

INSTALLATION INSTRUCTIONS

EN

High Mount Outdoor Curtain Detector

TXI series

WIRED MODELS

	PIR	Anti-masking	Microwave
TXI-ST	✓	—	—
TXI-DAM-X5	✓	✓	✓ (10.525 GHz)
TXI-DAM-X8	✓	✓	✓ (10.587 GHz)
TXI-DAM-X9	✓	✓	✓ (9.425 GHz)

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1 Before Installation

- Manufacturer's Statement

Symbol

Meaning



Warning

Failure to follow the instructions indicated here, or improper handling, may cause death or serious injury



Caution

Failure to follow the instructions indicated here, or improper handling, may cause injury and/or property damage.

Symbol

Meaning



Check symbol indicates recommendation.



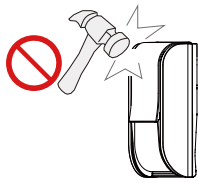
Prohibition symbol indicates prohibited actions.

NOTE

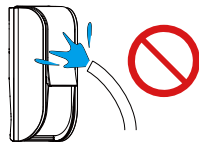
Special attention is required to the section of this symbol.



Warning

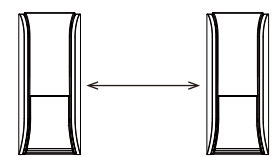
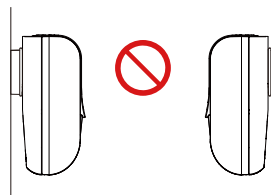
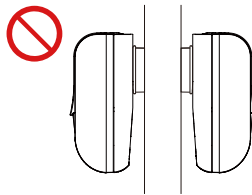


Destroy/Modify

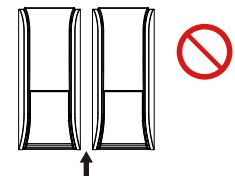


Water exposure

<TXI-DAM only>



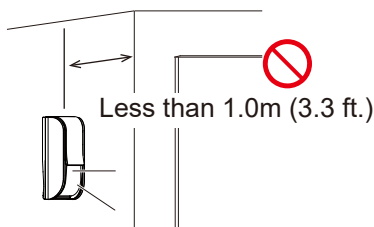
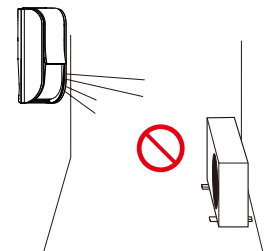
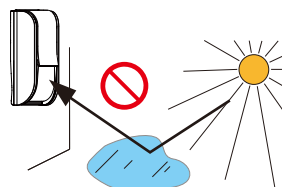
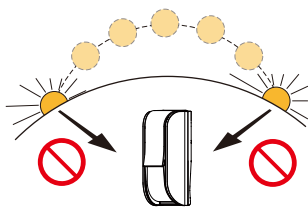
1.0m (3.3 ft.) or more



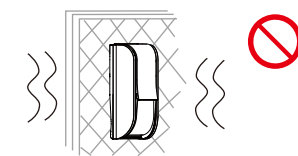
Less than 1.0m (3.3 ft.)



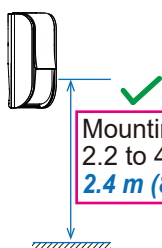
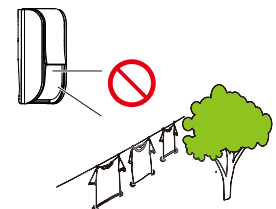
Caution



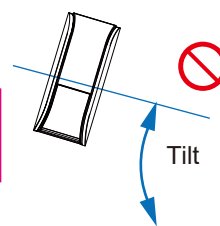
Less than 1.0m (3.3 ft.)



Mount on an unstable wall



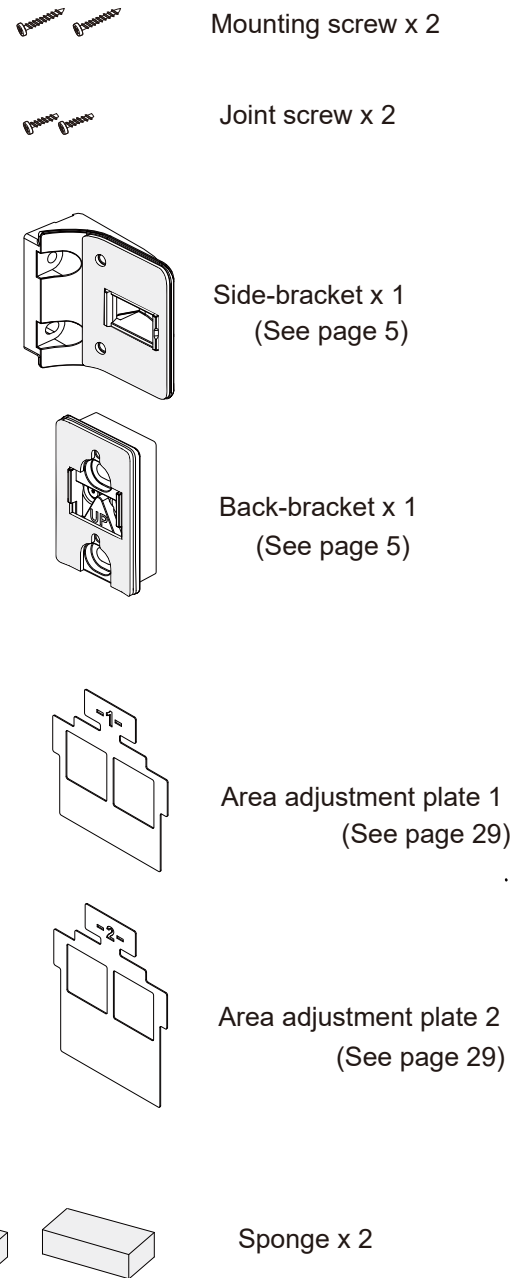
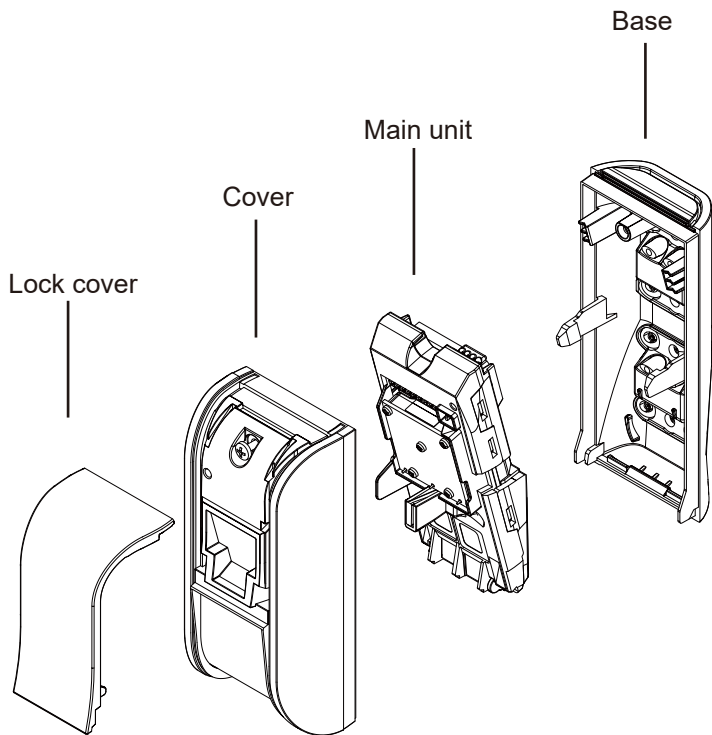
Mounting height
2.2 to 4.0 m (7.2 to 13.1 ft.)
2.4 m (8 ft.) or 3.0 m (10 ft.) recommended



Tilt

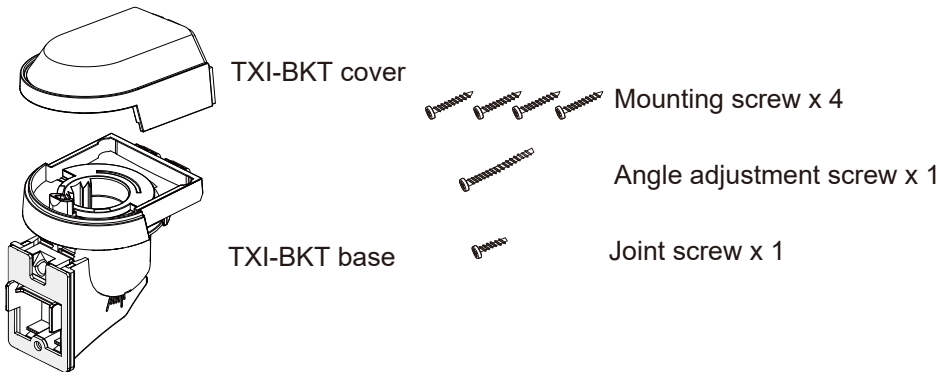


Follow local regulations



Option

TXI-BKT: Bracket for angle adjustment
(See pages 13–24)



PEU *: Plug-in EOL Unit
(See page 26)



* Not evaluated by UL

- Function Overview

• Pet tolerance

This product is equipped with a triple AND logic to reduce false alarms.

The triple AND function activates the alarm only when infrared changes are simultaneously detected in three separate detection zones. This mechanism significantly reduces false detections caused by small pets.

(Refer to "3-2.DIP Switch Settings / 4")

• Accelerometer tamper

This product is equipped with an accelerometer that accurately detects movement and vibration.

An accelerometer measures changes in velocity (acceleration) when the device is moved, tilted, or subjected to impact. This enables the system to detect tampering, abnormal motion, or unauthorized handling, enhancing overall security performance.

(Refer to "3-2.DIP Switch Settings / 5")

• Anti-masking (TXI-DAM only)

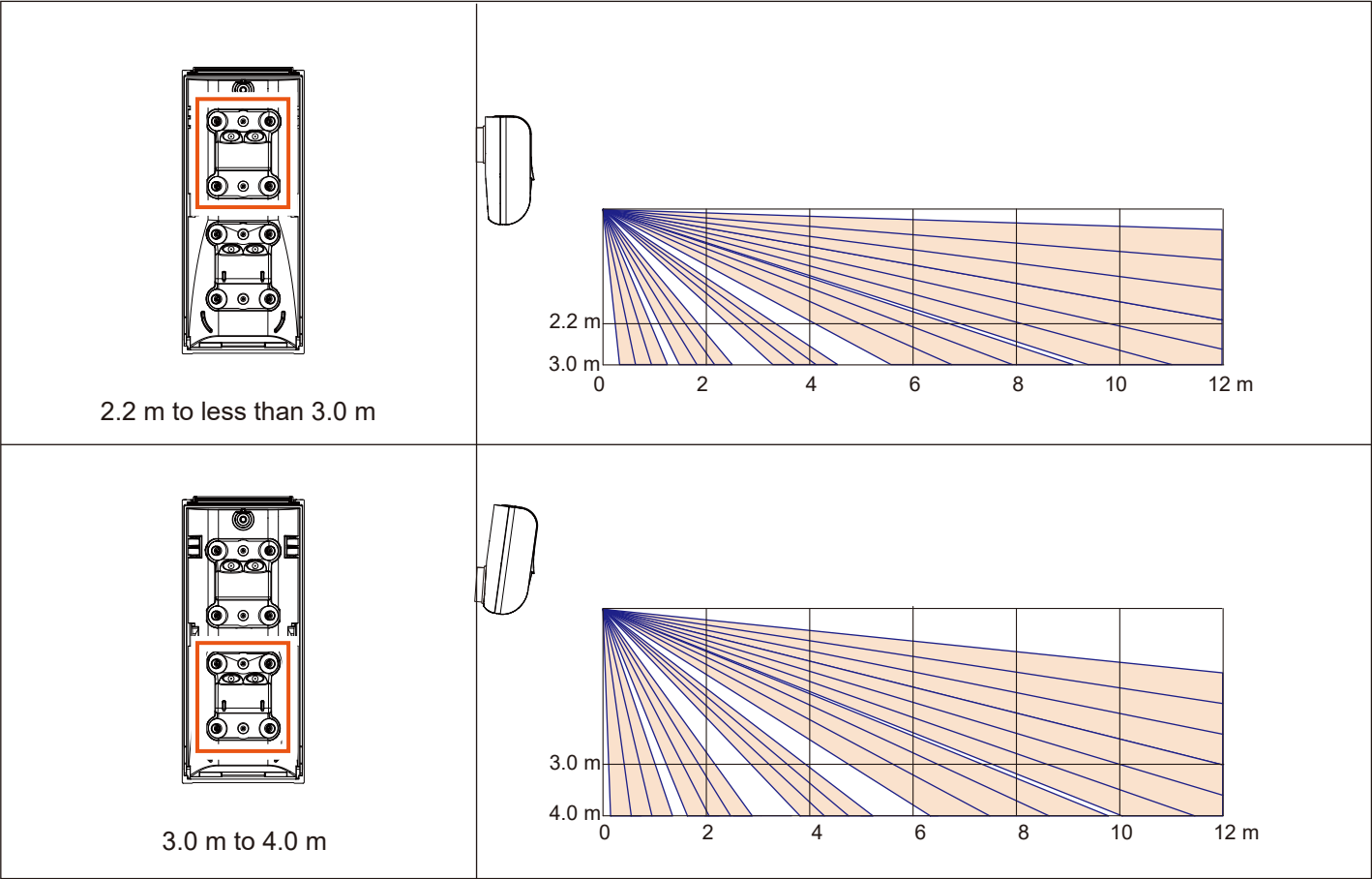
This product is equipped with an anti-masking function, which detects attempts to block or obscure the sensor's field of view.

Anti-masking refers to the ability to detect intentional interference with the sensor, such as covering the lens or placing objects in front of the sensor. This feature helps prevent tampering and ensures the security system remains effective.

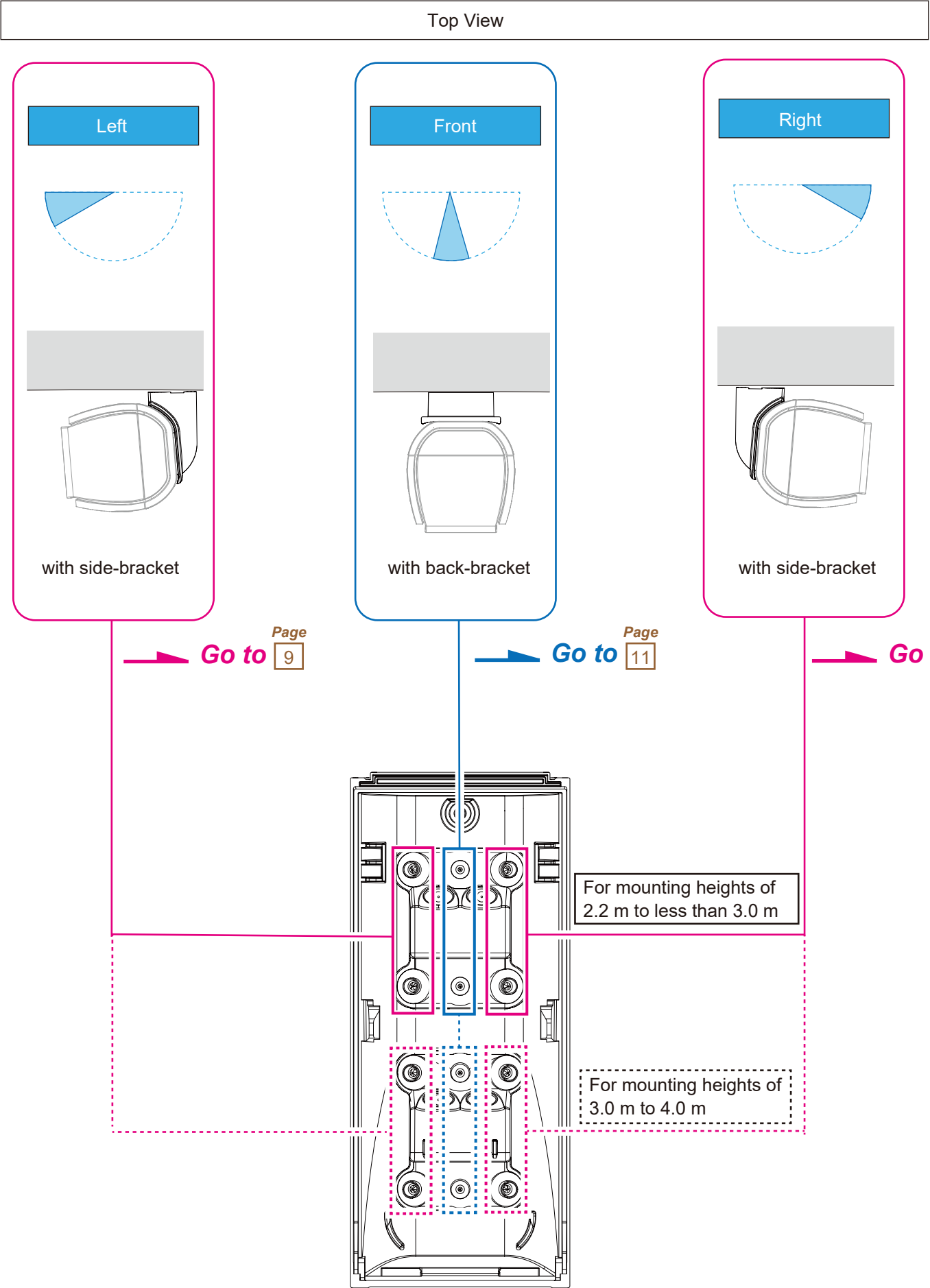
(Refer to "3-2.DIP Switch Settings / 7,8")

- Mounting Height

Side View

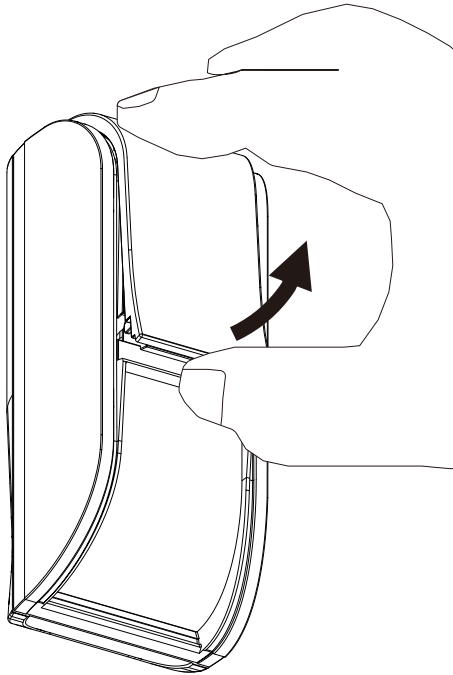


- Standard Bracket Installation for Wall Mount

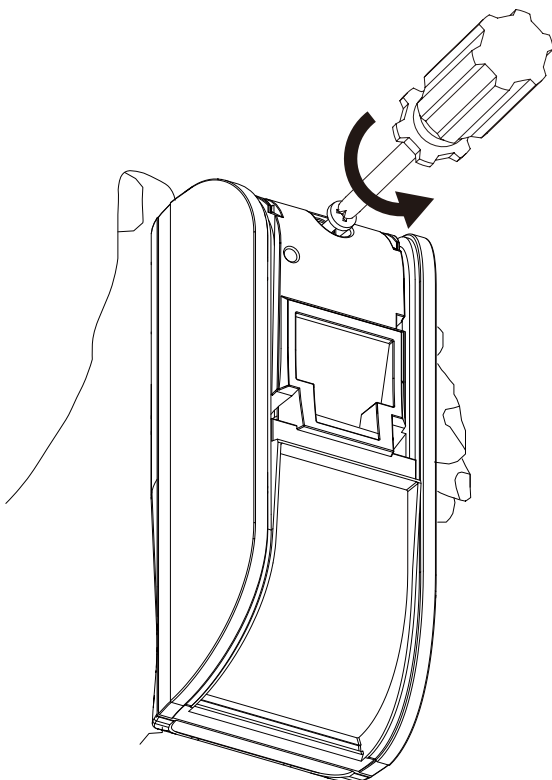


2

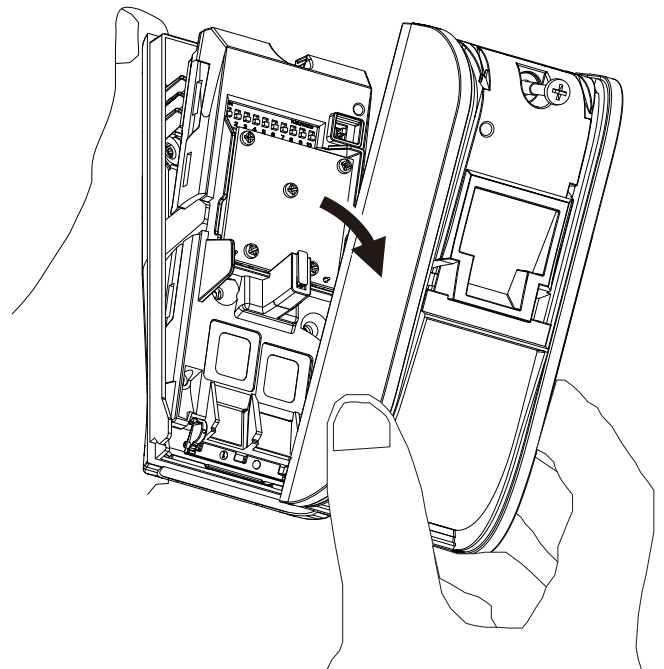
2-1. Disassembling the Unit



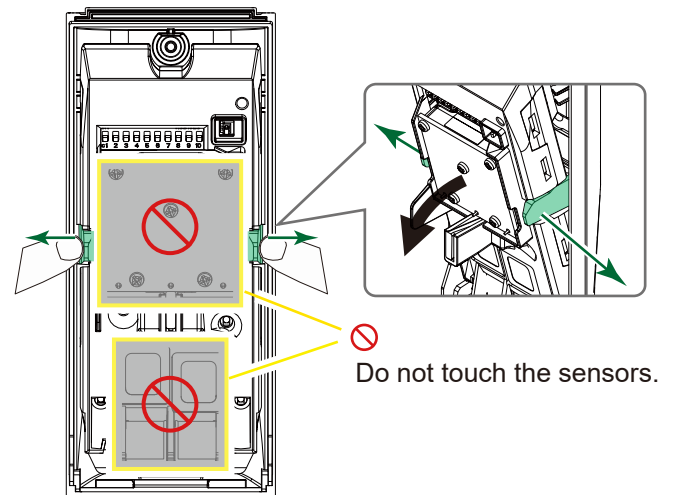
2



3

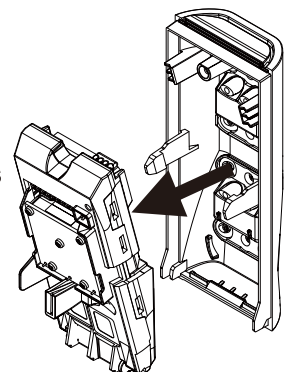


4



NOTE

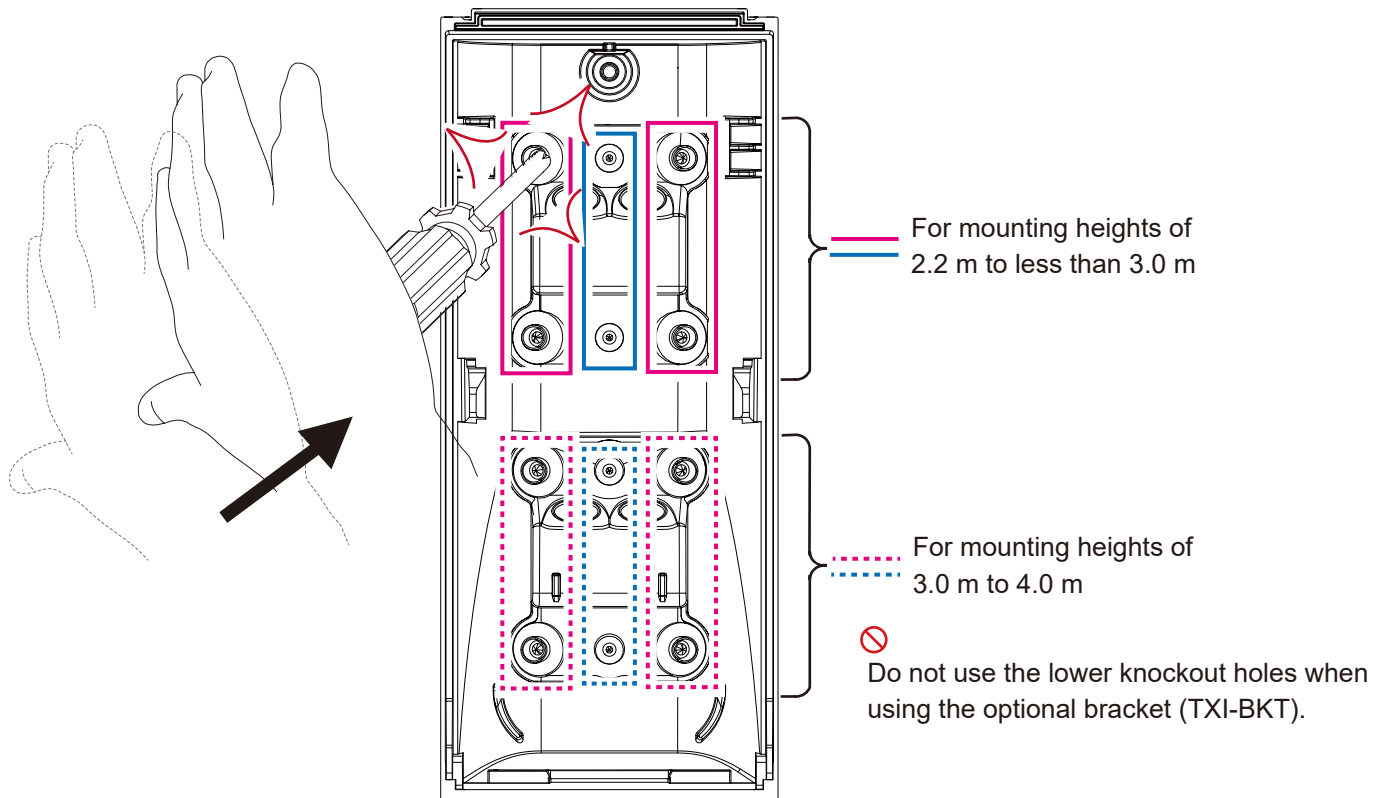
Opening the hooked part as indicated by the arrows makes it easier to remove the main unit.



- How to break the base knockouts

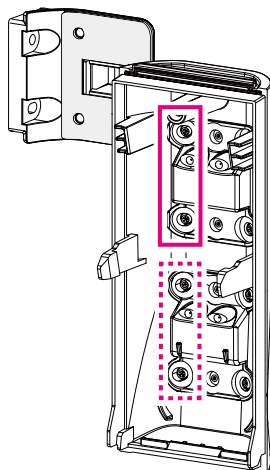
(a) Mounting Knockouts

Break the mounting knockout holes.

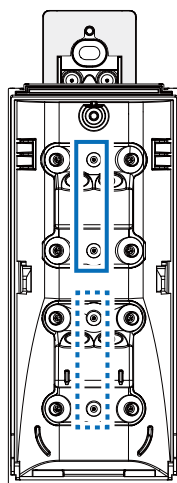


Caution

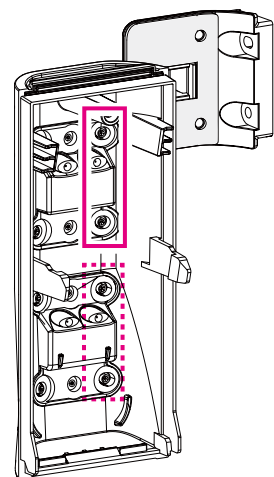
If the wrong knockout is opened, fill it with putty.



with side-bracket



with back-bracket



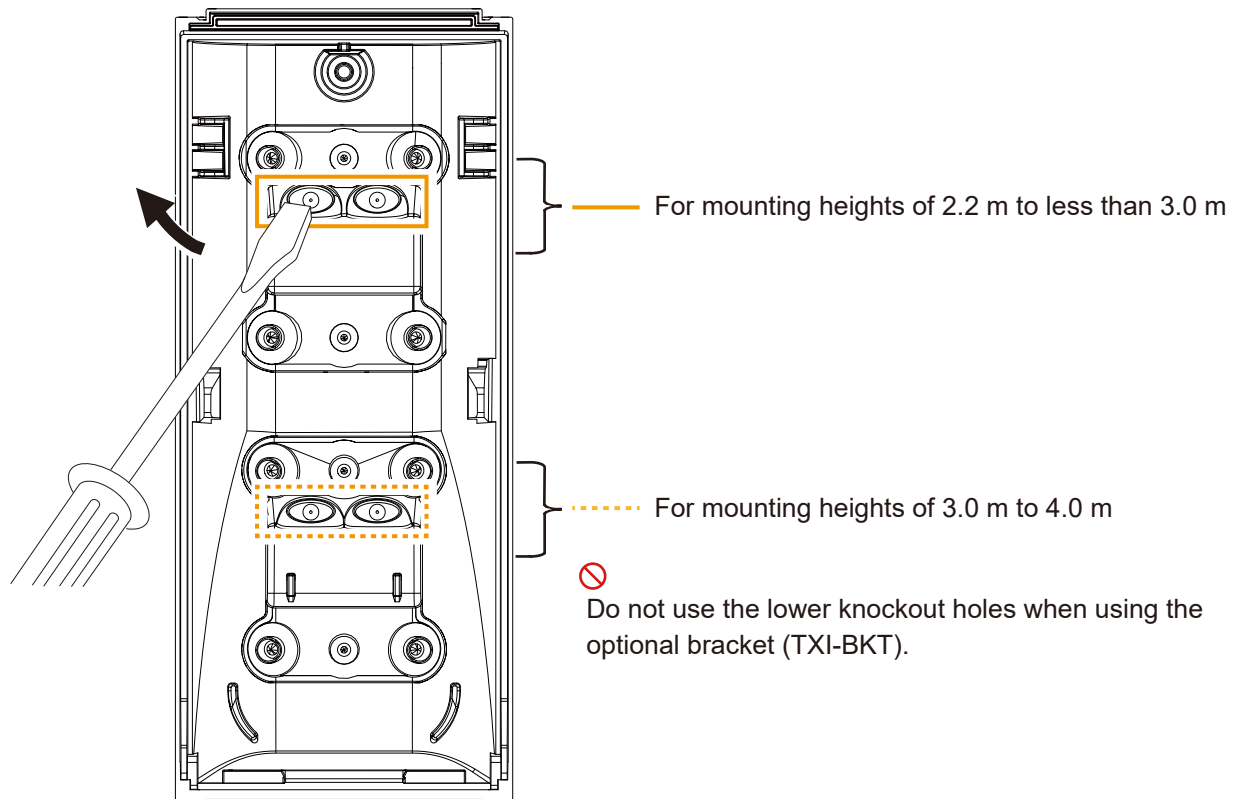
with side-bracket

NOTE

See page 5 for Standard Bracket Installation for Wall Mount.

(b) Wiring Knockouts

Break the wiring knockout hole as required for the installation.



Caution

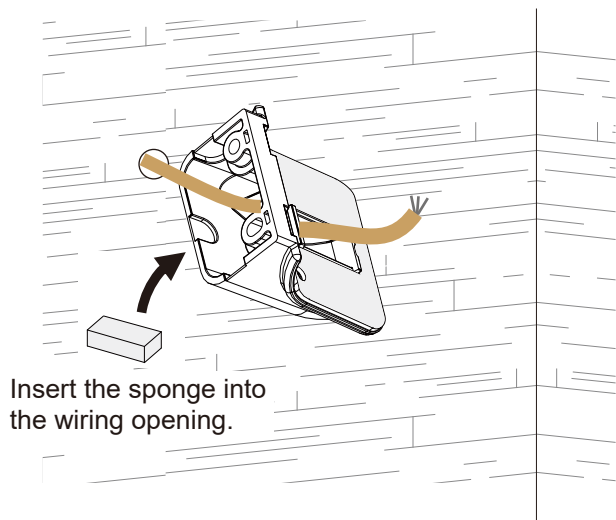
If the wrong knockout is opened, fill it with putty.

2-2. Standard Bracket Installation for Wall Mount (Side-Bracket)

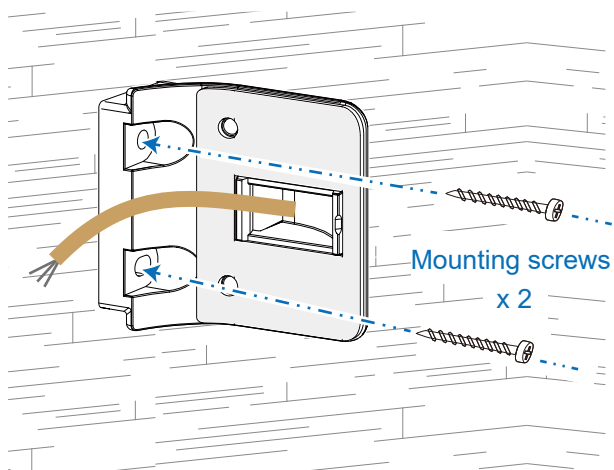
1 Mount the side-bracket.

(a) Hidden Wiring

- ① Wire through the side-bracket.

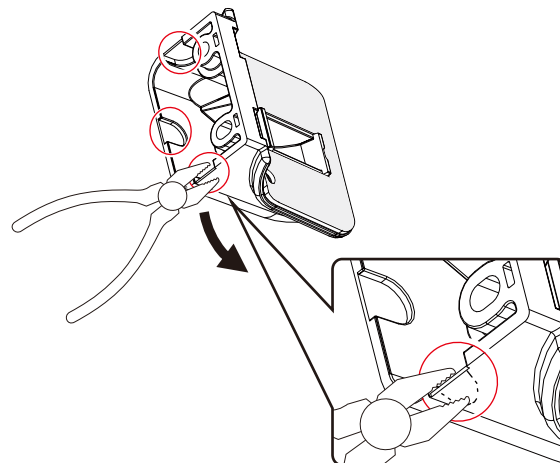


- ② Fix the parallel to the ground with the mounting screws.



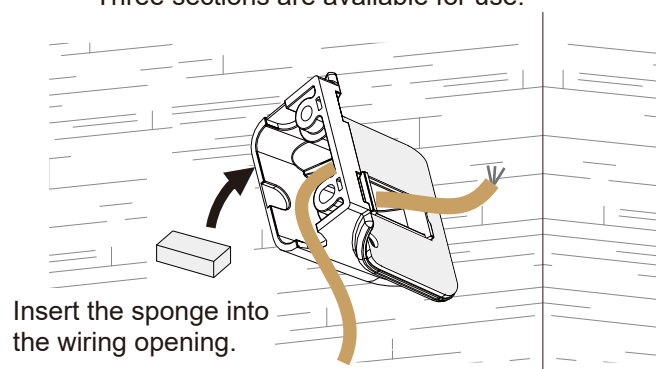
(b) Surface Wiring

- ① Wire through the side-bracket.

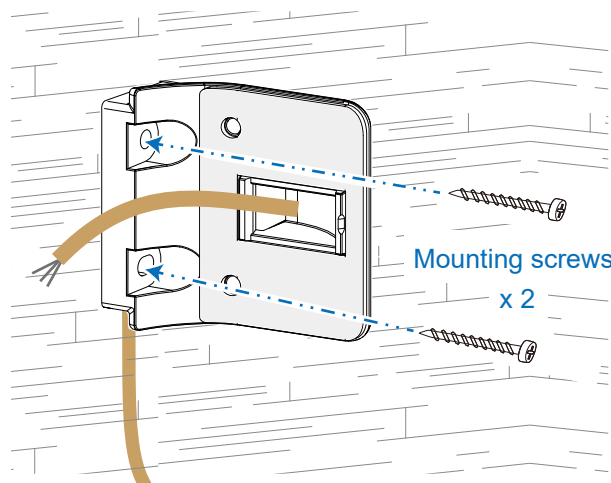


NOTE

Cut out a section of the side-bracket with pliers to allow cable routing.
Three sections are available for use.

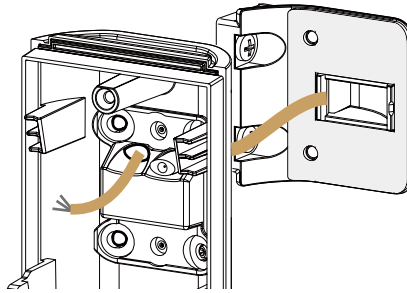


- ② Fix the side-bracket parallel to the ground with the mounting screws.



2-2. Standard Bracket Installation for Wall Mount (Side-Bracket)

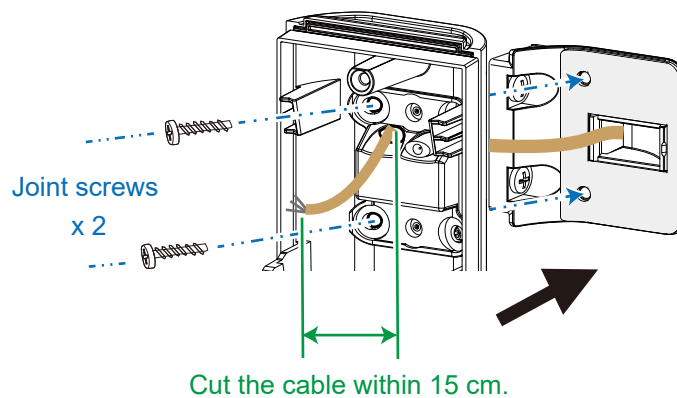
- 2 Route the cable through the base.



NOTE

See page 8 for Wiring Knockouts.

- 3 Join the base to the side-bracket.



Cut the cable within 15 cm.

NOTE

See page 7 for Mounting Knockouts.



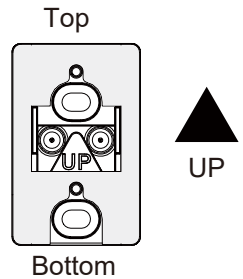
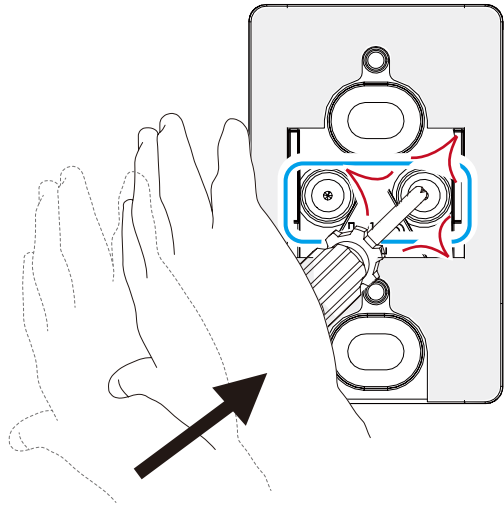
Do not use power tools.

➔ **Go to** Page
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2-2. Standard Bracket Installation for Wall Mount ([Back-Bracket](#))

1 Mount the back-bracket.

- ① Break the wiring knockout hole as required for the installation.

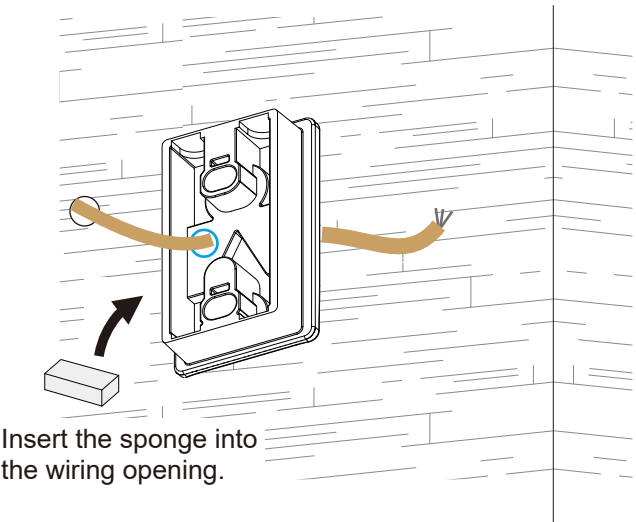


NOTE

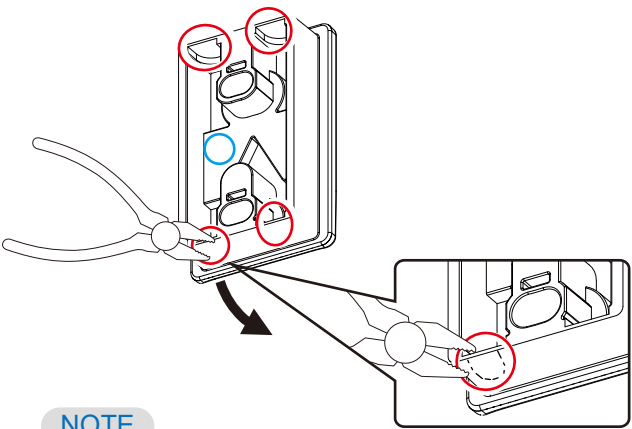
Check the orientation of the part (top and bottom).

② Wire through the back-bracket.

(a) Hidden Wiring



(b) Surface Wiring



NOTE

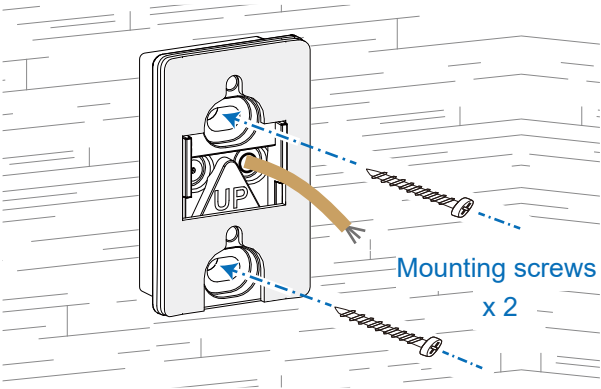
Cut out a section of the back-bracket with pliers to allow cable routing.
Four sections are available for use.

Insert the sponge into the wiring opening.

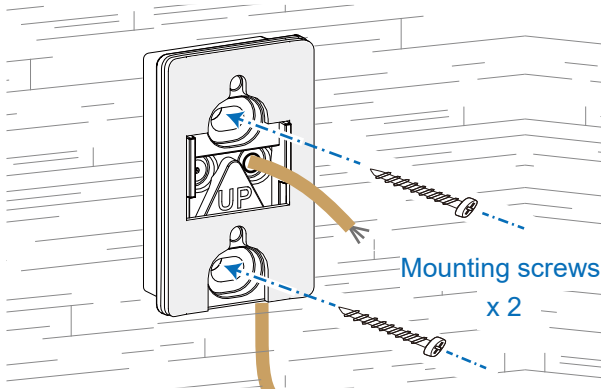
2-2. Standard Bracket Installation for Wall Mount ([Back-Bracket](#))

③ Fix the back-bracket parallel to the ground with the mounting screws.

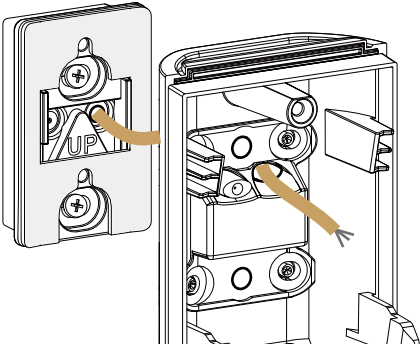
(a) Hidden Wiring



(b) Surface Wiring



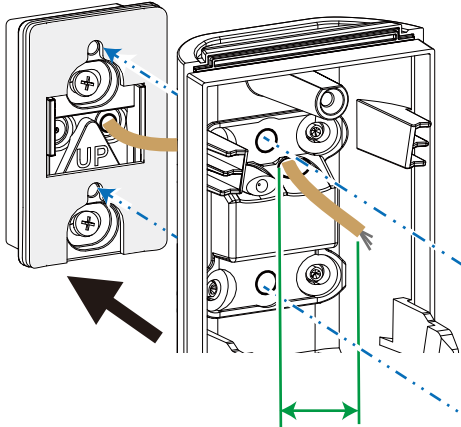
2 Route the cable through the base.



NOTE

See page 8 for Wiring Knockouts.

3 Join the base to the back-bracket



NOTE

See page 7 for Mounting Knockouts.



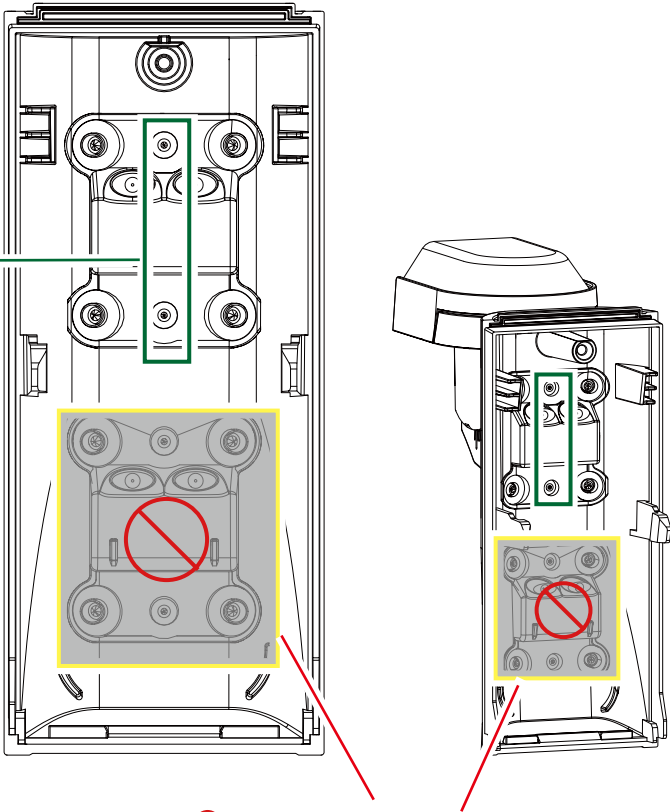
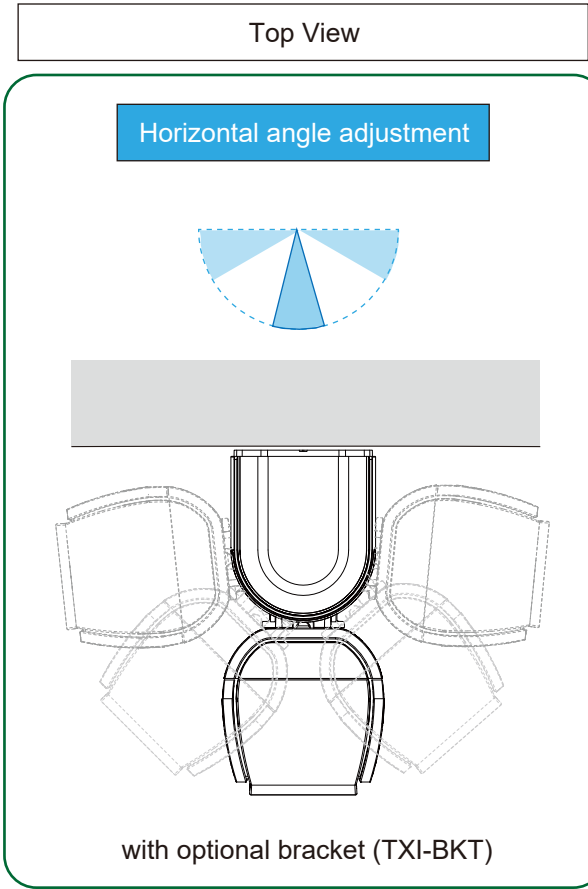
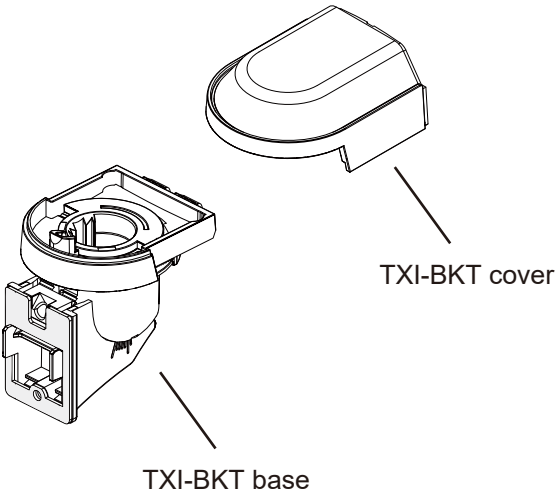
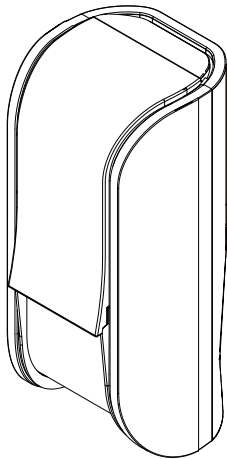
Do not use power tools.

Joint screws
x 2

- Optional Bracket (TXI-BKT) Installation for Wall/Ceiling Mount

Adjustable angle

Horizontal	$\pm 86^{\circ}$
Vertical	$+4^{\circ}$ to -20°

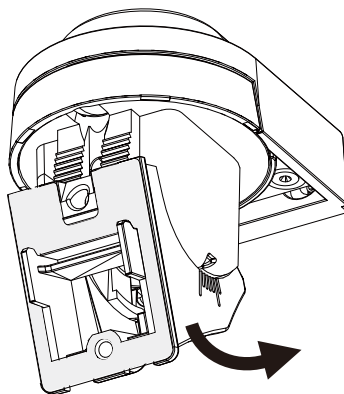


⊘ Use upper knockout holes only.
Do not use the lower knockout holes.

2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

- 1 Open the optional bracket (TXI-BKT).

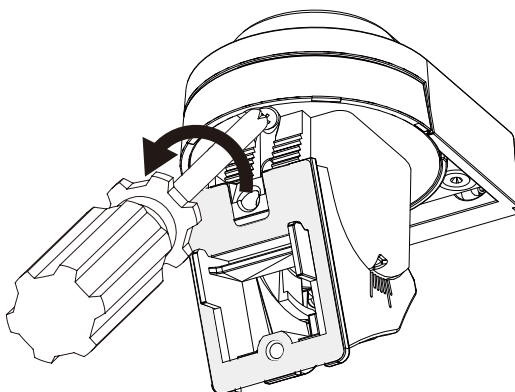
① Swing downward.



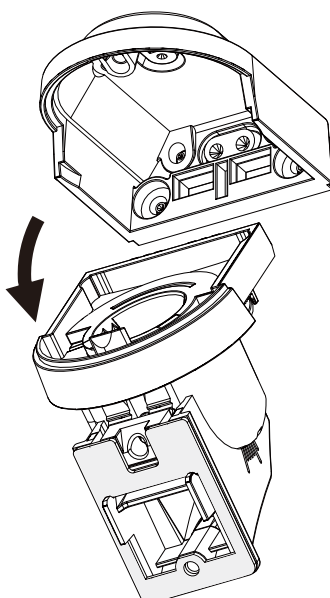
- ② Open the optional bracket (TXI-BKT) by loosening the screw.



Do not use power tools.



- ③ Remove the TXI-BKT cover.

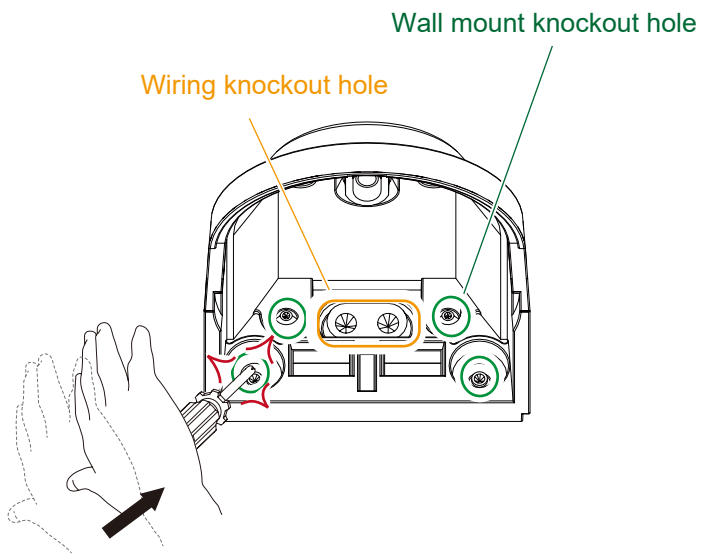


2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

2 Break the required wall mount and wiring knockouts.

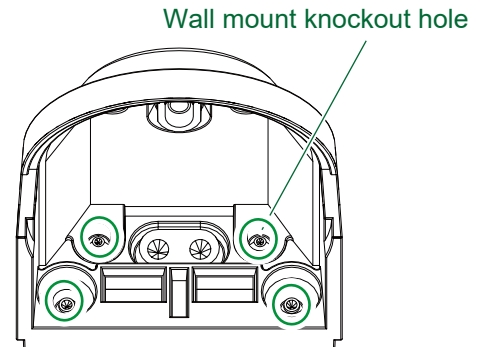
(a) Hidden Wiring

< TXI-BKT cover >

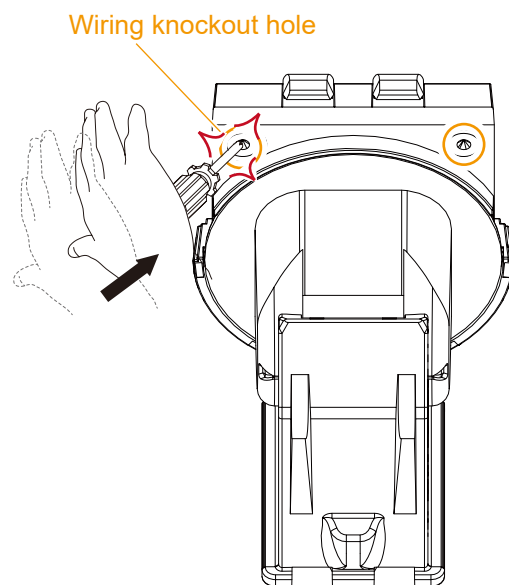


(b) Surface Wiring

< TXI-BKT cover >



< TXI-BKT base >



NOTE

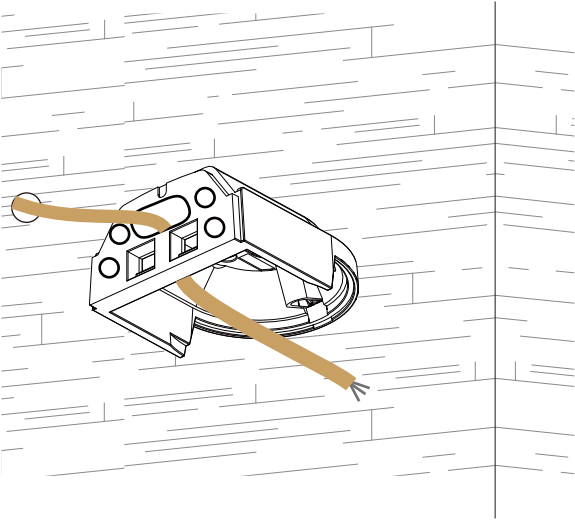
For ceiling mount installation with the optional bracket (TXI-BKT), see page 22.

2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

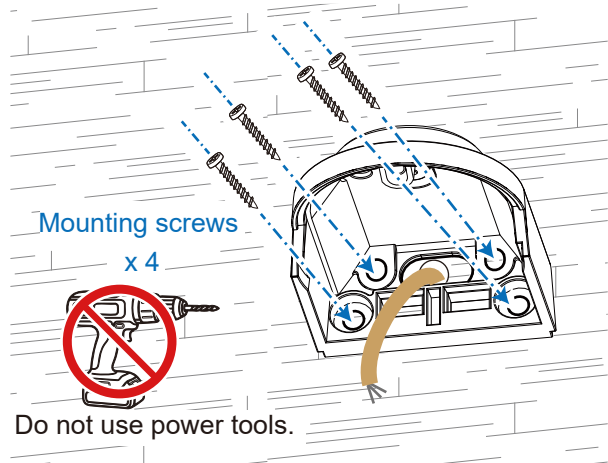
3 Mount the optional bracket(TXI-BKT)

(a) Hidden wiring

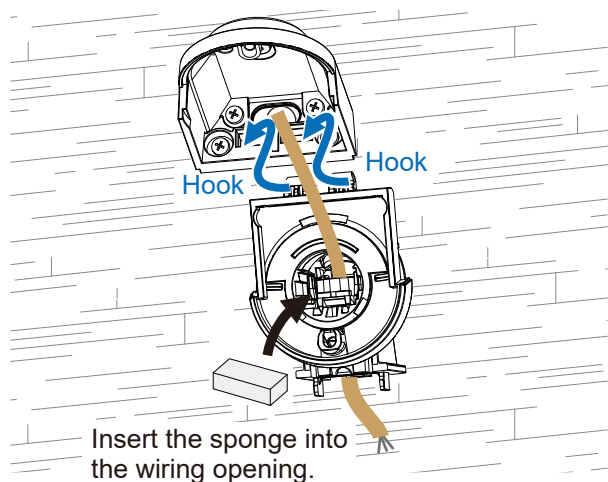
- ① Route the cable through the TXI-BKT cover.



- ② Fix the TXI-BKT cover parallel to the ground with the mounting screws.

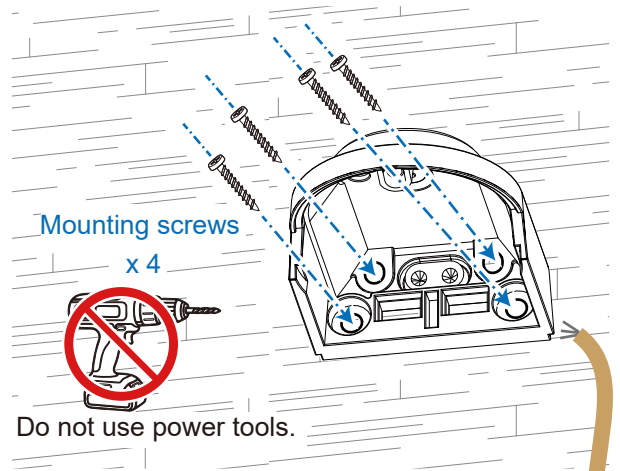


- ③ Route the cable through the TXI-BKT base.

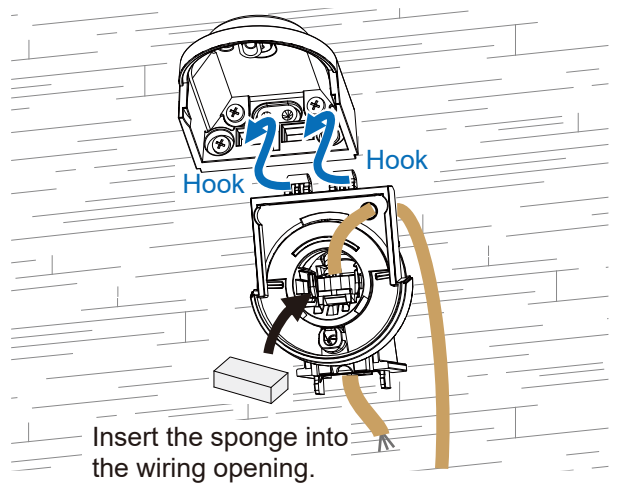


(b) Surface wiring

- ① Fix the TXI-BKT cover parallel to the ground with the mounting screws.

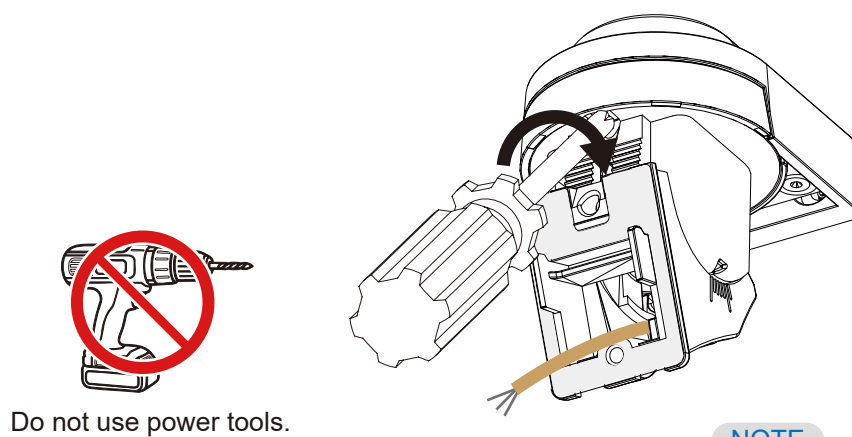


- ② Wire through the TXI-BKT base.



2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

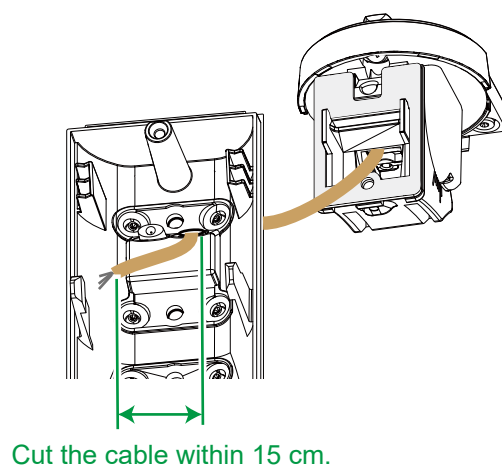
- 4 Tighten the screw to close the optional bracket (TXI-BKT).



NOTE

Tighten the screw to enable horizontal rotation.

- 5 Route the cable through the base.



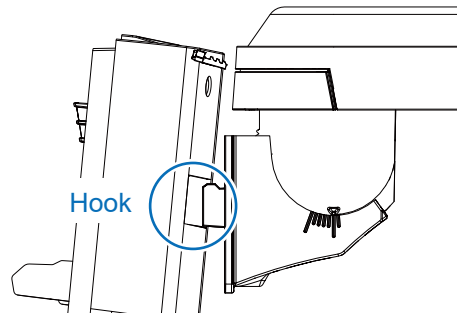
NOTE

See page 8 for Wiring Knockouts.

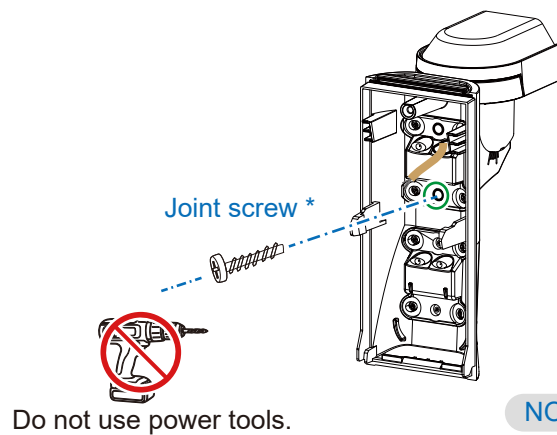
2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

6 Attach the base to the optional bracket (TXI-BKT).

① Align the base with the TXI-BKT and join them.



② Insert the joint screw into the lower mounting hole, and tighten it.

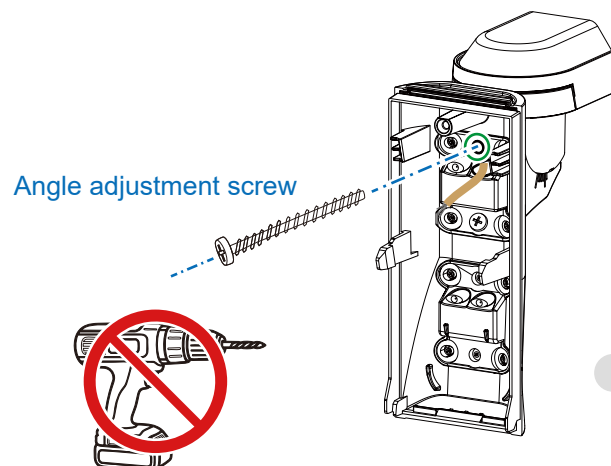


Do not use power tools.

NOTE

See page 7 for Mounting Knockouts.

③ Insert the angle adjustment screw into the upper mounting hole, and tighten it partially.



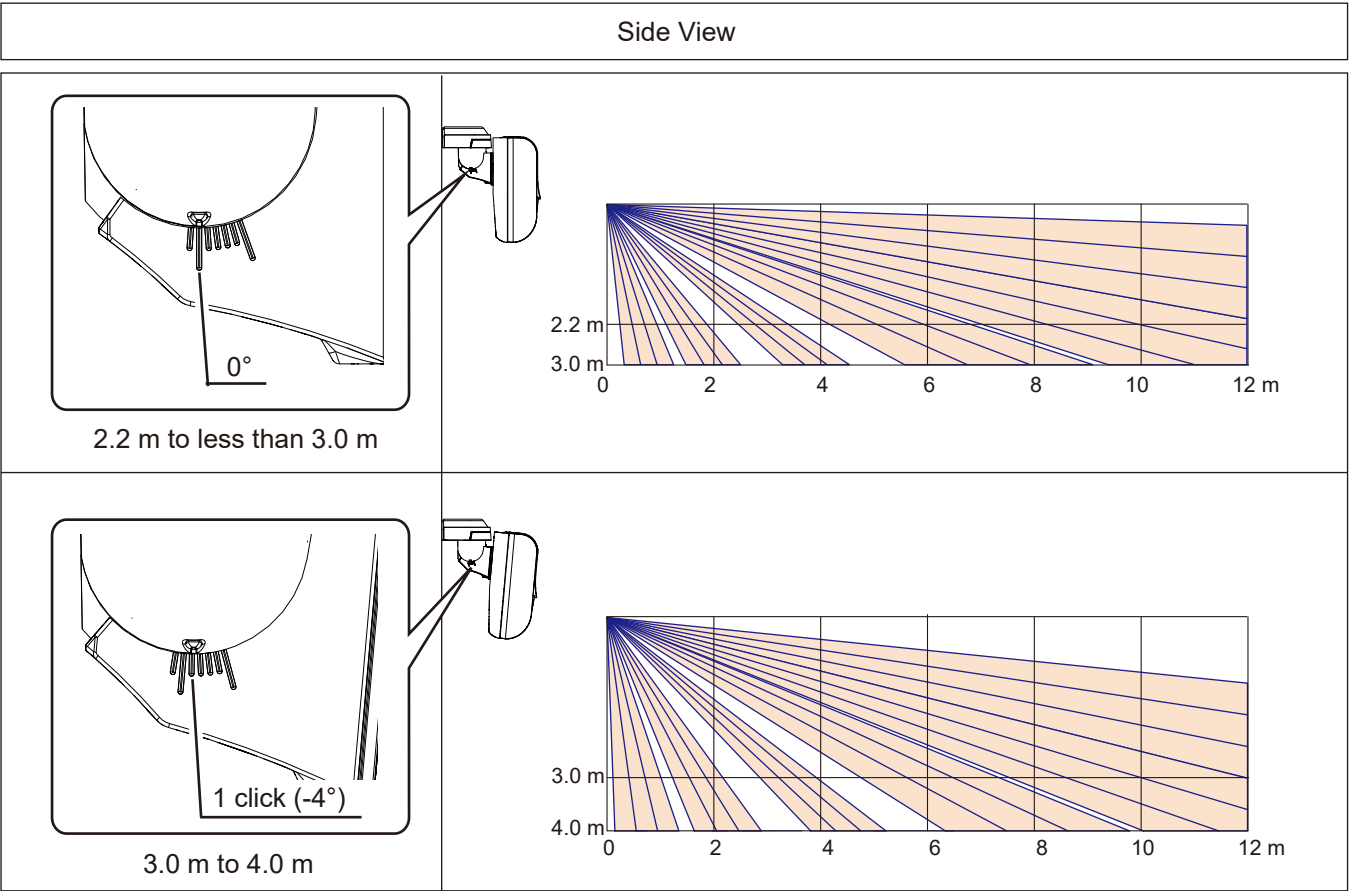
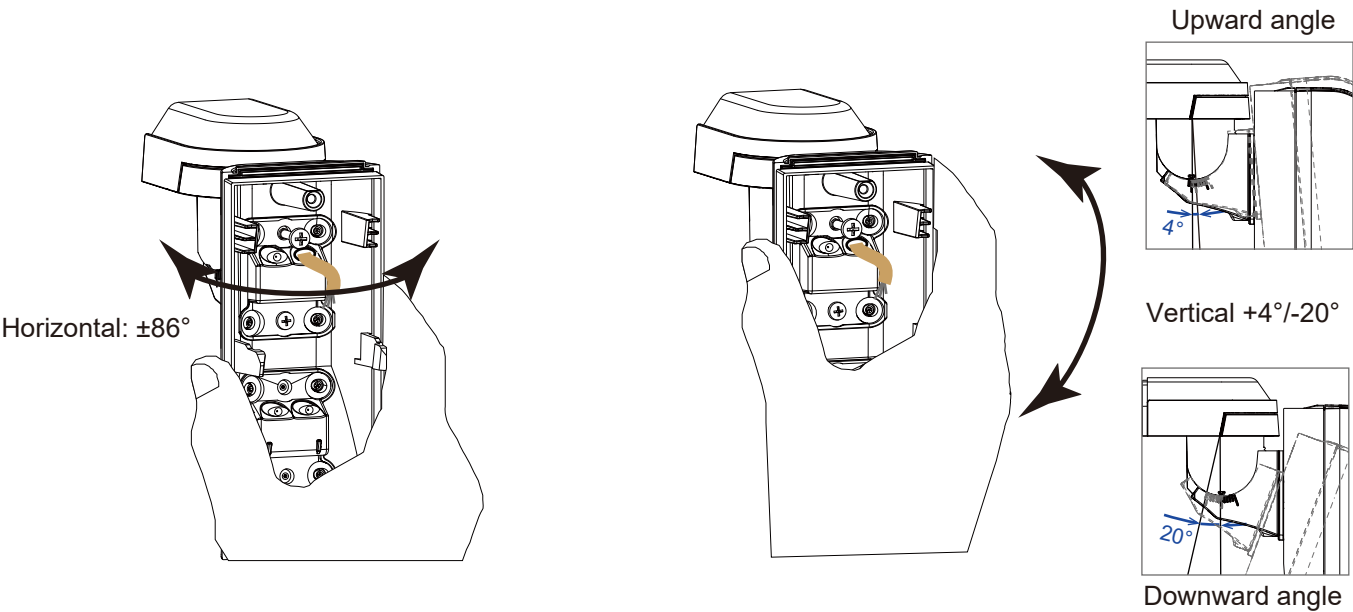
Do not use power tools.

NOTE

The angle adjustment screw should not be fully tightened.
It will be secured after the angle adjustment in the next step.

2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

7 Adjust the sensor angle as needed



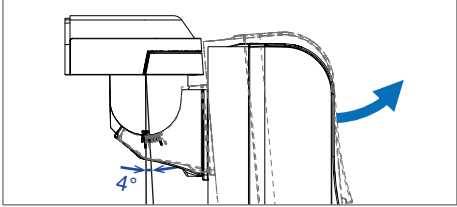
NOTE
Change the angle depending on the installation height.

2-3. Optional Bracket (TXI-BKT) Installation for Wall Mount

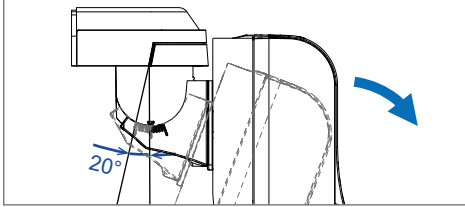
For best performance, install the detector parallel to the ground.
Decide the detection distance. If required, mask the unnecessary area of the lens with one of the two area adjustment plates provided.

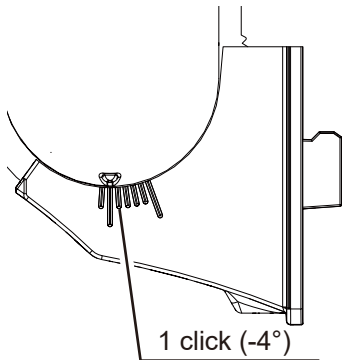
If the base of the unit is not parallel to the ground

If the detection distance is shorter than the specified distance, adjust the detector angle upward.



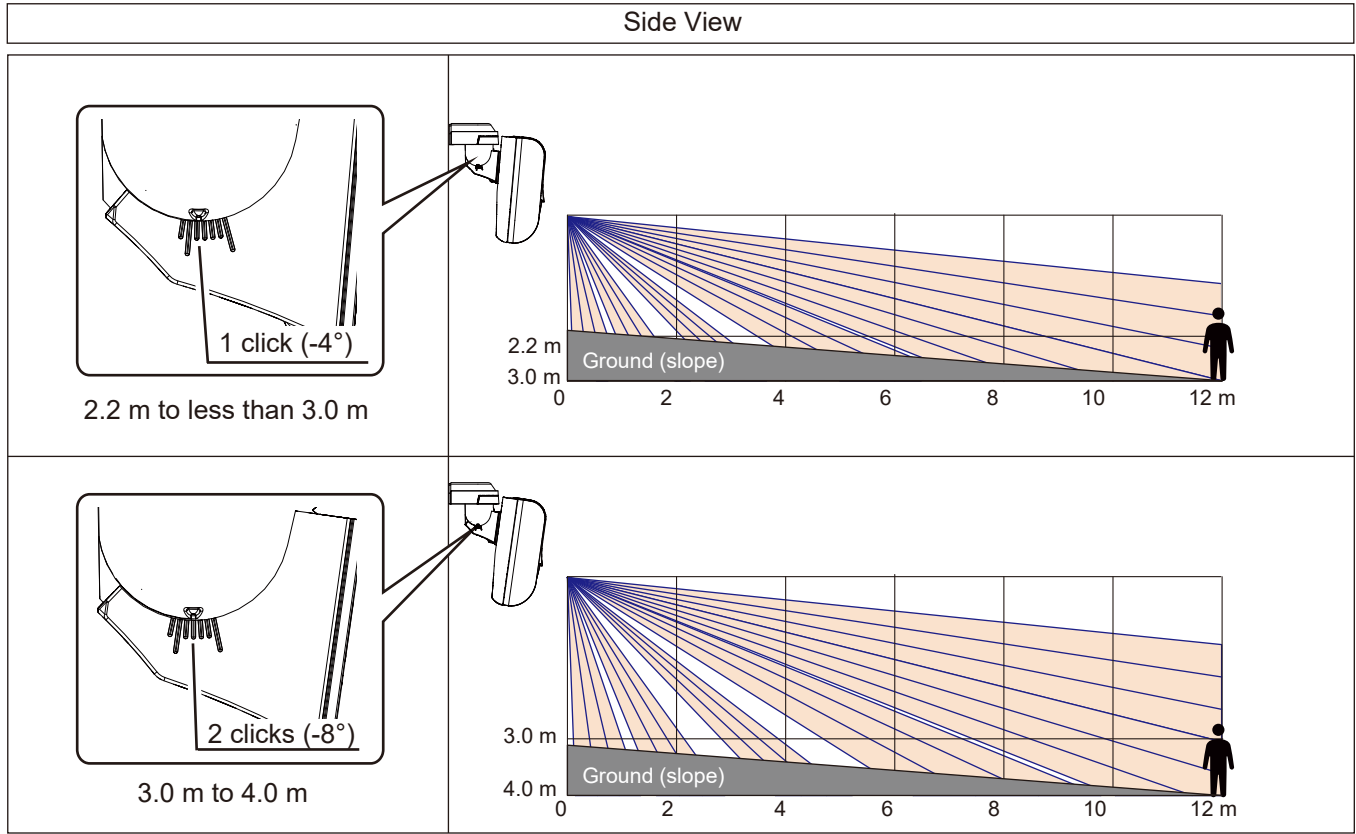
If the detection distance is longer than the specified distance, adjust the detector angle downward.





Upward	+4° (1 click)
Downward	-20° (5 clicks)

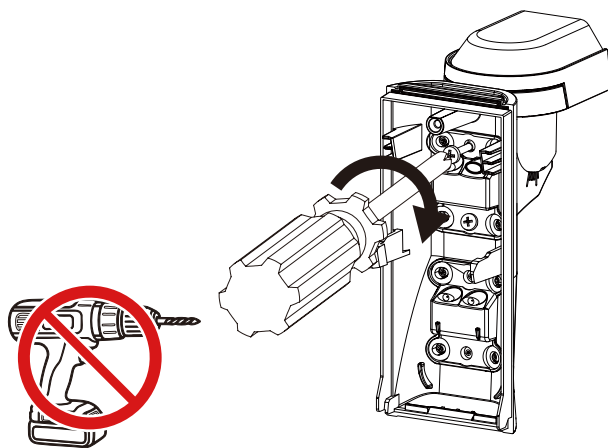
For example
When the ground is inclined at 4°.



 **Caution**

Use the vertical angle adjustment only to align the detection area parallel to the ground slope.

- 8 Fully tighten the angle adjustment screw to lock the angle.



Do not use power tools.

➡ **Go to** ^{Page} **25**

2-3. Optional Bracket (TXI-BKT) Installation for Ceiling Mount

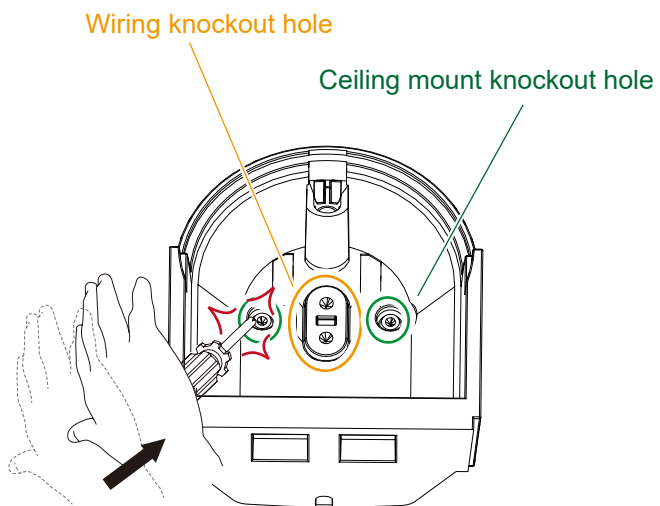
- 1 Open the optional bracket (TXI-BKT).

See page 14 for instructions on opening the optional bracket (TXI-BKT).

- 2 Break the required knockouts.

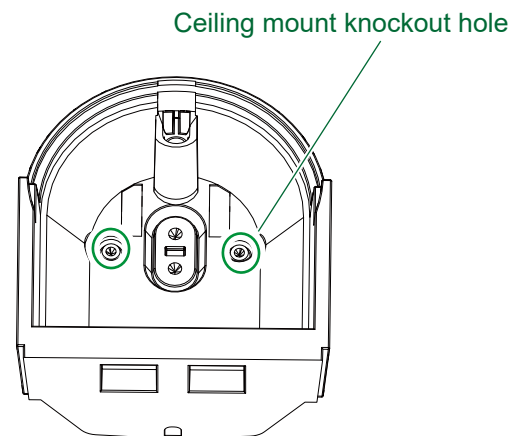
(a) Hidden Wiring

< TXI-BKT cover >

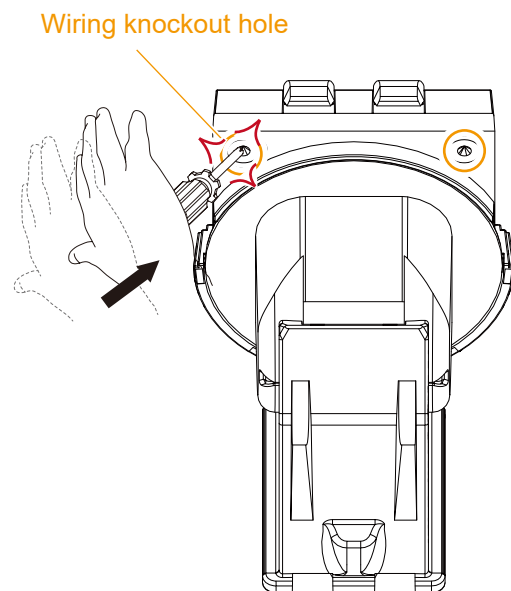


(b) Surface Wiring

< TXI-BKT cover >



< TXI-BKT base >



NOTE

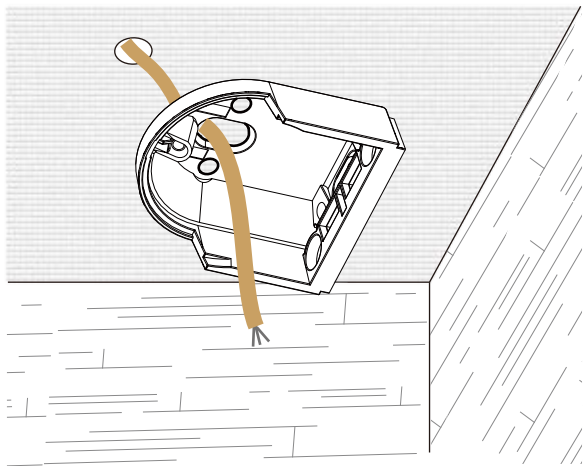
For wall mount installation with the optional bracket (TXI-BKT), see page 15.

2-3. Optional Bracket (TXI-BKT) Installation for Ceiling Mount

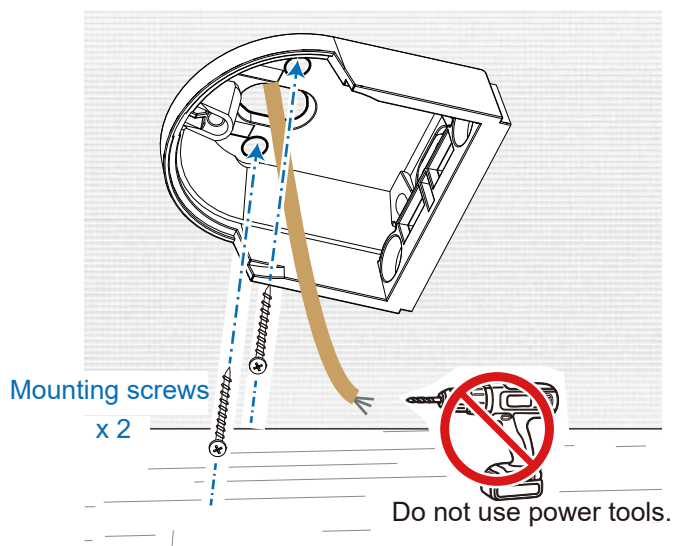
3 Mount the optional bracket(TXI-BKT)

(a) Hidden Wiring

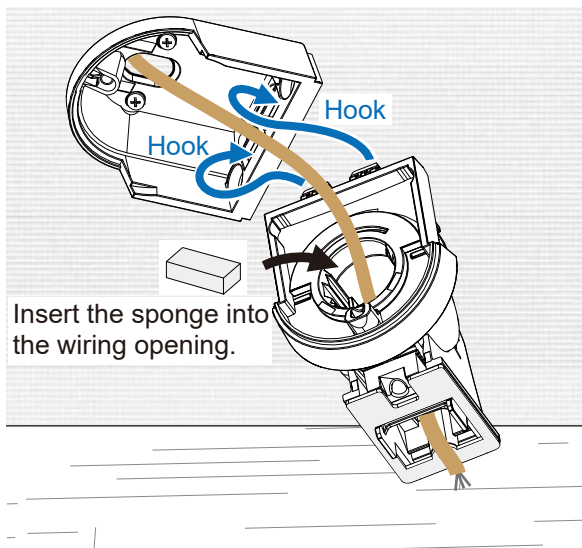
- ① Route the cable through the TXI-BKT cover.



- ② Fix the TXI-BKT cover with the mounting screws.

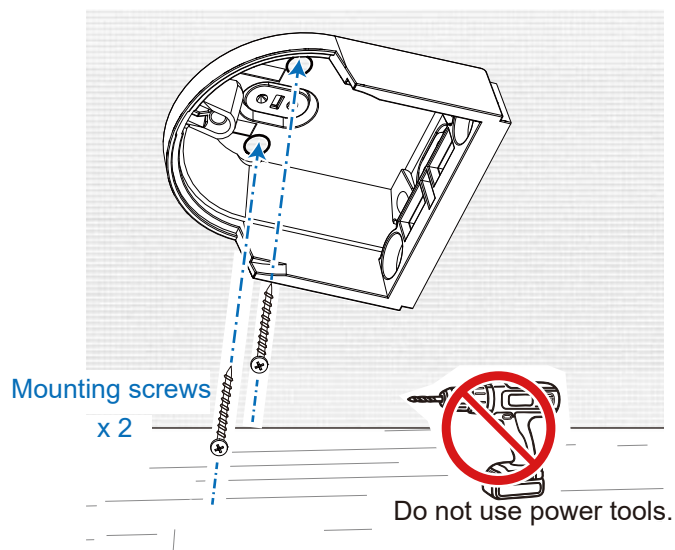


- ③ Route the cable through the TXI-BKT base.

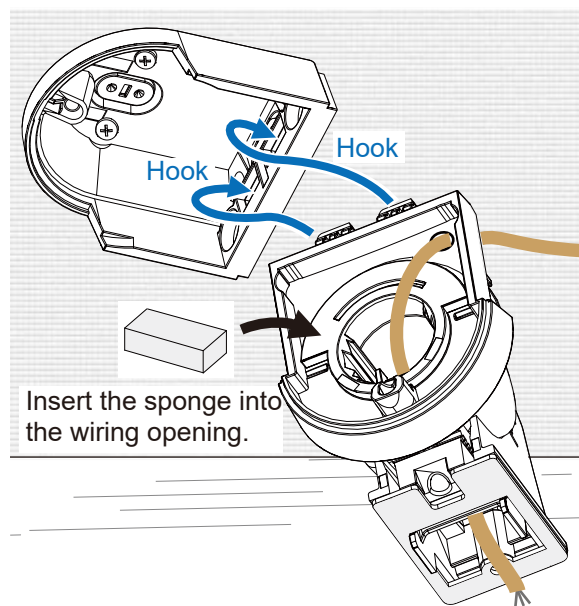


(b) Surface Wiring

- ① Fix the TXI-BKT cover with the mounting screws.



- ② Route the cable through the TXI-BKT base.



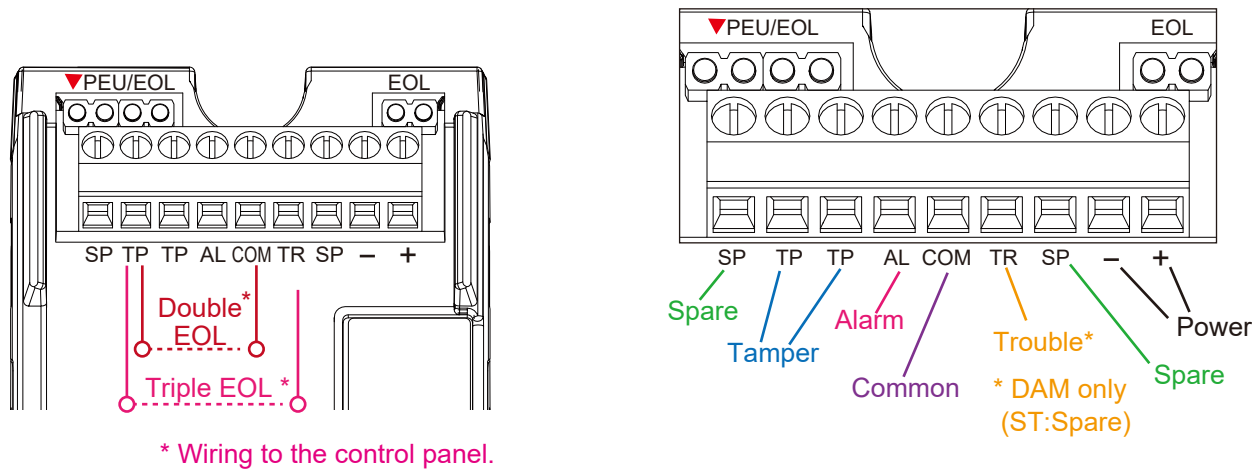
2-3. Optional Bracket (TXI-BKT) Installation for [Ceiling Mount](#)

- 4 Tighten the screw to close the optional bracket (TXI-BKT).
- 5 Route the cable through the base.
- 6 Join the base to the optional bracket (TXI-BKT).
- 7 Adjust the sensor angle as needed.
- 8 Fully tighten the angle adjustment screw to lock the angle.

See page 17–21.

2-4. Wiring

Wire to the terminal block on the main unit



Power cable length

The power cable length should not exceed the following values.

TXI-ST

WIRE GAUGE	12 VDC	14 VDC
AWG 22 (0.33 mm ²)	360 m (1,180 ft.)	780 m (2,560 ft.)
AWG 20 (0.52 mm ²)	570 m (1,870 ft.)	1,230 m (4,040 ft.)
AWG 18 (0.83 mm ²)	900 m (2,950 ft.)	1,960 m (6,430 ft.)

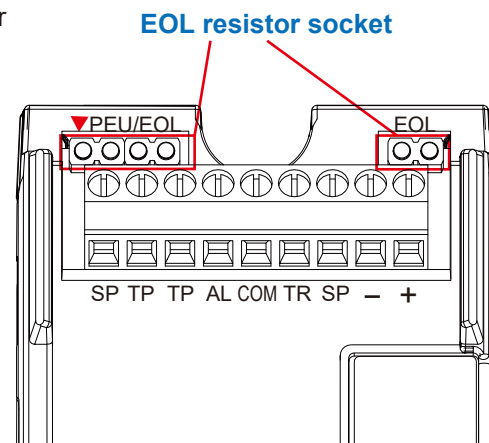
TXI-DAM

WIRE GAUGE	12 VDC	14 VDC
AWG 22 (0.33 mm ²)	300 m (980 ft.)	660 m (2,170 ft.)
AWG 20 (0.52 mm ²)	480 m (1,570 ft.)	1,030 m (3,380 ft.)
AWG 18 (0.83 mm ²)	760 m (2,490 ft.)	1,650 m (5,410 ft.)

3 Settings

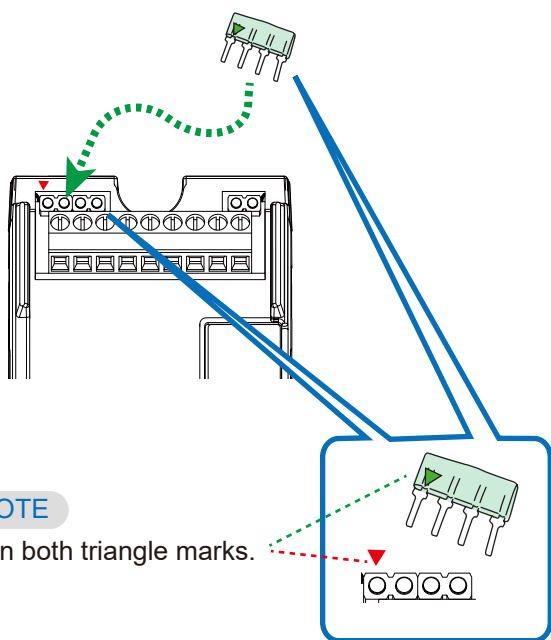
3-1. EOL Settings

Select whether to use the **EOL resistor (End Of Line resistor) socket** for
 [1] **PEU** (option sold separately), or
 [2] Processing lead wires of the resistors (not included)



[1] PEU: Plug-in End of line resistor Unit

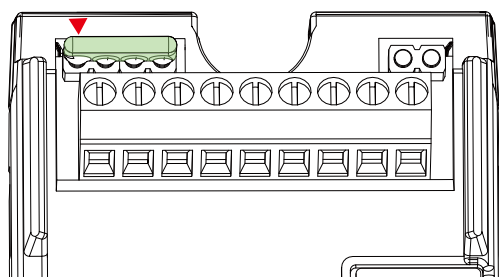
1



NOTE

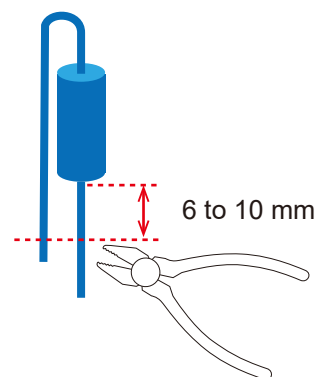
Align both triangle marks.

2

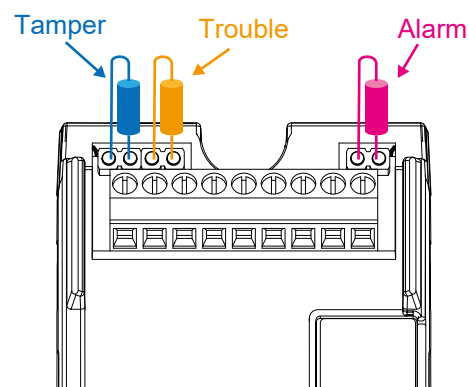


[2] Processing lead wires of the resistors

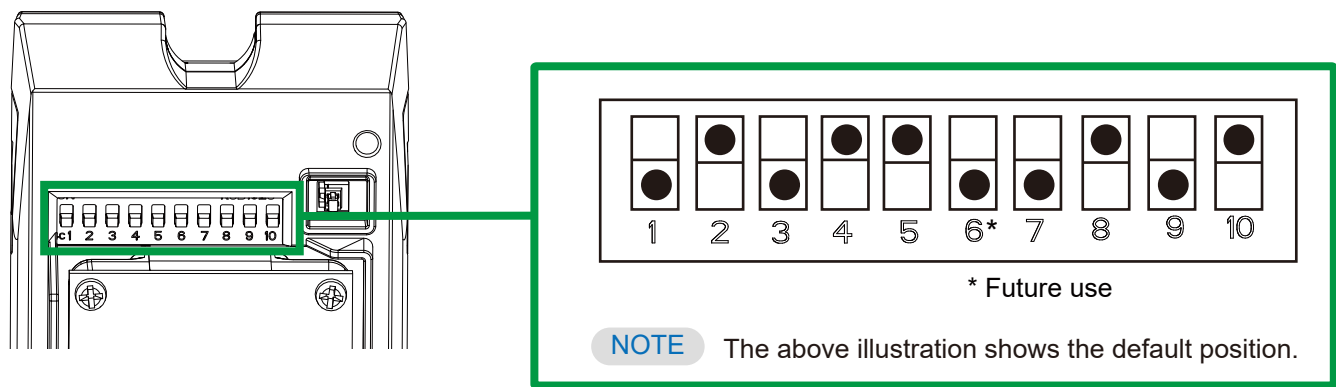
1



2



3-2. DIP Switch Settings



ST/DAM										DAM ONLY					
1		2 / 3		4		5		6		7 / 8		9 / 10			
LED ON/OFF		PIR SENS		PET TOLERANCE		TAMPER SENS				AM SENS		MW SENS			
ON		SH			H		M		Not used	H			H		
		H					M					M			
OFF		M			M		L			L			L		
		L					OFF					OFF			

DIP switch 1 :LED

ON
OFF (Factory default)

DIP switch 2,3 :PIR sensitivity

Super High
High
Middle (Factory default)
Low

DIP switch 4 :Pet tolerance

High (Factory default)
Middle

DIP switch 5 :Tamper sensitivity

High (Factory default)
Middle

DIP switch 7,8 :Anti-mask sensitivity **

High
Middle (Factory default)
Low
OFF

DIP switch 9,10: Microwave sensitivity **

High
Middle (Factory default)
Low
OFF

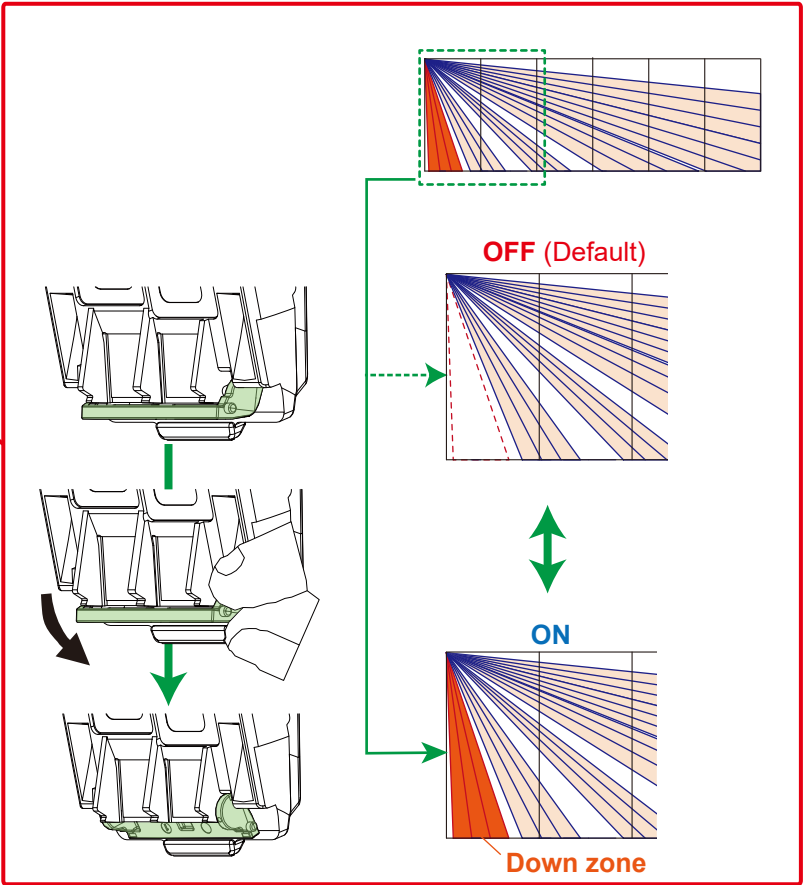
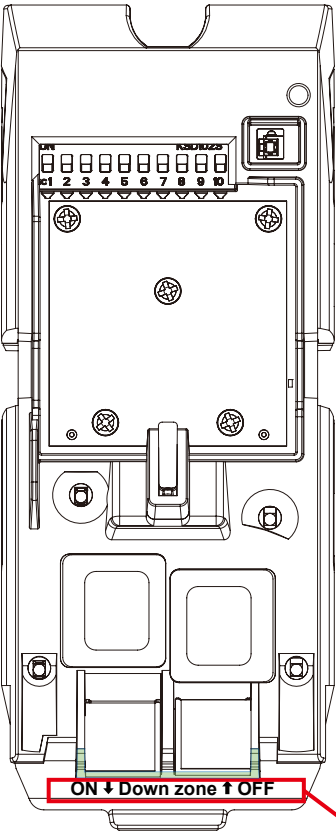
NOTE

See page 34 for the detection area.

** DAM only

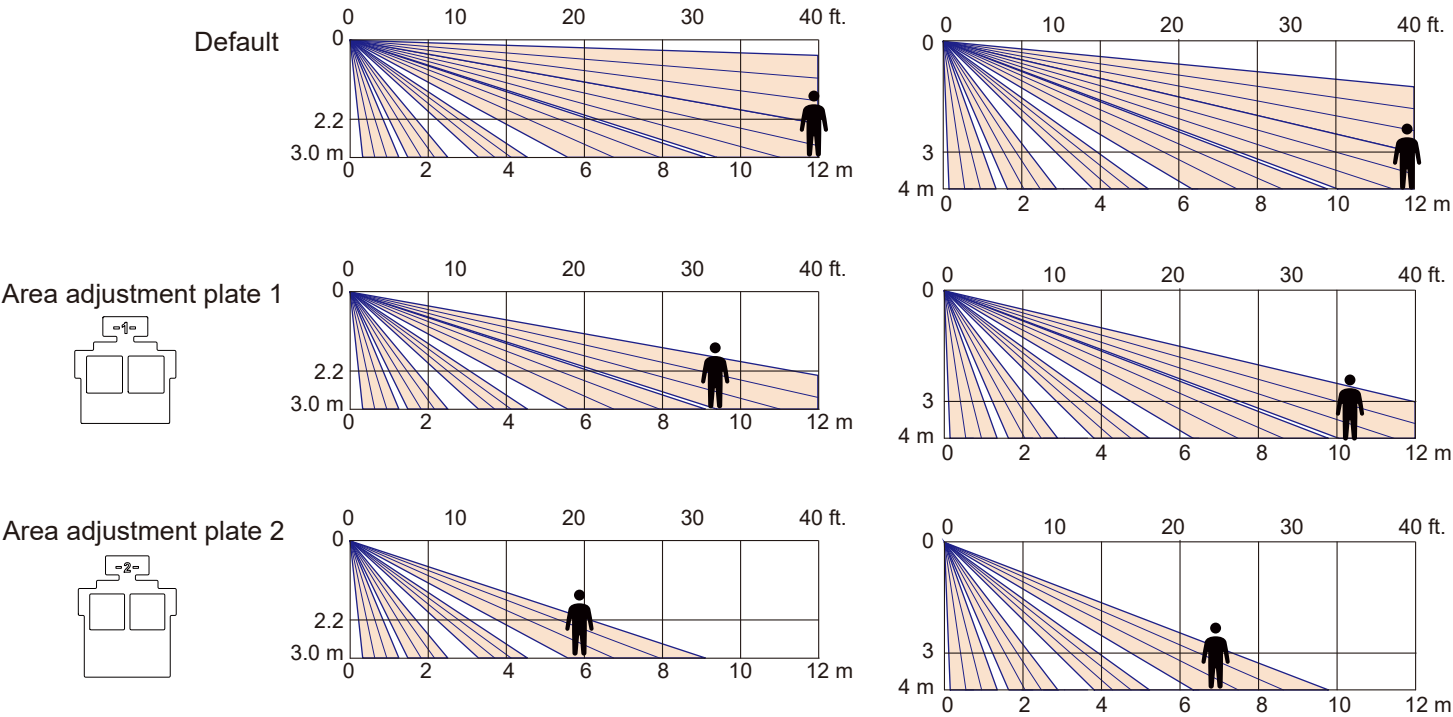
3-3. Area Adjustment

3-3-1. Down zone ON/OFF



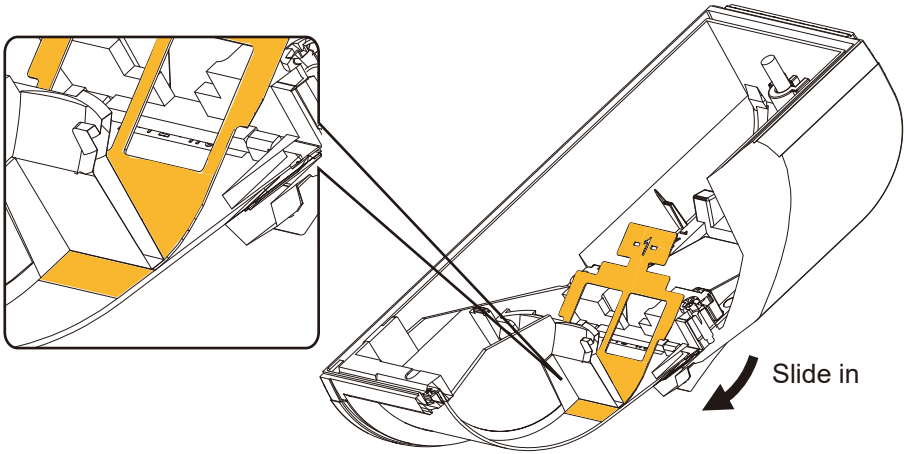
3-3-2. Detection Distance Adjustment

To limit detection distance, use the appropriate area adjustment plate.

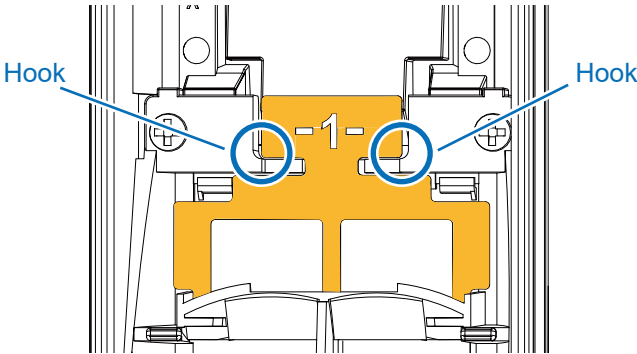


* Illustrative detection range only.

1



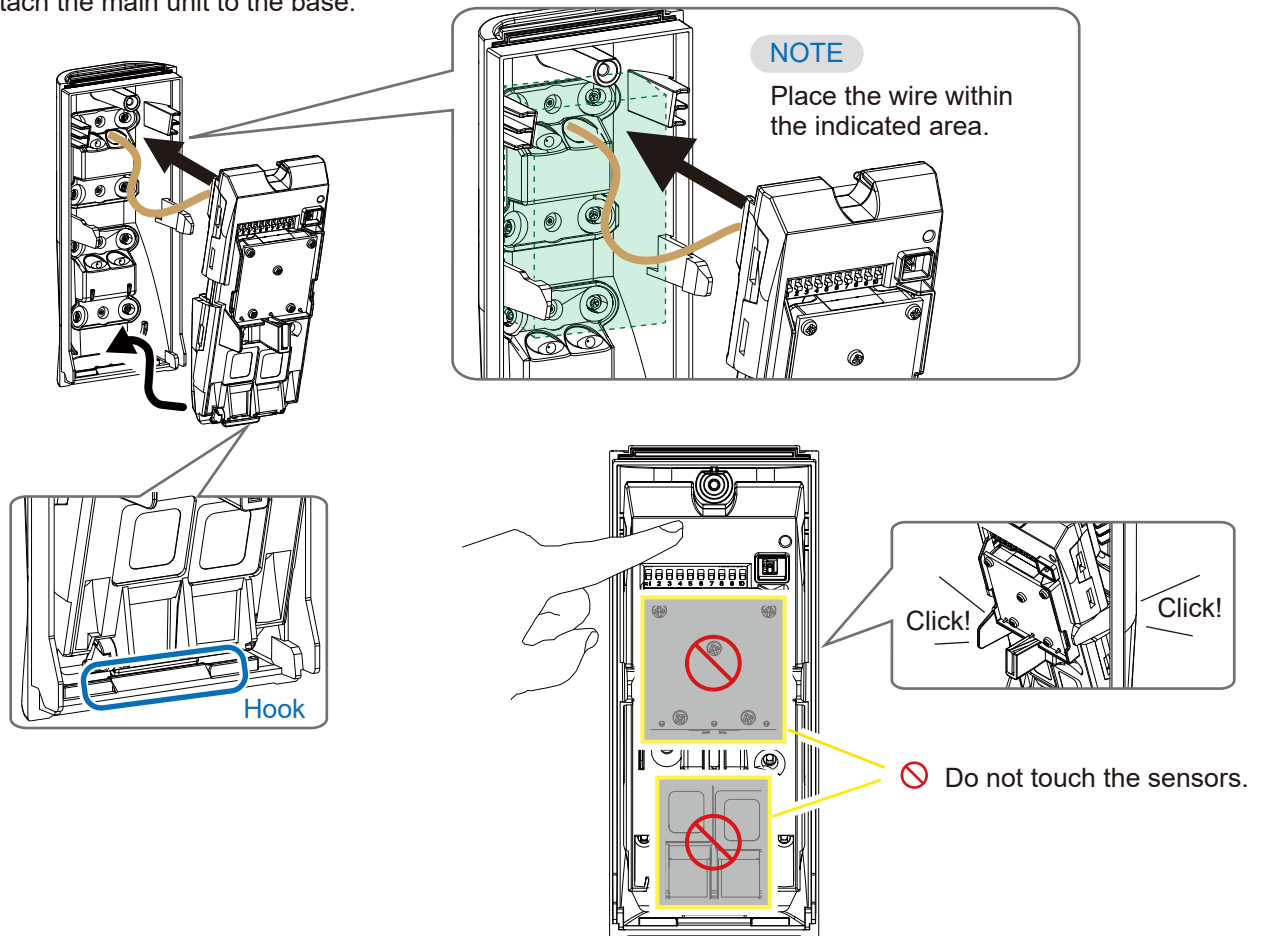
2



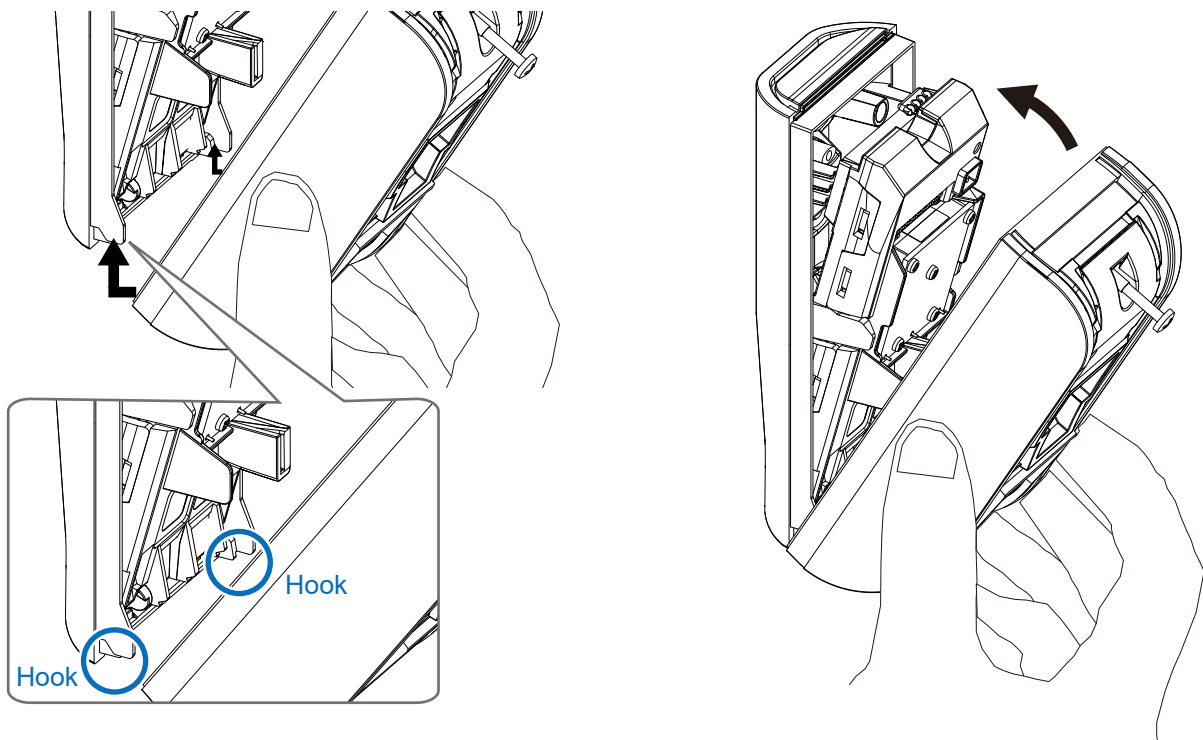
4 Inspection

4-1. Assembly

- 1 Attach the main unit to the base.

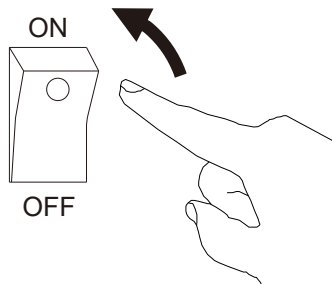


- 2 Close the cover.

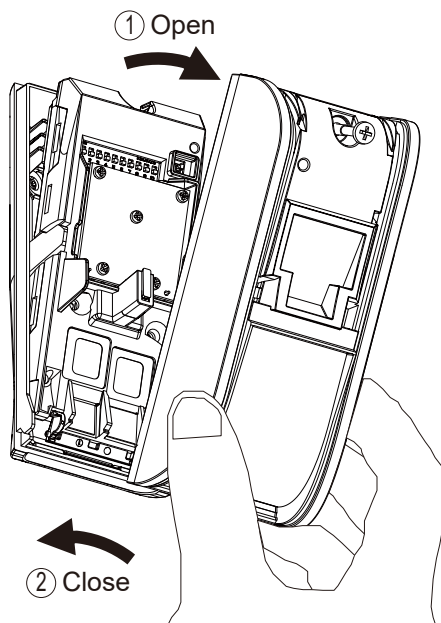


4-2. Walk Test

- 1 Power on.



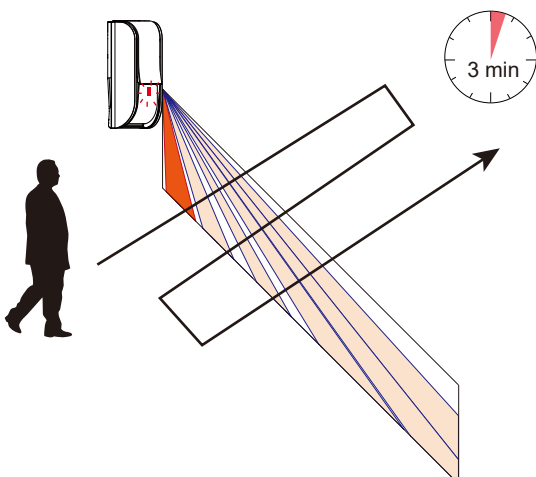
- 2 Open and close the cover.



NOTE

After the unit is powered on, opening and closing the cover will activate the tamper function and initiate Walk Test mode.

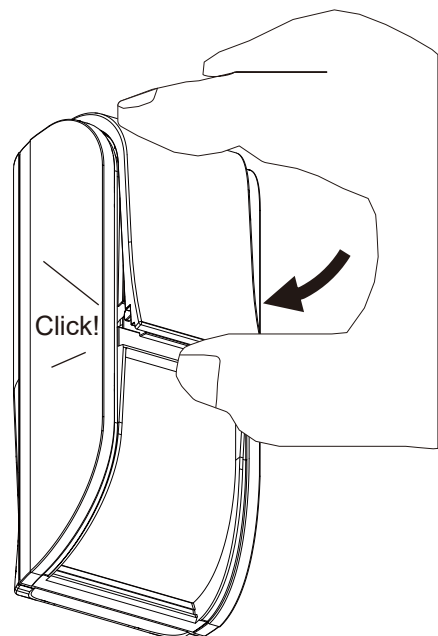
- 3 Walk within the detection area to check detection performance using the LED indicator.



- 4 Tighten the fixing screw.



- 5 Attach the lock cover.



NOTE

To perform the walk test again, open and close the cover. Conduct a walk test at least once a year.

- Specifications

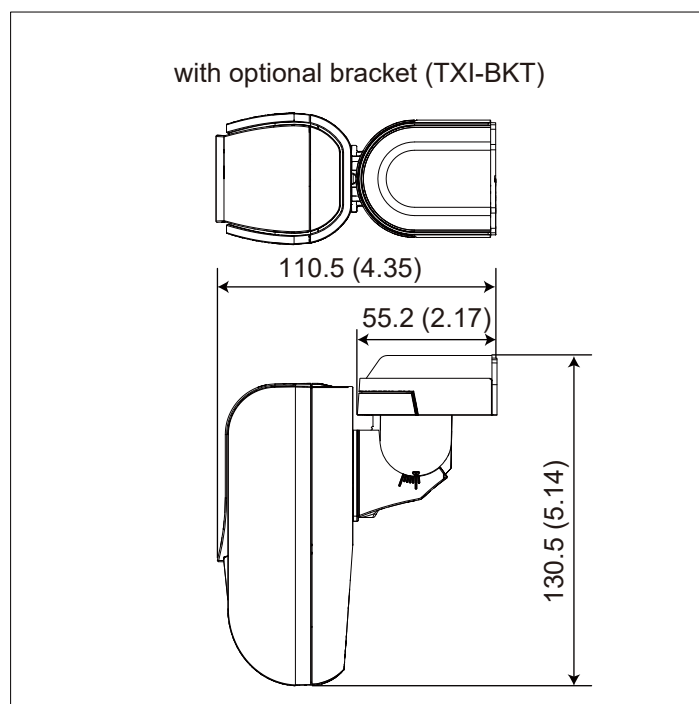
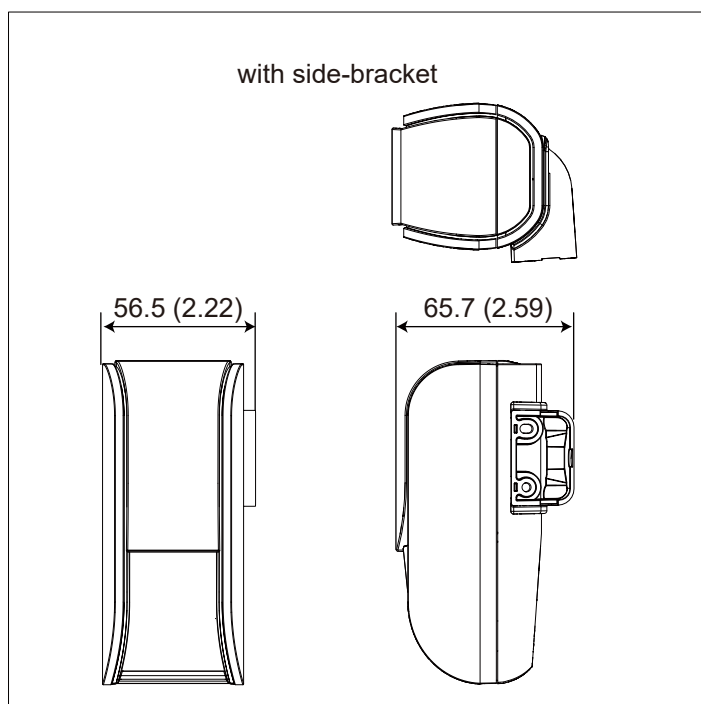
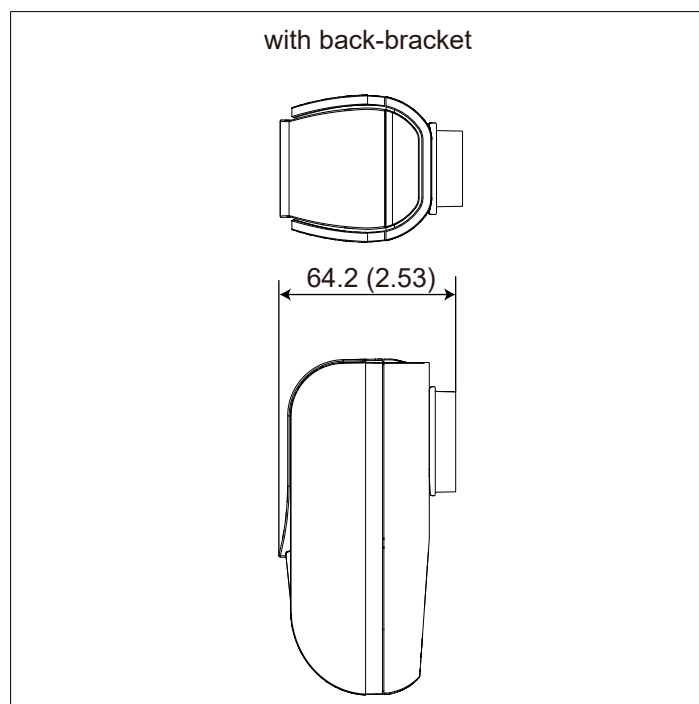
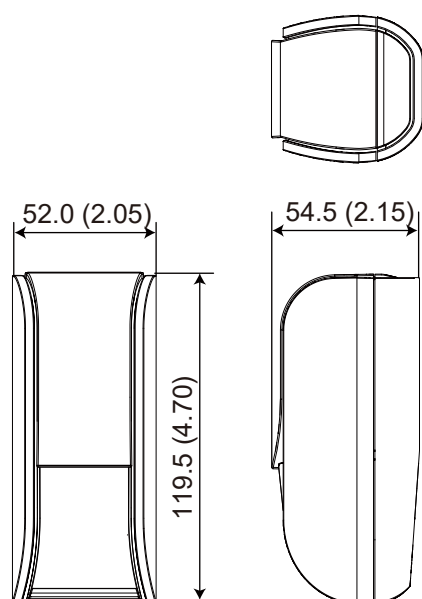
Models	TXI-ST	TXI-DAM-X5/-X8/-X9
Installation		
Detection method	Passive infrared	Passive infrared and Microwave
Coverage	12 m x 2.4 m (40' x 8')	
Mounting height	2.2 to 4.0 m (7'2" to 13'2")	
Warm-up period	60.0 ± 0.5 s	
Alarm period	2.0 ± 0.5 s	
LED indicator	Switchable ON/OFF Red LED Warm-up (Blinks for 60 s) Alarm (Lights for 2 s) Walk test mode end (fast blinks for 5 s)	Switchable ON/OFF Red LED Warm-up (Blinks for 60 s) Alarm (Lights for 2 s) Masking detection (Blinks 3 times & repeats) Walk test mode end (fast blinks for 5 s)
Electrical		
Power input	9.5 to 16 VDC	
Current draw	8 mA (normal) 16 mA (max.) at 12 VDC	12 mA (normal) 19 mA (max.) at 12 VDC
Trouble output (masking)	-	N.C. 24 VDC 0.1 A max. (Resistive load)
Alarm output	N.C. 24 VDC 0.1 A max. (Resistive load)	
Tamper output	N.C. 24 VDC 0.1 A max. (Resistive load) Open when either cover, main unit is removed.	
Environmental		
Operation temperature	-30°C to +60°C(-22°F to +140°F)	-20°C to +45°C(-4°F to +113°F)
Temperature compensation	Digital (SMDA)	
Environmental humidity	95% max.	
RF interference	No alarm 10 V/m	
IP rating	IP55	
Mechanical		
Dimension	H: 119.5 x W: 52.0 x D: 54.5 mm (H: 4.70 x W: 2.05 x D: 2.15 inch)	
Weight	Approx. 122 g (4.3 oz)	Approx. 142 g (5.0 oz)
Mounting	Wall (with included brakets [side/back]) Wall, Ceiling (with optional bracket:TXI-BKT)	
Accessories		
Mounting screw x 2, Joint screw x 2, Side-bracket x 1, Back-bracket x 1 Area adjustment plate 1 x 1, Area adjustment plate 2 x 1, Sponge x 2		

- Specifications and designs are subject to change without prior notice.
- These units are designed to detect an intruder and activate an alarm control panel.
Being only a part of a complete system, we cannot accept responsibility for any damages or other consequences resulting from an intrusion.

- Events and Responses

Events	Triggered by	Output and Remarks
Anti-masking detection	Objects close to the lens surface over 20 sec.	Trouble signals.
Walk test	Conduct a walk test at least once a year.	Keep at least 1 meter from the detector and clear of any objects.
Tamper function	Detection by the acceleration sensor or opening the cover.	When the acceleration sensor detects movement, the tamper output is held. To reset it, open and close the cover, or turn the power off and on.

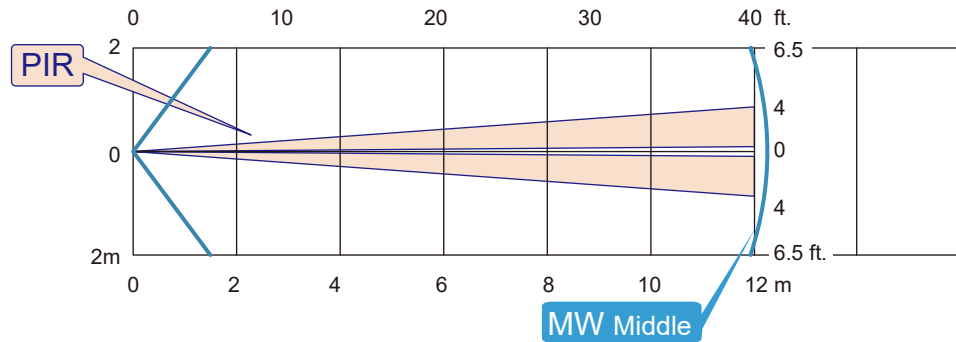
- Dimensions



Unit: mm (inch)

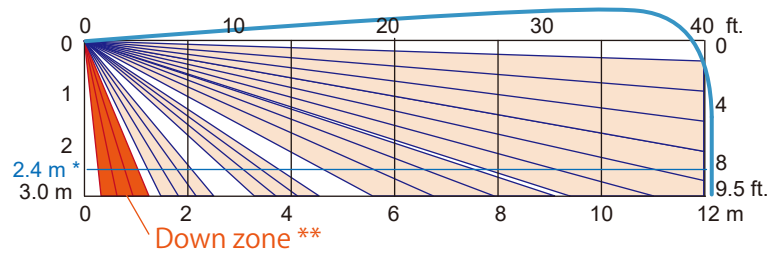
- Detection Area

- Top View -

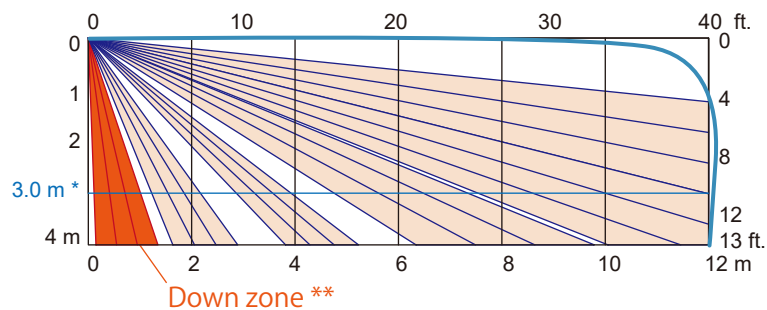


- Side View -

< Mounting height: 2.2 m to less than 3.0 m >



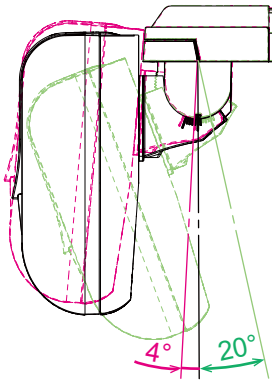
< Mounting height: 3.0 m to 4.0 m >



NOTE

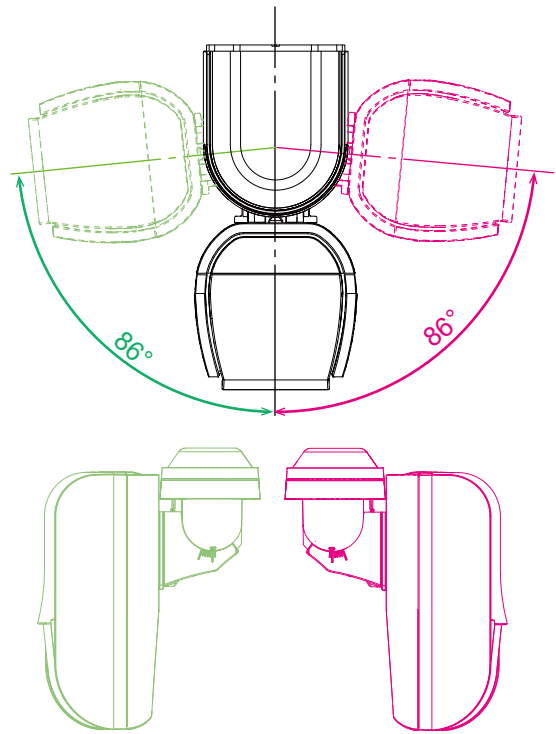
- The above detection ranges are for guidance only.
- The range and sensitivity settings for each detector must be adjusted according to the installation conditions.
- The * 2.4 m or 3.0 m dotted line indicates the recommended mounting height.
- ** Down zone can be switched on by Down zone ON/OFF (See 3-3-1).

- Angle Adjustment with Optional Bracket (TXI-BKT)



NOTE

If the cover does not reach the ceiling, it can be swung up to +4°.



- Compliance

RE Directive 2014/53/EU

- Hereby, OPTEX declares that the radio equipment type TXI-DAM-X5, TXI-DAM-X8 and TXI-DAM-X9 are in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.optex.net
- Microwave emission Frequency and Power

TXI-DAM-X5:	10.525 GHz	15.78 mW e.i.r.p
TXI-DAM-X8:	10.587 GHz	8.93 mW e.i.r.p
TXI-DAM-X9:	9.425 GHz	14.50 mW e.i.r.p
- The following list indicates the areas of intended use of the equipment and any known restrictions.
For countries not included in this list, please consult the responsible Spectrum Management Agency.
 - 10.525 GHz: Belgium, Denmark, Finland, Germany, Greece, Italy, Luxembourg, The Netherlands, Spain, Sweden, Iceland, Norway, Switzerland
 - 10.587 GHz: Belgium, France, Germany, Ireland, Luxembourg, The Netherlands, United Kingdom, Italy, Spain, Greece
 - 9.425 GHz: Austria, Czechia, Estonia, Germany, Slovakia, Turkey, Russia
- TXI-DAM-X5, TXI-DAM-X8 and TXI-DAM-X9 also comply with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

UK Radio Equipment Regulations 2017

- TXI-DAM-X8 also complies with UK radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.
- Hereby, OPTEX declares that the radio equipment type TXI-DAM-X8 is in compliance with Radio Equipment Regulations 2017. The full text of the UK declaration of conformity is available at the following internet address: www.optex.net

■ EU contact information



<https://navi.optex.net/cert/contact/>



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