Retroreflective Photomicrosensor with Lens

EE-SPZ-A

CSM_EE-SPZ-A_DS_E_5_2

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.

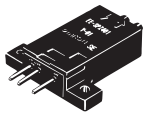
⚠ Be sure to read *Safety Precautions* on page 3.

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	200 mm	NPN output	Dark-ON	**EE-SPZ301-A**
				Light-ON	**EE-SPZ401-A**

Accessories (Order Separately)

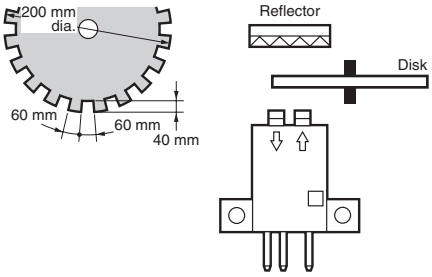
Type		Cable length	Model	Remarks
Connector			**EE-1002**	
	Connector with Cable	1 m	**EE-1003**	
NPN/PNP Conversion Connector		0.46 m (total length)	**EE-2001**	
Connector Hold-down Clip			**EE-1003A**	For EE-1003 only.
Reflector			**E39-R1**	

* 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 ±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°C Storage: −25 to +65°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^2 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
EE-SPZ401-A } **+ E39-R1 Reflector**