I/O Circuits

NPN Output

Model	Output configuration	Timing charts	Output circuit
EE-SPZ401-A	Light-ON	Incident / Interrupted; Light indicator (red) ON/OFF; Output transistor ON/OFF; Load 1 (relay) Operates/Releases; Load 2 H/L	
EE-SPZ301-A	Dark-ON	Incident / Interrupted; Light indicator (red) ON/OFF; Output transistor ON/OFF; Load 1 (relay) Operates/Releases; Load 2 H/L	

Output circuit (shown for EE-SPZ401-A): Light indicator (red); Main circuit; 1.5 to 3 mA; OUT; Ic; Load 1; Load 2 *; 5 to 24 VDC

∗ Voltage output (when the sensor is connected to a transistor circuit)

Safety Precautions

Refer to *Warranty and Limitations of Liability*.

⚠ WARNING

**This product is not designed or rated for ensuring safety of persons either directly or indirectly.
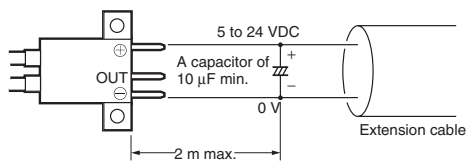Do not use it for such purposes.**

Precautions for Correct Use

Make sure that this product is used within the rated ambient environment conditions.

● Wiring

- Connection is made using a connector. Do not solder to the pins (leads).
- When extending the cable, use an extension cable with conductors having a total cross-section area of 0.3 mm^2. The total cable length must be 2 m maximum.
- To use a cable length longer than 2 m, attach a capacitor with a capacitance of approximately 10 μF to the wires as shown below. The distance between the terminal and the capacitor must be within 2 m. (Use a capacitor with a dielectric strength that is at least twice the Sensor's power supply voltage.)

OUT; 5 to 24 VDC; A capacitor of 10 μF min.; 0 V; Extension cable; 2 m max.

- Make sure the total length of the power cable connected to the product is less than 10 m even if a capacitor is inserted.

Dimensions

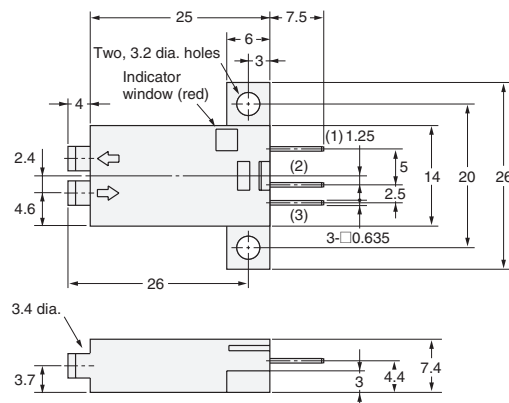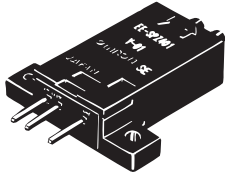Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

Sensors

EE-SPZ301-A
EE-SPZ401-A

Two, 3.2 dia. holes
Indicator window (red)

25
7.5
6
3
4
2.4
4.6
(1) 1.25
(2)
(3)
5
2.5
14
20
26
3-□0.635
26

3.4 dia.
3.7
3
4.4
7.4

Terminal Arrangement

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

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