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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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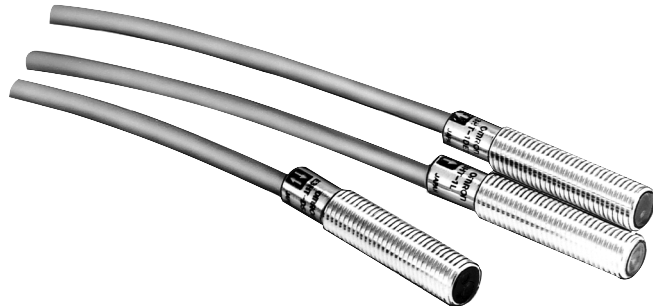


## 8 mm Metal Cylindrical Photoelectric

## 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>	—

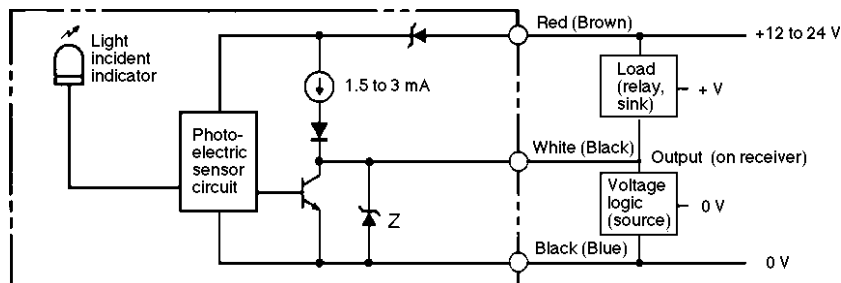
### ■ REPLACEMENT PARTS

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.)	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)		

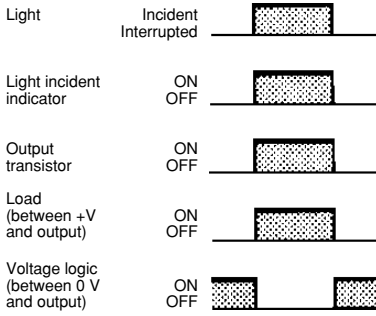
## ■ OUTPUT CIRCUIT DIAGRAM



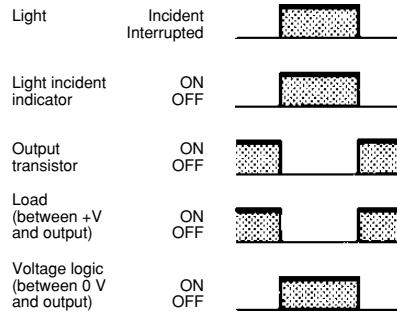
Note: IEC colors are shown in parentheses.

**■ TIMING CHARTS**

**Light-ON operation mode**



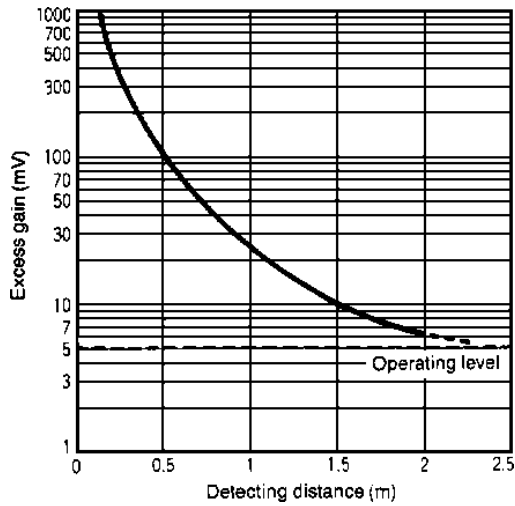
**Dark-ON operation mode**



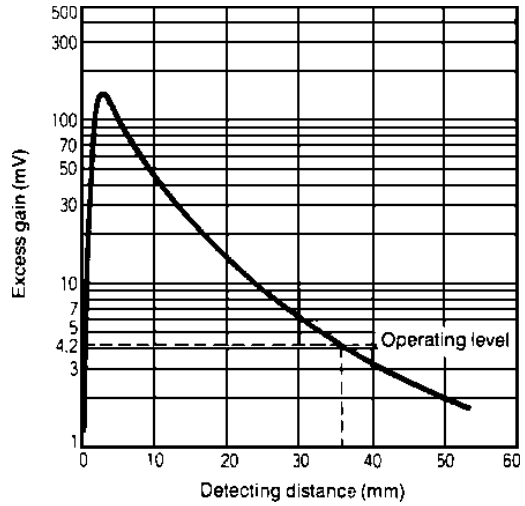
**Engineering Data**

**■ EXCESS GAIN**

**Through-beam type**

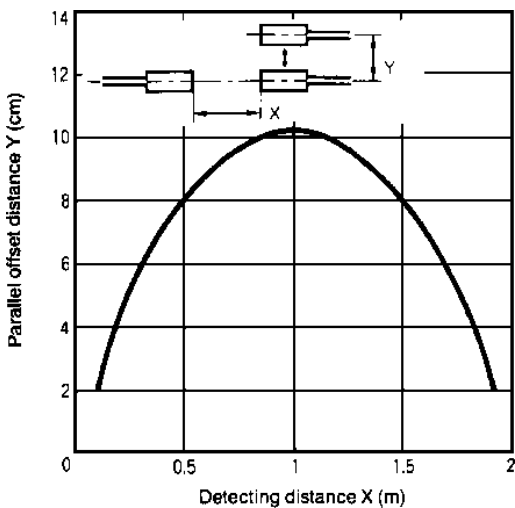


**Diffuse reflective type**



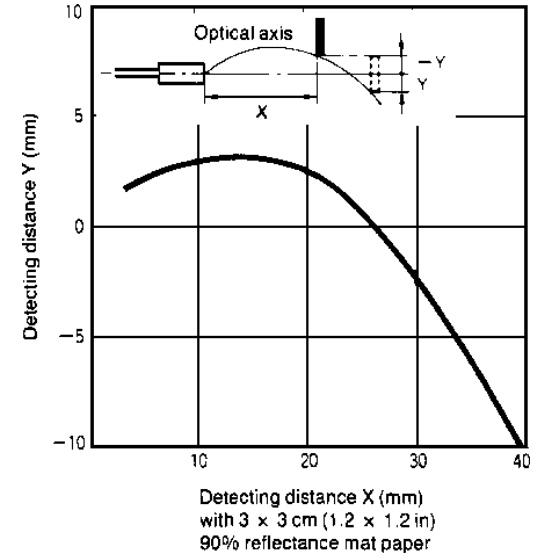
**■ PARALLEL OFFSET**

**Through-beam type**



**■ OPERATING RANGE**

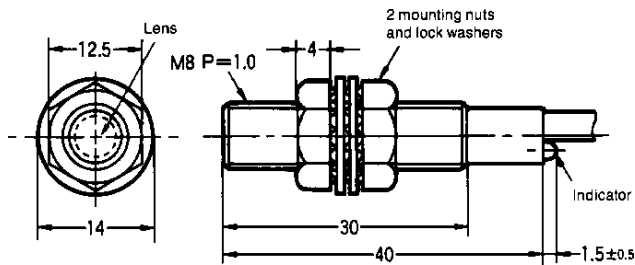
**Diffuse reflective type**



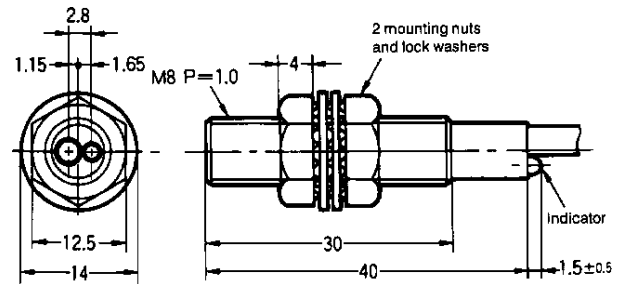
## Dimensions

Unit: mm

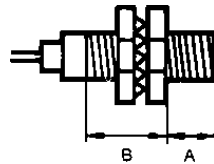
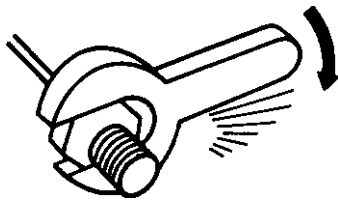
### ■ THROUGH-BEAM TYPE



### ■ 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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Specifications subject to change without notice.

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Printed in the U.S.A.