

Slot-type Photomicrosensor with connector or pre-wired models (Non-modulated)\*1

## EE-SX672R



Image

**Non-modulated Through-beam type, Grooved Type (T-shaped) Appearance (Slot center 7 mm), Connector type, Sensing distance 5 mm, Dark-ON/Light-ON (selectable), PNP Open collector output**

Type	Grooved Type (T-shaped) (Slot center 7 mm)
Luminous method	Non-modulated
Sensing method	Through-beam type
Sensing distance	5 mm (slot width)
Operation mode	Dark-ON/Light-ON (selectable)
Control output (Output type)	PNP Open collector output
Connection method	Connector type (direct soldering possible)

### Ratings/Performance

As of October 10, 2017

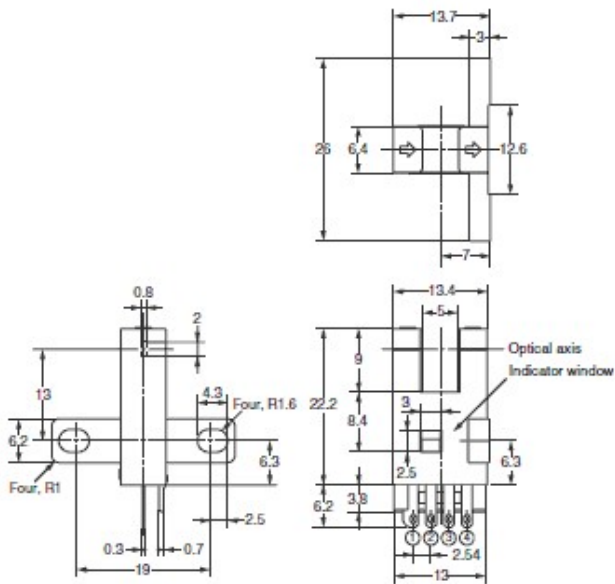
Type	Grooved Type (T-shaped) (Slot center 7 mm)
Luminous method	Non-modulated
Sensing method	Through-beam type
Sensing distance	5 mm (slot width)
Operation mode	Dark-ON/Light-ON (selectable)
Standard sensing object	Opaque object (2 x 0.8 mm min.)
Differential distance elements	0.025 mm max.
Light source (Peak wavelength)	Infrared LED (940 nm)
Indicator	No incident light (red)
Power supply voltage	5 to 24 VDC $\pm 10\%$ (ripple (p-p)10% max.)
Current consumption	12 mA max. (L terminal open)
Control output (Output type)	PNP Open collector output
Control output (Load power supply voltage)	5 to 24 VDC
Control output (Load current)	50 mA max.
Control output (Residual voltage)	1.3 V max. (at 50 mA load current)
Protection circuits	Output short-cut protection
Response frequency elements	1 kHz min. (average 3 kHz) (See "Measurement condition of Response frequency elements")
Illumination on the surface receiver	Fluorescent light: 1000 lx max.

<b>Ambient temperature</b>	Operating: -25 to 55 °C Storage: -30 to 80 °C (with no icing or condensation)
<b>Ambient humidity</b>	Operating: 5 to 85% RH Storage: 5 to 95% RH (with no icing or condensation)
<b>Vibration resistance</b>	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)
<b>Shock resistance</b>	500 m/s**2, 3 times each in X, Y, and Z directions
<b>Degree of protection (IEC60529)</b>	IP50
<b>Connection method</b>	Connector type (direct soldering possible)
<b>Material</b>	Case: Polybutylene phthalate (PBT) Emitter/Receiver Cover: Polycarbonate(PC)

As of October 10, 2017

**Dimensions**

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Caution: All units are in millimeters unless otherwise indicated.

Terminal array

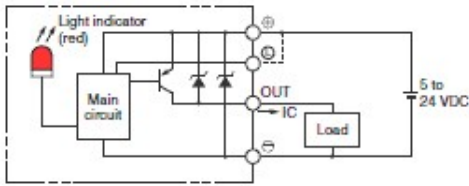
**Terminal Arrangement**

(1)	⊕	Vcc
(2)	L	L
(3)	OUT	OUTPUT
(4)	⊖	GND (0 V)

As of October 10, 2017

I/O Circuit diagram

As of October 10, 2017



Timing chart

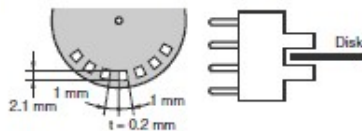
Output configuration	Timing charts	Terminal connections
Light-ON	<p>Incident Interrupted</p> <p>Light indicator (red) ON OFF</p> <p>Output transistor ON OFF</p> <p>Load (e.g., relay) Operates Releases</p>	Short-circuited between $\ominus$ terminal and positive $\oplus$ terminal
Dark-ON	<p>Incident Interrupted</p> <p>Light indicator (red) ON OFF</p> <p>Output transistor ON OFF</p> <p>Load (e.g., relay) Operates Releases</p>	Open between $\ominus$ terminal and positive $\oplus$ terminal

As of October 10, 2017

Measurement condition of Response frequency elements

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The response frequency was measured by detecting the rotating disk

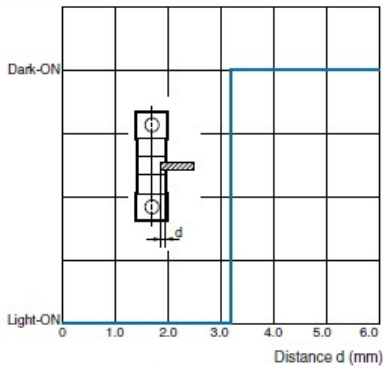


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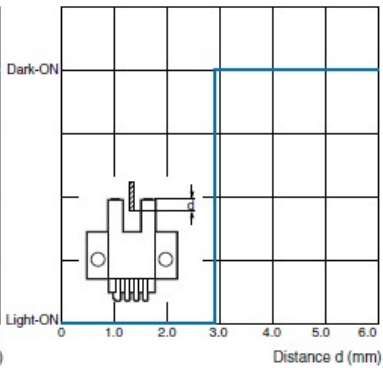
Engineering Data (Typical)

As of October 10, 2017

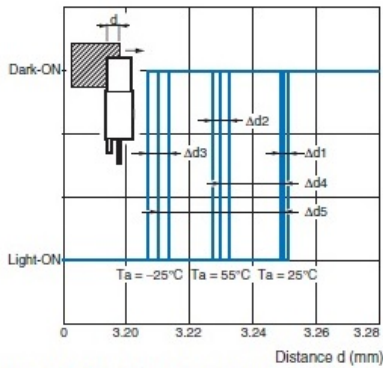
**Sensing Position Characteristics**  
**EE-SX47□/67□**



**Sensing Position Characteristics**  
**EE-SX47□/67□**



**Repeated Sensing Position Characteristics**  
**EE-SX47□/67□**



$V_{CC} = 12\text{ V}$ . No. of repetitions: 20,  $\Delta d1 = 0.002\text{ mm}$ ,  
 $\Delta d2 = 0.004\text{ mm}$ ,  $\Delta d3 = 0.005\text{ mm}$ ,  $\Delta d4 = 0.02\text{ mm}$ ,  
 $\Delta d5 = 0.04\text{ mm}$   
 Note: The data applies to dark status. Operation may be affected by external light interference or light coming through the sensing object.