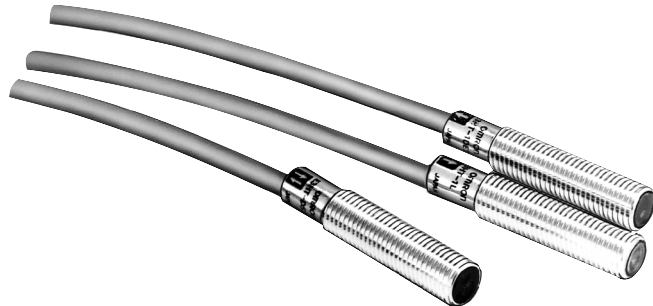


## 8 mm Metal Cylindrical Photoelectric

## 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	<b>E3HT-1E1</b>	<b>E3HT-DS3E1</b>	<b>E3HT-DS3E1-M1J</b>
	Dark-ON operation	<b>E3HT-1E2</b>	<b>E3HT-DS3E2</b>	—

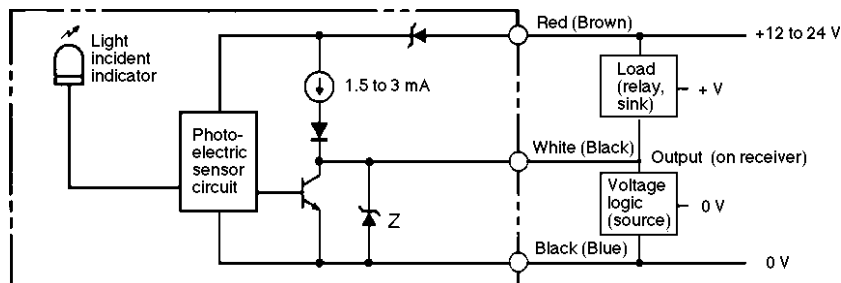
### ■ REPLACEMENT PARTS

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

# 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.)
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)		

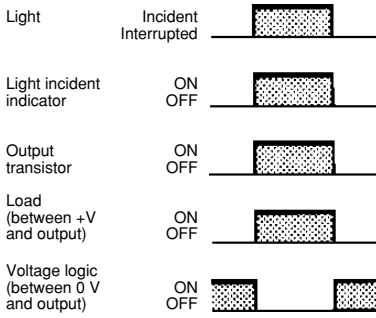
## ■ OUTPUT CIRCUIT DIAGRAM



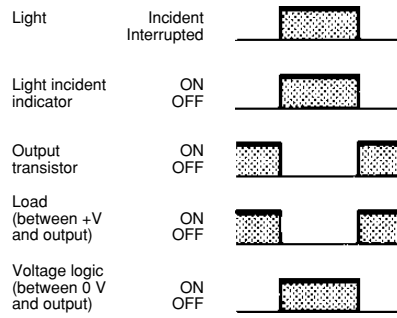
Note: IEC colors are shown in parentheses.

■ TIMING CHARTS

Light-ON operation mode



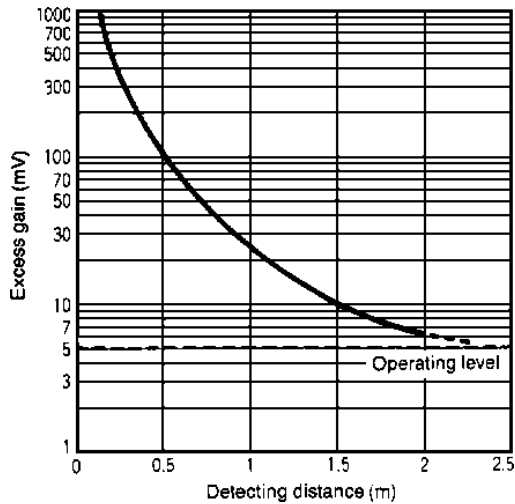
Dark-ON operation mode



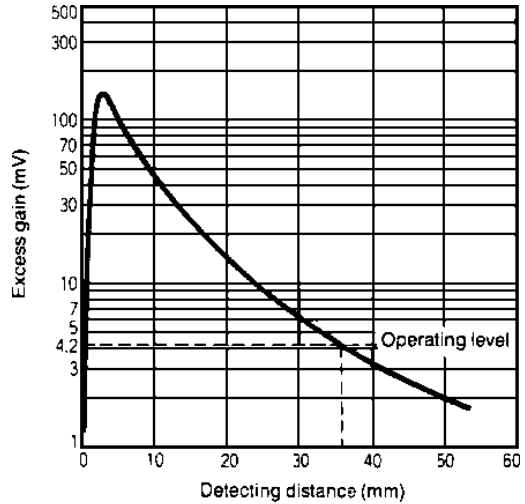
Engineering Data

■ EXCESS GAIN

Through-beam type

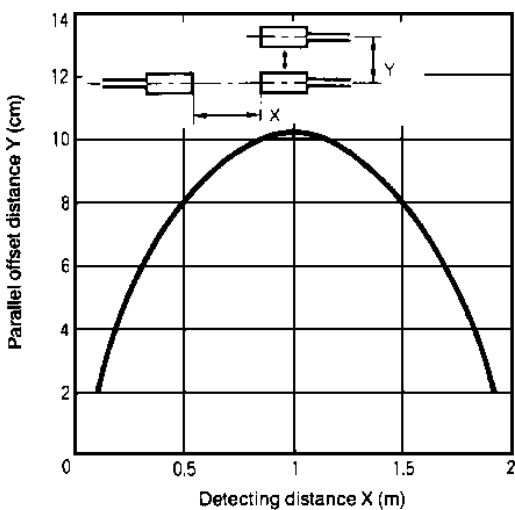


Diffuse reflective type



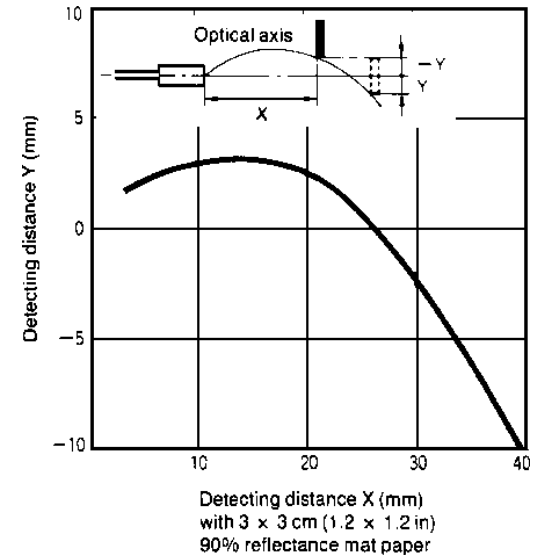
■ PARALLEL OFFSET

Through-beam type



■ OPERATING RANGE

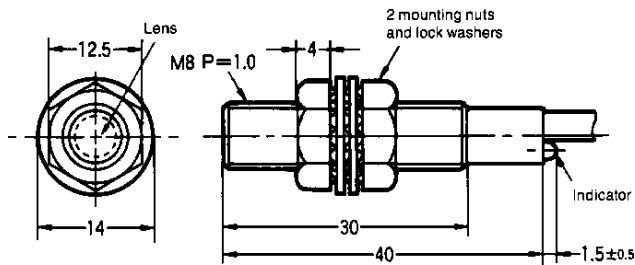
Diffuse reflective type



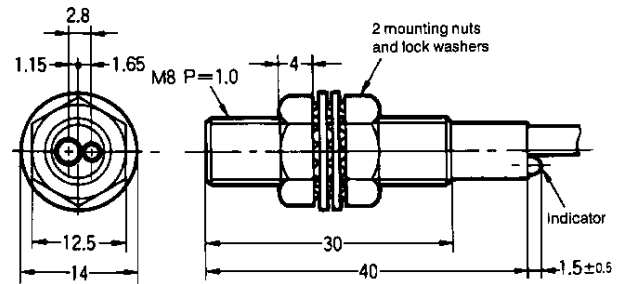
## Dimensions

Unit: mm

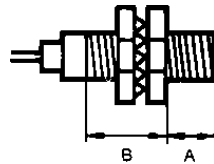
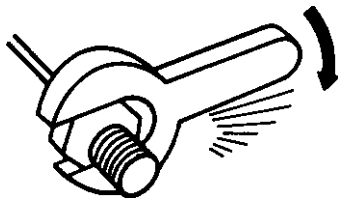
### ■ THROUGH-BEAM TYPE



### ■ 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

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11/01

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