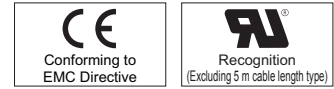
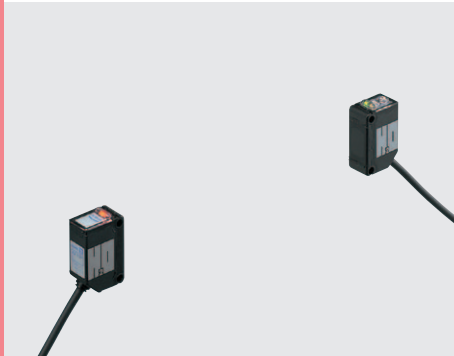


Water Detection Sensor EZ-10 SERIES

Related Information

- General terms and conditions.....F-17
- Sensor selection guide..... P.831~
- Glossary of terms.....P.1359~
- General precautions.....P.1405



- 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.

panasonic-electric-works.net/sunx

Detects water...reliably!

SPECIFICATIONS

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

| Item | Type | NPN output | PNP output |
|----------------------|---|---|--|
| | Model No. | EZ-11 | EZ-11-PN |
| Sensing range | | 5 m 16.404 ft (without container or pipe) (Note 2) | |
| Sensing object | | ø12 mm ø0.472 mm or more liquid which contains water, or opaque object (Note 3) | |
| Supply voltage | | 12 to 24 V DC ± 10 % Ripple P-P 10 % or less | |
| Current consumption | | Emitter: 25 mA or less, Receiver: 25 mA or less | |
| Output | | NPN open-collector transistor <ul style="list-style-type: none"> Maximum sink current: 100 mA Applied voltage: 30 V DC or less (between output and 0 V) Residual voltage: 1.5 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current) | PNP open-collector transistor <ul style="list-style-type: none"> Maximum source current: 100 mA Applied voltage: 30 V DC or less (between output and +V) Residual voltage: 1.5 V or less (at 100 mA source current) 0.4 V or less (at 16 mA source current) |
| | Utilization category | DC-12 or DC-13 | |
| Output operation | Switchable either Light-ON or Dark-ON | | |
| Response time | 12 ms or less | | |
| Sensitivity adjuster | Continuously variable adjuster | | |
| Pollution degree | 3 (Industrial environment) | | |
| Protection | IP67 (IEC) | | |
| Ambient temperature | 0 to +55 °C +32 to +131 °F (No dew condensation allowed), Storage: -30 to +70 °C -22 to +158 °F | | |
| EMC | EN 60947-5-2 | | |
| Emitting element | Infrared LED (modulated) | | |
| Material | Polycarbonate | | |
| Net Weight | Emitter: 45 g approx., Receiver: 50 g approx. | | |
| Accessory | Adjusting screwdriver: 1 pc. | | |
| Dimensions | W12 × H31 × D20 mm W0.472 × H1.221 × D0.787 in | | |

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.
 2) The sensing range shortens depending on the thickness, material, color, etc., of the container or pipe.
 3) If there are two slit masks on both sides, the size of those slit masks represents the min. sensing object.

5 m 16.404 ft cable length type and plug-in connector type

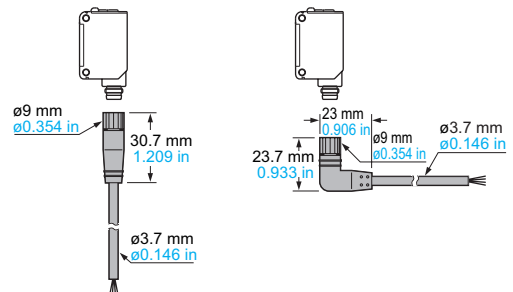
5 m 16.404 ft cable length type (standard: 2 m 6.562 ft) and plug-in connector type (standard: cable type) are also available.
 (5 m 16.404 ft cable length type is not available for the EZ-11-PN.)
 When ordering this type, suffix "-C5" for 5 m 16.404 ft cable length type, "-J" for plug-in connector type to the model No.
 Please order the suitable mating cable separately for plug-in connector type.
 (e.g.) Plug-in connector type of EZ-11-PN is "EZ-11-PN-J".

• Mating cable for plug-in connector type (2 cables are required)

| Type | Model No. | Description |
|----------|------------|-----------------------|
| Straight | CN-24E-C2 | Length: 2 m 6.562 ft |
| | CN-24E-C5 | Length: 5 m 16.404 ft |
| Elbow | CN-24EL-C2 | Length: 2 m 6.562 ft |
| | CN-24EL-C5 | Length: 5 m 16.404 ft |

0.2 mm² 4-core cabtyre cable with connector on one end
 Cable outer diameter: ø3.7 mm ø0.146 in

• CN-24E-C2, CN-24E-C5 • CN-24EL-C2, CN-24EL-C5



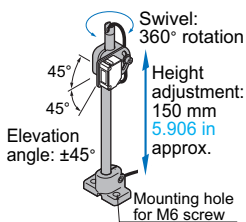
OPTIONS

| Designation | Model No. | Description | |
|--|---|--|--|
| Round slit mask | OS-CX-05 (Slit size $\varnothing 0.5$ mm) $\varnothing 0.020$ in | Slit on one side | • Sensing range: 200 mm 7.874 in |
| | | Slit on both sides | • Sensing range: 10 mm 0.394 in |
| | OS-CX-1 (Slit size $\varnothing 1$ mm) $\varnothing 0.039$ in | Slit on one side | • Sensing range: 400 mm 15.748 in |
| | | Slit on both sides | • Sensing range: 60 mm 2.362 in |
| | OS-CX-2 (Slit size $\varnothing 2$ mm) $\varnothing 0.079$ in | Slit on one side | • Sensing range: 1 m 3.281 ft |
| | | Slit on both sides | • Sensing range: 250 mm 9.843 in |
| Rectangular slit mask | OS-CX-05×6 (Slit size 0.5×6 mm) 0.020×0.236 in | Slit on one side | • Sensing range: 800 mm 31.496 in |
| | | Slit on both sides | • Sensing range: 250 mm 9.843 in |
| | OS-CX-1×6 (Slit size 1×6 mm) 0.039×0.236 in | Slit on one side | • Sensing range: 1.3 m 4.265 ft |
| | | Slit on both sides | • Sensing range: 600 mm 23.622 in |
| | OS-CX-2×6 (Slit size 2×6 mm) 0.079×0.236 in | Slit on one side | • Sensing range: 2 m 6.562 ft |
| | | Slit on both sides | • Sensing range: 1.3 m 4.265 ft |
| Sensor mounting bracket (Note 1) | MS-CX2-1 | Foot angled mounting bracket (Two brackets are required.) | |
| | MS-CX2-2 | Foot biangled mounting bracket (Two brackets are required.) | |
| | MS-CX2-4 | Protective mounting bracket (Two brackets are required.) | |
| | MS-CX2-5 | Back biangled mounting bracket (Two brackets are required.) | |
| | MS-CX-3 | Back angled mounting bracket (Two brackets are required.) | |
| Universal sensor mounting stand (Note 2) | MS-AJ1 | Horizontal mounting type | Basic assembly |
| | MS-AJ2 | Vertical mounting type | |
| | MS-AJ1-A | Horizontal mounting type | Lateral arm assembly |
| | MS-AJ2-A | Vertical mounting type | |

Notes: 1) The plug-in connector type sensor does not allow use of some sensor mounting brackets because of the protrusion of the connector.
2) Refer to the **MS-AJ** series for details of the universal sensor mounting stand.

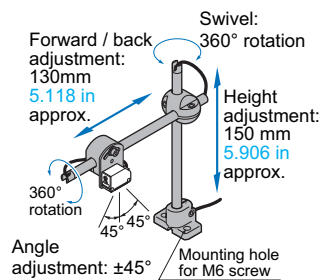
Universal sensor mounting stand

• MS-AJ1

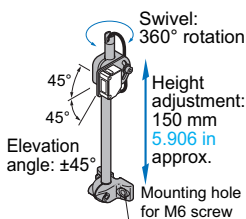


• MS-AJ1-A

With the lateral arm, the sensor can sense from above a production line.

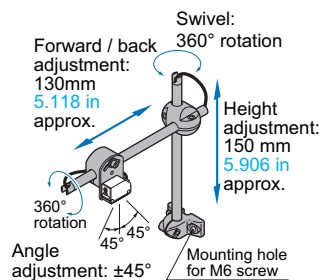


• MS-AJ2



• MS-AJ2-A

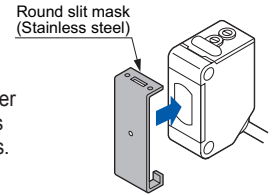
With the lateral arm, the sensor can sense from above a production line.



Round slit mask

• OS-CX-□

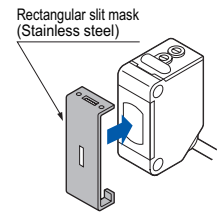
Used for narrowing the beam for cases when detecting water or other substances inside slender pipes. Fitted on the front face of the sensor with one-touch.



Rectangular slit mask

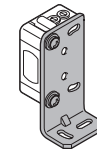
• OS-CX-□×6

Used for narrowing the beam for cases when detecting water or other substances inside slender pipes. Fitted on the front face of the sensor with one-touch.



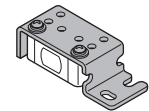
Sensor mounting bracket

• MS-CX2-1



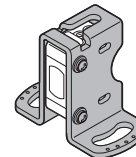
Two M3 (length 12 mm **0.472 in**) screws with washers are attached.

• MS-CX2-2



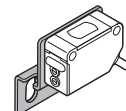
Two M3 (length 12 mm **0.472 in**) screws with washers are attached.

• MS-CX2-4



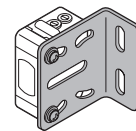
Two M3 (length 14 mm **0.551 in**) screws with washers are attached.

• MS-CX2-5



Two M3 (length 12 mm **0.472 in**) screws with washers are attached.

• MS-CX-3



Two M3 (length 12 mm **0.472 in**) screws with washers are attached.

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Selection Guide

Wafer Detection

Liquid Leak Detection

Liquid Level Detection

Water Detection

Color Mark Detection

Hot Melt Glue Detection

Ultrasonic

Small / Slim Object Detection

Obstacle Detection

Other Products

EZ-10