Compact Multi-voltage Photoelectric Sensor

Multi-voltage

The NX5 series can operate at 24 to 240 V AC or 12 to 240 V DC, which is suitable for supply voltages around the world.

Compact size

Despite being multi-voltage, it has a depth of just 35 mm. (W18 × H62 × D35 mm W0.709 × H2.441 × D1.378 in)

Long sensing range

It is most suitable for conveyor lines and parking lot applications.

Thru-beam

10 m 32.808 ft (Red LED)
10 m 98.425 ft (Infrared LED)

5 m 16.404 ft (Red LED with polarizing filters)

Retroreflective

7 m 22.966 ft (Infrared LED)

Diffuse reflective

700 mm 27.559 in (Infrared LED)

Multi-voltage photoelectric sensor usable worldwide

No need to arrange a DC power supply.

Compact Multi-voltage Photoelectric Sensor
Power Supply Built-in

NX5 SERIES

panasonic.net/id/pidsx/global

multi-voltage prevention

BASIC PERFORMANCE

High reliability

It has an IP66 protection. Moderate dust or water splashes will not affect the sensor. The hermetically sealed output relay significantly increases its reliability.

Hermetically sealed relay eliminates worries about bad contact

FUNCTIONS / MOUNTING

Easy alignment

The 10 m 32.808 ft thru-beam type sensor and the 5 m 16.404 ft retroreflective type sensor incorporate a red LED beam source. Beam alignment can be attained by checking the emitted beam visually.

Interference prevention

Two sensors can operate normally even if mounted close together.
(Excluding the 30 m 98.425 ft thru-beam type sensor)
## APPLICATIONS

- Detecting car position at parking garage
- Detecting objects on conveyor line

### ORDER GUIDE

<table>
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<tr>
<th>Type</th>
<th>Appearance</th>
<th>Sensing range</th>
<th>Model No. (Note 2, 3)</th>
<th>Emitting element</th>
<th>Output</th>
</tr>
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<tbody>
<tr>
<td>Thru-beam</td>
<td></td>
<td>10 m 32.808 ft</td>
<td>NX5-M10RA</td>
<td>Red LED</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 m 98.425 ft</td>
<td>NX5-M10RB</td>
<td>Infrared LED</td>
<td></td>
</tr>
<tr>
<td>Long sensing range</td>
<td></td>
<td>0.1 to 5 m 0.328 to 16.404 ft</td>
<td>NX5-PRVM5A</td>
<td>Red LED</td>
<td>Relay contact 1c</td>
</tr>
<tr>
<td>Retroreflective</td>
<td></td>
<td>0.1 to 7 m 0.328 to 22.966 ft</td>
<td>NX5-PRVM5B</td>
<td>Infrared LED</td>
<td></td>
</tr>
<tr>
<td>Diffuse reflector</td>
<td></td>
<td>700 mm 27.559 in</td>
<td>NX5-D700A</td>
<td>Infrared LED</td>
<td></td>
</tr>
</tbody>
</table>

### NOTES:

1) The sensing range of the retroreflective type sensor is specified for the RF-230 reflector. Further, the sensing range is the possible setting range for the reflector. The sensor can detect an object less than 0.1 m 0.328 ft away.

2) The model No. with “P” shown on the label affixed to the thru-beam type sensor is the emitter, “D” shown on the label is the receiver.

3) Light-ON type sensor (model No. with suffix “A”) and Dark-ON type sensor (model No. with suffix “B”) are available in the NX5 series. For the following models, in case of power off, the output relay condition is the same as when an object is detected. (In case of power supply line disconnection, the output operation is the same as when an object is detected.) Refer to “I/O CIRCUIT DIAGRAM AND OUTPUT OPERATION (p.405)” for the output operation of each model.

### 5 m 16.404 ft cable length type

5 m 16.404 ft cable length type (standard: 2 m 6.562 ft) is also available. When ordering this type, suffix “-C5” to the model No. (e.g.) 5 m 16.404 ft cable length type of NX5-M10RA is “NX5-M10RA-C5”.

### ACCESSORY

- RF-230 (Reflector)

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Ramco National  
www.PanasonicSensors.com  
1-800-280-6933
Compact Multi-voltage Photoelectric Sensor NX5 SERIES

### OPTIONS

<table>
<thead>
<tr>
<th>Designation</th>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor mounting bracket</td>
<td>MS-NX5-1</td>
<td>Foot angled mounting bracket (The thru-beam type sensor needs two brackets.)</td>
</tr>
<tr>
<td></td>
<td>MS-NX5-2</td>
<td>Foot biangled mounting bracket (sensor protection bracket) (The thru-beam type sensor needs two brackets.)</td>
</tr>
<tr>
<td></td>
<td>MS-NX5-3</td>
<td>Back angled mounting bracket (The thru-beam type sensor needs two brackets.)</td>
</tr>
<tr>
<td>Slit mask (For thru-beam type sensor only)</td>
<td>OS-NX5-3×6 (Slit size 3 × 6 mm 0.118 × 0.236 in)</td>
<td>S slit on one side • Sensing range: 3 m 9.843 ft [NX5-M10□] 16 m 52.493 ft [NX5-M30□] • Min. sensing object: ø10 mm ø0.394 in [NX5-M10□] ø20 mm ø0.787 in [NX5-M30□] S slit on both sides • Sensing range: 1 m 3.281 ft [NX5-M10□] 6 m 19.685 ft [NX5-M30□] • Min. sensing object: 3 × 6 mm 0.118 × 0.236 in</td>
</tr>
<tr>
<td>Interference prevention filter (For NX5-M10RA or NX5-M10RB only)</td>
<td>PF-NX5-V (Vertical, Silver)</td>
<td>Same type of filters on both sides • Sensing range: 5 m 16.404 ft • Min. sensing object: ø20 mm ø0.787 in (One set consists of 2 pcs. of interference prevention filters.)</td>
</tr>
<tr>
<td></td>
<td>PF-NX5-H (Horizontal, Light brown)</td>
<td></td>
</tr>
<tr>
<td>Reflective tape (For retroreflective type sensor only)</td>
<td>RF-210</td>
<td>• Sensing range: 0.1 to 1.5 m 0.328 to 4.921 ft [NX5-PRVM5□] 0.1 to 2.5 m 0.328 to 8.202 ft [NX5-M10□] • Min. sensing object: ø30 mm ø1.181 in</td>
</tr>
<tr>
<td></td>
<td>RF-220</td>
<td>• Sensing range: 0.1 to 3.5 m 0.328 to 11.483 ft [NX5-PRVM5□] 0.1 to 5 m 0.328 to 16.404 ft [NX5-M30□] • Min. sensing object: ø35 mm ø1.378 in</td>
</tr>
<tr>
<td>Reflective mounting bracket</td>
<td>MS-RF21-1</td>
<td>Protective mounting bracket for RF-210 It protects the reflector from damage and maintains alignment.</td>
</tr>
<tr>
<td></td>
<td>MS-RF22</td>
<td>For RF-220</td>
</tr>
<tr>
<td></td>
<td>MS-RF23</td>
<td>For RF-230</td>
</tr>
<tr>
<td>Reflective tape (For retroreflective type sensor only)</td>
<td>RF-11</td>
<td>• Ambient temperature: –25 to +50 °C –13 to +122 °F • Ambient humidity: 35 to 85 % RH Notes: • Keep the tape free from stress. If it is pressed too much, its capability may deteriorate. • Do not cut the tape. It will deteriorate the sensing performance.</td>
</tr>
<tr>
<td></td>
<td>RF-12</td>
<td>• Sensing range: 0.1 to 0.8 m 0.328 to 2.63 ft [NX5-PRVM5□] 0.1 to 1 m 0.328 to 3.281 ft [NX5-M30□] • Sensing range: 0.1 to 1.5 m 0.328 to 4.921 ft [NX5-M10□]</td>
</tr>
<tr>
<td>Sensor checker (Note)</td>
<td>CHX-SC2</td>
<td>It is useful for beam alignment of thru-beam type sensors. The optimum receiver position is given by indicators, as well as an audio signal.</td>
</tr>
</tbody>
</table>

Note: Refer to p.980 for details of the sensor checker CHX-SC2.

### Sensor mounting bracket

- **MS-NX5-1**
- **MS-NX5-2**
- **MS-NX5-3**

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

### Interference prevention filter

- **PF-NX5-V (Vertical, Silver) only**
- **PF-NX5-H (Horizontal, Light brown)**

Two sets of thru-beam type sensors (Red LED type) can be mounted close together.

### Reflective mounting bracket

- **MS-RF23**
- **MS-RF22**
- **MS-RF21-1**

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

### Reflective tape

- **RF-11**
- **RF-12**

### Sensor checker

- **CHX-SC2**
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>Thru-beam</th>
<th>Retroreflective</th>
<th>Diffuse reflective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Model No.</td>
<td>Long sensing range</td>
<td>With polarizing filters</td>
</tr>
<tr>
<td>Sensing range</td>
<td>NX5-M10RA</td>
<td>10 m 32.808 ft</td>
<td>0.1 to 5 m 16.404 ft (Note 2)</td>
</tr>
<tr>
<td>Sensing object</td>
<td>NX5-M10RB</td>
<td>30 m 98.425 ft</td>
<td>0.1 to 5 m 16.404 ft (Note 2)</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Repeatability (perpendicular to sensing axis)</td>
<td>0.1 mm 0.004 in or less</td>
<td>0.2 mm 0.008 in or less</td>
<td>0.3 mm 0.012 in or less</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Emitter: 1 VA or less</td>
<td>Emitter: 1.5 VA or less</td>
<td>2 VA or less</td>
</tr>
<tr>
<td>Output</td>
<td>Relay contact 1 c</td>
<td>Switching capacity: 250 V AC 1 A (resistive load)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 V DC 2 A (resistive load)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical life: 500,000 or more switching operations (switching frequency 3,600 operations/hour)</td>
<td>100,000 or more switching operations (switching frequency 3,600 operations/hour)</td>
</tr>
<tr>
<td>Operation indicator</td>
<td>Red LED (lights up when the output is ON)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Stability indicator</td>
<td>Green LED (lights up under stable light received condition or stable dark condition)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Power indicator</td>
<td>–</td>
<td>Red LED (lights up when the power is ON)</td>
<td>–</td>
</tr>
<tr>
<td>Sensitivity adjuster</td>
<td>Continuous variable adjuster</td>
<td>Continuous variable adjuster</td>
<td>Continuous variable adjuster</td>
</tr>
<tr>
<td>Automatic interference prevention function</td>
<td>Use optional interference prevention filters</td>
<td>Incorporated (Two units of sensors can be mounted close together.)</td>
<td>–</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>3 (Industrial environment)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Protection</td>
<td>IP66 (IEC)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–20 to +55 °C – 4 to +131 °F (No dew condensation or icing allowed) (Note 6), Storage: –30 to +70 °C –22 to +158 °F</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ambient humidity</td>
<td>35 to 85 % RH, Storage: 35 to 85 % RH</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ambient illuminance</td>
<td>Incandescent light: 3,500 lx at the light-receiving face</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>EMC</td>
<td>EN 61000-6-2, EN 61000-6-4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Voltage withstandability</td>
<td>1,500 V AC for one min. between power supply and output terminals, 1,000 V AC for one min. between relay contact terminals</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>20 MΩ, or more, with 500 V DC megger between power supply and output terminals, and between relay contact terminals</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 55 Hz frequency, 1.5 mm 0.059 in amplitude in X, Y and Z directions for two hours each</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Shock resistance</td>
<td>500 m/s² (50 G approx.) in X, Y and Z directions for three times each</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emitting element</td>
<td>Red LED (modulated)</td>
<td>Infrared LED (modulated)</td>
<td>Red LED (modulated)</td>
</tr>
<tr>
<td>Peak emission wavelength</td>
<td>660 nm 0.026 mil</td>
<td>880 nm 0.035 mil</td>
<td>660 nm 0.026 mil</td>
</tr>
<tr>
<td>Material</td>
<td>Enclosure: Polycarbonate, Lens: Polycarbonate, Cover: Polycarbonate, Front cover (retroreflective type sensor only): Acrylic</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Cable</td>
<td>0.3 mm² 5-core (thru-beam type emitter: 2-core) cabletyre cable, 2 m 6.562 ft long</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Cable extension</td>
<td>Extension up to total 100 m 328.084 ft is possible with 0.3 mm², or more, cable (thru-beam type: both emitter and receiver)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Net weight</td>
<td>Emitter: 100 g approx.</td>
<td>Receiver: 140 g approx.</td>
<td>Emitter: 125 g approx.</td>
</tr>
<tr>
<td>Accessories</td>
<td>Adjusting screwdriver: 1 pc.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Notes:</td>
<td>1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) The sensing range and the sensing object of the retroreflective type sensor is specified for the RF-230 reflector. Further, the sensing range is the possible setting range for the reflector.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) The sensor can detect an object less than 0.1 m 0.328 ft away.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) If slit masks (optional) are fitted, an object as small as 3 × 6 mm 0.118 × 0.236 in can be detected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5) Make sure to confirm detection with an actual sensor before use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6) In case the sensor is to be used at an ambient temperature of –15 °C +5 °F, or less, please contact our office.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Example**

- **Sensor:** Compact Multi-voltage Photoelectric Sensor NX5 SERIES
- **Company:** Ramco National
- **Contact:** 1-800-280-6933
I/O CIRCUIT DIAGRAM AND OUTPUT OPERATION

I/O circuit diagram

Note: The emitter of the thru-beam type sensor has two wires for power (+V and 0 V) only.

Output operation

<table>
<thead>
<tr>
<th>Sensing mode</th>
<th>Thru-beam &amp; Retroreflective type</th>
<th>Diffuse reflective type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light-ON (A) type</td>
<td>Dark-ON (B) type</td>
</tr>
<tr>
<td>Output</td>
<td>NO (Black cable)</td>
<td>NC (Gray cable)</td>
</tr>
<tr>
<td>Power OFF</td>
<td>Open</td>
<td>Close</td>
</tr>
<tr>
<td>Beam-received</td>
<td>Close</td>
<td>Open</td>
</tr>
<tr>
<td>Beam-interrupted</td>
<td>Open</td>
<td>Close</td>
</tr>
</tbody>
</table>

SENSING CHARACTERISTICS (TYPICAL)

<table>
<thead>
<tr>
<th>NX5-M10RA  NX5-M10RB</th>
<th>Thru-beam type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel deviation</td>
<td>Angular deviation</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NX5-M30A  NX5-M30B</th>
<th>Thru-beam type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel deviation</td>
<td>Angular deviation</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Sensing Characteristics (Typical)

#### NX5-PRVM5A / NX5-PRVM5B  
**Retroreflective type**

<table>
<thead>
<tr>
<th>Setting distance L (m ft)</th>
<th>7.874</th>
<th>3.937</th>
<th>3.937</th>
<th>7.874</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 100 200 400 600</td>
<td>0.00</td>
<td>0.04</td>
<td>0.05</td>
<td>0.07</td>
</tr>
</tbody>
</table>

#### NX5-RM7A / NX5-RM7B  
**Retroreflective type**

<table>
<thead>
<tr>
<th>Setting distance L (m ft)</th>
<th>7.874</th>
<th>3.937</th>
<th>3.937</th>
<th>7.874</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 100 200 400 600</td>
<td>0.00</td>
<td>0.04</td>
<td>0.05</td>
<td>0.07</td>
</tr>
</tbody>
</table>

#### NX5-D700A / NX5-D700B  
**Diffuse reflective type**

<table>
<thead>
<tr>
<th>Left</th>
<th>Center</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Reflector (RF-230)</td>
<td>Sensor</td>
</tr>
<tr>
<td>Left</td>
<td>Center</td>
<td>Right</td>
</tr>
<tr>
<td>Operating point L (mm in)</td>
<td>7.874</td>
<td>3.937</td>
</tr>
<tr>
<td>0 100 200 400 600</td>
<td>0.00</td>
<td>0.04</td>
</tr>
</tbody>
</table>

### Precautions for Proper 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.

#### Mounting

- The tightening torque should be 0.8 N·m or less.

#### Sensing Field

<table>
<thead>
<tr>
<th>Left</th>
<th>Center</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Reflector (RF-230)</td>
<td>Sensor</td>
</tr>
<tr>
<td>Left</td>
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<td>Right</td>
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<td>Operating point L (mm in)</td>
<td>7.874</td>
<td>3.937</td>
</tr>
<tr>
<td>0 100 200 400 600</td>
<td>0.00</td>
<td>0.04</td>
</tr>
</tbody>
</table>

#### Correlation between Sensing Object Size and Sensing Range

As the sensing object size becomes smaller than the standard size (white non-glossy paper 200 × 200 mm 7.874 × 7.874 in), the sensing range shortens, as shown in the left graph.

For plotting the left graph, the sensitivity has been set such that a 200 × 200 mm 7.874 × 7.874 in white non-glossy paper is just detectable at a distance of 700 mm 27.569 in.

#### Others

- Do not use during the initial transient time (50 ms) after the power supply is switched on.
- Although the protection degree is specified for the sensor including the cable, the cable end is not waterproof, and is not covered by the protection specified. Hence, make sure that water does not seep in from the cable end.

#### Interference Prevention Filter (Exclusively for NX5-M10R□)

- Use the interference prevention filters (optional) when two units of thru-beam type sensors are mounted close together. However, take note that the sensing range will become short.
- There are 2 types of interference prevention filters. Install PF-NX5-H (Horizontal, Light brown) for 1 set, and install PF-NX5-V (Vertical, Silver color) for the other set.

Note: The filters cannot be used for NX5-M30A or NX5-M30B.
### PRECAUTIONS FOR PROPER USE

Refer to p.1458~ for general precautions.

#### Retroreflective type sensor (NX5-RM7□)
- Please take care of the following points when detecting materials having a gloss.
  1. Make L, shown in the diagram, sufficiently long.
  2. Install at an angle of 10 to 30 degrees to the sensing object.

*NX5-PRVM5□: does not need the above adjustment.

#### Retroreflective type sensor with polarizing filters (NX5-PRVM5□)
- If a shiny object is covered or wrapped with a transparent film, such as those described below, the retroreflective type sensor with polarizing filters may not be able to detect it. In that case, follow the steps given below.

**Example of sensing objects**
- Can wrapped by clear film
- Aluminum sheet covered by plastic film
- Gold or silver color (specular) label or wrapping paper

**Steps**
- Tilt the sensor with respect to the sensing object while fitting.
- Reduce the sensitivity.
- Increase the distance between the sensor and the sensing object.

---

### DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

**NX5-M10RA**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green) (Note 3)**
- **Operation indicator (Red) (Note 1, 3)**
- **Sensitivity adjuster (Note 2, 3)**

**NX5-M10RB**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green) (Note 3)**
- **Operation indicator (Red) (Note 1, 3)**
- **Sensitivity adjuster (Note 2, 3)**

**NX5-M30A**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-M30B**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-PRVM5A**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-PRVM5B**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-RM7A**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-RM7B**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-D700A**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

**NX5-D700B**
- **Sensor**
- **Beam axis**
- **Stability indicator (Green)**
- **Operation indicator (Red)**
- **Sensitivity adjuster**

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Notes: 1) It is the power indicator (red) on the emitter of NX5-M30□.
2) Not incorporated on NX5-M30□.
3) Not incorporated on the emitter.

Note: Not incorporated on NX5-RM7□.

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**Dimension Details**
- **Beam-receiving part**
- **Beam-emitting part**
- **Spectrum**
- **Cable**
- **Mounting holes**
- **Mounting seats**
- **Length**

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**Selection Guide**
- **Amplifier**
- **Built-in Power Supply**
- **Amplifier-separated**

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**Retroreflective type sensor with polarizing filters (NX5-PRVM5□)**
- If a shiny object is covered or wrapped with a transparent film, such as those described below, the retroreflective type sensor with polarizing filters may not be able to detect it. In that case, follow the steps given below.

**Example of sensing objects**
- Can wrapped by clear film
- Aluminum sheet covered by plastic film
- Gold or silver color (specular) label or wrapping paper

**Steps**
- Tilt the sensor with respect to the sensing object while fitting.
- Reduce the sensitivity.
- Increase the distance between the sensor and the sensing object.

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**Precautions for Proper Use**
- Refer to p.1458~ for general precautions.
- Please take care of the following points when detecting materials having a gloss.
  1. Make L, shown in the diagram, sufficiently long.
  2. Install at an angle of 10 to 30 degrees to the sensing object.

*NX5-PRVM5□: does not need the above adjustment.

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**Dimensions (Unit: mm in)**
- The CAD data in the dimensions can be downloaded from our website.
Compact Multi-voltage Photoelectric Sensor NX5 SERIES

DIMENSIONS (Unit: mm in)

RF-230  Reflector (Accessory for the retroreflective type sensor)

RF-220  Reflector (Optional)

RF-210  Reflector (Optional)

RF-11  Reflective tape (Optional)

RF-12  Reflective tape (Optional)

The CAD data in the dimensions can be downloaded from our website.

Material: Acrylic (Reflector)  ABS (Base)

Material: Acrylic (Reflector)  ABS (Base)

Material: Flexible polyvinyl chloride
Compact Multi-voltage Photoelectric Sensor NX5 SERIES

**DIMENSIONS (Unit: mm in)**

The CAD data in the dimensions can be downloaded from our website.

### MS-NX5-1

Sensor mounting bracket (Optional)

Assembly dimensions

Mounting drawing with the receiver of NX5-M10R:

Material: Cold rolled carbon steel (SPCC) (Uni-chrome plated)

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

### MS-NX5-2

Sensor mounting bracket (Optional)

Assembly dimensions

Mounting drawing with the receiver of NX5-M10R:

Material: Cold rolled carbon steel (SPCC) (Uni-chrome plated)

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

### MS-NX5-3

Sensor mounting bracket (Optional)

Assembly dimensions

Mounting drawing with the receiver of NX5-M10R:

Material: Cold rolled carbon steel (SPCC) (Uni-chrome plated)

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

Material: Cold rolled carbon steel (SPCC) (Uni-chrome plated)

Two M4 (length 25 mm 0.984 in) screws with washers and two M4 nuts are attached.

The CAD data in the dimensions can be downloaded from our website.

**Selection Guide**

Amplifier Built-in

Power Supply Built-in

Amplifier-separated

**FIBER SENSORS**

**LASER SENSORS**

**MICRO PHOTOELECTRIC SENSORS**

**AREA SENSORS**

**CAPTURE SURY COMPONENTS**

**PRESSURE FOR SENSORS**

**INDUCTIVE PROXIMITY SENSORS**

**PARTICULAR USE SENSORS**

**SENSOR OPTIONS**

**SIMPLE WIRING SYSTEM**

**MEASUREMEN T SENSORS**

**OSCILLATING SENSORS**

**LASER MARKERS**

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**HUMAN MACHINE INTERFACES**

**SOFTWARE COMPONENTS**

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**UV CURING SYSTEMS**

**FA COMPONENTS**

**MACHINE VISION SYSTEMS**

**Ramco National**

www.PanasonicSensors.com

1-800-280-6933
Compact Multi-voltage Photoelectric Sensor NX5 SERIES

DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

MS-RF21-1  
Reflector mounting bracket for RF-210 (Optional)

Assembly dimensions

Material: Stainless steel (SUS304)
Two M3 (length 12 mm 0.472 in) screws with washers are attached.

MS-RF22  
Reflector mounting bracket for RF-220 (Optional)

Assembly dimensions

Material: Cold rolled carbon steel (SPCC)  
(Uni-chrome plated)
Two M3 (length 8 mm 0.315 in) screws with washers are attached.

MS-RF23  
Reflector mounting bracket for RF-230 (Optional)

Assembly dimensions

Material: Cold rolled carbon steel (SPCC)  
(Uni-chrome plated)
Two M4 (length 10 mm 0.394 in) screws with washers are attached.

Ramco National  
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