

Compact outdoor  
detector



series

**WIRED MODEL**

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

## Multilingual instructions

Visit to the Web site to find  
valious language versions.

<https://navi.optex.net/manual/08697/>



### < FEATURES >

- 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

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

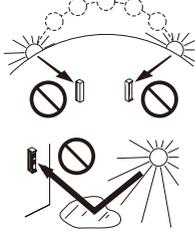
The check mark indicates recommendation. The nix sign indicates prohibition.

<b>Warning</b>	<b>Caution</b>	<b>Caution</b>
Do not remove the PCB. 	Do not touch the PCB except for the DIP switch. 	Mounting height. 0.8 to 1.2 m (2.6 to 3.9 ft.) Parallel 

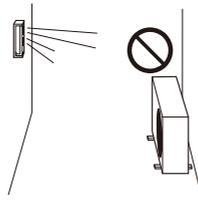
Keep the detector parallel to the ground. 	Consider the direction of the intruder, for the setting of the detection area. 
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Install the detector in a place where it is free from false alarm factors. For example:

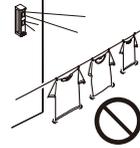
• Sunlight and reflection



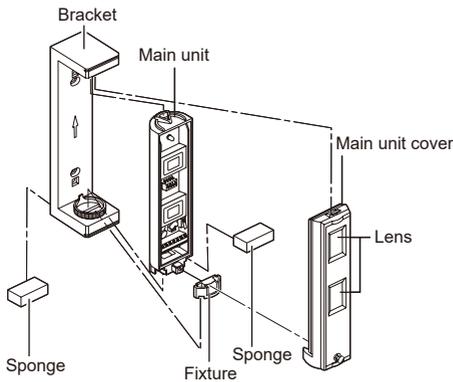
• Heat source



• Objects moving in the wind



## 1-2 PARTS IDENTIFICATION



Screw kit  
Screw (3 × 20 mm)

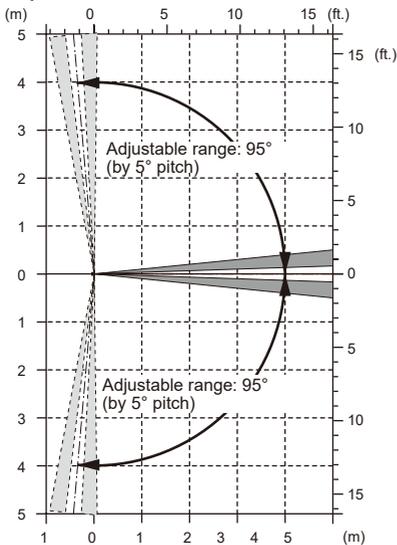
**-Optional accessories**

Wall tamper (WRS-02)

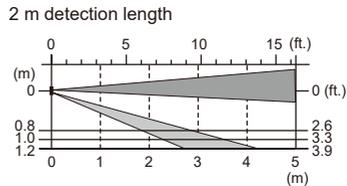
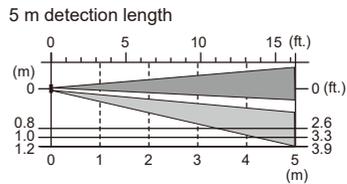


## 1-3 DETECTION AREA

**Top view**



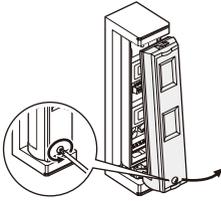
**Side view**



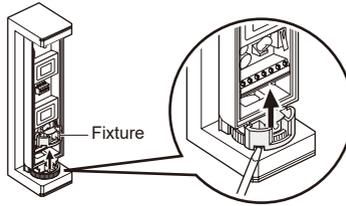
## 2 INSTALLATION

### 2-1 INSTALLATION

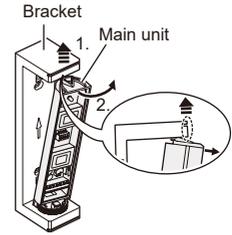
- 1 Open the main unit cover.



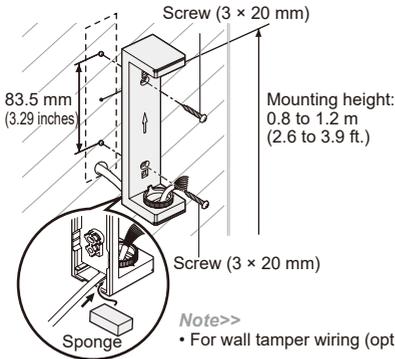
- 2 Remove the fixture.



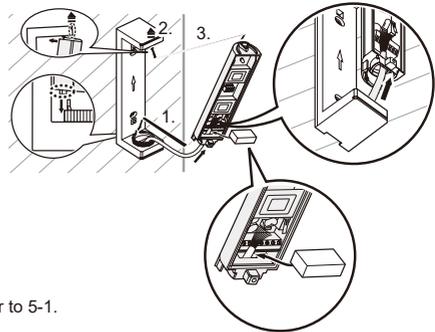
- 3 Hold the top of the bracket lifted and remove the main unit.



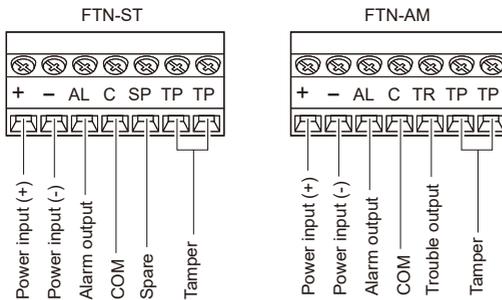
- 4 Put the wire extending from the wall through the wiring hole in the bottom of the bracket, and mount the bracket on the wall.



- 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.



**Notes>>**

- Anti-masking output is recognized as TROUBLE.
- For EOL, refer to 5-2.

**-Power cable length**

The power cable should be limited to the following length.

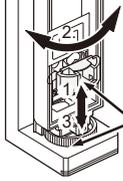
Unit: m (ft.)

Cable diameter	FTN-ST		FTN-AM	
	12 V	14 V	12 V	14 V
AWG22 (0.33 mm <sup>2</sup> )	340 (1120)	730 (2400)	290 (950)	620 (2030)
AWG20 (0.52 mm <sup>2</sup> )	530 (1740)	1160 (3810)	450 (1480)	980 (3220)
AWG18 (0.83 mm <sup>2</sup> )	850 (2790)	1850 (6070)	720 (2360)	1570 (5150)

- 7 Determine the horizontal detection angle and attach the fixture.

Note>>

- To make adjustments, remove the fixture.



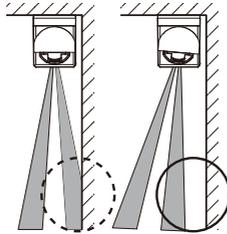
Note>>

- Check that the fixture and bracket engage correctly.

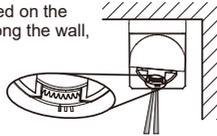


Note>>

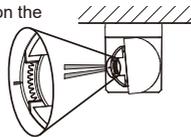
Align the detection area parallel to the wall to reduce interference with the wall.



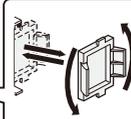
- When the unit is mounted on the corner to look ahead along the wall, choose the guide-mark located on the opposite side of the wall.



- When the unit is mounted on the wall to look transversely, choose the guide-mark engraved.



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

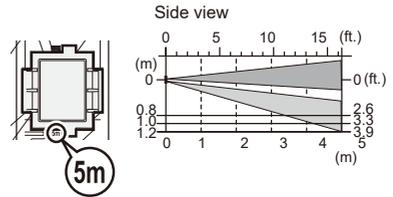


If 2 m is required, rotate the lower lens 180 degrees.

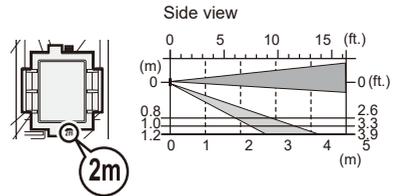
Note>>

- Do not remove the upper lens.

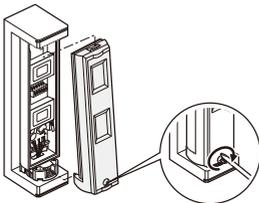
### 5 m detection length (Factory default)



### 2 m detection length



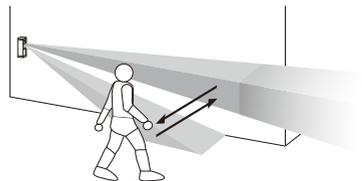
- 9 Attach the main unit cover.



Note>>

- To prepare for walk test, check that DIP switch 1 (WALK TEST MODE) is set to "ON (TEST)" before attaching main unit cover.

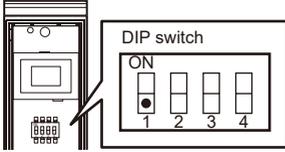
- 10 Perform walk test.



### 3 WALK TEST

#### 3-1 WALK TEST

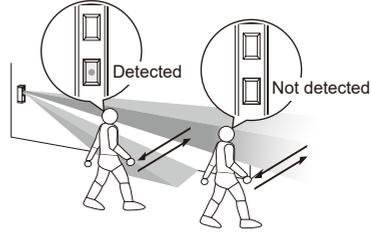
- 1 Set DIP switch 1 (LED) to "ON".



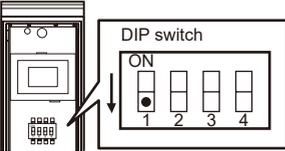
Note>>

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

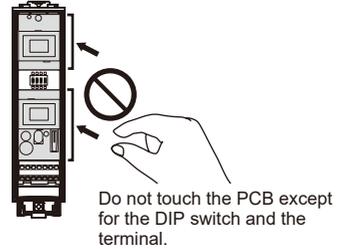
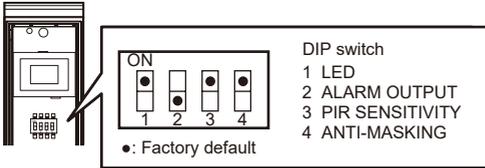
- 2 Check that LED lights for 2 seconds when the intended object is detected.



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

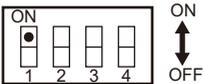


### 4 DIP SWITCH SETTING



#### 4-1 LED

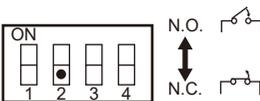
DIP switch 1 FTN-ST  
FTN-AM



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

#### 4-2 ALARM OUTPUT

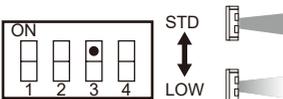
DIP switch 2 FTN-ST  
FTN-AM



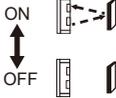
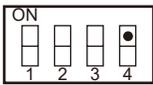
Position	Function
N.O.	N.O. output
N.C. (Factory default)	N.C. output

#### 4-3 PIR SENSITIVITY

DIP switch 3 FTN-ST  
FTN-AM



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

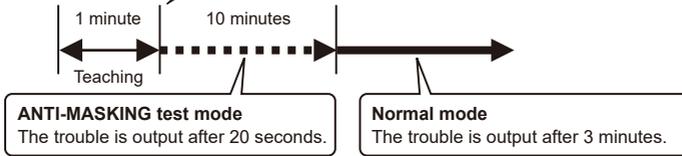


Position	Function
ON (Factory default)	ANTI-MASKING ON
OFF	ANTI-MASKING OFF

**-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.

Please close the main unit cover before turning on the power supply. "Teaching mode" will begin immediately after the power is supplied. Re-starting the power is necessary if the power has been applied prior to the closing. Please be careful not to leave any object within 1 m from the unit.



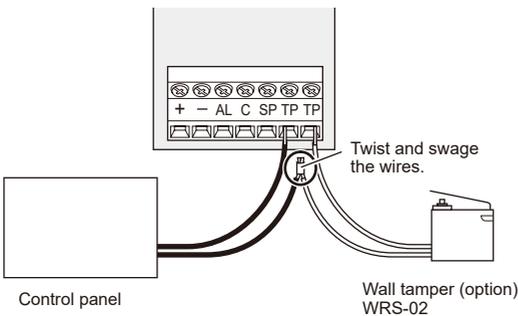
*Note>>*

- 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**

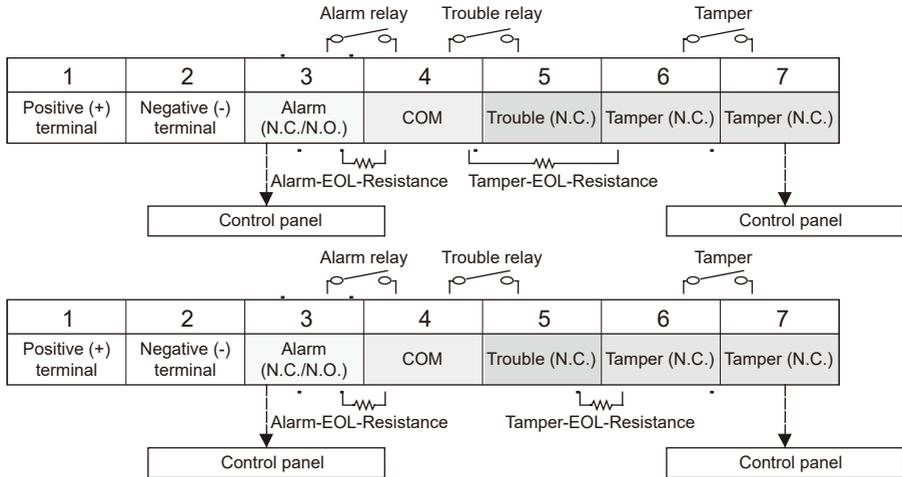
*Note>>*

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

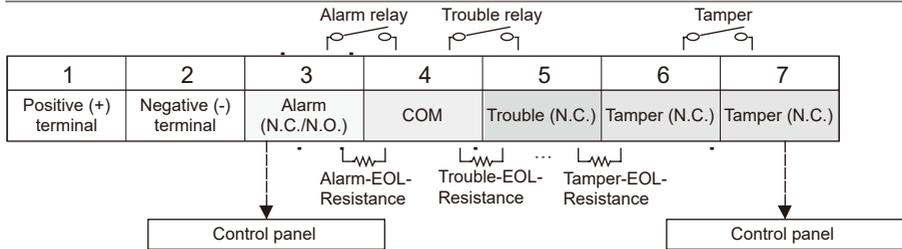
## 5-2 EXAMPLE OF EOL WIRING

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

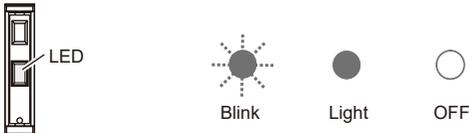


### -Triple EOL



## 5-3 LED LIGHT PATTERN

The following explains the LED light pattern.



Detector condition	LED indicator
Warm-up <i>Note&gt;&gt;</i> • The LED blinks even if the DIP switch 1 (LED) is set to "OFF".	Blinks for approx. 60 seconds.
Alarm	Lights for 2 seconds.
Masking detection (FTN-AM only) <i>Note&gt;&gt;</i> • The LED blinks even if the DIP switch 1 (LED) is set to "OFF".	Blinks 3 times and then repeats.

# 6 SPECIFICATIONS

## 6-1 SPECIFICATIONS

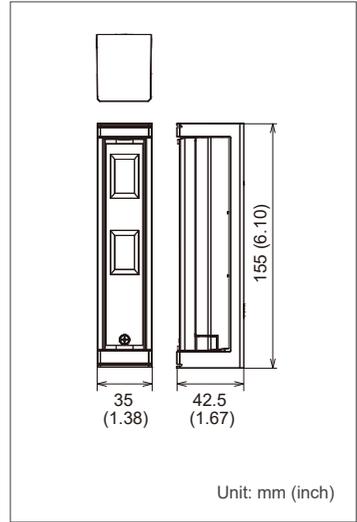
Model	FTN-ST	FTN-AM
Detection method	Passive infrared	
PIR coverage	5 × 1 m (16.4 × 3.3 ft.)	
Detection length limit	2 m, 5 m (6.6 ft., 16.4 ft.)	
Detectable speed	0.3 to 1.5 m/s (1 to 4.9 ft./s)	
Sensitivity	2.0°C (at 0.6 m/s) (3.6°F (at 2 ft./s))	
Operation voltage	9.5 to 18 VDC	
Current draw	17 mA (max.) (at 12 VDC)	20 mA (max.) (at 12 VDC)
Alarm period	2.0 ±1.0 sec.	
Warm-up period	Approx. 60 sec. (LED blinks)	
Alarm output	N.C./N.O. Selectable 28 VDC 0.1 A (max.)	
Trouble output	-	N.C. 28 VDC 0.1 A (max.)
Tamper output	N.C. 28 VDC 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°C to +60°C (-4°F to +140°F)	
Environment humidity	95% max.	
Weatherproof	IP55	
Mounting	Wall (Outdoor, Indoor)	
Mounting height	0.8 to 1.2 m (2.6 to 3.9 ft.)	
Weight	100 g (3.5 oz.)	
Accessories	Screw (3 × 20 mm) × 2	

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

### 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.

## 6-2 DIMENSIONS



### ■ EU & UK contact information



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



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