OMRON Industrial Automation | Global

Print

Reflective Photomicrosensor with Sensitivity Adjuster (Non-modulated)

# EE-SY672

Image

**Reflective Photomicrosensor with Sensitivity Adjuster, Vertical type**

| | |
|---|---|
| **Type** | Vertical type |
| **Luminous method** | Non-modulated |
| **Sensing method** | Reflective |
| **Sensing distance** | White paper 15 x 15 mm (Reflection factor: 90%): 1 to 5 mm |
| **Control output (Output type)** | NPN open collector output |
| **Operation mode** | Dark-ON/Light-ON (selectable) |
| **Connection method** | Connector type |

## Ratings/Performance

As of March 13, 2024

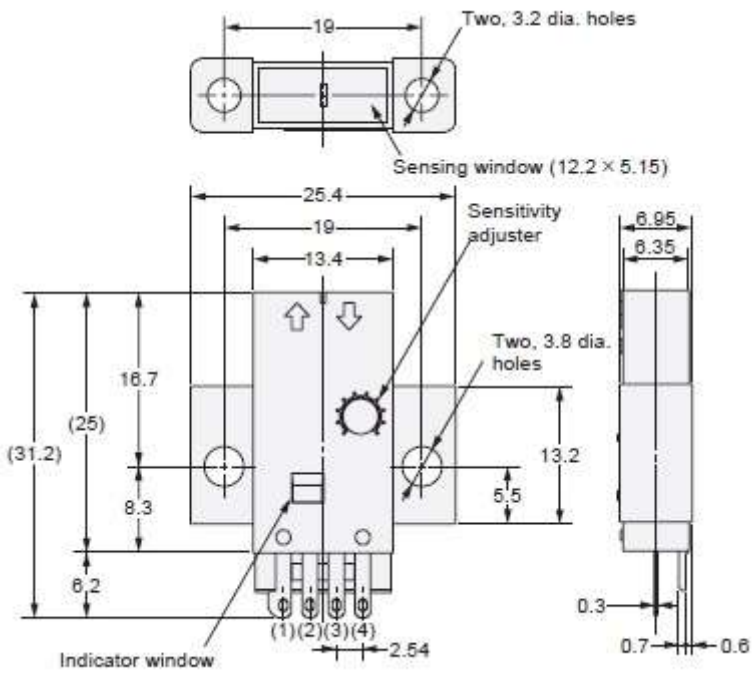
| | | |
|---|---|---|
| **Type** | | Vertical type |
| **Luminous method** | | Non-modulated |
| **Sensing method** | | Reflective |
| **Sensing distance** | | White paper 15 x 15 mm (Reflection factor: 90%): 1 to 5 mm |
| **Operation mode** | | Dark-ON/Light-ON (selectable) |
| **Standard sensing object** | | Transparent or opaque, 15 x 15 mm min. |
| **Differential distance elements** | | Sensing distance of 3 mm, horizontally: 0.5 mm |
| **Light source (Peak wavelength)** | | GaAs infrared LED (940 nm) |
| **Indicator** | | Light indicator (red) |
| **Power supply voltage** | | 5 to 24 VDC ±10%<br>ripple (p-p) 10 % max. |
| **Current consumption** | | 40 mA |
| **Control output** | **Output type** | NPN open collector output |
| | **Load power supply voltage** | 5 to 24 VDC |
| | **Load curren** | 100 mA max. |
| | **Residual voltage** | at 100 mA load current: 0.8 V max.<br>at 40 mA load current: 0.4 V max. |
| **Response frequency elements** | | 50 Hz min.<br>Average value: 500 Hz |
| **Illumination on the surface** | | Fluorescent light: 1500 lx max. |

| | |
|---|---|
| **receiver** | |
| **Ambient temperature** | Operating: -25 to 55 ℃<br>Storage: -30 to 80 ℃ |
| **Ambient humidity** | Operating: 5 to 85 %<br>Storage: 5 to 95 % |
| **Vibration resistance** | Destruction: 20 to 2000 Hz, peak acceleration 100 m/s$^2$, 1.5-mm double amplitude 2 h each in X, Y, and Z directions (4 min periods) |
| **Shock resistance** | Destruction: 500 m/s$^2$ for 3 times each in X, Y, and Z directions |
| **Degree of protection** | IP50 |
| **Connection method** | Connector type (Direct soldering possible) |
| **Weight** | Approx. 3.5 g (including screwdriver for adjustment) |
| **Material** | Case: Polybutylene terephthalate (PBT)<br>Emitter/Receiver: Polycarbonate (PC) |
| **Accessories** | Adjustment Driver |

As of March 13, 2024

## Dimensions

As of March 13, 2024




Terminal array

| | | |
|---|---|---|
| (1) | + | Vcc |
| (2) | L | L |
| (3) | OUT | OUTPUT |
| (4) | – | GND (0 V) |

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I/O Circuit diagram

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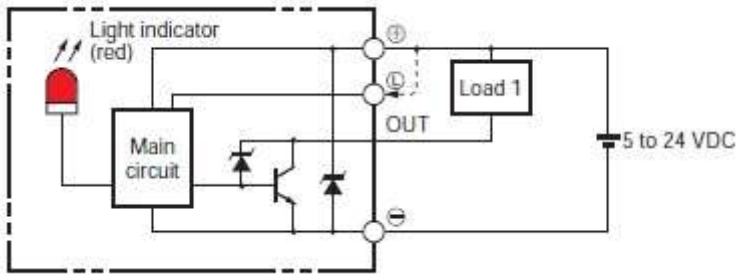
Output circuit




Timing chart

| Output configuration | Timing charts | Terminal connections |
|---|---|---|
| Light-ON | Incident / Interrupted<br>Light indicator (red) ON / OFF<br>Output transistor ON / OFF<br>Load 1 (relay) Operates / Releases | Short-circuited between Ⓛ terminal and positive ⊕ terminal |
| Dark-ON | Incident / Interrupted<br>Light indicator (red) ON / OFF<br>Output transistor ON / OFF<br>Load 1 (relay) Operates / Releases | Open between Ⓛ terminal and positive ⊕ terminal |

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Engineering data (Reference value)

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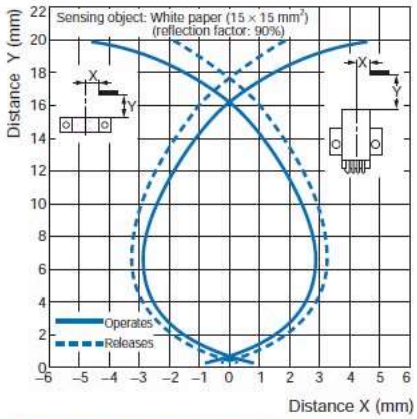
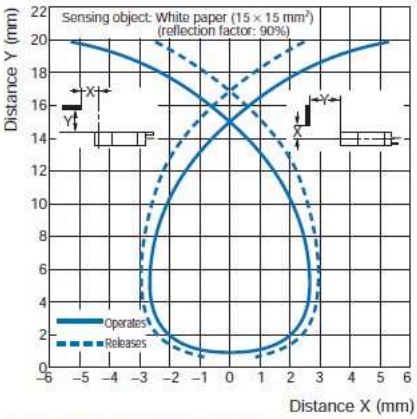
## Operating Range Characteristics (Max. Sensitivity)

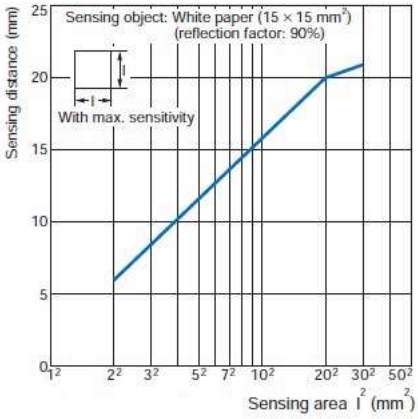
### EE-SY67□



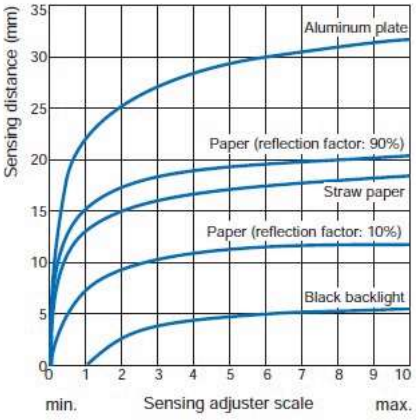

### EE-SY67□




## Sensing Distance vs. Object Area Characteristics




## Sensing Distance vs. Sensitivity Volume

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