



E3C-VS3R



E3C-VM35R



E3C-VS7R

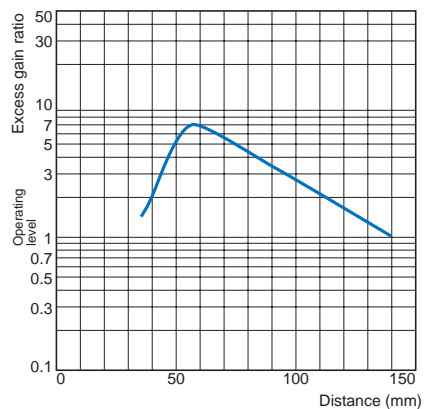


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E3L

E3X-NL

E3S-CR62/67

E3S-R

E3HQ

E3S-LS3□

F3UV

Safety Precautions

Refer to Warranty and Limitations of Liability on page F-2.

WARNING

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



Precautions for Correct Use

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

● Wiring

For details on [Extension Cables](#), refer to page 122.

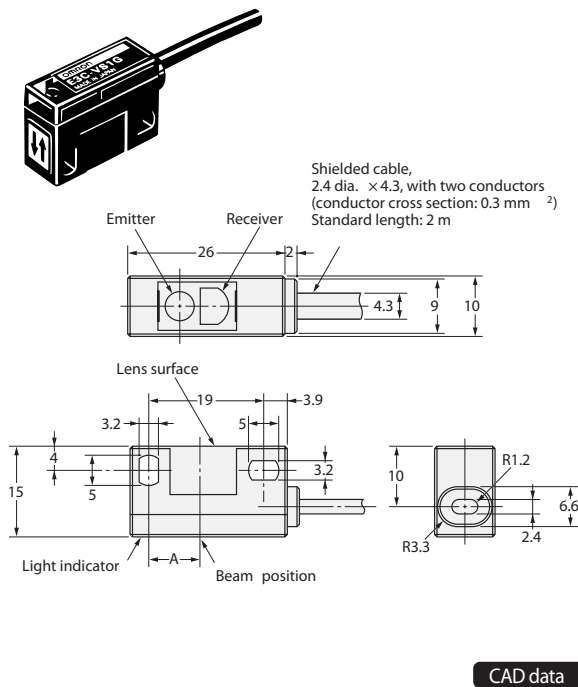
Dimensions

(Unit: mm)

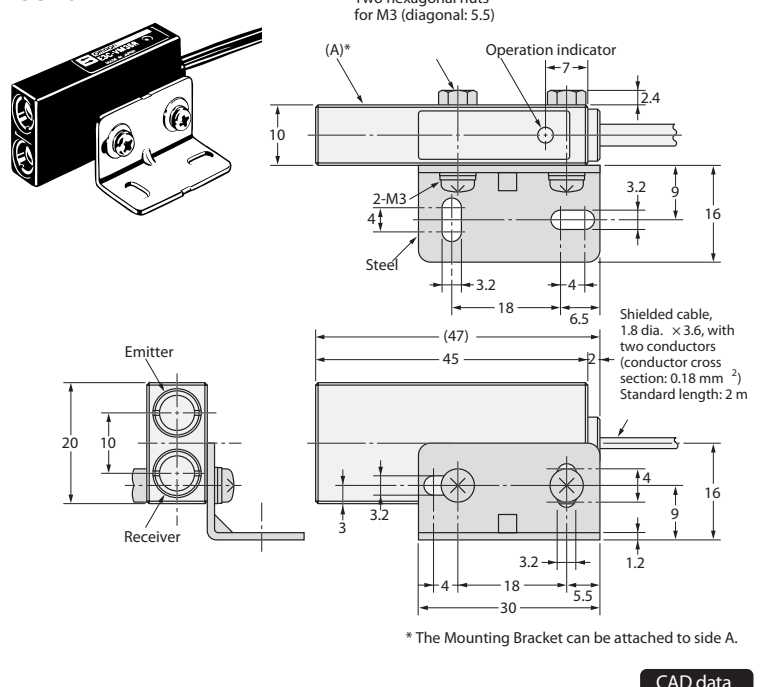
Sensors

Sensor Heads

E3C-VS1G
E3C-VS3R



E3C-VM35R
E3C-VS7R



Amplifier Unit

Refer to page 126 for details.

Accessories (Order Separately)

Mounting Brackets

Refer to page 292 for details.

Cat. No. E816-E1-01

In the interest of product improvement, specifications are subject to change without notice.



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