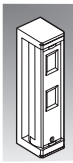
NO.59-1645-0 091201

INSTALLATION INSTRUCTIONS

N219



Compact outdoor detector

fit series

FTN-ST	Standard model with 2 PIRs
FTN-AM	FTN-ST with anti-masking

- Compact design
- 190° adjustable bracket
- Intelligent AND logic
- Digital anti-masking (AM model)
- Wall tamper (option)

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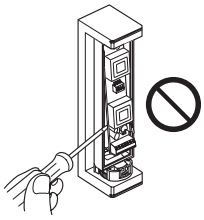
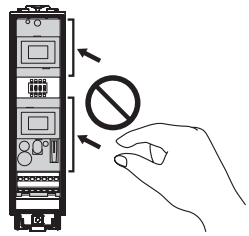
1 INTRODUCTION

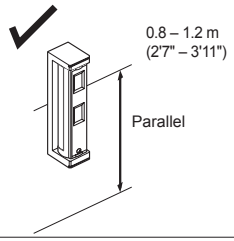
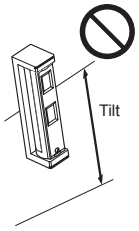
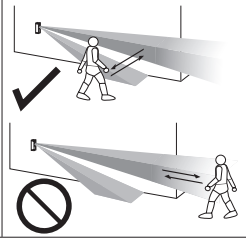
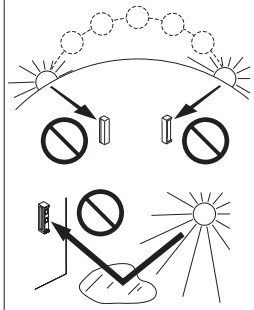
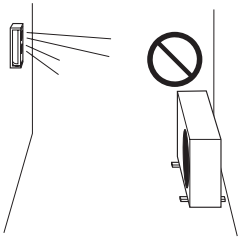
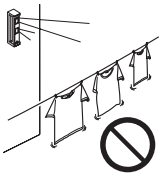
1-1 BEFORE INSTALLATION

⚠Warning	Failure to follow the instructions provided with this indication and improper handling may cause death or serious injury.
⚠Caution	Failure to follow the instructions provided with this indication and improper handling may cause injury and/or property damage.

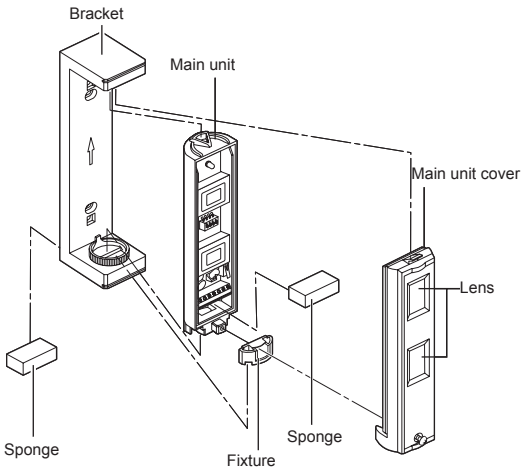
The check ✓ mark indicates recommendation.

The nix ⊘ sign indicates prohibition.

⚠Warning	⚠Caution
Do not remove the PCB. 	Do not touch the PCB except for the DIP switch. 

Mounting height. 	Keep the detector parallel to the ground. 	Consider the direction a person is approaching from, as well as the detection area. 
Install the detector in a place where it is free from false alarm factors. For example:		
• Sunlight and reflection 	• Heat source 	• Objects moving in the wind 

1-2 PARTS IDENTIFICATION



Screw kit

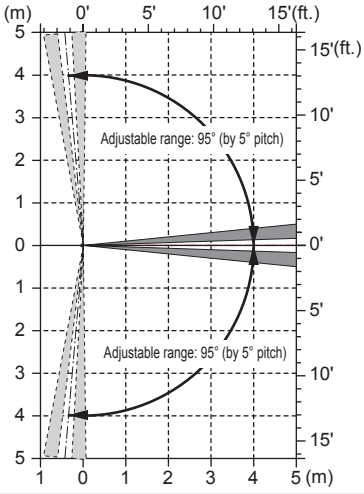
Screw (3 × 20 mm)

-Optional accessories

Wall tamper (WRS-02)

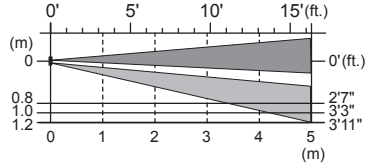
1-3 DETECTION AREA

Top view

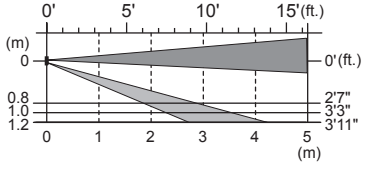


Side view

5 m detection length



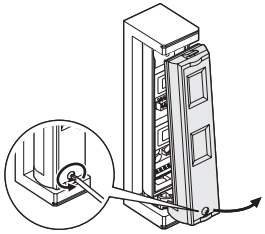
2 m detection length



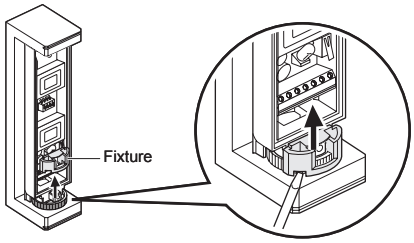
2 INSTALLATION

2-1 INSTALLATION

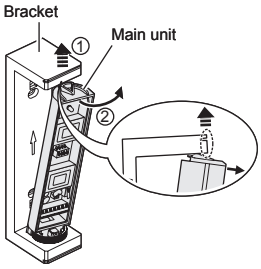
1 Open the main unit cover.



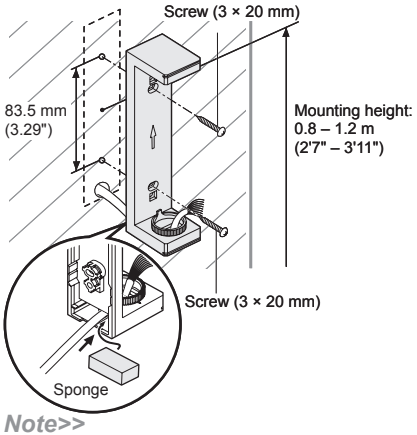
2 Remove the fixture.



3 Hold the top of the bracket lifted and remove the main unit.



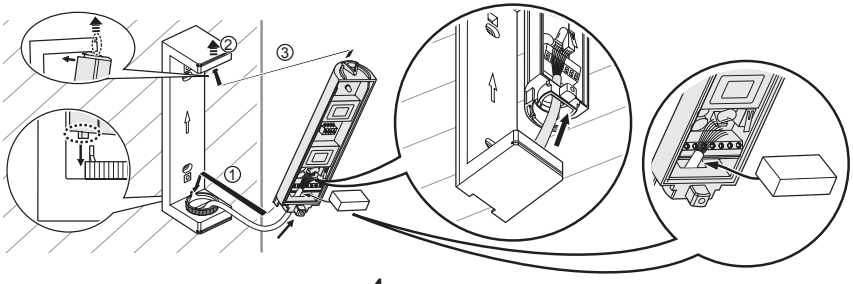
4 Put the wire extending from the wall through the wiring hole in the bottom of the bracket, and mount the bracket on the wall.



Note>>

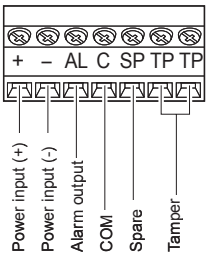
- For wall tamper wiring (option), refer to page 9.

5 Pull the wire through the main unit. Lift the top of the bracket slightly and mount the main unit to the bracket.

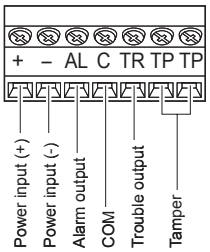


6 Wire terminal connections.

FTN-ST



FTN-AM



Notes>>

- Anti-masking output is recognized as TROUBLE.
- For EOL, refer to page 10.

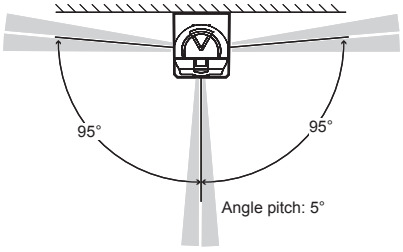
-Power cable length

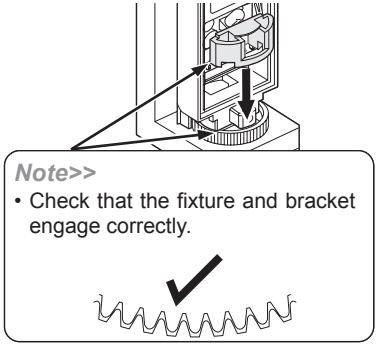
The power cable should be limited to the following length.

Unit: m (ft.)

Cable diameter	FTN-ST		FTN-AM	
	12 V	14 V	12 V	14 V
AWG22 (0.33 mm^2)	340 (1,120')	730 (2,400')	290 (950')	620 (2,030')
AWG20 (0.52 mm^2)	530 (1,740')	1,160 (3,810')	450 (1,480')	980 (3,220')
AWG18 (0.83 mm^2)	850 (2,790')	1,850 (6,070')	720 (2,360')	1,570 (5,150')

7 Determine the horizontal detection angle and attach the fixture.

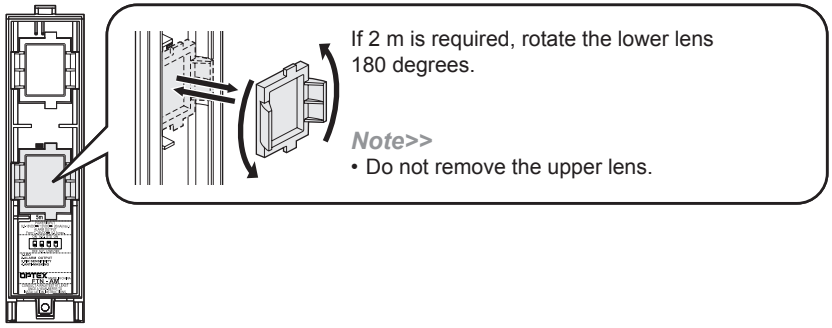




Note>>

- To make adjustments, remove the fixture.

8 Determine the detection length. (2 m or 5 m)

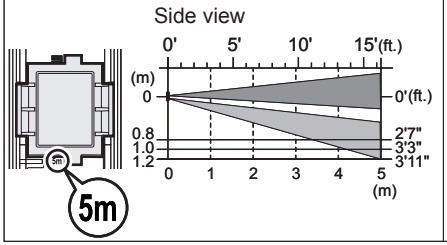


If 2 m is required, rotate the lower lens 180 degrees.

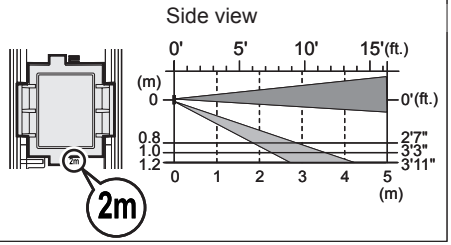
Note>>

- Do not remove the upper lens.

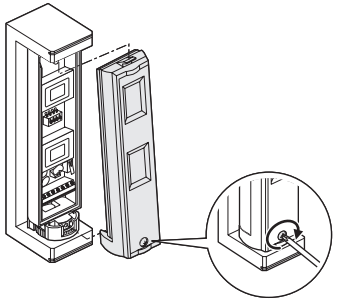
5 m detection length (Factory default)



2 m detection length



9 Attach the main unit cover.

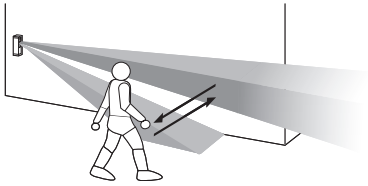


Note>>

- To prepare for walk test, check that DIP switch 1 (LED) is set to “ON” before attaching the main unit cover.

10 Perform walk test.

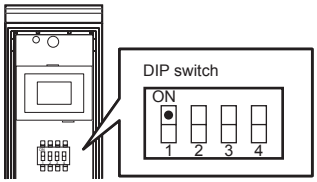
For details, refer to page 7.



3 WALK TEST

3-1 WALK TEST

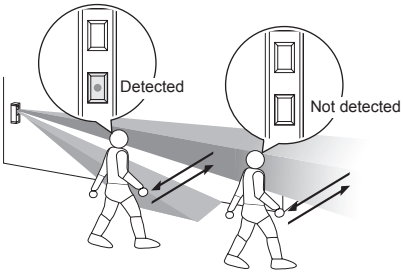
1 Set DIP switch 1 (LED) to "ON".



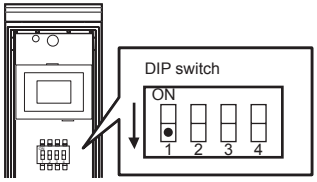
Note>>

- The switch is set to "ON" by factory default.

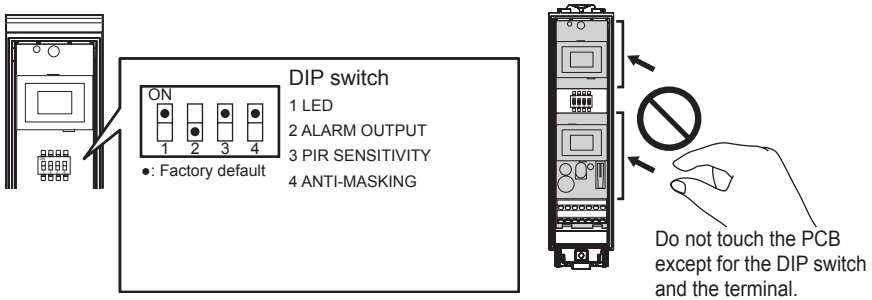
2 Check that LED lights for 2 seconds when the intended object is detected.



3 If the LED does not need to be turned on at all times, set the DIP switch 1 (LED) to "OFF".



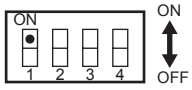
4 DIP SWITCH SETTING



4-1 LED

DIP switch 1

FTN-ST
FTN-AM

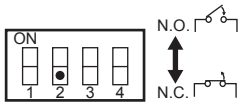


Position	Function
ON (Factory default)	LED ON
OFF	LED OFF

4-2 ALARM OUTPUT

DIP switch 2

FTN-ST
FTN-AM

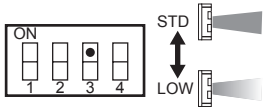


Position	Function
N.O.	N.O. output
N.C. (Factory default)	N.C. output

4-3 PIR SENSITIVITY

DIP switch 3

FTN-ST
FTN-AM

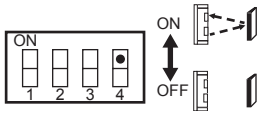


Position	Function
STD (Factory default)	Normal sensitivity
LOW	Low sensitivity

4-4 ANTI-MASKING

DIP switch 4

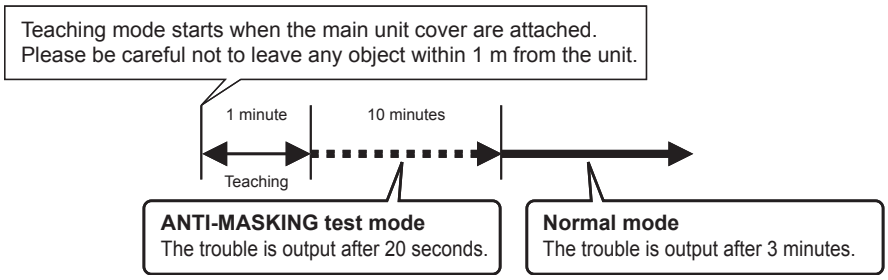
FTN-ST
FTN-AM



Position	Function
ON (Factory default)	ANTI-MASKING ON
OFF	ANTI-MASKING OFF

-ANTI-MASKING function

When masking condition continues more than 3 minutes, TROUBLE will be generated.
TROUBLE is generated after 20 seconds under the anti-masking test mode.



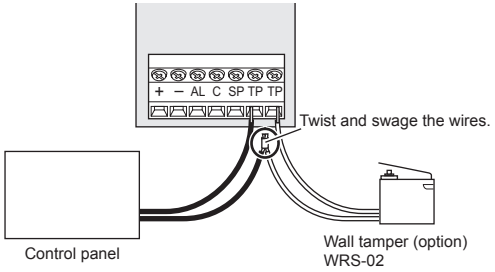
Note>>

- If a trouble is output (mal-detection of anti-masking) immediately after the operation has started, set the DIP switch 4 (ANTI-MASKING) to “OFF” and then to “ON”, and close the cover.

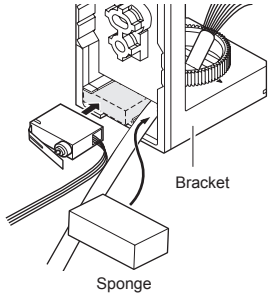
5 OTHERS

5-1 WALL TAMPER (OPTION) CONNECTION

Connect the tamper lead as shown below when connecting a wall tamper (option).



-Mounting position



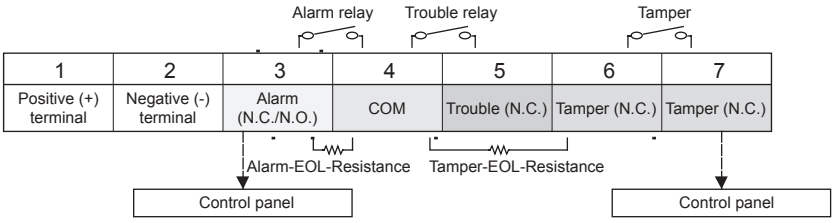
Note>>

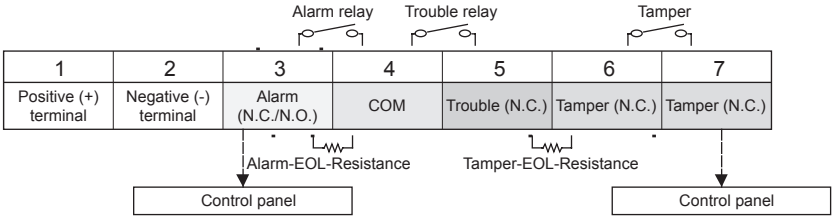
- Pull the wire through the bracket before installing the wall tamper (option).

5-2 EXAMPLE OF EOL WIRING

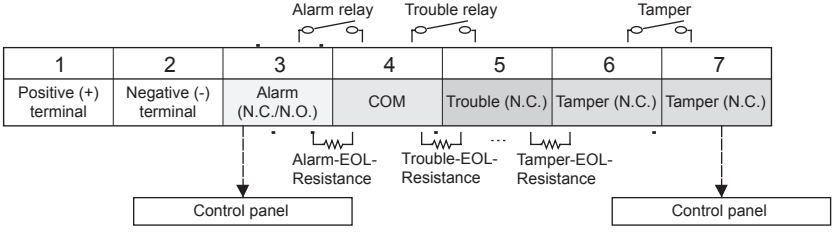
Since the alarm and trouble outputs share the COM terminal, the wire connection should be made for the fit series detector according to the following diagram.

-Double EOL



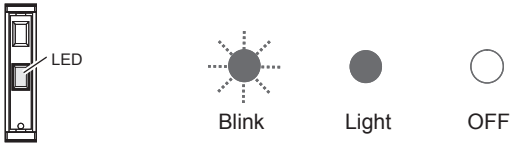


-Triple EOL



5-3 LED LIGHT PATTERN

The following explains the LED light pattern.



Detector condition	LED indicator
Warm-up ***Note>>*** • The LED blinks even if the DIP switch 4 (LED) is set to “OFF”.	Blinks for approx. 60 seconds.
Alarm	Lights for 2 seconds.
Masking detection (FTN-RAM only) ***Note>>*** • The LED blinks even if the DIP switch 4 (LED) is set to “OFF”.	Blinks 3 times and then repeats.

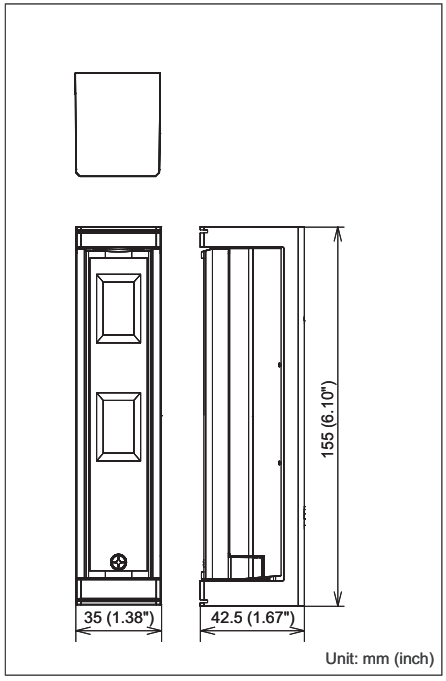
6 SPECIFICATIONS

6-1 SPECIFICATIONS

Model	FTN-ST	FTN-AM
Detection method	Passive infrared	
PIR coverage	5 × 1 m (16'5" × 3'3")	
Detection length limit	2 m, 5 m (6'7", 16'5")	
Detectable speed	0.3 – 1.5 m/s (1' – 4'11"/s)	
Sensitivity	2.0°C (at 0.6 m/s) (3.6°F (at 2'/s))	
Operating voltage	9.5 – 18 V DC	
Current draw	17 mA (max.) (at 12 V DC)	20 mA (max.) (at 12 V DC)
Alarm period	2.0 ±1.0 sec.	
Warm-up period	Approx. 60 sec. (LED blinks)	
Alarm output	N.C./N.O. Selectable 28 V DC 0.1 A (max.)	
Trouble output	N.C. 28 V DC 0.1 A (max.), open when the cover is removed.	
LED indicator	Light/Blink: Warm-up, alarm, masking detection (FTN-AM only)	
Operation temperature	-20 – +60°C (-4 – +140°F)	
Environment humidity	95% max.	
Weatherproof	IP55	
Mounting	Wall (Outdoor, Indoor)	
Mounting height	0.8 – 1.2 m (2'7" – 3'11")	
Weight	100 g (3.5 oz.)	
Accessories	Screw (3 × 20 mm) × 2	

*Specifications and design are subject to change without prior notice.

6-2 DIMENSIONS



Note>>

- 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. These products confirm to the EMC Directive 2004/108/EC.

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