

I/O Circuits

NPN Output

| Model | Output configuration | Timing charts | Output circuit |
|-------------|----------------------|---|--|
| EE-SPZ401-A | Light-ON | <p>Incident Interrupted</p> <p>Light indicator (red) ON OFF</p> <p>Output transistor ON OFF</p> <p>Load 1 (relay) Operates Releases</p> <p>Load 2 H L</p> | <p>* Voltage output (when the sensor is connected to a transistor circuit)</p> |
| EE-SPZ301-A | Dark-ON | <p>Incident Interrupted</p> <p>Light indicator (red) ON OFF</p> <p>Output transistor ON OFF</p> <p>Load 1 (relay) Operates Releases</p> <p>Load 2 H L</p> | |

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.

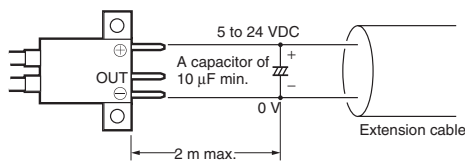


Precautions for Correct Use

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 mm². 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.)



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

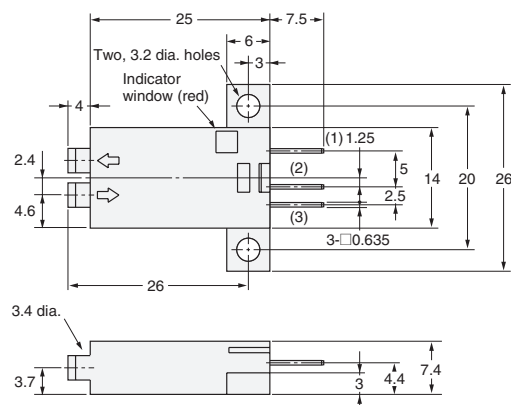
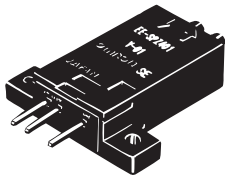
(Unit: mm)

Dimensions

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

Sensors

EE-SPZ301-A
EE-SPZ401-A



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.