Water Detection Sensor
EZ-10 SERIES

Conforming to EMC Directive

UL Recognition (Excluding 5 m cable length type)
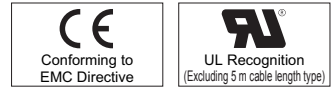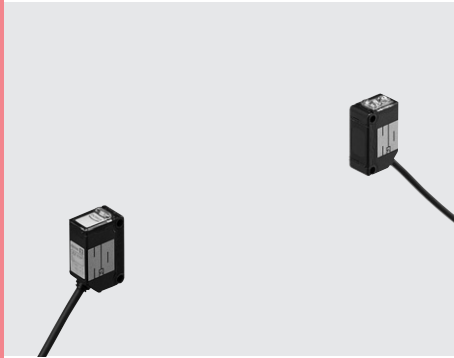
- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

SUNX website   http://www.sunx.com

Detects water...reliably!

■ **SPECIFICATIONS**   The CAD data in the dimensions can be downloaded from the SUNX website: http://www.sunx.com

	Type	NPN output	PNP output
Item	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 • 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 • 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) (Refer to p.984 for details of standards.)	
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.

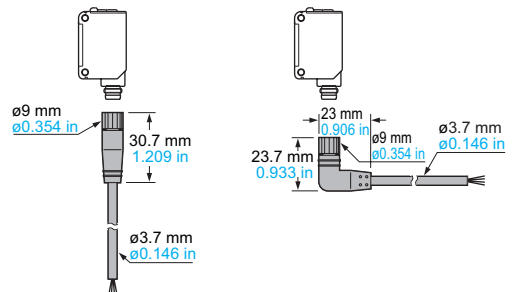### 5 m 16.404 ft cable length type and plug-in connector type

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

• CN-24E-C2, CN-24E-C5

ø9 mm ø0.354 in
30.7 mm 1.209 in
ø3.7 mm ø0.146 in

• CN-24EL-C2, CN-24EL-C5

23 mm 0.906 in
ø9 mm ø0.354 in
ø3.7 mm ø0.146 in
23.7 mm 0.933 in

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■ OPTIONS

Designation	Model No.	Description	
Round slit mask	**OS-CX-05** (Slit size ø0.5 mm ø0.020 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 ø1 mm ø0.039 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 ø2 mm ø0.079 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.
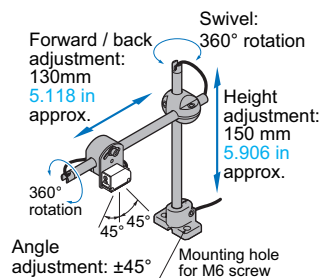2) Refer to the **MS-AJ** series (p.799) for details of the universal sensor mounting stand.
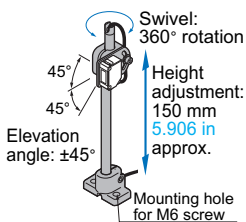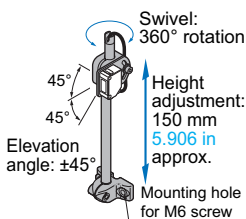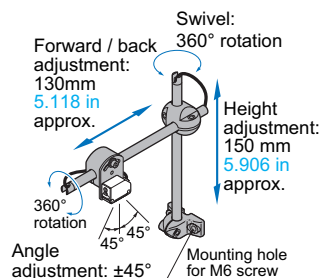
Round slit mask

• **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.

Round slit mask (Stainless steel)
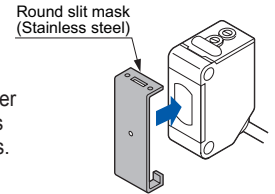
Rectangular slit mask

• **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.

Rectangular slit mask (Stainless steel)
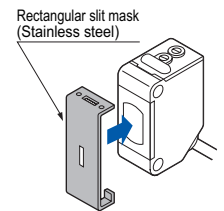
Sensor mounting bracket

• **MS-CX2-1**
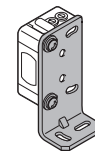
Two M3 (length 12 mm 0.472 in) screws with washers are attached.

• **MS-CX2-2**
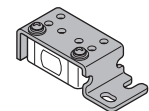
Two M3 (length 12 mm 0.472 in) screws with washers are attached.

• **MS-CX2-4**
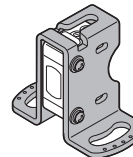
Two M3 (length 14 mm 0.551 in) screws with washers are attached.

• **MS-CX2-5**
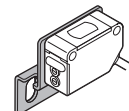
Two M3 (length 12 mm 0.472 in) screws with washers are attached.

• **MS-CX-3**

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

Universal sensor mounting stand

• **MS-AJ1**

Swivel: 360° rotation
45°
45°
Height adjustment: 150 mm 5.906 in approx.
Elevation angle: ±45°
Mounting hole for M6 screw

• **MS-AJ1-A**

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

Forward / back adjustment: 130mm 5.118 in approx.
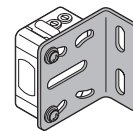Swivel: 360° rotation
Height adjustment: 150 mm 5.906 in approx.
360° rotation
45° 45°
Angle adjustment: ±45°
Mounting hole for M6 screw

• **MS-AJ2**

Swivel: 360° rotation
45°
45°
Height adjustment: 150 mm 5.906 in approx.
Elevation angle: ±45°
Mounting hole for M6 screw

• **MS-AJ2-A**

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

Forward / back adjustment: 130mm 5.118 in approx.
Swivel: 360° rotation
Height adjustment: 150 mm 5.906 in approx.
360° rotation
45° 45°
Angle adjustment: ±45°
Mounting hole for M6 screw

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