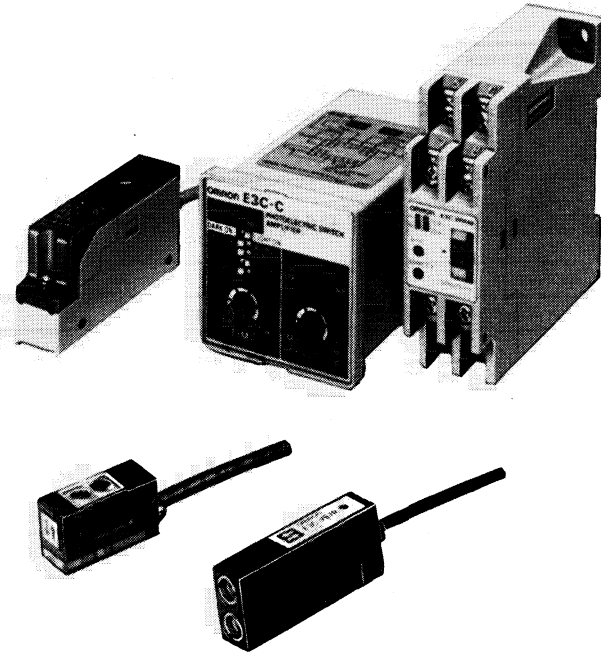


Special-Purpose Photoelectric Sensor

E3C-V

Miniature Pinpoint Spot and Color Mark Sensors With Separate Amplifiers

- Fast, 1 ms response time ideal for parts sensing, color register mark detection, inspection and accurate positioning
- Accurately detects color marks against many different backgrounds
- Pinpoint beam sensors detect minute objects, marks, and wires as small as 0.2 mm
- Prewired DC amplifiers offer fine sensitivity adjustment and diagnostic alarm output







Ordering Information

■ SENSORS

Part number		E3C-VS1G	E3C-VS3R	E3C-VM35R	E3C-VS7R
Method of detection		Diffuse reflective			
Application		Color mark detection		Spot detection or color mark detection	
Sensing distance	Mark	1 ± 0.2 cm (0.39 ± 0.08 in)	3 ± 0.5 cm (1.18 ± 0.20 in)	3.5 ± 0.5 cm (1.38 ± 0.20 in)	7 ± 1.0 cm (2.76 ± 0.39 in)
	Spot	—	—	2 to 8 cm (0.79 to 3.15 in)	4 to 11 cm (1.57 to 4.33 in)
Light Source		Green LED	Red LED	Red LED	Red LED

■ AMPLIFIERS

Part number	E3C-A	E3C-C	E3C-WH4F	E3C-GE4	E3C-GF4	E3C-JC4P	E3C-JB4P
Description	 Fits 1/16 DIN panel cutout	 For S3D8 controller	 Miniature	 Slim, prewired			
Supply voltage	100 to 240 VAC, 50/60 Hz		12 to 24 VDC				
Output	Relay and NPN solid-state		NPN and PNP solid-state	NPN solid-state	PNP solid-state	NPN	PNP
Timer functions	—	ON-delay OFF-delay One-shot	—	—		40 ms OFF-delay	
Mounting style	Socket (included)		DIN rail	Socket, DIN rail (order separately)			

■ ACCESSORIES

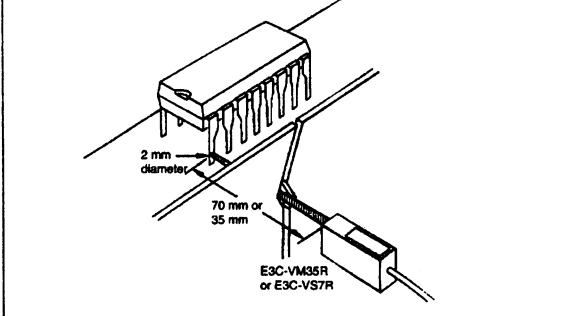
Description		Part number
Mounting bracket for sensor		E39-L41
Sockets required for E3C-G□4 amplifier	Bottom surface mount socket	PYF08M
	Combination bottom surface and track-mount socket	PYF08A-E
Mounting track	DIN rail, 50 cm (1.64 ft) length	PFP-50N
	DIN rail, 1 m (3.28 ft) length	PFP-100N
	End plate	PFP-M
	Spacer	PFP-S

■ REPLACEMENT PARTS

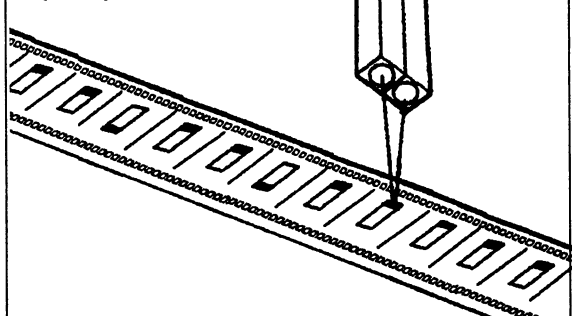
Description	Part number
Track-mount socket for E3C-A and E3C-C amplifiers	PF113A-E

■ TYPICAL APPLICATIONS

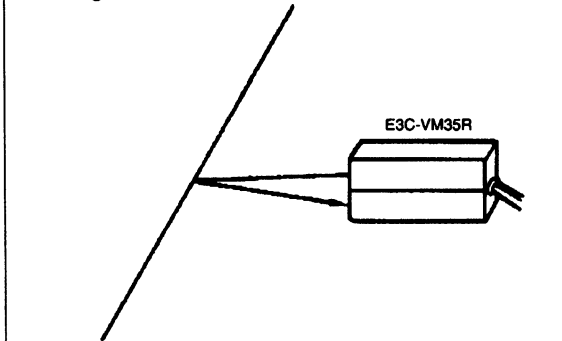
Detecting small objects through a narrow gap in machine construction



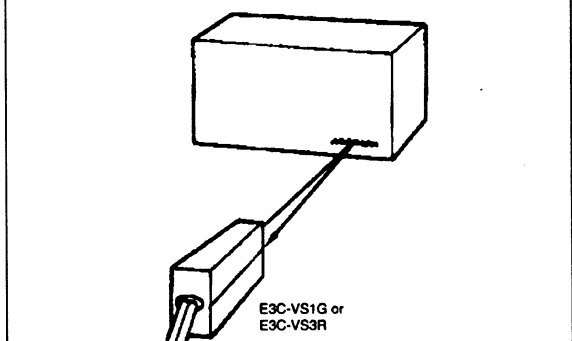
Detecting direction of chip components



Detecting wires or thread as thin as 200 microns thick



Detecting color marks or labels on packages



Specifications

■ SENSORS

Part number		E3C-VS1G	E3C-VS3R	E3C-VM35R	E3C-VS7R
Method of detection		Color mark diffuse reflective		Spot beam diffuse reflective	
Sensing distance		1 ± 0.2 cm (0.39 ± 0.08 in) with 0.7 x 0.7 mm (0.03 x 0.03 in) black mark on white background	3 ± 0.5 cm (1.18 ± 0.20 in) with 2.0 x 2.0 mm (0.08 x 0.08 in) black mark on white background	3.5 ± 0.5 cm (1.38 ± 0.20 in) with 2.0 x 2.0 mm (0.08 x 0.08 in) black mark on white background	7 ± 1.0 cm (2.76 ± 0.39 in) with 2.0 x 2.0 mm (0.08 x 0.08 in) black mark on white background
Light source		Pulse modulated green LED	Pulse modulated red LED	Pulse modulated red LED	Pulse modulated red LED
Detectable object	Type	Colored marks on colored backgrounds	Colored marks on colored backgrounds	Small opaque objects	Small opaque objects
	Size	0.9 mm (0.04 in) minimum mark dimension	0.6 mm (0.06 in) minimum mark dimension	0.2 mm (0.008 in) minimum dimension	0.6 mm (0.02 in) minimum dimension
Required amplifier		E3C-A, E3C-C, E3C-GE4, E3C-GF4, E3C-JC4P, E3C-JB4P, E3C-WH4F			
Mutual interference protection		Provided			
Indicators		Light Incident (red LED)			
Materials	Lens	Plastic, polycarbonate		Glass	
	Case	Plastic			
	Cable sheath	Plastic, polyethylene			
Mounting		Side surface with two through holes; Bracket E39-L41 optional. See Accessories.			
Connections	Prewired	4-conductor cable, 2 m (6.56 ft) length			
Weight		50 g (1.8 oz.)		140 g (4.9 oz.)	
Enclosure ratings	NEMA	1, 2, 12			
	IEC 144	IP64		IP50	
Approvals	UL	—			
	CSA	—			
Ambient temperature	Operating	-10° to 70°C (14° to 158°F)		-25° to 70°C (-13° to 158°F)	
	Storage	-25° to 70°C (-13° to 158°F)			

■ AMPLIFIERS, OUTPUT CIRCUIT DIAGRAMS, AMPLIFIER CONNECTIONS AND OPERATION

Refer to the E3C data sheet for details about output circuit diagrams, amplifier connections and operation.

For more information on this product line, see the complete data sheet at
Omron's Knowledge Center on our web site: www.omron.com/oei

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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