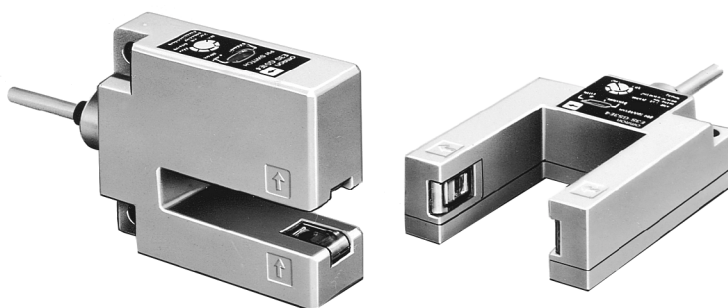


Slotted Edge Registration Sensor

E3S-GS

Grooved Head Sensor with Built-In DC Amplifiers

- Fast 1 ms maximum response time ideal for packaging applications
- 1 cm groove type detects marks on transparent film
- 3 cm groove type detects edges, labels and marks
- Emitter and receiver separated by a fixed gap simplifies installation and eliminates alignment problems
- Sensitivity adjustment standard
- Choose NPN and PNP output models
- Wire-selectable light-on/dark-on operation
- Ready-to-use: prewired with 2 m (6.56 ft) cable and includes mounting bracket



Ordering Information

■ SENSORS

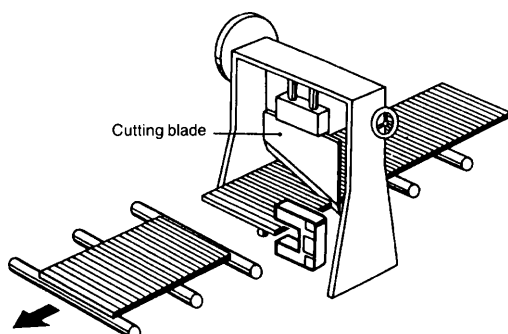
Method of detection		Through-beam, in one-piece grooved head	
Sensing distance		1 cm (0.39 in)	3 cm (1.18 in)
Application		Mark detection	General purpose
Part number	NPN output	E3S-GS1E4	E3S-GS3E4
	PNP output	E3S-GS1B4	E3S-GS3B4

■ REPLACEMENT PARTS

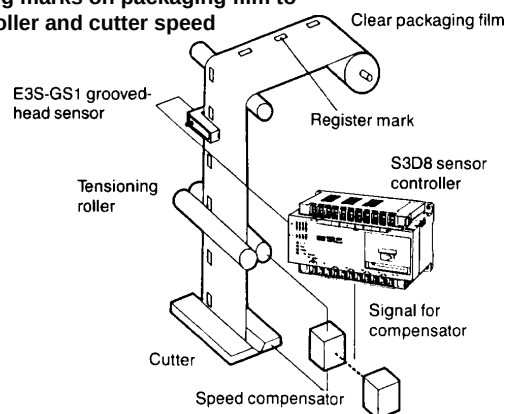
Description	Part number
Sensitivity adjuster knob (supplied with each sensor)	E39-G1

■ TYPICAL APPLICATIONS

Detecting edge of material to activate cutter



Detecting marks on packaging film to adjust roller and cutter speed

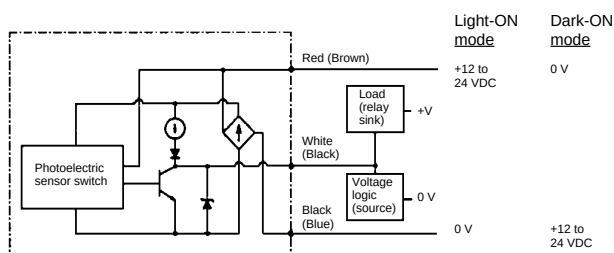


Specifications

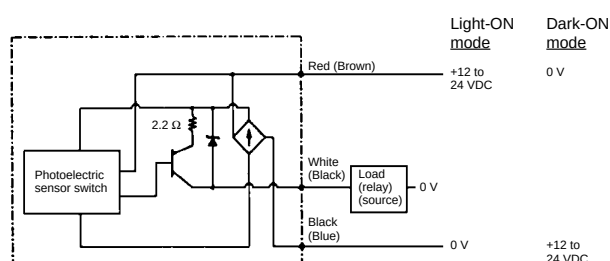
Part number			E3S-GS1□4		E3S-GS3□4	
Method of detection			Through-beam, one-piece grooved head			
Supply voltage			12 to 24 VDC			
Current consumption			40 mA max.			
Groove width			1 cm (0.39 in)		3 cm (1.18 in)	
Light source			Pulse modulated green LED		Pulse modulated infrared LED	
Detectable object type			Marks on transparent shet, 2 x 3 mm (0.08 x 0.12 in) minimum mark dimension		Opaque materials, 3 mm (0.12 in) minimum diameter	
Sensitivity			Adjustable			
Mutual interference protection			Provided			
Control output	DC solid-state	Type	NPN-SPST open collector with constant current source (E3S-GS□E4) PNP-SPST open collector (E3S-GS□B4)			
		Max. load	NPN type:	Load (relay, sink) logic:	80 mA	
		Max. on-state voltage drop	PNP type:	Voltage (source) logic:	1.5 to 3 mA	
Response time		On	1 ms max.		Load (relay, source) logic: 100 mA	
		Off	1 ms max.			
Circuit protection		Output short-circuit	Provided			
		DC power supply reverse polarity	Provided			
Indicators			Light Incident (red LED), Output Stability (green LED)			
Materials		Lens	Plastic			
		Case	Plastic		Diecast zinc	
		Cable sheath	Plastic			
Mounting			Side mounting with two through holes; Bracket E39-L5 and hardware included			
Connections		Prewired	3-conductor cable, 2 m (6.56 ft) length			
Weight			100 g (3.35 oz.)		230 g (8.11 oz.)	
Enclosure ratings		UL	—			
		NEMA	1, 2, 12		1, 4, 4X, 12, 13	
		IEC 144	IP65		IP67	
Approvals		UL	—			
		CSA	—			
Ambient temperature		Operating	-25° to 55°C (-13° to 131°F)			
		Storage	-40° to 70°C (-40° to 158°F)			

OUTPUT CIRCUIT DIAGRAMS

NPN output



PNP output



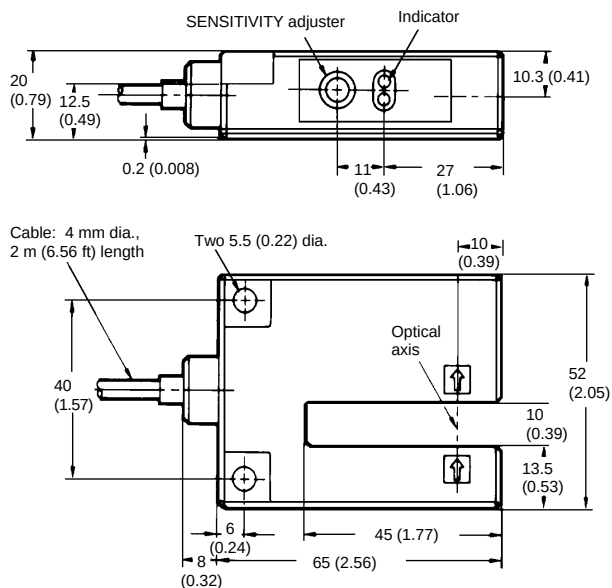
Note: IEC colors are shown in parentheses.

Dimensions

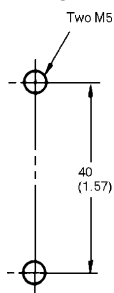
Unit: mm (inch)

SENSORS

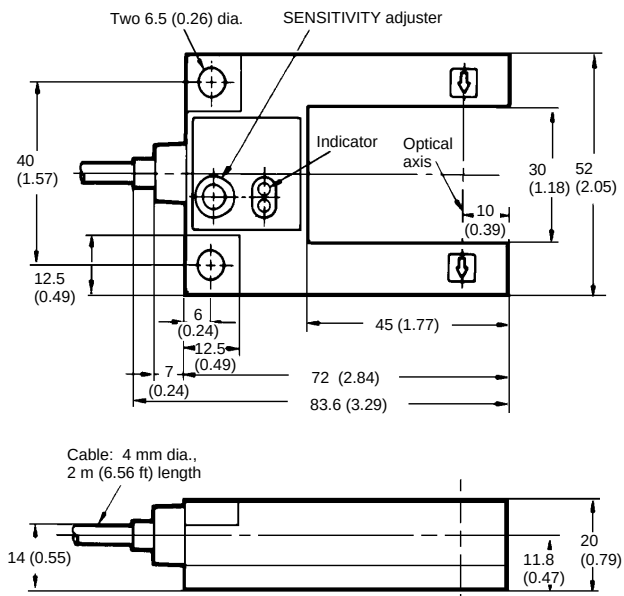
E3S-GS1□4



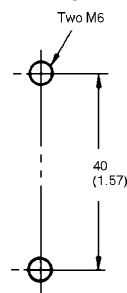
Mounting holes



E3S-GS3□4

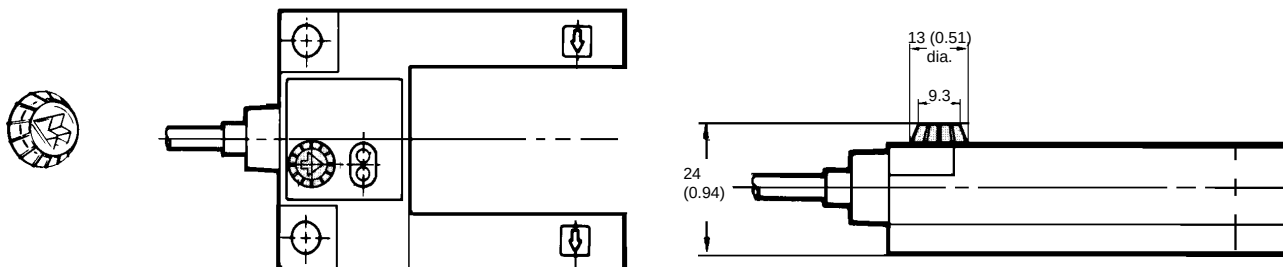


Mounting holes



ACCESSORIES

E3S-G1 Sensitivity Adjuster Knob (included)





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11/01

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