

## Photomicrosensor with light modulation for reduced external light interference.

- Easy adjustment and optical axis monitoring with a light indicator.
- Wide operating voltage range: 5 to 24 VDC
- Supports connection with Programmable Controllers (PLCs).
- Easy-to-wire connectors assure easy maintenance.



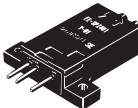
Be sure to read *Safety Precautions* on page 3.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

## Ordering Information

### Sensors

Infrared light

Appearance	Sensing method	Sensing distance			Output type	Output configuration	Model
	Retroreflective type	<div style="border: 1px solid pink; width: 100px; height: 15px; display: inline-block;"></div> 200 mm			NPN output	Dark-ON	<b>EE-SPZ301-A</b>
						Light-ON	<b>EE-SPZ401-A</b>

### Accessories (Order Separately)

Type	Cable length	Model	Remarks
Connector		<b>EE-1002</b>	
Connector with Cable	1 m	<b>EE-1003</b>	
NPN/PNP Conversion Connector	0.46 m (total length)	<b>EE-2001</b>	
Connector Hold-down Clip		<b>EE-1003A</b>	For EE-1003 only.
Reflector		<b>E39-R1</b>	

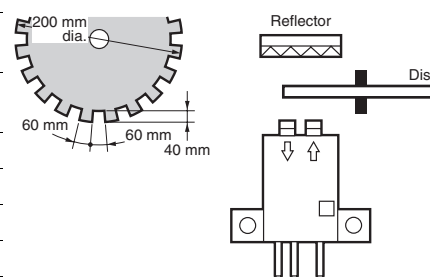
\* Refer to *Accessories* for details.

\* Refer to the *E39-L/E39-S/E39-R Datasheet* for information on Reflectors.

## Ratings and Specifications

Item	Models	EE-SPZ301-A, EE-SPZ401-A
Sensing distance *1		200 mm (using E39-R1 reflector)
Light source		GaAs infrared LED (pulse lighting) with a peak wavelength of 940 nm
Indicator *2		Light indicator (red)
Supply voltage		5 to 24 VDC $\pm 10\%$ , ripple (p-p): 5% max.
Current consumption		Average: 15 mA max., Peak: 50 mA max.
Control output		NPN voltage output Load power supply voltage: 5 to 24 VDC Load current: 80 mA max. OFF current: 0.5 mA max. 80 mA load current with a residual voltage of 1.0 V max. 10 mA load current with a residual voltage of 0.4 V max.
Response frequency *3		100 Hz min.
Ambient illumination		3,000 lx max. with incandescent light or sunlight on the surface of the receiver
Ambient temperature range		Operating: $-10$ to $+55^{\circ}\text{C}$ Storage: $-25$ to $+65^{\circ}\text{C}$
Ambient humidity range		Operating: 5% to 85% Storage: 5% to 95%
Vibration resistance		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 h each in X, Y, and Z directions
Shock resistance		Destruction: 500 m/s <sup>2</sup> for 3 times each in X, Y, and Z directions
Degree of protection		IEC IP50
Connecting method		Special connector (soldering not possible)
Weight (packaged)		Approx. 3 g
Material	Case	Polycarbonate
	Lens	

\*1. Operation may not be possible near the sensor.  
 \*2. The indicator is a GaP red LED (peak wavelength: 700 nm).  
 \*3. The response frequency was measured by detecting the following rotating disk.



## Engineering Data (Reference Value)

### Receiver Output Excess Gain vs. Sensing Distance Characteristics

EE-SPZ301-A } + E39-R1 Reflector  
 EE-SPZ401-A }

