

8 mm Metal Cylindrical Photoelectric

E3HT

Threaded Cylindrical M8 Size
with Built-in DC Amplifier

- Rugged Nickel-plated brass housing
- 1 m range through-beam
- Dual output NPN and TTL logic
- Light-ON or Dark-ON models
- Cable and connector models



Ordering Information

■ SENSORS

Method of detection		Through-beam	Diffuse reflective	Connector style
Sensing distance		1 m (3.28 ft)	3.5 cm (1.38 in)	—
Part number	Light-ON operation	E3HT-1E1	E3HT-DS3E1	E3HT-DS3E1-M1J
	Dark-ON operation	E3HT-1E2	E3HT-DS3E2	—

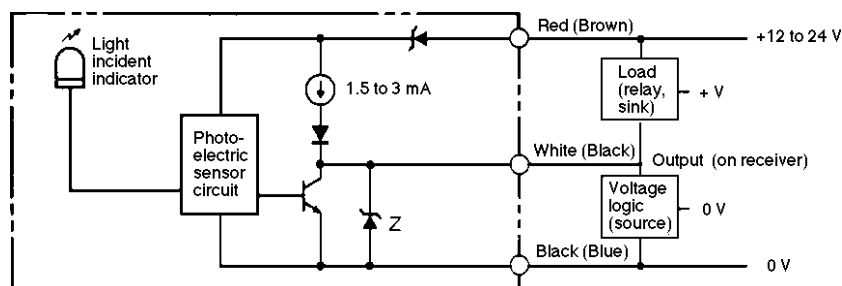
■ REPLACEMENT PARTS

Description	Part number
Mounting hardware set, includes two mounting nuts and lock washers	M8-MHWS

Specifications

Part number			E3HT-1E□		E3HT-D3E□		E3HT-DS3E1-M1J	
Method of detection			Through-beam			Diffuse reflective		
Supply voltage			12 to 24 VDC					
Current consumption			Emitter: 25 mA max.		30 mA max.			
			Receiver: 15 mA max.					
Sensing distance			1 m (3.28 ft)		3.5 cm (1.38 in) with 3 x 3 cm (1.18 x 1.18 in) 90% reflectance white mat paper			
Light source					Pulse modulated infrared LED			
Detectable object type			Opaque materials, 6 mm (0.24 in) min. dimension		Opaque materials			
Operation mode			Light-ON: E3HT-□□□E1 Dark-ON: E3HT-□□□E2					
Sensitivity			Fixed					
Mutual interference protection			Not provided					
Control output	DC solid state	Type	NPN and TTL Logic					
		Max. load	Load (relay, sink) logic: 80 mA Voltage (source) logic: 1.5 to 3 mA					
		Max. on-state voltage drop	1 VDC at 80 mA					
Response time		On	5 ms max.		3 ms max.			
		Off	5 ms max.		3 ms max.			
Circuit protection			Short circuit and reverse polarity protection					
Indicators			Emitter: Power On (red LED) Receiver: Light Incident (red LED)		Light Incident (red LED)			
Materials		Lens	Plastic					
		Case	Metal, nickel-plated brass					
Mounting			M8 threaded body, two nuts and lock washers provided					
Connections		Prewired	Emitter: 2-conductor cable, 2 m (6.56 ft) length Receiver: 3-conductor cable, 2 m (6.56 ft) length		3-conductor cable, 2 m (6.56 ft)			
Weight			Emitter: 40 g (1.4 oz.) Receiver: 45 g (1.6 oz.)		45 g (1.6 oz.)			
Enclosure ratings		UL	1					
		NEMA	1, 3, 4X, 6, 12					
		IEC 144	IP66					
Approvals			CE					
Ambient temperature		Operating	-25° to 55°C (-13° to 131°F)					
		Storage	-30° to 70°C (-22° to 158°F)					

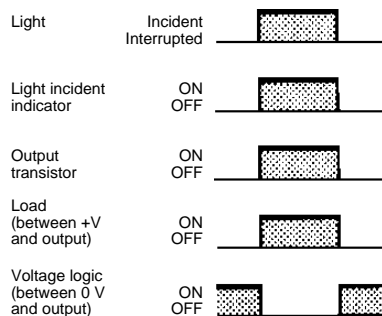
■ OUTPUT CIRCUIT DIAGRAM



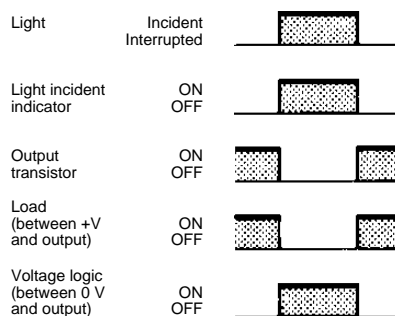
Note: IEC colors are shown in parentheses.

TIMING CHARTS

Light-ON operation mode



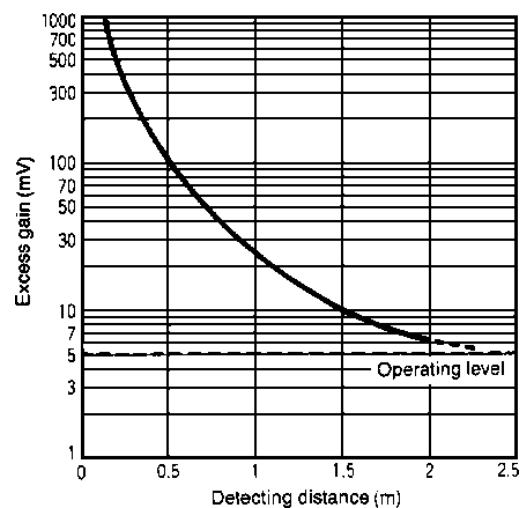
Dark-ON operation mode



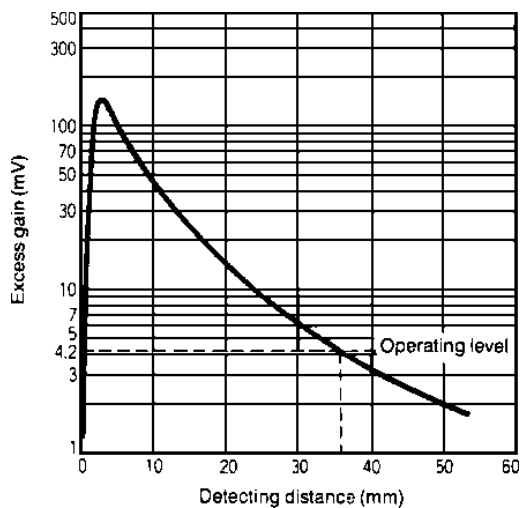
Engineering Data

EXCESS GAIN

Through-beam type

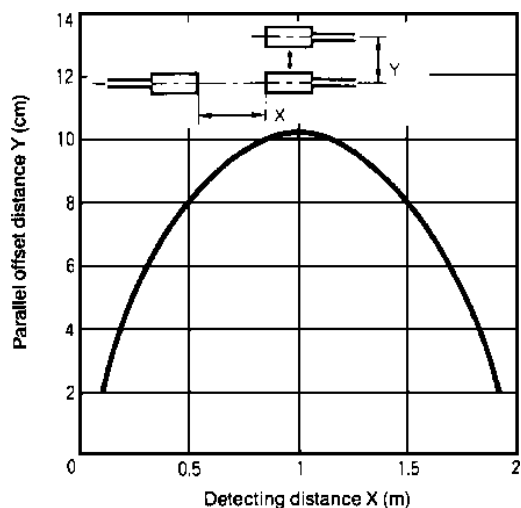


Diffuse reflective type



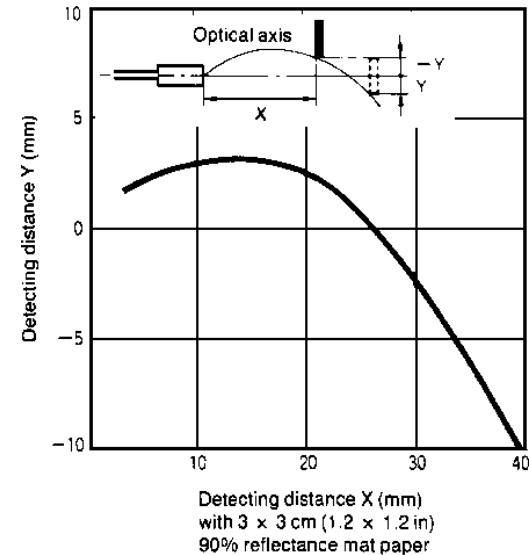
PARALLEL OFFSET

Through-beam type



OPERATING RANGE

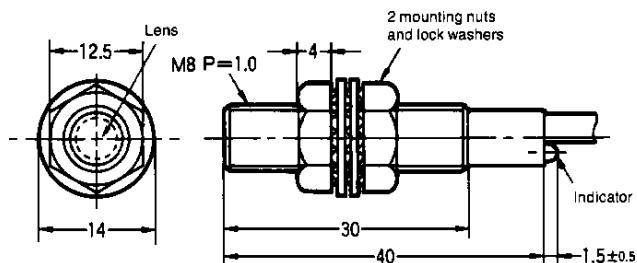
Diffuse reflective type



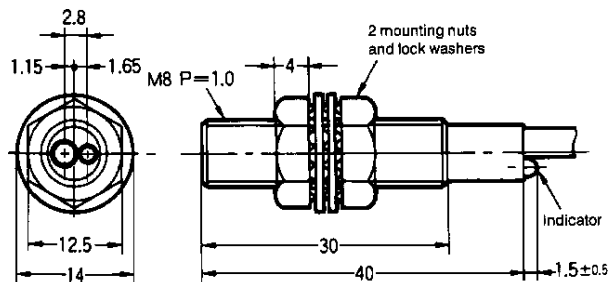
Dimensions

Unit: mm

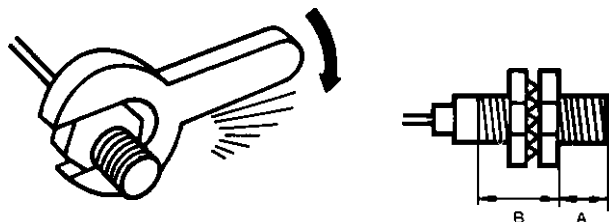
THROUGH-BEAM TYPE



DIFFUSE REFLECTIVE TYPE



Mounting



Do not exceed the torque listed in the table below when tightening the mounting nuts.

Drawing section	A	B
Length	Front 12 mm (0.47 in)	Back 18 mm (0.71 in)
Maximum allowable torque	20 kg-cm 17.3 in-lbs	30 kg-cm 26 in-lbs

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

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