Super-accurate sensing by laser beams!

Regardless of background objects

- Spot size 1 mm (0.039 in) or less (visual reference value at a sensing distance of 50 mm 1.969 in)
- Sensing range 50 mm (1.969 in)
- Equipped with sensitivity adjuster
  - Sensitivity adjuster allows you to adjust sensitivity to avoid sensing background objects when the distance between the workpiece and background objects is small.

Even for thin workpieces

- Spot size Approx. 1 × 5 mm (0.039 × 0.197 in) or less (visual reference value at a sensing distance of 50 mm 1.969 in)
- Sensing range 70 mm (2.756 in)

Spot type (EX-L261)
Line spot type (EX-L262)

- Sensing unevenly-colored workpieces
- Sensing thin workpiece such as PCB
- Sensing glossy or curved-surface workpiece

- Not affected by the background, and able to reliably sense unevenly-colored workpieces.
- Able to sense only the top 0.3 mm 0.012 in thick PCB.
- Line spot type is able to sense glossy or curved-surface workpieces, such as metallic pipes.
### ORDER GUIDE

<table>
<thead>
<tr>
<th>Type</th>
<th>Appearance</th>
<th>Sensing range (Note)</th>
<th>Model No.</th>
<th>Emission spot size (Typical)</th>
<th>Sensitivity adjuster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convergent reflective</td>
<td>Spot</td>
<td>20 to 50 mm 0.787 to 1.969 in (Convergent point: 22 mm 0.886 in)</td>
<td>EX-L261</td>
<td>ø1 mm ø0.039 in or less (at a sensing distance of 50 mm 1.969 in)</td>
<td>Incorporated</td>
</tr>
<tr>
<td></td>
<td>Line spot</td>
<td>20 to 70 mm 0.787 to 2.756 in (Convergent point: 22 mm 0.886 in)</td>
<td>EX-L262</td>
<td>EX-L262-P</td>
<td>Approx. 1 × 5 mm 0.039 × 0.197 in (at a sensing distance of 50 mm 1.969 in)</td>
</tr>
</tbody>
</table>

Note: The sensing range is specified for white non-glossy paper (100 × 100 mm 3.937 × 3.937 in) as the object.

**M8 pigtailed type and 5 m 16.404 ft cable length type**

M8 pigtailed type and 5 m 16.404 ft cable length type (standard: 2 m 6.562 ft) are also available. When ordering these types, suffix “-J” for the M8 pigtailed type, “-C5” for the 5 m 16.404 ft cable length type to the model No. Please order the mating cable the M8 pigtailed type separately.

(e.g.) M8 pigtailed type of EX-L261-P is “EX-L261-P-J”. 5 m 16.404 ft cable length type of EX-L261-P is “EX-L261-P-C5”.

**Options**

- **Mating cable**
  - Type | Model No. | Cable length
  - Straight | CN-24A-C2 | 2 m 6.562 ft
  - CN-24A-C5 | 5 m 16.404 ft
  - Elbow | CN-24AL-C2 | 2 m 6.562 ft
  - CN-24AL-C5 | 5 m 16.404 ft

**Accessories**

- MS-EXL2-3 (Mounting plate for reflective type): 1 pc.

**Precautions for Proper Use**

- This catalog is a guide to select a suitable product. Be sure to read the instruction manual attached to the product prior to its use.

- Never use this product as a sensing device for personnel protection.

- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

- This product is classified as a Class 1 Laser Product in IEC / JIS / FDA regulations 21 CFR 1040.10 and 1040.11 Laser Notice No.50. Do not look at the laser beam through optical system such as a lens.

**Mounting**

- When mounting this sensor, use a mounting plate (MS-EXL2-3). Without using the mounting plate, beam misalignment may occur. Also, install the mounting plate in between the sensor and the mounting surface.

- The tightening torque should be 0.5 N·m or less.

  Note: The mounting direction of the mounting plate is fixed. Install in a way so that the bending shape is facing the sensor side.
**I/O CIRCUIT DIAGRAMS**

### NPN output type

**I/O circuit diagrams**

- **Color code of wire / Terminal No. of pigtailed type**
  - Convergent reflective: Connect > V or, Open
  - Dark-On: Connect to 0 V

- **Input (Note 1, 2)**
  - (Brown / 1) +V
  - (Pink / 2) Output operation switching input (Note 1, 2)
  - (Brown / 1) +V
  - (Pink / 2) Output operation switching input (Note 1, 2)

- **Connecter pin position (pigtailed type)**
  - 1: Sensing mode selection input
  - 2: Output

### PNP output type

**I/O circuit diagrams**

- **Color code of wire / Terminal No. of pigtailed type**
  - Convergent reflective: Connect > V or, Open
  - Dark-On: Connect to 0 V

- **Input (Note 1, 2)**
  - (Brown / 1) +V
  - (Pink / 2) Output operation switching input (Note 1, 2)
  - (Brown / 1) +V
  - (Black / 4) Output

Notes: 1) Be able to select either Light-On or Dark-On by wiring the output operation switching input (pink / 2) as shown in the following table.

- **Type**
  - Light-On
  - Dark-On

- **Convergent reflective**
  - Connect > V or, Open
  - Connect to 0 V

- **Input**
  - (Brown / 1) +V
  - (Pink / 2) Output operation switching input (Note 1, 2)
  - (Brown / 1) +V
  - (Black / 4) Output

**Connector pin position (pigtailed type)**

1. Sensing mode selection input
2. Output

### SENSING CHARACTERISTICS (TYPICAL)

**EX-L261**

- **Convergent reflective**

**Sensing field**

- **Horizontal (left and right) direction**
  - Max. sensitivity: 100 mm x 3.937 mm
  - Normal sensitivity: 100 mm x 3.937 mm

- **Vertical (up and down) direction**
  - Max. sensitivity: 100 mm x 3.937 mm
  - Normal sensitivity: 100 mm x 3.937 mm

**Correlation between material and sensing range**

- The bars in the graph indicate the sensing range (typical) for the respective material. However, there is a slight variation in the sensing range depending on the product.

- Further, there is a reflective object (conveyor, etc.) in the background of the sensing object, since it affects the sensing, separate it by more than twice the sensing range shown in the left graph, or adjust the sensitivity adjuster.

- Make sure to confirm detection with an actual sensor.
**SENSING CHARACTERISTICS (TYPICAL)**

**EX-L262□**

- Convergent reflective

**Sensing field**

- Horizontal (left and right) direction
- Vertical (up and down) direction

**Emitted beam**

- Max. sensitivity
- Normal sensitivity

**Correlation between lightness and sensing range**

- Lightness shown on the left may differ slightly from the actual object condition.

**DIMENSIONS (Unit: mm in)**

**EX-L261(P) - EX-L262(P)**

- Stability indicator (Green)
- Operation indicator (Orange)
- Sensitivity adjuster
- Receiving part
- Emitting part

**MS-EXL2-3**

- Mounting plate (Accessory for EX-L26□)

**Assembly dimensions**

- Mounting drawing with MS-EXL2-1

<table>
<thead>
<tr>
<th>Material: Stainless steel (SUS304)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two M3 (length 14 mm 0.551 in) screws with washers [stainless steel (SUS304)] are attached.</td>
</tr>
</tbody>
</table>

**EX-L200 SERIES**

- Thru-beam type
- Retroreflective type
- Spot reflective type

**Contact Information**

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