Small Spot/Mark (Separate Amplifier)

Extremely thin beam ideal for detection of minute objects and marks

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



Be sure to read *Safety Precautions* on page 4.

Ordering Information

Sensors

Sensor Heads

Red light Green light

Sensing method	Appearance	Connection method	Sensing distance	Model
Reflective model (for mark detection)		Pre-wired (2 m)	10±2 mm	E3C-VS1G 2M
			3 0±5 mm	E3C-VS3R 2M
	⊲		35±5 mm	E3C-VM35R 2M
			7 0±10 mm	E3C-VS7R 2M

Amplifier Units

Power supply	Application	Appearance	Function	Model
AC	General-purpose models			E3C-A
		48 109.5	Timer	E3C-C
DC	Slim body		Self-diagnosis	E3C-JC4P 2M
	Compact body	27.2 0 35.5		E3C-GE4
	Front terminal	75 80		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.

Refer to Mounting Brackets on E39-L/F39-L/E39-S/E39-R for details.

* 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

	Sensing method	Reflective model (for mark detection)				
Item	m Model E3C-VS1G		E3C-VS3R	E3C-VM35R	E3C-VS7R	
Sensing of	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 se		
Light sou (waveleng	ırce gth)	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 temperate	ure range	Operating: -10 to 70°C (with no icing or condensation) Operating/storage: -25 to 70°C Storage: -25 to 70°C (with no icing or condensation) (with no icing or condensation) (with no icing or condensation)		°C cing or condensation)		
Ambient humidity	range	Operating: 35% to 85%, Storage: 35% to 95% (with no condensation)				
Insulation	n resistance	20 MΩ min. (at 500 VDC)				
Dielectric	strength	500 VAC, 50/60 Hz for 1 min				
Vibration (destruct	resistance ion)	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions				
Shock res (destruct	sistance ion)	500 m/s ² 3 times each in X, Y, and Z directions				
Degree of	f protection	IEC IP64 (indoors only) IEC IP50 (indoors only)				
Connecti	on method	Pre-wired cable (standard length: 2 m)				
Weight (packed s	state)	Approx. 50 g		Approx. 60 g		
	Case	Polycarbonate		Heat-resistant ABS		
Material	Lens	Polycarbonate		Glass		
	Mounting Bracket			Steel		
Accessories		Instruction manual		Mounting Bracket, Slotted/ Phillips screws $M3 \times 16$, Spring washer, Flat washer, M3 nuts	Mounting Bracket, Slotted/ Phillips screws M3 × 16, Spring washer, Flat washer, M3 nuts, Instruction manual	

Amplifier Units Refer to *E3C*. I/O Circuit Diagrams

Refer to *E3C*. Connection Refer to *E3C*. Connectors

Refer to E3C.

E3C-VS/VM

Engineering Data (Typical)

Operating Range

E3C-VS1G



0.3

0.03-m

coppe

60

dia.

-mm

0.1-mm dia copper wire

> 80 90 -100

dia. copper wire

(m

×

Opt

E3C-VS3R

Distance Y (mm)



E3C-VS7R



Excess Gain vs. Set Distance

E3C-VS1G

E3C-VM35R

ratio 50

30 gain Excess (

10

F

Operating level 1

0.7

0.5

0.3



0







50

100

150 Distance (mm)

E3C-VS3R



E3C-VM35R

E3C-VS3R

50

30

10 7

5

3

Operating level

0.7

0.5

0.3

Excess gain ratio



E3C-VM35R

Distance Y (mm) 9.0 8 9.0 4

0.2

0

-0.2

-0.4

-0.6

-0.8

-1.0



Safety Precautions

Refer to Warranty and Limitations of Liability.

<u> WARNING</u>

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.

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 E3C.

Dimensions

(Unit: mm) Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

Sensors

Sensor Heads



Amplifier Unit

Refer to E3C for details.

Accessories (Order Separately)

Mounting Brackets

Refer to E39-L/F39-L/E39-S/E39-R for details.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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- · Systems, machines, and equipment that could present a risk to life or property.

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DIMENSIONS AND WEIGHTS

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Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.З, офис 1107

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