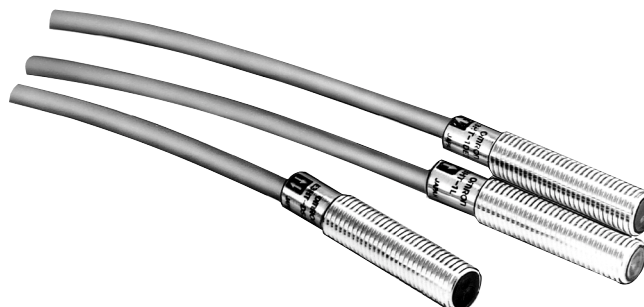


8 mm Metal Cylindrical Photoelectric

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 | — |

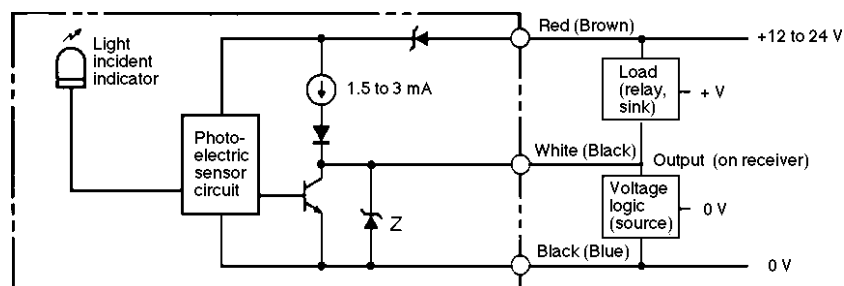
■ REPLACEMENT PARTS

| 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) | | | |

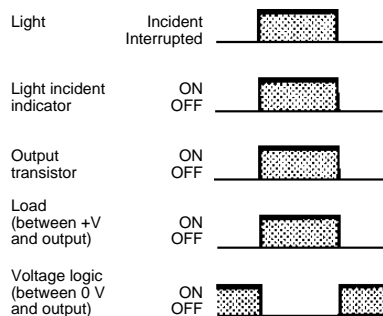
■ OUTPUT CIRCUIT DIAGRAM



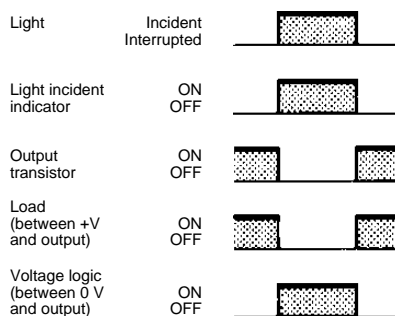
Note: IEC colors are shown in parentheses.

TIMING CHARTS

Light-ON operation mode



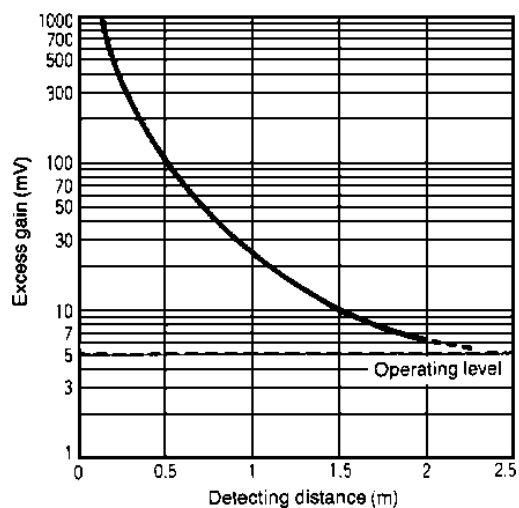
Dark-ON operation mode



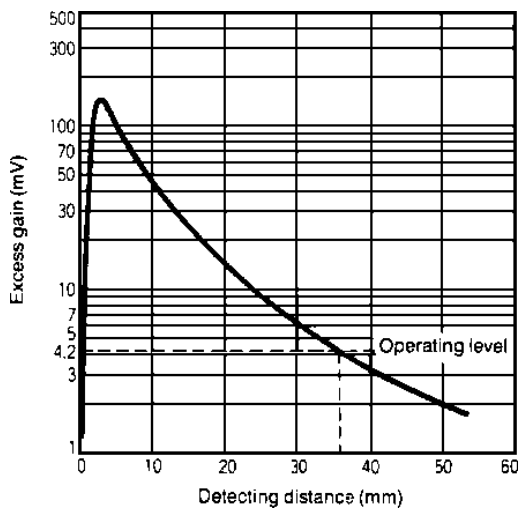
Engineering Data

EXCESS GAIN

Through-beam type

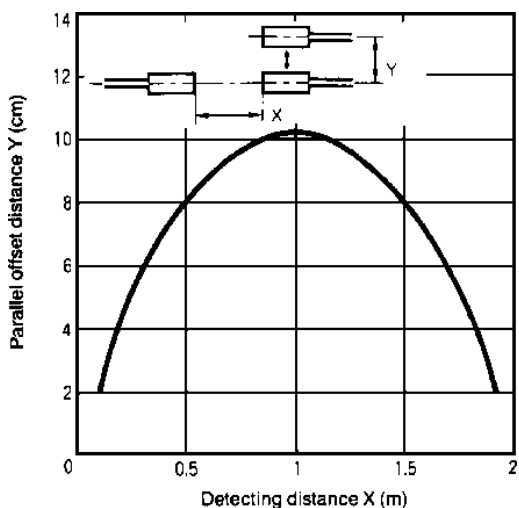


Diffuse reflective type



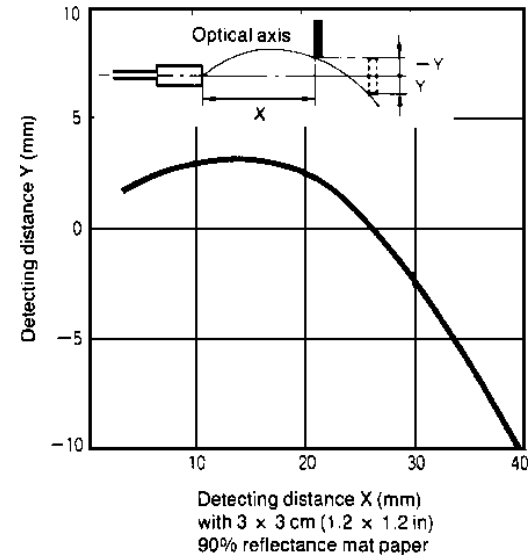
PARALLEL OFFSET

Through-beam type



OPERATING RANGE

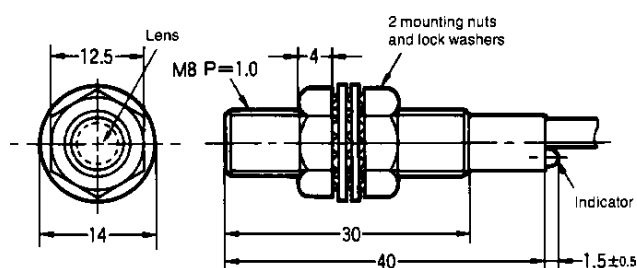
Diffuse reflective type



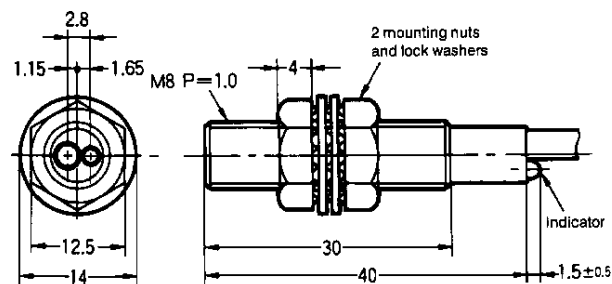
Dimensions

Unit: mm

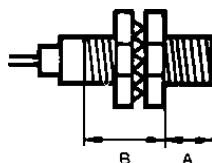
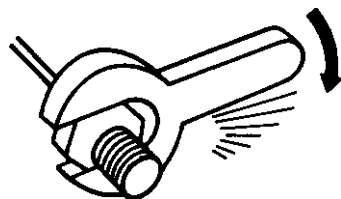
■ THROUGH-BEAM TYPE



■ 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 |

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