



Flexible Range Indoor Detector

# FlipX series

**ADVANCED MODELS**

	Wide/Narrow area Flip lens	PIR	Anti-masking	Microwave
FLX-A-AM	✓	✓	✓	—
FLX-A-DAM-X5 *1	✓	✓	✓	✓ (10.525 GHz)
FLX-A-DAM-X8 *2	✓	✓	✓	✓ (10.587 GHz)
FLX-A-DAM-X9 *3	✓	✓	✓	✓ (9.425 GHz)

\*1 Not certified to NF

\*2 Not certified to UL and SBSC

\*3 Not certified to EN 50131-2-4, NF, INCERT, SBSC and UL

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Before installation

- Manufacturer's statement

Symbol	Meaning	Symbol	Meaning
	Failure to follow the instructions provided with this indication and improper handling may cause death or serious injury.		Check mark indicates recommendation.
	Failure to follow the instructions provided with this indication and improper handling may cause injury and/or property damage.		Nix sign indicates prohibition.
			Special attention is required to the section of this symbol.



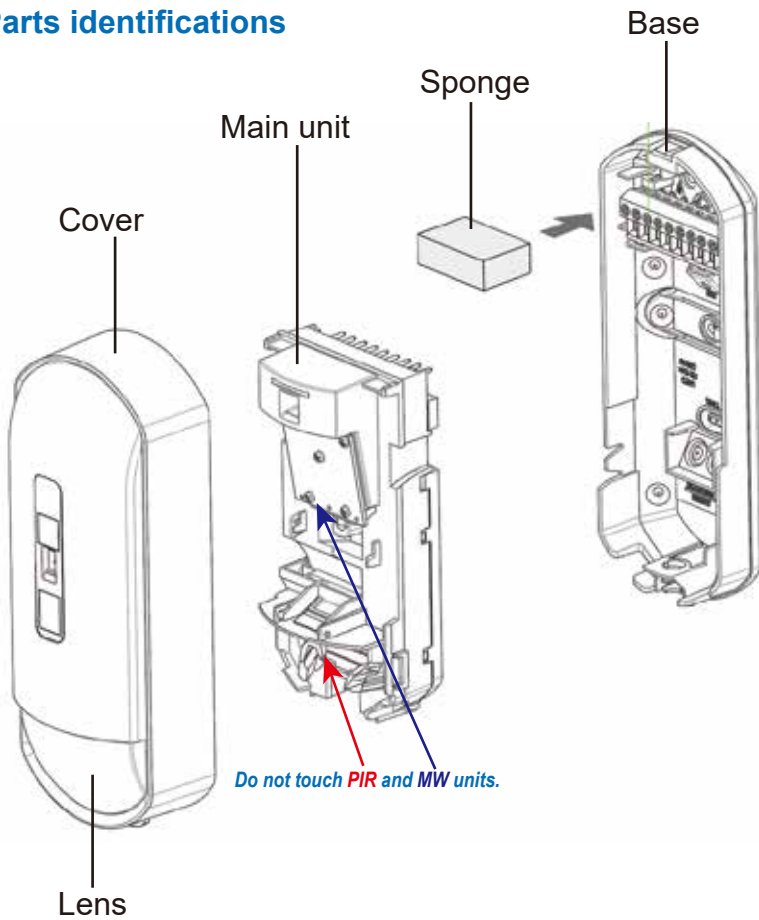
Warning



Caution



## - Parts identifications

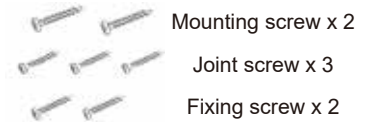
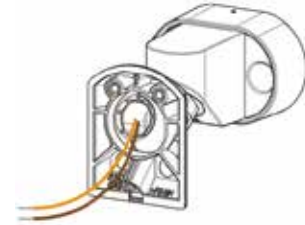


## Accessories



## Options

CW-G3 \*: Bracket for wall/ceiling mount with tamper switch



PEU \*\*: Plug-in EOL Unit



\* Not certified to SBSC.  
\*\* Not evaluated by UL

## - Anti-masking

### Overview of anti-masking

If the front of the lens is covered with obstacles over 20 seconds, an alarm and trouble will be output.

### Sensitivity setting

(Refer to "2-3 Dip switch/Volume settings" - "4 5 Anti-masking sensitivity" )

Normally, use it in "Middle" .

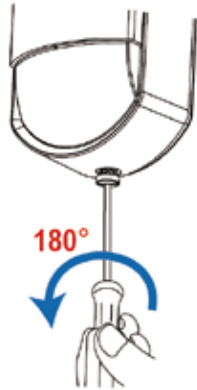
Select the "High" setting if required by any standards or sensitivity is insufficient.

If there are many false alarms, you can use "Low" , but please note that it may not be output depending on the materials and colors of the obstacles.

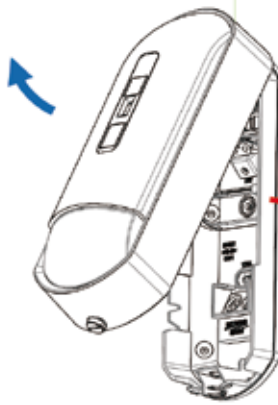
# 1 Installation

## 1-1. Disassemble

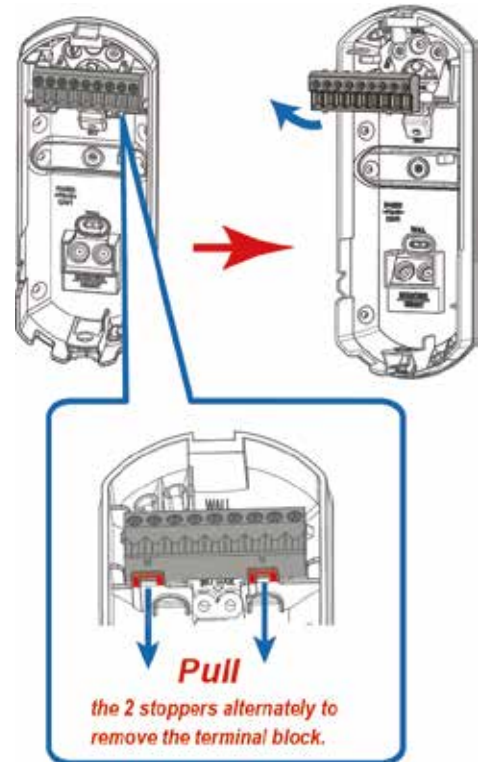
1 Unlock the cover



2 Open the cover



3 Remove the terminal block

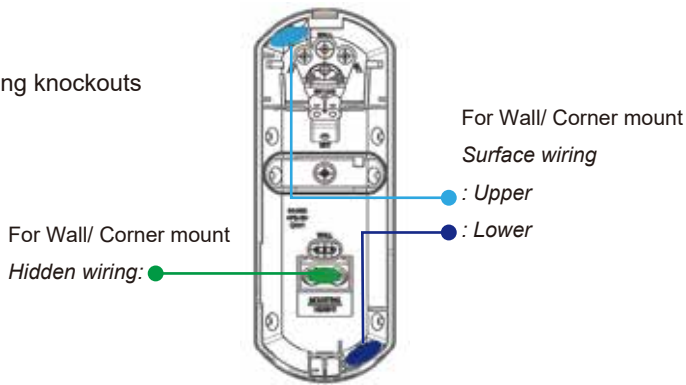


**NOTE** You do not need to remove the terminal block if it does not interfere with the mounting of the base.

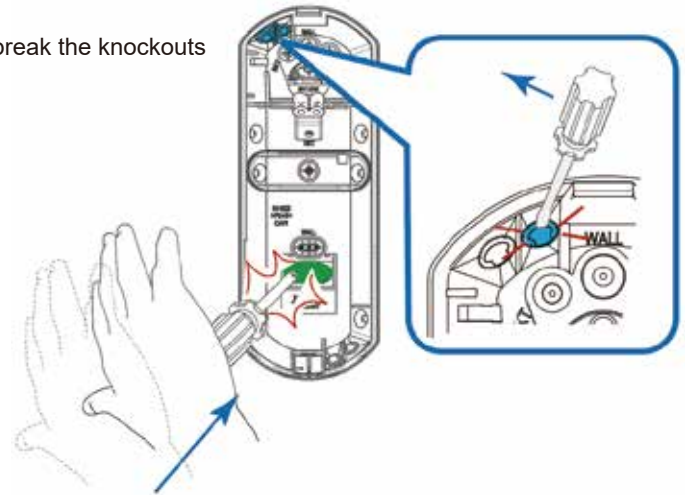
## 1-2. Wall mount without bracket

### 1 Wire through the base

Wiring knockouts

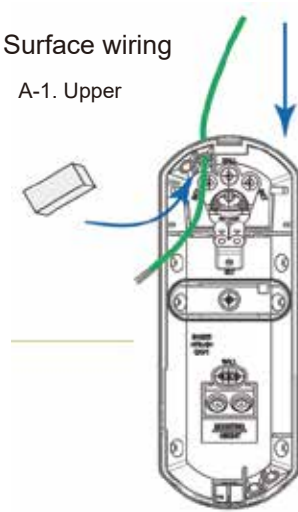


How to break the knockouts

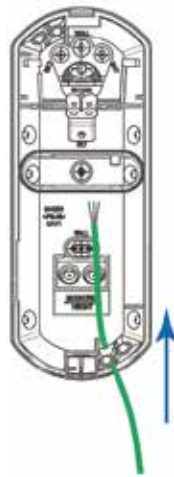


#### A. Surface wiring

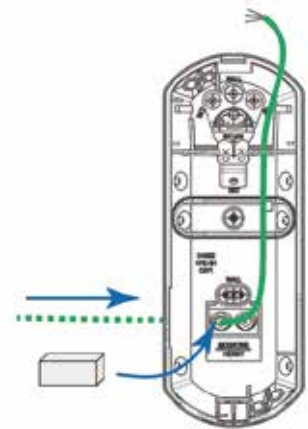
A-1. Upper



A-2. Lower

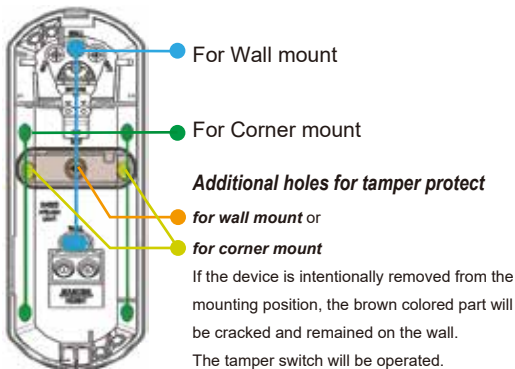


#### B. Hidden wiring

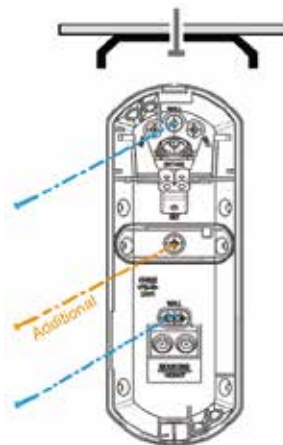


### 2 Mount the base

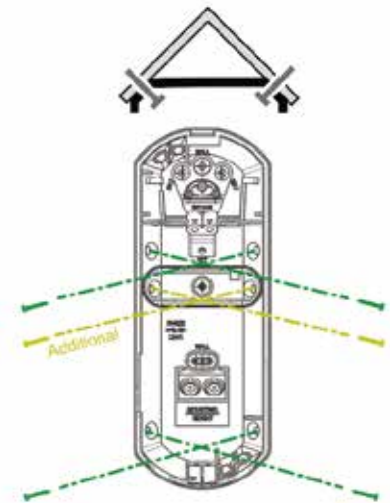
Mounting holes



a. Wall mount

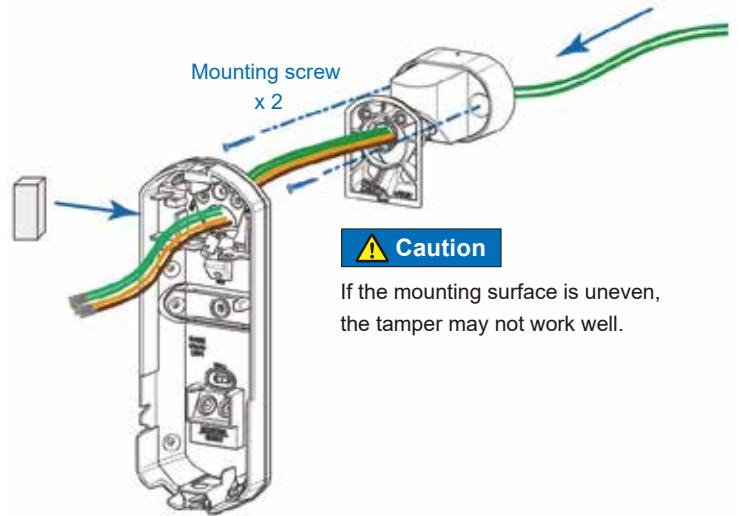
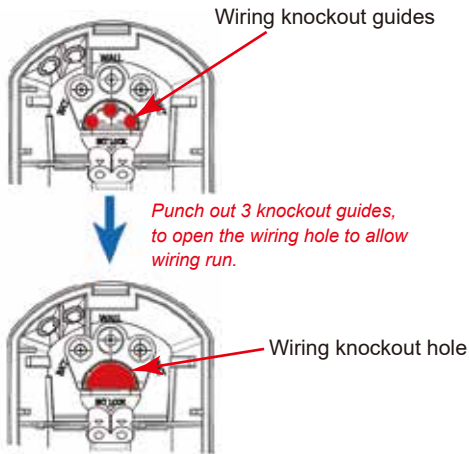


b. Corner mount



## 1-3. Wall mount with bracket

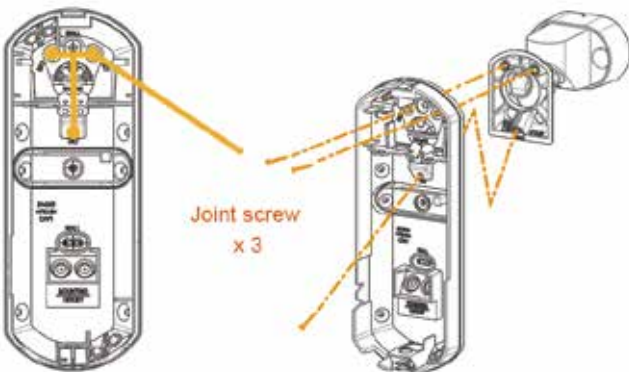
### 1 Wire and mount on the wall



#### NOTE

See page 5 for how to break the knockouts.

### 2 Join the base on the bracket



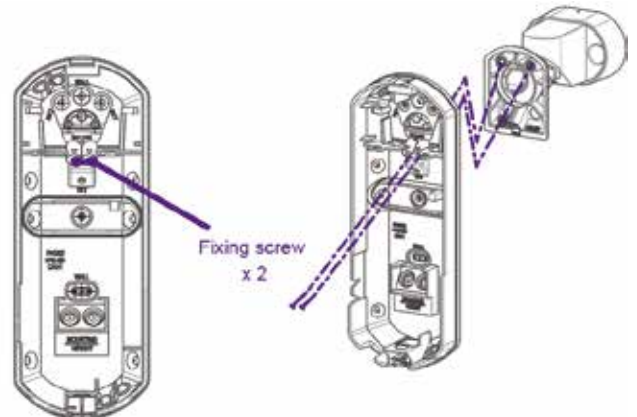
#### NOTE

Adjust the detection direction while jointing.

Confirming with a walk test is required.

--> Refer to "3-1. Walk test"

### 3 Fix the base with the fixing screws



*The bracket is basically jointed using 3 holes and 3 joint screws.  
Also use 2 additional fixing holes if a stronger fixation is required.*

#### NOTE

2 fixing screws are required for the Grade 2 \* and higher grade installation.

\* Not evaluated by UL.



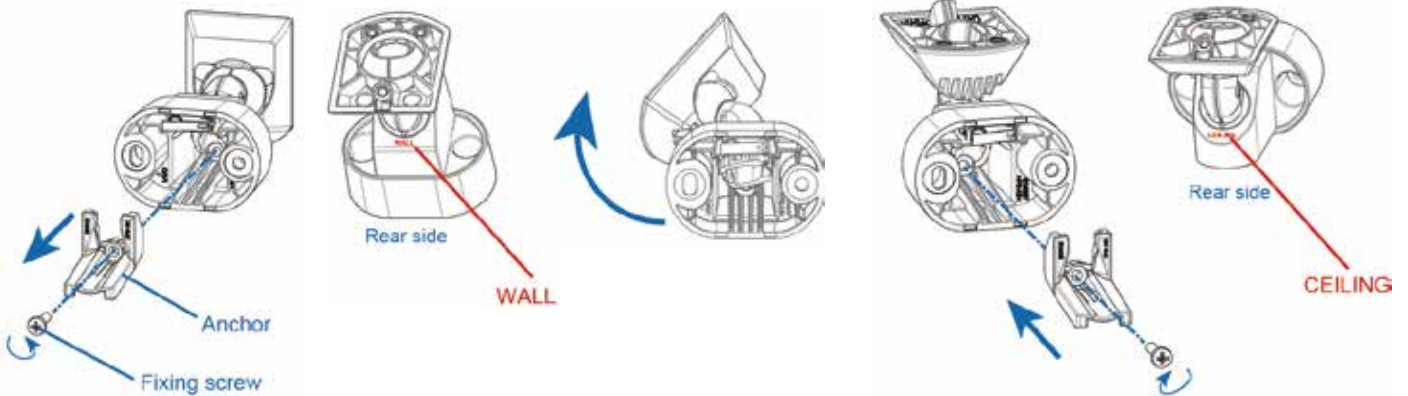
## 1-4. Ceiling mount with bracket

### How to change the bracket to the ceiling mounting

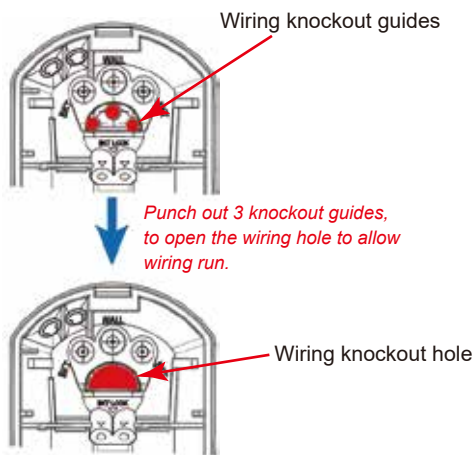
[1] Remove the fixing screw and the anchor.

[2] Rotate the body.

[3] Insert the anchor and tighten the fixing screw.



### 1 Wire and mount on the ceiling



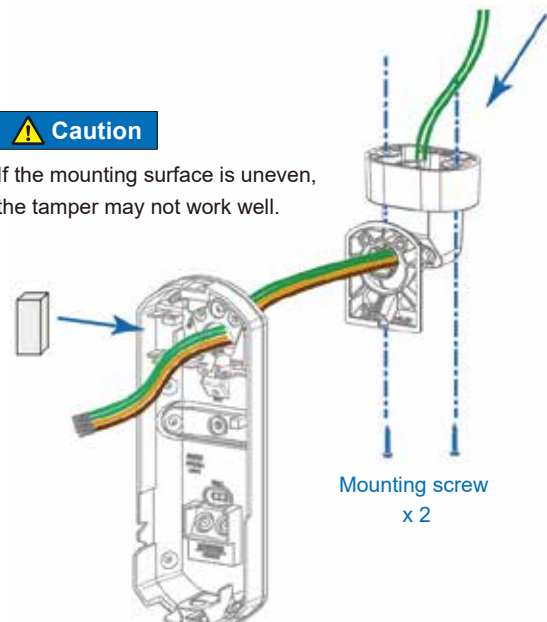
Punch out 3 knockout guides, to open the wiring hole to allow wiring run.

#### NOTE

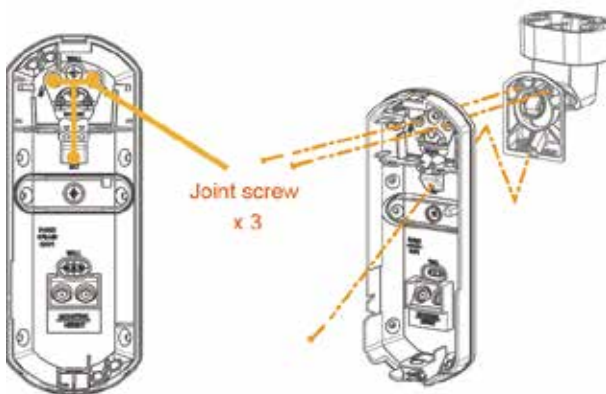
See page 5 for how to break the knockouts.

#### Caution

If the mounting surface is uneven, the tamper may not work well.



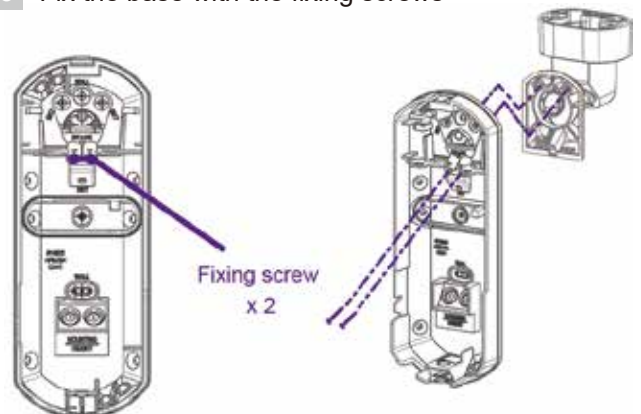
### 2 Join the base on the bracket



#### NOTE

Adjust the detection direction while jointing.  
Confirming with a walk test is required.  
--> Refer to "3-1. Walk test"

### 3 Fix the base with the fixing screws



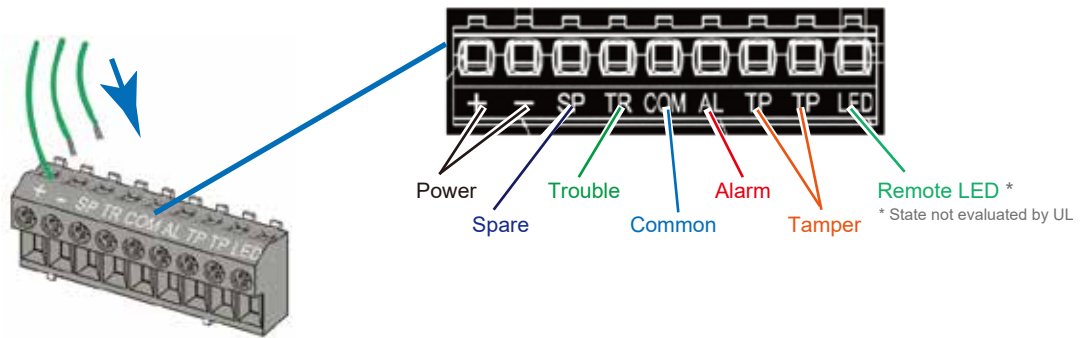
The bracket is basically jointed using 3 holes and 3 joint screws.  
Also use 2 additional fixing holes if a stronger fixation is required.

#### NOTE

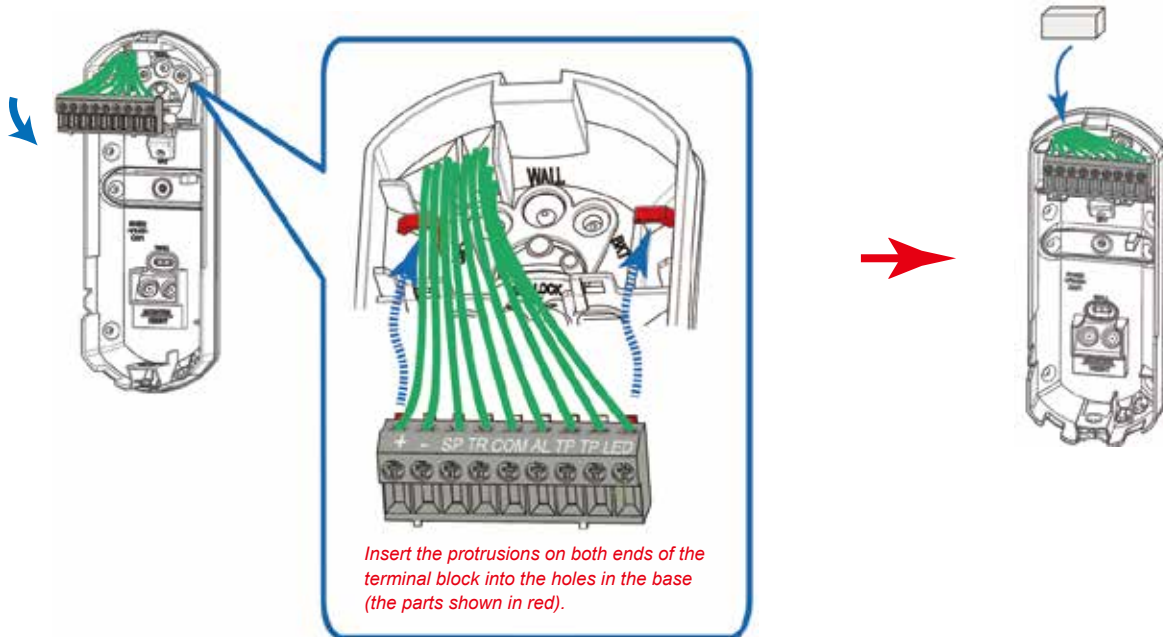
2 fixing screws are required for the Grade 2 \* and higher grade installation.  
\* Not evaluated by UL.

## 1-5. Wiring

### 1 Wire to the terminal block



### 2 Attach the terminal block to the base



### Power cable length

The power cable should be limited to the following length.

#### FLX-A-AM

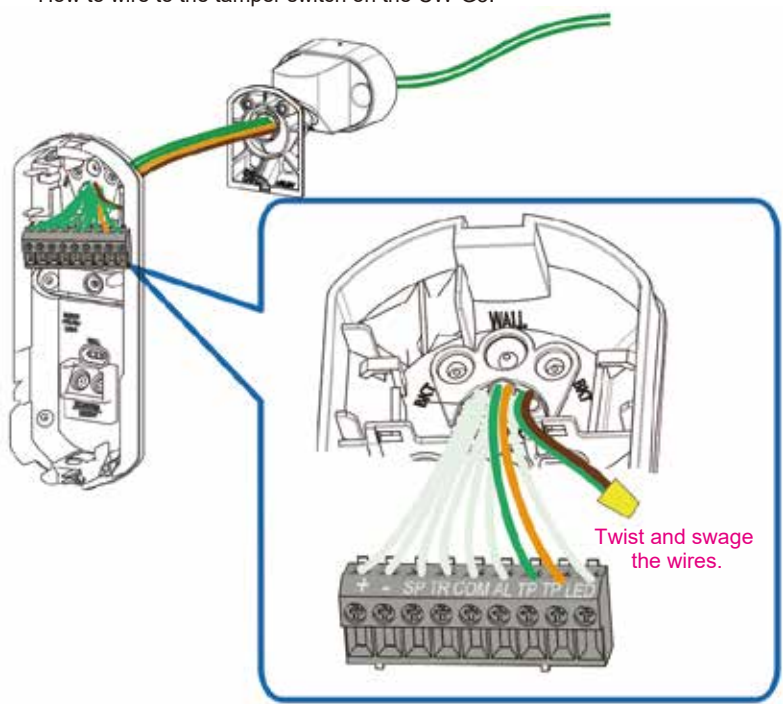
WIRE GAUGE	12 V DC	14 V DC
AWG 22 (0.33 mm <sup>2</sup> )	360 m (1,180 ft.)	780 m (2,560 ft.)
AWG 20 (0.52 mm <sup>2</sup> )	570 m (1,870 ft.)	1,230 m (4,040 ft.)
AWG 18 (0.83 mm <sup>2</sup> )	900 m (2,950 ft.)	1,960 m (6,430 ft.)

#### FLX-A-DAM

WIRE GAUGE	12 V DC	14 V DC
AWG 22 (0.33 mm <sup>2</sup> )	270 m (890 ft.)	590 m (1,940 ft.)
AWG 20 (0.52 mm <sup>2</sup> )	430 m (1,410 ft.)	940 m (3,080 ft.)
AWG 18 (0.83 mm <sup>2</sup> )	690 m (2,260 ft.)	1,490 m (4,890 ft.)

#### NOTE

How to wire to the tamper switch on the CW-G3.



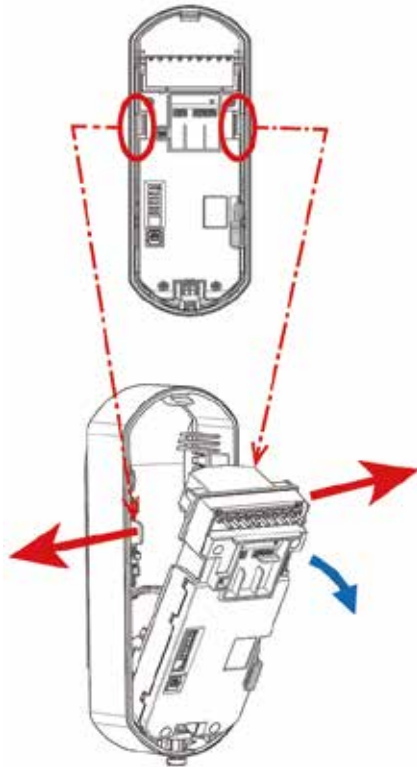


## 2 Settings

### 2-1. Wide/Narrow setting

→ Go to 2-2 on <sup>Page</sup> 11 to skip 2-1 when using the default "Wide" setting.

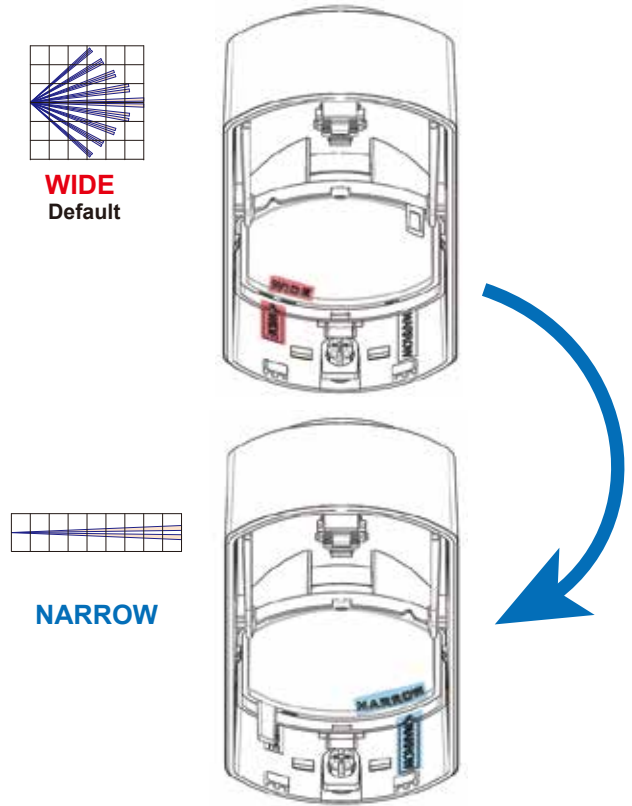
#### 1 Remove the main unit



#### NOTE

- Opening the hooked part as the red arrows indicate makes it easy to take out the main unit.

#### 2 Change the Flip lens from "Wide" to "Narrow"



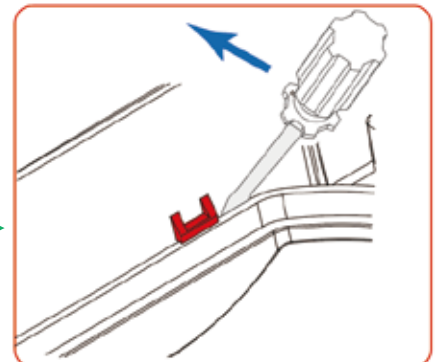
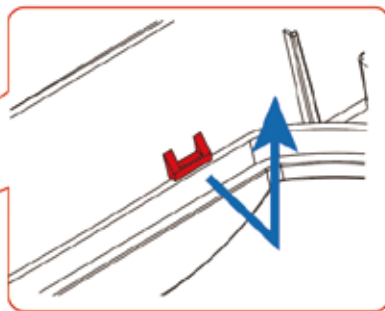
#### NOTE

- Install the lens so that the letters on the cover and on the lens match your intention.
- By changing the lens setting, the internal circuit automatically switches between Narrow and Wide.

#### How to remove the lens

Get over the rib, then pull up the lens.

If it is difficult to get over, use a flat head screwdriver.

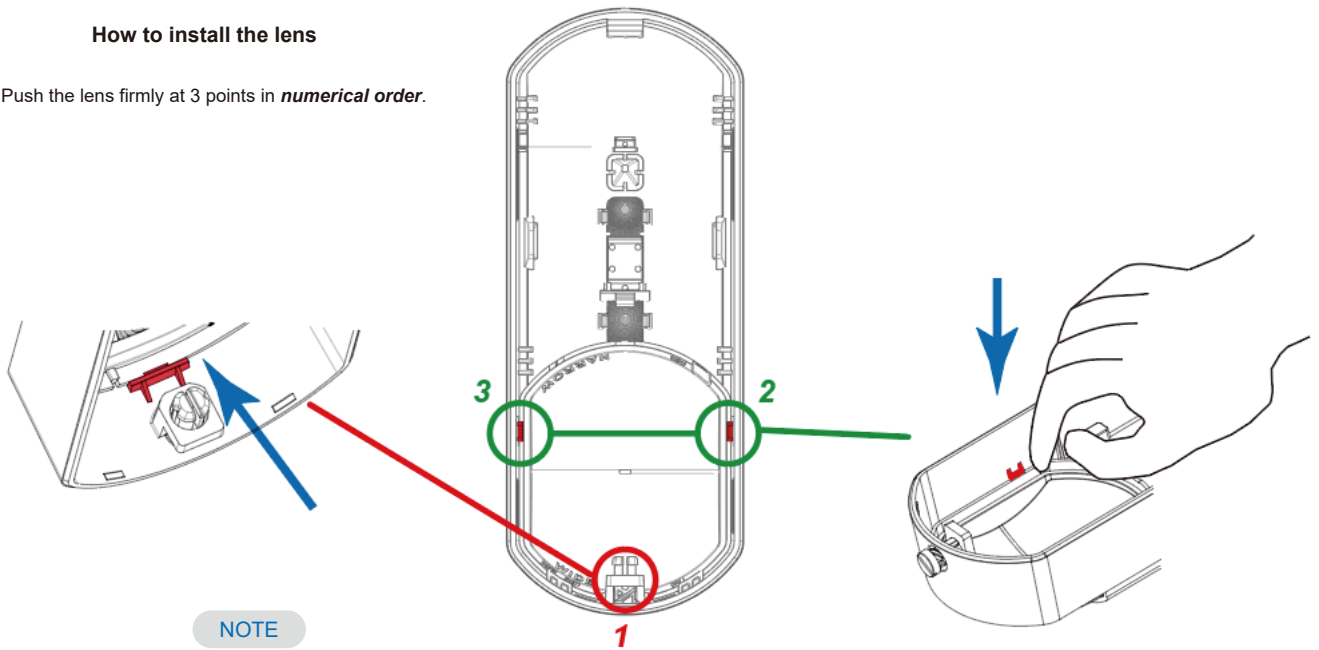


#### Caution

- Be careful not to damage the lens with a screwdriver.

### How to install the lens

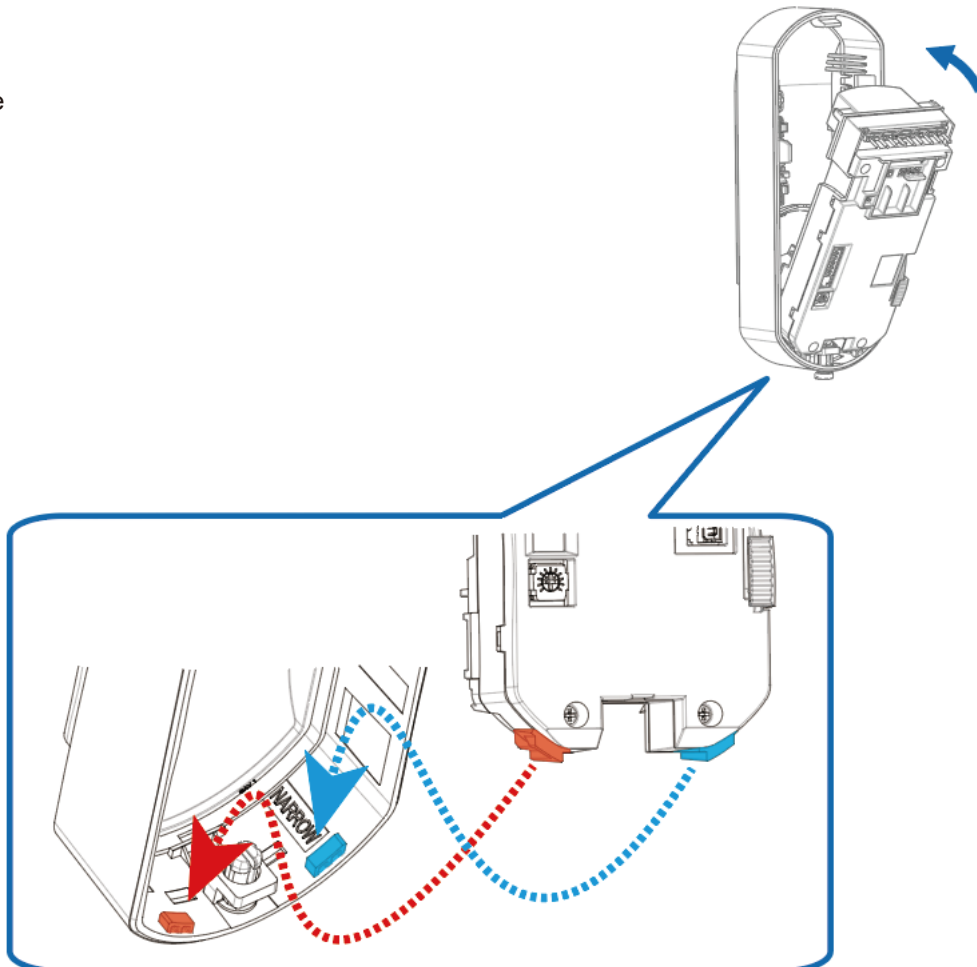
Push the lens firmly at 3 points in *numerical order*.



#### NOTE

- By changing the lens, the internal settings of “Wide” and “Narrow” are automatically switched. It is not necessary to change the settings such as DIP switches.
- When the lens is set to the “Narrow” position, MW detection will be disabled automatically.

### 3 Assemble

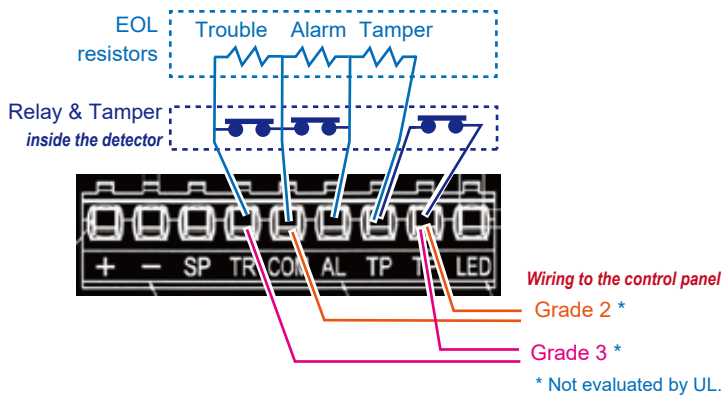


## 2-2. EOL settings

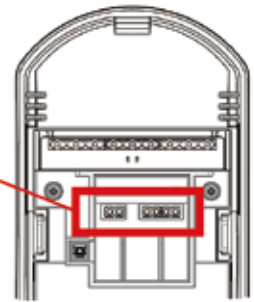
Select whether to use the **EOL resistor (End Of Line resistor) socket** for

[1] **PEU** (option sold separately), or

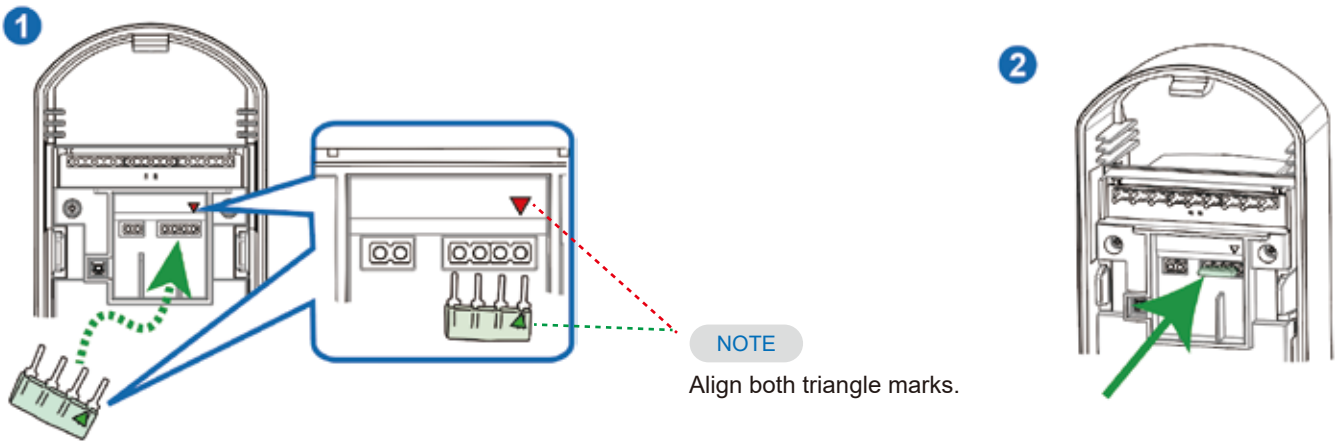
[2] Processing lead wires of the resistors (not included)



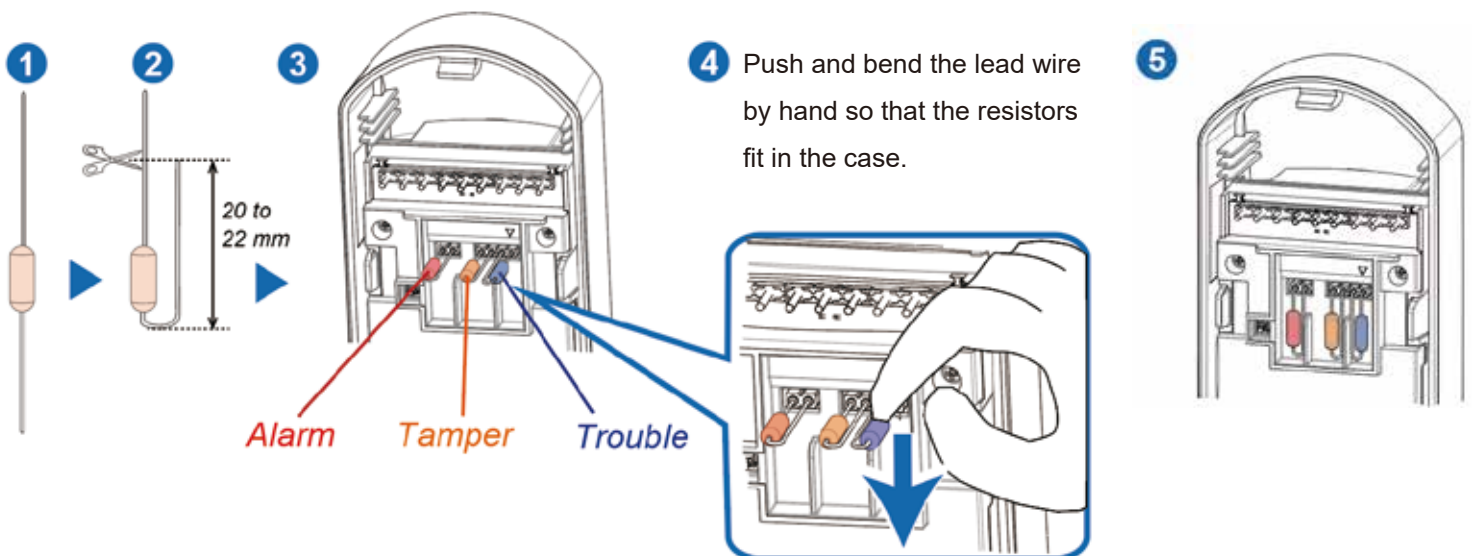
EOL resistor socket



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



### [2] Processing lead wires of the resistors



## 2-3. DIP switch settings

### 1 LED



ON: LED is activated always.  
 OFF\*: LED can be controlled through the Remote LED terminal.

[ Open; OFF 0 V; ON ]

\* Certified to EN , SBSC and INCERT when set to "OFF"

### 2 3 PIR sensitivity

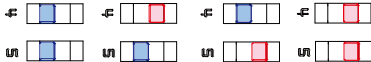
Low Middle\* High\* Super High\*



\* certified to EN, SBSC and INCERT

### 4 5 Anti-masking sensitivity

OFF Low Middle High\*



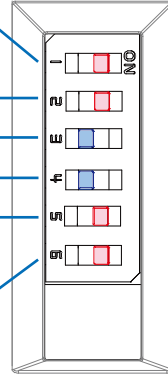
\* certified to EN, SBSC and INCERT

### 6 PIR MW LED\*



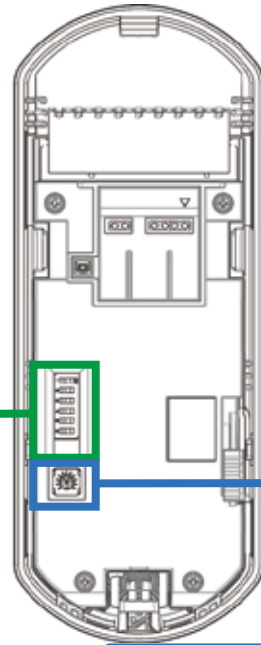
\* FLX-A-DAM only

\*\* FLX-A-DAM complies EN50131-2-4 when set to "OFF"



#### NOTE

Above Illustration shows the **default** position.



## 2-4. Volume setting

[ FLX-A-DAM only ]

Microwave sensitivity

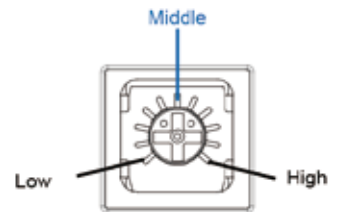
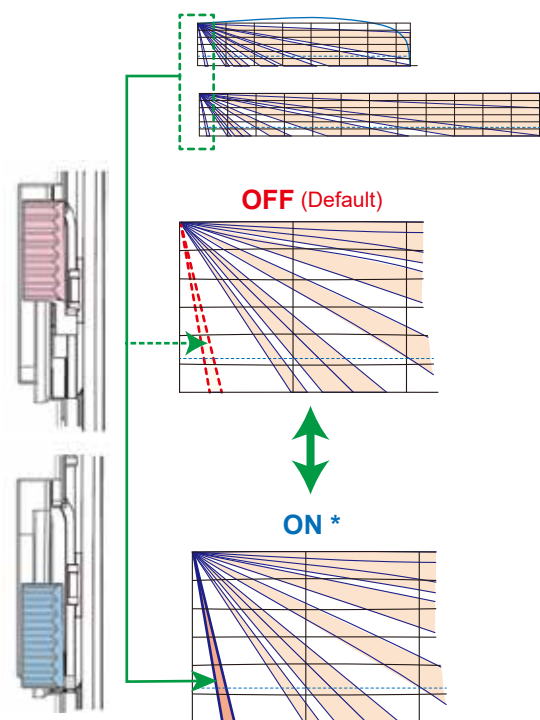
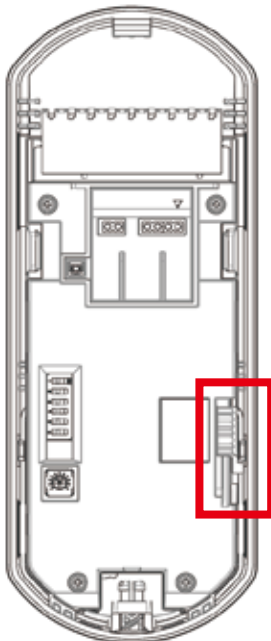


Illustration shows the **default** position.

## 2-5. Down zone ON/OFF

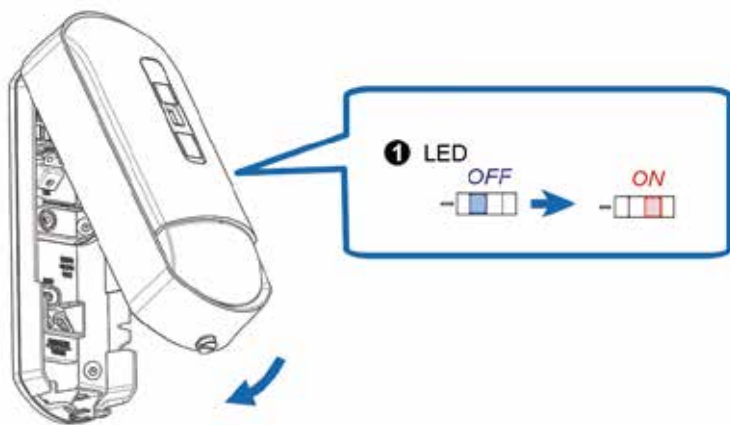


\* It must be set ON for Grade 3. (not evaluated by UL)

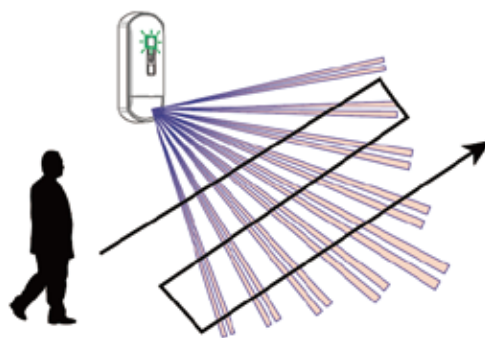
### 3 Checking

#### 3-1. Walk test

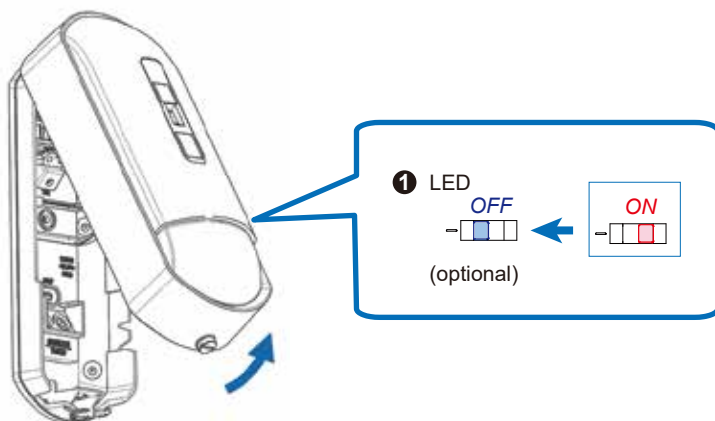
1 Confirm that the LED switch is "ON", then close the cover.



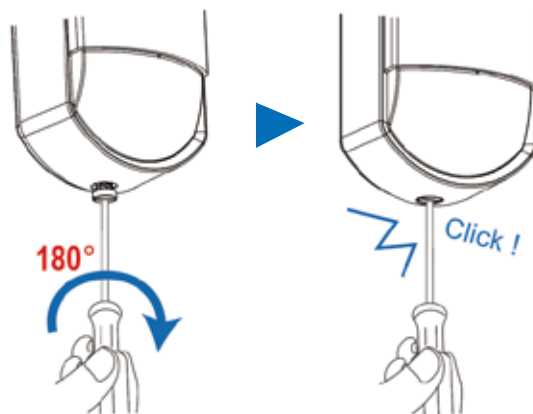
2 Walk in the detection area to check the detecting performance via LED indication.



3 Return the LED switch to "OFF" after the walk test, if necessary.



4 Lock the cover



#### NOTE

Conduct a walk test at least once a year.



## - Specifications

Models	FLX-A-AM	FLX-A-DAM-X5/-X8/-X9
<b>Installation</b>		
Detection method	Passive infrared	Passive infrared and Microwave <input type="checkbox"/> ***
Coverage	Wide: 15 m (50 ft.) 85°, Narrow: 24 m (80 ft.) 5° (No MW detection at "Narrow" setting)	
Detection zones	Wide: 80 zones/ Narrow: 20 zones	
Mounting height	2.0 to 3.0 m (6'7" to 9'8")	
Alarm period	2.0 ± 0.5 s	
Warm-up period	Approx. 60 s (LED blinks)	
LED indicator <input type="checkbox"/> **	<b>Switchable ON/OFF</b> Multiple: Warm-up Green: Alarm and Masking detection Yellow: Self test error Red: Low voltage	<b>Switchable ON/OFF</b> Multiple: Warm-up Green: Alarm and Masking detection Purple: PIR detection Yellow: Microwave detection and self test error Red: Low voltage
<b>Electrical</b>		
Power input	9.5 to 16 V DC <input type="checkbox"/> *	
Current draw	12 mA (normal) 16 mA (max.) at 12 V DC	16 mA (normal) 21 mA (max.) at 12 V DC
Relay output	Trouble	N.C. 24 V DC 0.1 A max. (Resistive load)
	Alarm	N.C. 24 V DC 0.1 A max. (Resistive load)
	Tamper	N.C. 24 V DC 0.1 A max. (Resistive load) (Open when the cover is removed.)
Remote LED	Terminal: open = OFF 0 V = ON	
<b>Environmental</b>		
Operation temperature	-20°C to +50°C(-4°F to +122°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	
<b>Mechanical</b>		
Dimension	H: 159.1 x W: 62.2 x D: 55.7 mm (H: 6.26" x W: 2.45" x D: 2.19")	
Weight	Approx. 180 g (6.35 oz)	Approx. 200 g (7.05 oz)
Mounting	Wall, Corner (Indoor) (with Bracket : Wall, Corner, Ceiling)	

- 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.

\* Shall be powered via a UL listed burglar alarm class 2 output power limited power supply that has a minimum standby power of 4 hrs.

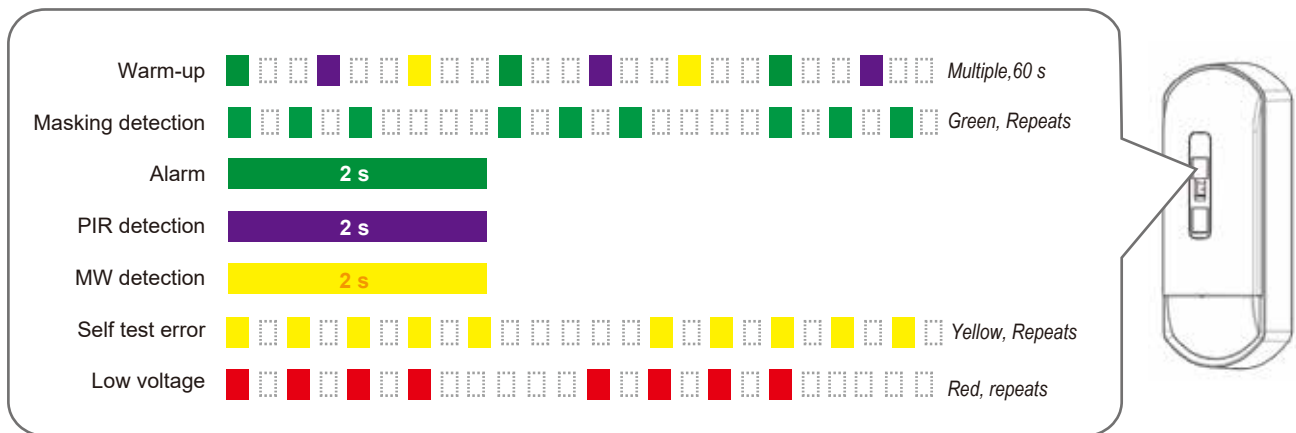
\*\* When DIP Switch 1 is turned off, all LED indications except Warm-up period are turned off. When DIP Switch 6 is turned off, LED indications for PIR and MW detections are turned off (Others, includes Self test error, stay ON).

\*\*\* When Microwave is enabled for UL compliance, it shall be set to high sensitivity. Setting to a lower sensitivity may impact and lessen range of the unit.

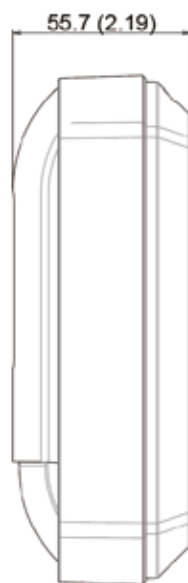
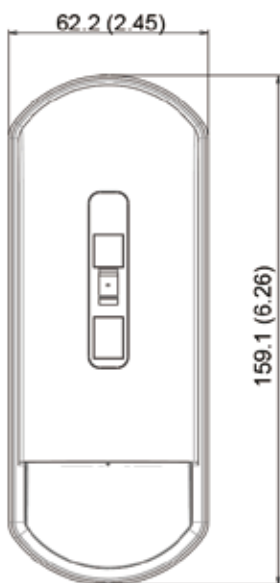
## - Events and responses

Events	Triggered by	Output & Remarks
Anti-masking detection	Objects close to the lens surface over 20 sec.	Alarm and Trouble signals.
Local self test	Controlled by detector' s circuit periodically. (PIR and Microwave are tested at the same time.)	Fail; Trouble signal. (Detector doesn't work for about 10 seconds during local self test.)
Walk test	Conduct a walk test at least once a year.	Keep at least 1 meter from the detector and clear of any objects.
Low voltage detection	Voltage drop.	Trouble signal

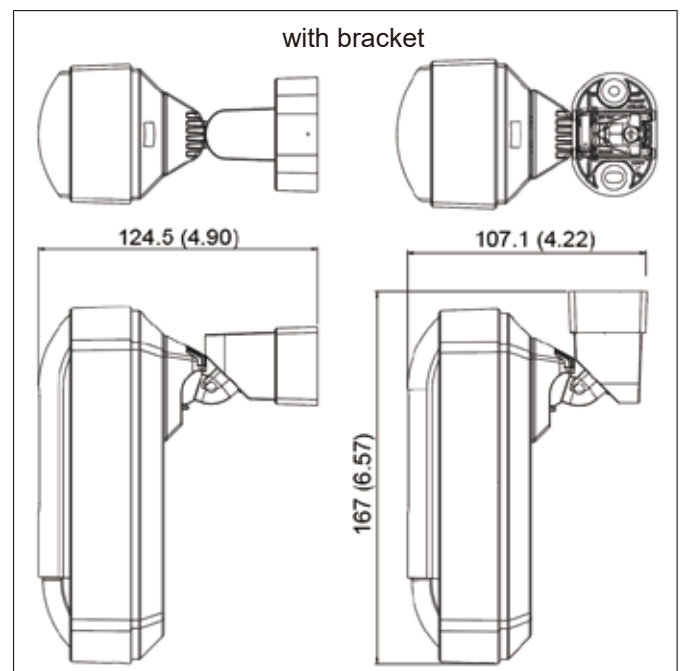
## - LED indications



## - Dimensions

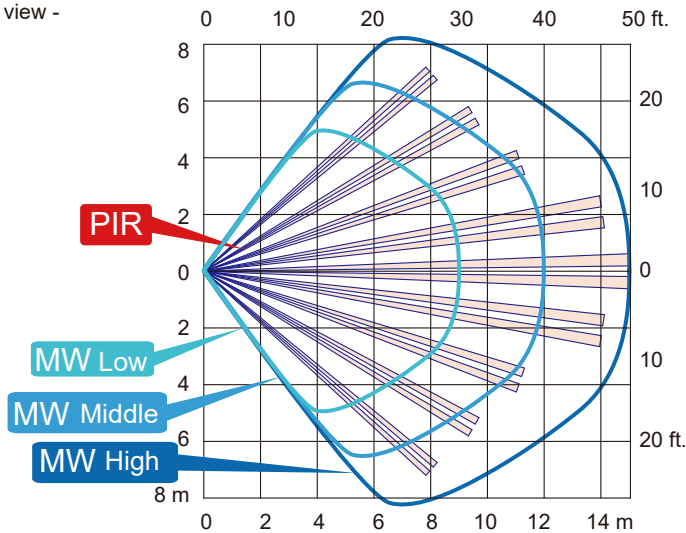


Unit: mm (inch)

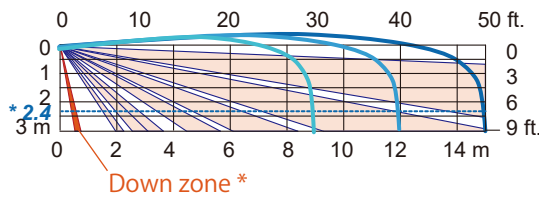


## - Detection area

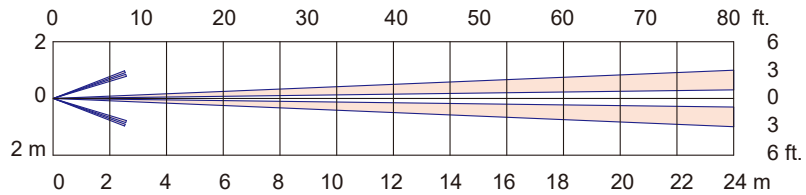
Wide - Top view -



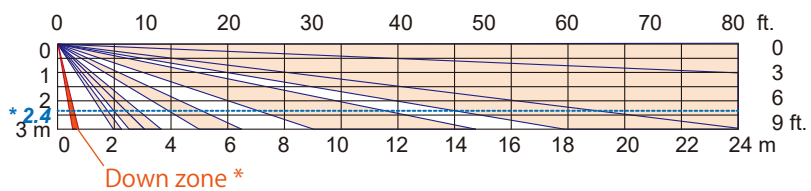
Wide - Side view -



Narrow - Top view -



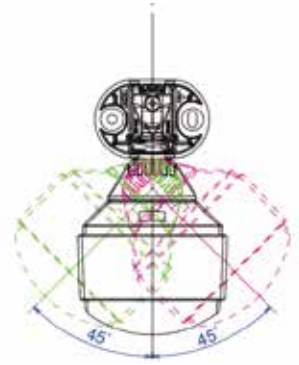
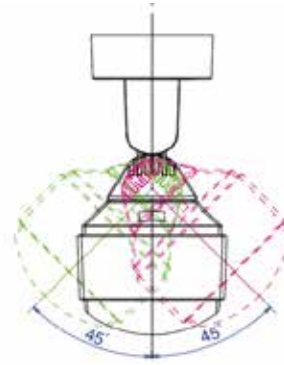
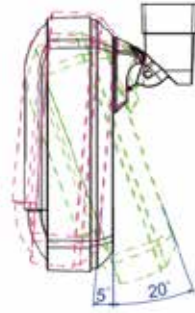
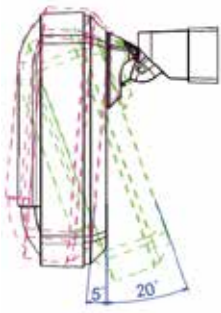
Narrow - Side view -



### NOTE

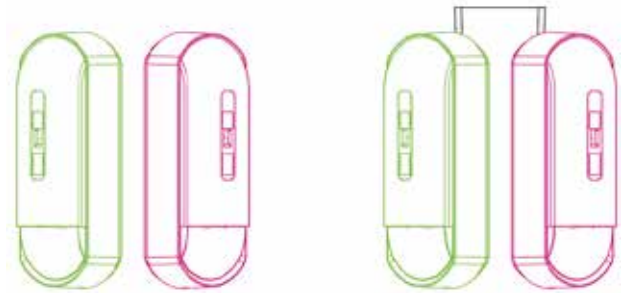
- The above detection ranges are for guidance only.  
The range and sensitivity settings for each detector must be set accordingly for installation conditions.
- For EN and INCERT compliance, refer to "2-3 Dip switch setting."
- The \* 2.4 dotted line indicates the recommended mounting height.
- When "Narrow" is selected in the lens setting, MW detection will be stopped.
- Down zone \* can be switched off by Down zone ON/OFF (See 2-5).

## - Angle adjustment with bracket



### NOTE

\* If the detector cover does not reach the ceiling, it can be swung up to +5°.



## - Compliance

### RE Directive 2014/53/EU

- Hereby, OPTEX declares that the radio equipment type FLX-A-DAM-X5, FLX-A-DAM-X8 and FLX-A-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](http://www.optex.net)
- Microwave emission Frequency and Power
 

FLX-A-DAM-X5: 10.525 GHz	15.78 mW e.i.r.p
FLX-A-DAM-X8: 10.587 GHz	8.93 mW e.i.r.p
FLX-A-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
  - 9.425 GHz: Austria, Czechia, Estonia, Germany, Slovakia, Turkey, Russia
- FLX-A-DAM-X5, FLX-A-DAM-X8 and FLX-A-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

- FLX-A-DAM-X8 also comply 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 FLX-A-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](http://www.optex.net)

- EN 50131-1 Grades and Environmental Class; Security Grade 3, Environmental Class II
- Applied Standards; EN 50131-2-2 (FLX-A-AM), EN 50131-2-4 (FLX-A-DAM-X5 and FLX-A-DAM-X8)
- Tested and certified by Telefication
- Iarm class 3, miljö klass II, SSF 1014
- PD6662: 2017
- UL/c-UL listed (FLX-A-AM and FLX-A-DAM-X5)

### EU & UK contact information



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



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