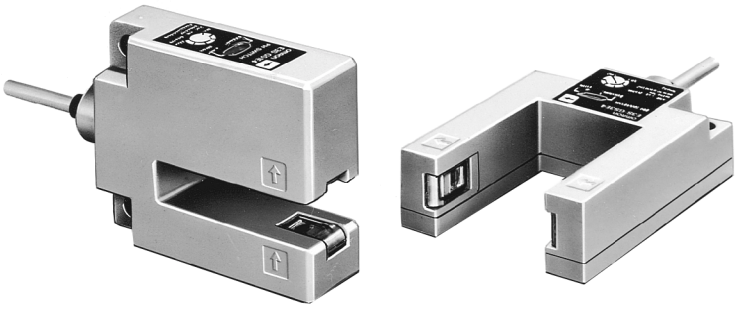
OMRON

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

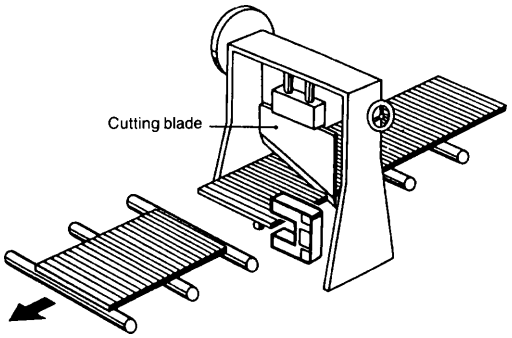
Method of detection		Through-beam, in one-piece grooved head	
Sensing distance		1 cm (0.39 in)	3 cm (1.18 in)
Application		Mark detection	General purpose
Part number	NPN output	**E3S-GS1E4**	**E3S-GS3E4**
	PNP output	**E3S-GS1B4**	**E3S-GS3B4**

■ REPLACEMENT PARTS

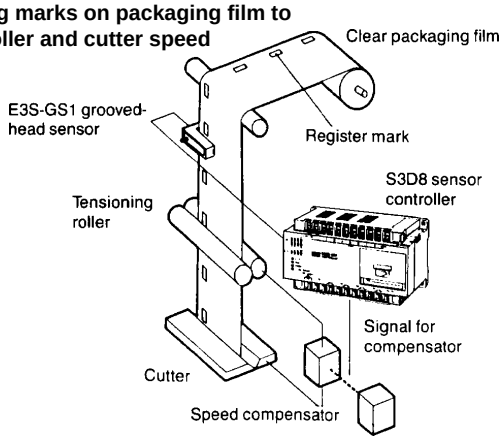
Description	**Part number**
Sensitivity adjuster knob (supplied with each sensor)	**E39-G1**

■ TYPICAL APPLICATIONS

Detecting edge of material to activate cutter



Detecting marks on packaging film to adjust roller and cutter speed

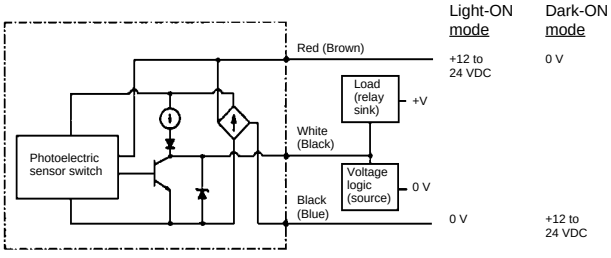


Specifications

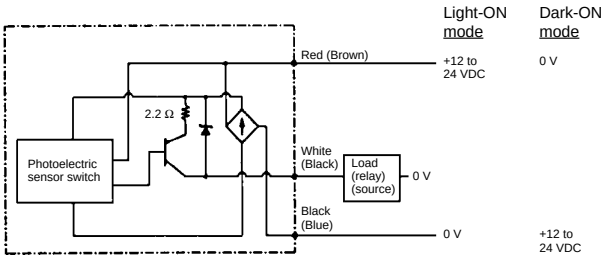
Part number			E3S-GS1□4	E3S-GS3□4
Method of detection			Through-beam, one-piece grooved head	
Supply voltage			12 to 24 VDC	
Current consumption			40 mA max.	
Groove width			1 cm (0.39 in)	3 cm (1.18 in)
Light source			Pulse modulated green LED	Pulse modulated infrared LED
Detectable object type			Marks 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 Voltage (source) logic: 1.5 to 3 mA PNP type: Load (relay, source) logic: 100 mA	
		Max. on-state voltage drop	1 VDC	
Response time		On	1 ms max.	
		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



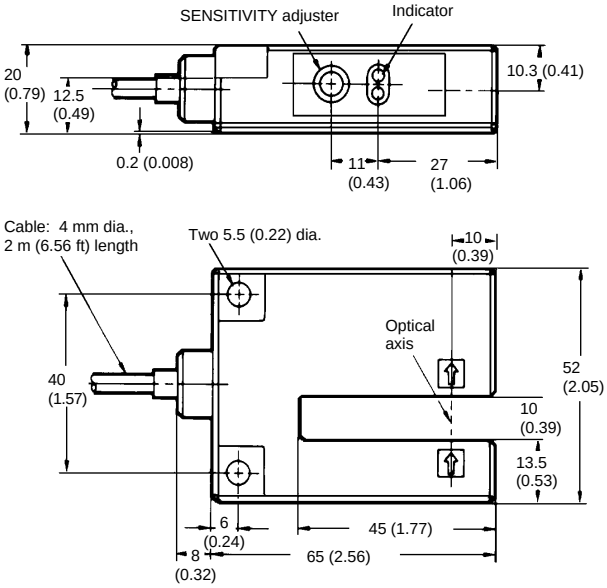
Note: IEC colors are shown in parentheses.

Dimensions

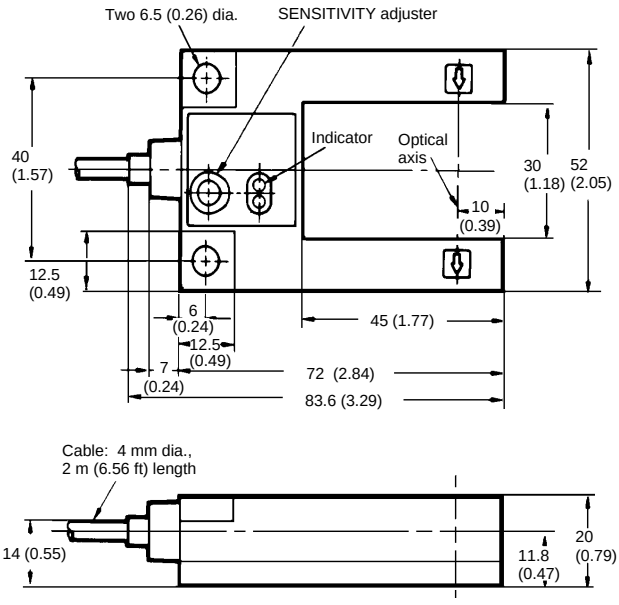
Unit: mm (inch)

■ SENSORS

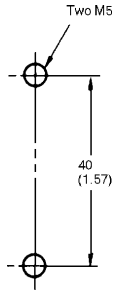
E3S-GS1□4



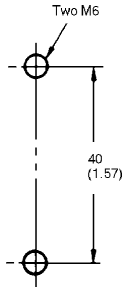
E3S-GS3□4



Mounting holes

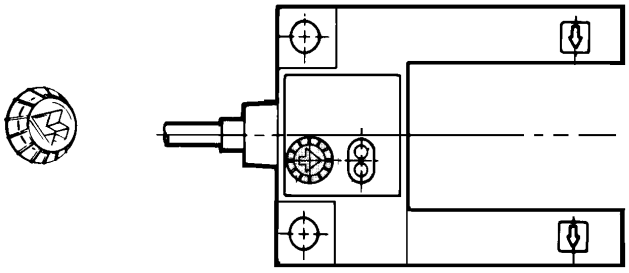


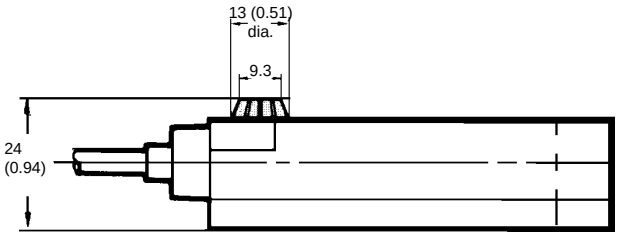
Mounting holes



■ ACCESSORIES

E3S-G1 Sensitivity Adjuster Knob (included)





OMRON

OMRON ELECTRONICS LLC
One East Commerce Drive
Schaumburg, IL 60173
1-800-55-OMRON

OMRON ON-LINE
Global - http://www.omron.com
USA - http://www.omron.com/oei
Canada - http://www.omron.com/oci

OMRON CANADA, INC.
885 Milner Avenue
Scarborough, Ontario M1B 5V8
416-286-6465

Cat. No. CEDSAX4 11/01 Specifications subject to change without notice. Printed in the U.S.A.