

TRIPLE MIRROR PASSIVE SENSOR PIR-T40NR(W)/(BL) (Vertical curtain protection)

BATTERY OPERATED

Thank you for purchasing this product.
Before using the product, please read this instruction manual to ensure correct operation.

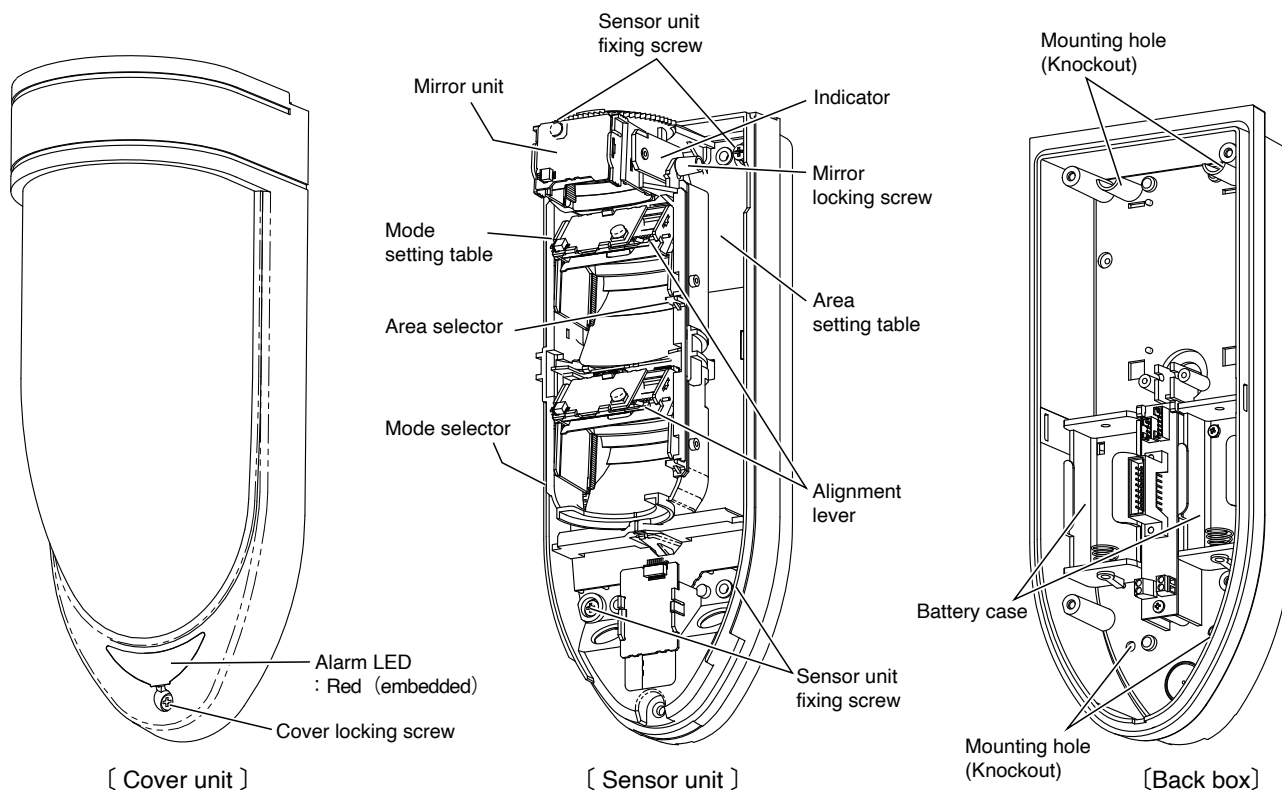
1 PRODUCT DESCRIPTION

PIR-T40NR(W)/(BL) is a battery operated passive infrared sensor that detects far-infrared rays emitted from the human body and outputs a contact signal.

Since this unit significantly reduces lost and false detection using the unique triple mirror and signal processing systems, it can be used both for indoor and outdoor applications. This unit has the following features suitable for multiple applications.

- Detection distance up to 40m(115') (Max 45m(150') with high density mode)
- Detection distance and direction adjustable
- Mounting height of 2 to 4m(6.6' to 13') for normal operation modes (Max 6m(20') in specialized operation mode)
- Can be mounted on wall surfaces, as well as on poles, ceilings, and under eaves using the optional accessories (sold separately)

2 PARTS DESCRIPTION



Accessories



Be sure to apply caulking, etc., to cover any unused or accidentally drilled holes, such as mounting holes and knockout holes. Water may enter and damage the product.

3 PRECAUTIONS

Be sure to observe

• This manual describes precautions by classifying them based on degrees of danger and damage that would be generated if using the unit incorrectly.



Warning

This indicates the possibility of severe injury, and even death, if ignored or a user handles the unit incorrectly.



Caution

This indicates the possibility of minor injury and/or damage to properties, or of a notification delay in your system due to false operations and/or non-detection, if ignored or a user handles the unit incorrectly.

● We categorize these precautions throughout the manual using the following symbols.



A prohibited action you must not do.



An action you must do, and information you should keep in mind.



Warning



Do not disassemble or modify the unit. Failure to follow this may result in fire, electric shock, and/or malfunction.



If the following errors/malfunctions occur, power off the unit immediately, and contact your dealer.

- Failure to follow this may result in fire, electric shock, and/or malfunction.
- Smoke, abnormal odor, and/or sound are found
- Liquid, such as water, and/or foreign material has entered the unit
- The unit is deformed and/or parts are damaged



Do not install the unit in a place and/or with a mounting method that cannot support its weight. Failure to follow this may result in injury and/or property damage when the unit falls.



Mount the unit on a solid ceiling or wall surfaces where reinforcement materials are used. If you mount the unit on non-wood plaster board or concrete, securely mount it using anchors and mounting screws that match the wall materials. Failure to follow this may result in injury and/or property damage if the unit falls.



Do not touch connector sections and batteries with wet hands, which could result in electric shock and/or corrosion.



Avoid mounting, battery connection and battery replacement where humidity is high. Humidity may enter the unit and generate condensation, which could result in malfunction.



Make sure that batteries are not heated, when removing them. For replacement, use the batteries specified in the instruction manual. If you use different batteries, specified performance will not be achieved.



Caution



Do not apply impact to the unit. Applying strong impact to the unit may result in performance deterioration and/or damage to the unit.



The unit may not operate properly near devices that generate a strong electric or magnetic field. Also, devices near the unit may not operate properly due to the magnetic field and/or magnetism generated from the unit. Make sure to check it before operation.



Make sure to perform sufficient operation checks on the whole system before operation.



Securely conduct installation work according to the instruction manual. Also, make sure to use the supplied accessories and specified components. Failure to follow this may result in injury and/or property damage in the event of fire or electric shock, if the unit falls.



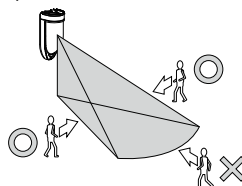
Contact qualified personnel for any electrical work necessary for installation, if required. Failure to follow this may result in fire and/or electric shock.



Do not install the unit in places subject to oil smoke, steam, high humidity, and/or a lot of dust. Electricity transmitted through oil, water, and/or dust may result in fire, electric shock, and/or false operation.



Passive infrared sensors are designed to detect changes of far-infrared ray energy. Energy changes largely when the human body moves across the detection area. However, energy does not change greatly when the human body comes closer in a straight line, or stops. In addition, if the detection area environment generates similar changes due to certain factors, the unit will issue an alarm without being able to judge properly.

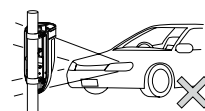


Set the area within the rated detection distance range according to the instruction manual. If you use the unit outside the specified range, an appropriate area will not have been configured, and the unit may operate unsteadily, and/or detection may fail.

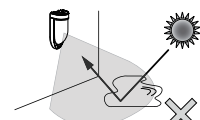


Avoid installing the unit in the following places. Otherwise, false detection may occur.

- Places subject to strong direct or reflected light (sunlight, spotlight)
- Places subject to rapid temperature fluctuations (air outlets of air-conditioning equipment, etc.)
- Places where moving objects are included in the detection area (trees, branches and leaves, laundry, etc.)
- Places subject to strong vibration and/or electric noise
- Places where dogs, cats, birds, and/or automatic cleaning robots may pass
- Places where shielding objects (including glass and transparent resin, etc.) are included in the detection area (shading parts will not be detected)
- Places where the sensor part looks inclined from the front view (the area cannot be properly configured)
- Places that intruders can easily touch



Strong light that hits the sensor



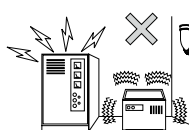
Sunlight reflection



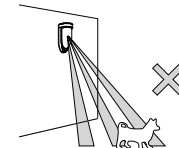
Air outlets of air-conditioning equipment



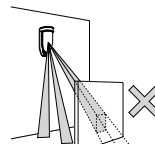
Trees, branches and leaves, laundry



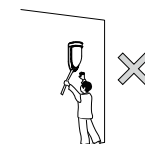
Strong vibration and/or electric noise



Pets, such as dogs, cats, and birds



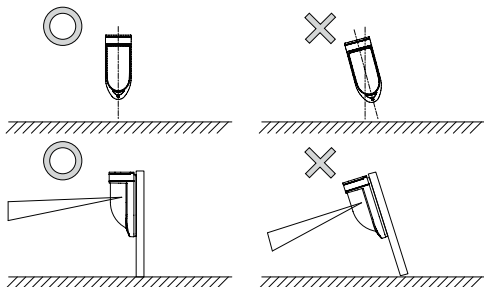
Shielding objects



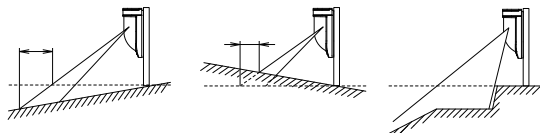
Places that people can easily touch

Caution

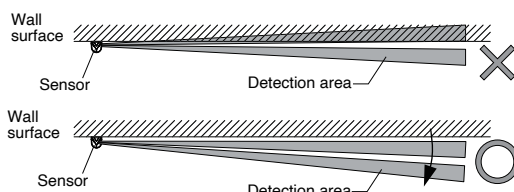
- Mount the unit straight so that it does not look inclined from the front and side view.



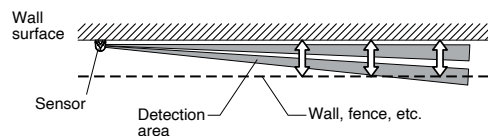
- Please pay attention that the detection distance changes by below factors
 - * Mounting height
(The higher installation position, the longer detection distance becomes)
 - * Inclination in the ground in detection area
The configuration of detection area based on the level ground. In case of inclined ground, the detection distance becomes long in the downslope, the detection distance becomes short in the upslope. And it is impossible to configure the proper detection area in where there are an inclined or stepped ground in detection area. There is a possibility that the false or lost detection occur under this situation. Please check the proper position in each detection zone using LED area checker and do the operation check by walking test.



- In case of the detection along the wall, adjust the detection area by noting the following points.
 - When mounting on the wall, adjust the detection area so that it does not cover the wall surface. It may cause false or lost detection. Move the detection area horizontally by one step or more to keep it away from the wall.

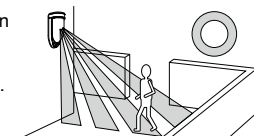


- Avoid operation in places where there is not enough space for the detection area to pass through without being obstructed. It may cause false or lost detection. When this operation is obliged, selecting "high density mode" is recommended. Note, however, that the performance to prevent malfunction against environmental change and small animals will be reduced with this mode.

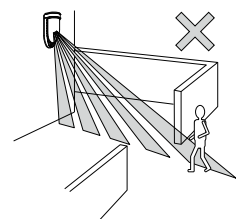


Perform the operation check after installation and also on periodic basis to make sure that there is no problem in the operation.

- Install the unit in the location where the detection area faces toward a place that intruders may pass through.



- Adjust the detection area so that it does not go beyond the site. (Unexpected objects may be detected)



- After installation, make sure to adjust the detection area and perform sufficient operation check.

- Refer to the detection area chart, and select the installation location. Then, check the actual operation, and adjust the appropriate area.

- This unit has a rainproof structure, not a waterproof structure. Do not hose it directly. Do not use the unit in places subject to water and/or constant high humidity, such as bathroom. Failure to follow this could result in malfunction.

- In order to maintain the rainproof structure of this unit, mount it in the correct direction. Mounting it sideways or upside down may result in malfunction.

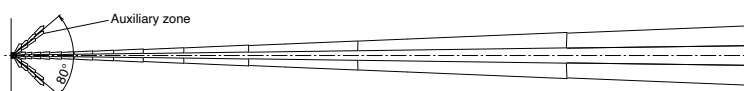
- Apply caulking to wiring holes depending on the mounting wall material, if necessary, in order to maintain rainproof performance.

- This unit is for wall mounting. When installing it on poles, ceilings, or under eaves, use the specified attachments (sold separately).

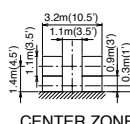
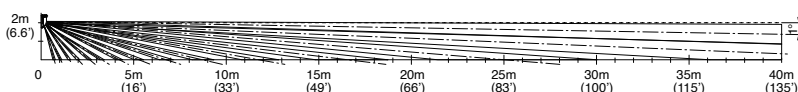
4 DETECTION AREA

Mounting height : 2.0m
Detection distance : 40m

[Top view]

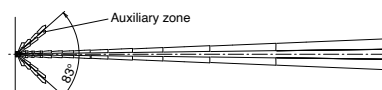


[Side view]

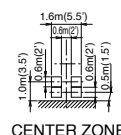
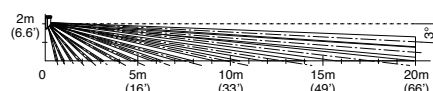


Mounting height : 2.0m
Detection distance : 20m

[Top view]



[Side view]



- * The right-and-left auxiliary zone in near detection area becomes effective when the area masking plate is removed.

- * Adjust the mounting height of the sensor using the center of the sensor housing as a guide.

■ Near detection area

● Detecting near area

When detection of nearer area is required, remove "Area masking plate" stored inside so that the right-and-left auxiliary detection zone can function.

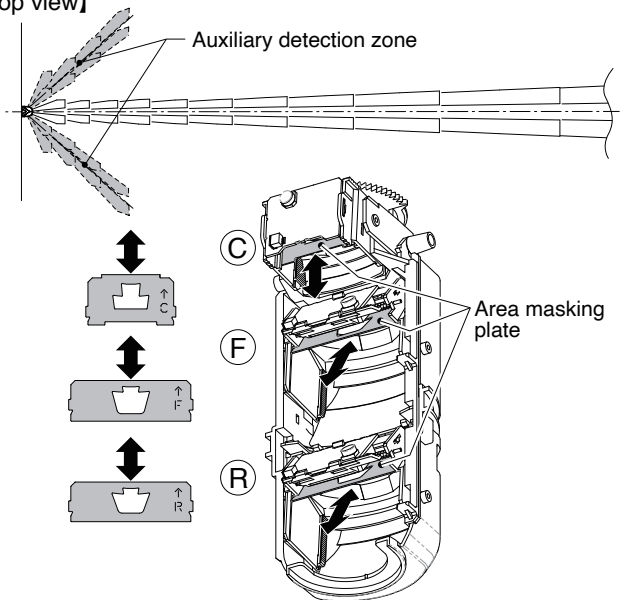
Check the direction of auxiliary detection zone and the detecting performance for proper operation.

Remove all "Area masking plate" stored in 3 x reflection mirror inside the sensor unit.

* Avoid soiling the mirror surfaces with dirt or fingerprint.

! To disable the auxiliary zone after removing "Area masking plate (x3)", replace them in the original positions. In that case, remove the adhesive, and replace "Area masking plate" in the positions of "F", "R" and "C", as indicated on the right diagram. Each of the 3 "Area masking plates" are uniquely shaped so make sure to replace them correctly before operation.

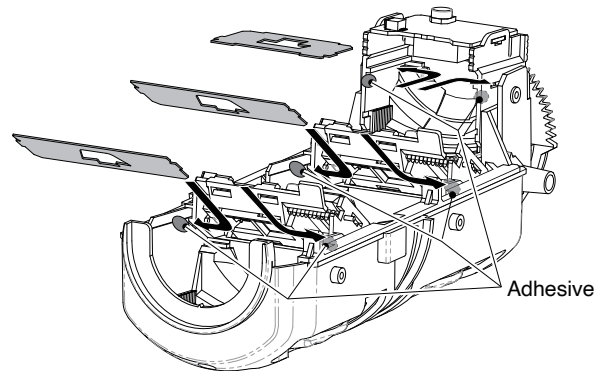
【Top view】



● Detecting area directly beneath the sensor

When detecting area directly under the sensor, select "ON" in DIP switch 8 (Creep zone detection setting) in Mode selector 1. Please note that the pet immunity performance decreases when this setting is enabled.

This setting is disabled in the high density mode. (Refer to "7 FUNCTION")



■ Masking method of the detection area

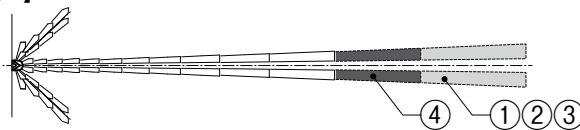
● Detection area setting to less than 20m(66')

When the detection area is adjusted to less than 20m(66'), set area selector to "20m(66')" position and mask the detection area using the supplied area masking sheet, and set "ON" in the short distance setting (dip switch 1 in mode selector 2). (Refer to "7 FUNCTION", "8 ADJUSTMENT OF DETECTION AREA")

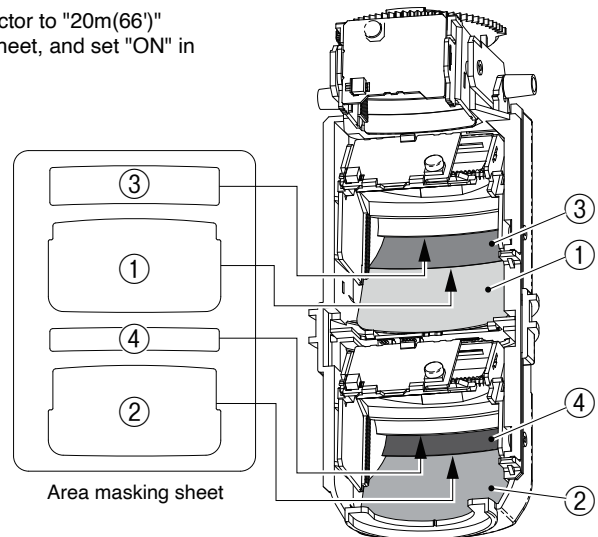
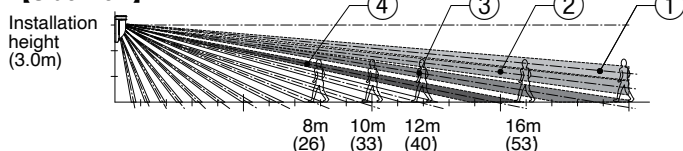
When masking each detection area from ① to ④, attach the area masking sheet to the surface of the mirror unit corresponding to the detection area as indicated with the arrow

* Avoid soiling the mirror surfaces with dirt or fingerprint.

【Top view】



【Side view】



■ Precautions on the detection area setting

● Detection area range

Since the detection zone extends until it hits the ground or wall surface, the unit may detect objects even in places beyond the specified distance. In order to avoid unexpected detection, adjust the area sufficiently.



Attach the area masking sheet in order (①→④) from the longest part of the detection area, and adjust the detection distance.

● Detection area distance adjustment

When the detection area is adjusted to less than 20m(66'), please mask the detection area using the supplied area masking sheet.

(Refer to "8 ADJUSTMENT OF DETECTION AREA")

5 INSTALLATION



The mounting height and detection distance is adjustable depending on the operation mode. Carefully check the operation mode and detection area setting before installation and area setting.

Use the unit with the correct operation mode setting. Select operation mode to use and perform the setting correctly. This unit can be operated from ① to ④ modes, as follows.

● Normal operation modes

Normal operation mode reduces the false detection caused by small animals and lost detection of humans. There are three position modes according to mounting height "Low", "Middle" and "High".

- ① Low position mode :
When the sensor is mounted between a height of 2.0 to 2.5m (6.6' to 8.3').
- ② Middle position mode :
When the sensor is mounted between a height of 2.5 to 3.5m (8.3' to 11.5').
- ③ High position mode :
When the sensor is mounted between a height of 3.5 to 4.0m (11.5' to 13').

When the mounting height is 2.5m(8.3'), Low or Middle position is selectable.
When the mounting height is 3.5m(11.5'), Middle or High position is selectable.

	Operation mode	Installation height	Detection distance
①	Low position mode	2.0 to 2.5m (6.6' to 8.3')	40m (135')
②	Middle position mode	2.5 to 3.5m (8.3' to 11.5')	35m (115')
③	High position mode	3.5 to 4.0m (11.5' to 13')	30m (100')
④	High density mode	2.0 to 6.0m (6.6' to 20')	45m (150')

The mode setting can be selected from above ①~④ modes. (Refer to "7 FUNCTION")

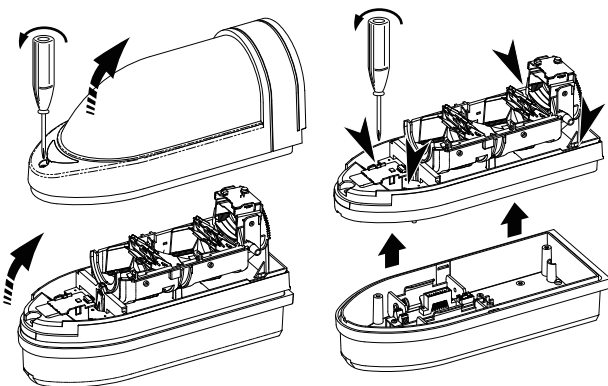
● Specialized operation mode

This operation setting extremely reduces the lost detection in detection area.

- ④ High density mode : Mounting height of 2.0 to 6.0m (6.6' to 20').

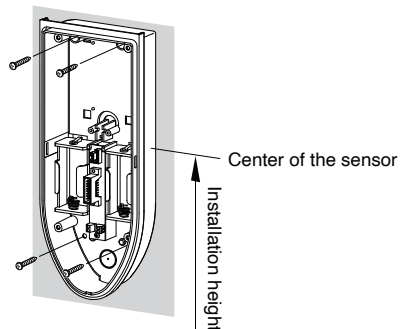
■ Mounting method

- Loosen the cover locking screw and remove the cover unit. Loosen the sensor unit fixing screw(4pcs) and remove the sensor unit from the back box.



- Break the mounting hole knockout of the back box and mount it using the supplied tapping screws.

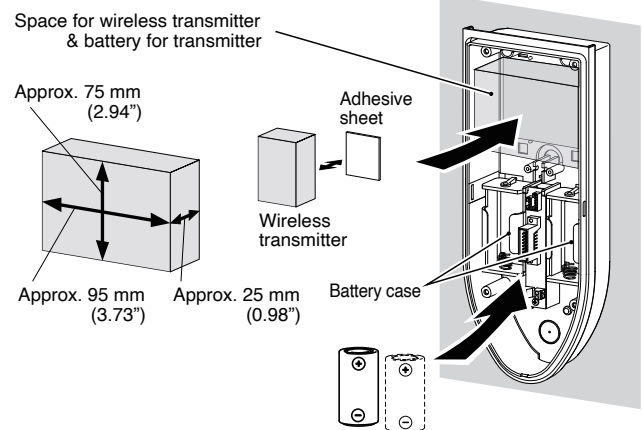
* Adjust mounting height of the sensor using the center of the sensor unit as a guide.



Be sure to apply caulking, etc., to cover any unused or accidentally drilled holes, such as mounting holes and knockout holes. Water may enter and damage the product.

- Mount 1 or 2 batteries in the battery case of the back box. The recommended battery is SAFT LS33600 (3.6V DC). When using 1 battery, insert it into either the left or right battery case. To extend battery life, insert 2 batteries into each battery case.

Then, accommodate the wireless transmitter (not supplied), using the supplied adhesive sheet, into the space of the back box.



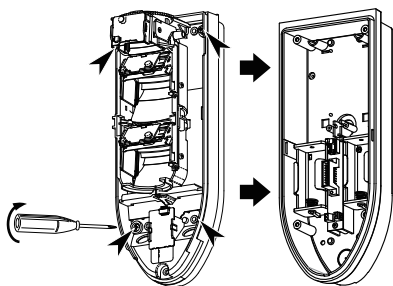
※ Battery : 1 or 2 pcs.
The recommended battery is SAFT LS33600 (3.6V DC)



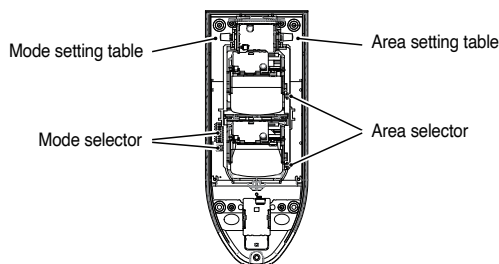
- Make sure the battery polarities match as shown.
- The recommended battery is SAFT LS33600 (3.6V DC)
- Battery life : Approx. 3years
When the unit performs detection 100 times a day with 1 recommended battery. (excluding consumption of wireless transmitter)
- Be careful not to use non-recommended batteries, which may not work properly.
- The battery life is just a reference when used at the normal temperature, and it is not the guaranteed value.
- When using 2 batteries, do not mix new and old batteries.

- Connect the wireless transmitter (not supplied) to the power output connector of this unit and secure it to the back box. (Refer to "6 WIRING")

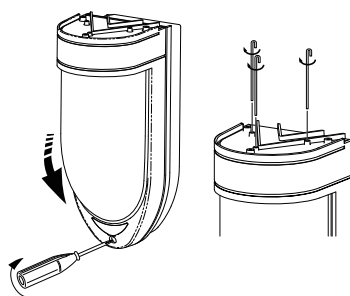
5. Fix the sensor unit to the back box with the sensor unit fixing screw(4pcs) .



6. Set the detection area and functions according to the installation site.
(Refer to "4 DETECTION AREA", "7 FUNCTION", and "8 ADJUSTMENT OF DETECTION AREA")



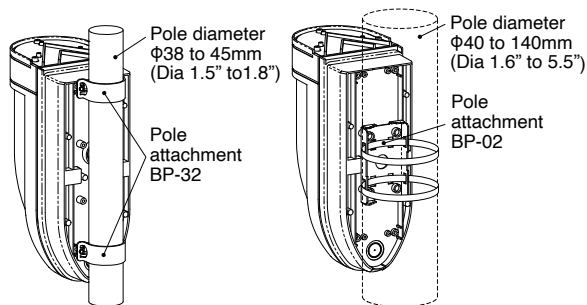
7. Replace the cover unit, and fix it by tightening the cover locking screws.



* When installing outdoors, mount the anti bird spikes above the cover unit. Turn the anti bird spikes and tighten them.

8. When the detection area and functions settings are completed, go to section "9 OPERATION CHECK".

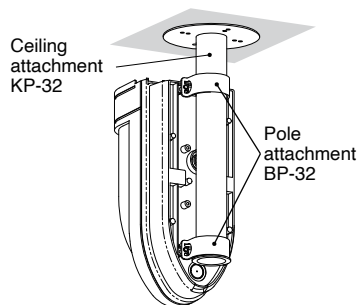
When mounting on the pole [Use the pole attachment]



When mounting the unit on a vertical pole, use the pole attachment (sold separately). The unit can be mounted on poles of $\phi 38$ to $\phi 45$ mm (Dia 1.5" to 1.8") and $\phi 40$ to $\phi 140$ mm (Dia 1.6" to 5.5").

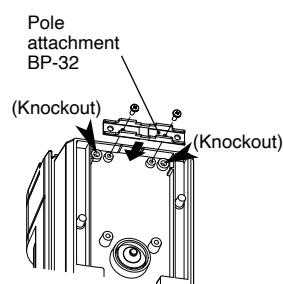
* Mount the sensor so that its mounting surface is positioned vertically.

When mounting on the ceiling or under eaves [Use the ceiling attachment]



When mounting on the ceiling or under eaves, use the ceiling attachment (sold separately).

* Mount the sensor so that its mounting surface is positioned vertically.



When using the pole attachment BP-32 (sold separately), break the knockout on the rear side of the back box, and attach it.

6 WIRING

Power output connector (Battery)

Battery power output (3.6V DC 65mA max.)
(The recommended battery is SAFT LS33600)
Cable color : Black (-), Red (+)

Contact output

Alarm output

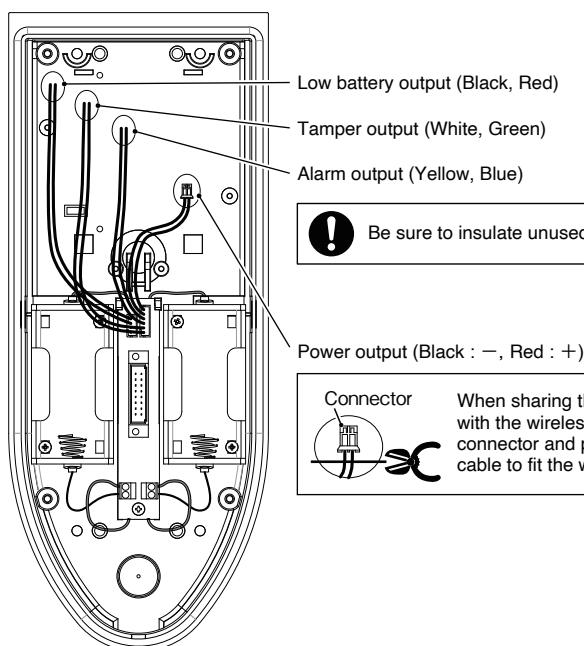
Contact method : Dry semi-conductor contact, N.C.
Contact capacity : 3.6V DC 0.01A (resistive load)
Cable color : Yellow , Blue

Tamper output

Contact method : Dry semi-conductor contact, N.C.
Contact capacity : 3.6V DC 0.01A (resistive load)
Cable color : White , Green

Low battery output

Contact method : Dry semi-conductor contact, N.O.
Contact capacity : 3.6V DC 0.01A (resistive load)
Cable color : Black , Red



Low battery output (Black, Red)

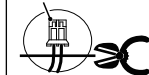
Tamper output (White, Green)

Alarm output (Yellow, Blue)

! Be sure to insulate unused wiring.

Power output (Black : -, Red : +)

Connector



When sharing the battery power with the wireless transmitter, cut the connector and process the tip of cable to fit the wireless transmitter.

7 FUNCTION

Function

Self diagnosis

This function monitors whether the sensor circuit or wiring is damaged or disconnected. When it occurs, an alarm will be issued using alarm output, tamper trouble output and alarm LED. In this case, immediately check the sensor's operation.

Area checker

This function can be used to visually check the sensitive zone in the detection area by lighting the LED equipped inside the mirror unit.

Area checker position monitoring

This function monitors whether the alignment LED unit installed inside the mirror unit has returned to its original position. When it occurs, an alarm will be issued using alarm output, tamper trouble output, alarm LED and the alignment LED. (Refer to "8 ADJUSTMENT OF DETECTION AREA")

Walk test

This function allows you to check the detection operation by lighting up the alarm LED when you walk through the detection area. (Refer to "9 OPERATION CHECK")

Low voltage monitoring

This function notifies the receiver of low battery voltage. When the battery voltage drops, a low battery signal is output through the wireless transmitter connection cord, (cable color : Black, Red) and the alarm LED turns on. (lights 0.1sec for every 5 sec)



When the battery runs out, replace it with a new one immediately to avoid interruption of transmission.

Tamper (Cover monitoring)

This function monitors whether the cover unit is opened or closed, and warns of malicious sabotage with tamper trouble signal and alarm LED. when the cover unit is open, the tamper signal is output through the wireless transmitter connection cord, (cable color : White, Green) Once the cover is properly installed, the alarm LED will flash for 10 seconds. After this period, it will stop flashing by detecting twice. If an alarm is issued, immediately check that the sensor is working properly.

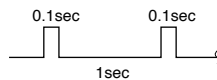
* After opening and closing the cover for inspection, etc., be sure to perform the detection at least twice to reset the alarm.

Description of LED operation

Alarm LED operation

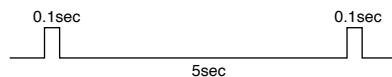
- Lights up (for approx. 1 sec.) → When detecting intrusion (in walk test mode)

- Blinks (for approx. 1 min.)



→ During warming-up (blinks for approx. 1 min. after power - ON)

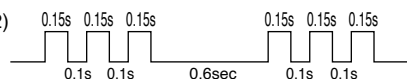
- Keeps blinking (1)



→ Low battery (blinks until battery replaced)

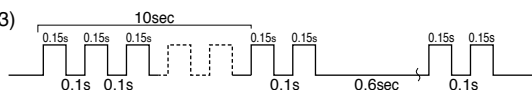
→ Self diagnosis error (blinks until the unit returns to normal operation)

- Keeps blinking (2)



→ Alignment lever error (blinks until it returns to normal operation)

- Keeps blinking (3)



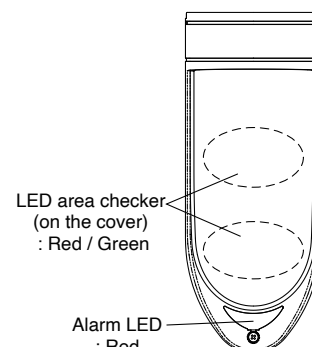
→ Cover monitor error (blinks when cover is replaced and stops after 10 sec. when detecting twice)

LED area checker operation

- Keeps blinking ...



→ Alignment lever error (blinks until it returns to normal operation)



■ Description of mode selector

Use the mode selectors 1 and 2 inside the sensor unit for various settings.

MODE SELECTOR 1			
1 PROHIBIT	☐ 15 min	☐ 2 min	
2 TIMER	☐ 5 min	☐ 10 sec	
3 SENS	☐ 130	☐ 70	
4 (%)	☐ 100	☐ 40	
5 ENV.ADJ.	☐ OFF	☐ ON	
6 OP MODE	☐ LOW	☐ MID	
7 MOUNTING HIGHT	☐ H=2.0~2.5m	☐ H=2.5~3.5m	
	☐ HIGH	☐ Hi Dens	
	☐ H=3.5~4.0m	☐ H=2.0~6.0m	
8 CREEP	☐ OFF	☐ ON	
MODE SELECTOR 2			
1 NEAR	☐ OFF	☐ ON	
2 VACANT*			

[Mode setting table]

OFF	1	ON
☐	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	

OFF	1	ON
☐	☐	
☐	☐	(Vacant)

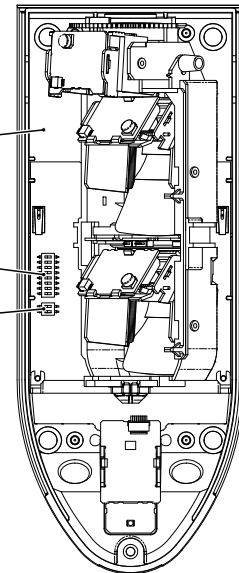
(Factory setting)

* Keep the setting OFF in 2 of mode selector 2 for operation.

Mode setting table

MODE SELECTOR 1

MODE SELECTOR 2



MODE SELECTOR 1

Transmission interval (1 and 2 of mode selector 1)

Sets the alarm signal transmission interval to reduce the number of transmissions.

Switch 1/2			
OFF ON	OFF ON	OFF ON	OFF ON
1 ☐	1 ☐	1 ☐	1 ☐
2 ☐	2 ☐	2 ☐	2 ☐
10 sec	2 min	5 min	15 min
(Factory set)			

To reduce battery consumption and avoid interference, select an appropriate transmission interval setting according to the installation environment and application.

Alarm signals within the set transmission interval will be ignored, although tamper signals will still be transmitted.

However, if no alarm is sent for a certain period of time, the set transmission interval will be 10 seconds for Max. three times depending on the time, regardless of the setting.

Sensitivity (3 and 4 of mode selector 1)

Sets detection sensitivity.

Switch 3/4			
OFF ON	OFF ON	OFF ON	OFF ON
3 ☐	3 ☐	3 ☐	3 ☐
4 ☐	4 ☐	4 ☐	4 ☐
130%	100%	70%	40%
	(Factory set)		

[130%] Select this option when the temperature of detection targets is low, or the temperature difference between the background and the targets becomes small, for example, in summer.

[100%] Factory default setting.

[70%] Select this option when heat sources besides detection targets are often detected with the sensitivity setting at 100%. However, if the temperature difference between detection targets and the background is small, they may not be detected. Make sure to check if detection targets can be detected.

[40%] Select this option when heat sources besides detection targets are often detected with the sensitivity setting at 70%. However, if the temperature difference between detection targets and the background is small, they may not be detected. Make sure to check if detection targets can be detected.

Environmental adjustment (5 of mode selector 1)

Sets when false operations frequently occur.

ON : Enabled
OFF : Disabled

Switch 5	
OFF 5 ☐	ON ☐
(Factory set)	

Operation mode (6 and 7 of mode selector 1)

Sets the sensor operation mode depending on applications.

Switch 6/7			
OFF ON	OFF ON	OFF ON	OFF ON
6 ☐	6 ☐	6 ☐	6 ☐
7 ☐	7 ☐	7 ☐	7 ☐
Low position mode (Factory set)	Middle position mode	High position mode	High density mode

Low position mode : Select when the installation height is 2.0 to 2.5m. (6.6' to 8.3')
Middle position mode : Select when the installation height is 2.5 to 3.5m. (8.3' to 11.5')
High position mode : Select when the installation height is 3.5 to 4.0m. (11.5' to 13')
High density mode : Select when the installation height is high, or you need to detect objects more accurately.
(False alarm may increase for outdoor use)

Creep zone detection (8 of mode selector 1)

This setting can be used to detect objects passing in the area directly beneath the walls. Note that pet immunity performance decreases when this setting is enabled. In the specialised operation (high density mode), this setting is disabled.

Switch 8	
OFF 8 ☐	ON ☐
(Factory set)	

MODE SELECTOR 2

Short detection distance (1 of mode selector 2)

When the detection distance is less than 20m(66'), set "ON".

ON : Enabled
OFF : Disabled

Switch 1	
OFF 1 ☐	ON ☐
(Factory set)	

* Keep the setting OFF in 2 of mode selector 2 for operation.

8 ADJUSTMENT OF DETECTION AREA

■ Detection area adjustment method

The detection area and detection operation can be optimized as follows:

- Operating the area selector enables adjustment to the distance of the detection area.
- Turning the mirror unit enables the user to adjust the detection area in a horizontal direction.

AREA SELECTOR

INSTALLATION HEIGHT	DETECTION DISTANCE							LOW, MID, HIGH MODE
	(m)	20	25	30	35	40	45	
2.0	A/B	A/B	A/B	A	A	—	—	LOW, MID, HIGH MODE
2.5	B	A/B	A/B	A/B	A/B	—	—	
3.0	B/C	B	B	A/B	—	—	—	
3.5	B/C	B/C	B	B	—	—	—	
4.0	C	B/C	B/C	—	—	—	—	

INSTALLATION HEIGHT	DETECTION DISTANCE							HIGH DENSITY MODE
	(m)	20	25	30	35	40	45	
2.0	B	A/B	A/B	A/B	A/B	A/B	A/B	HIGH DENSITY MODE
2.5	B	B	A/B	A/B	A/B	A/B	A/B	
3.0	B/C	B	B	A/B	A/B	A/B	A/B	
3.5	C	B/C	B	B	A/B	A/B	A/B	
4.0	C/D	C	B/C	B	B	B	B	
5.0	D	C/D	C	B/C	B/C	B/C	B/C	
6.0	E	D	C/D	C	C	C	B/C	

When the detection area is adjusted to less than 20m(66'), adjust it using supplied area masking sheet and set "ON" in the short distance setting (dip switch 5 in mode selector 2)

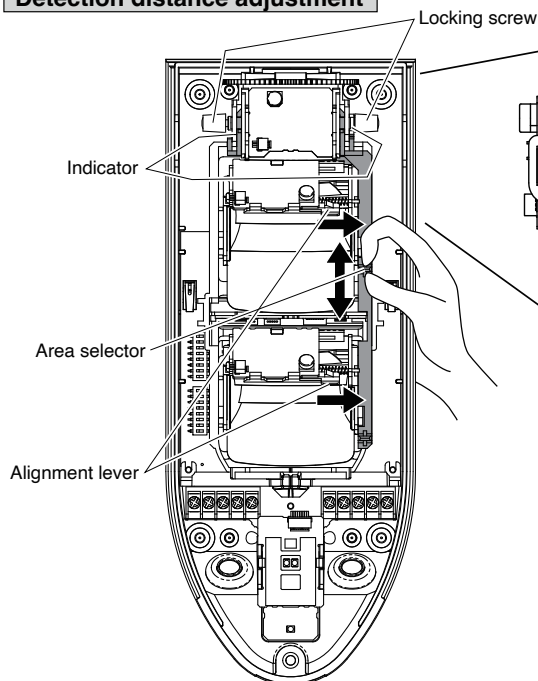
(Refer to "4 DETECTION AREA", "7 FUNCTION")

[Example 1] Low position mode
Mounting height : 2m(6.6')
To set the maximum distance to 35m(115') :
Choose area selector [A]

[Example 2] Middle position mode
Mounting height : 3m(10')
To set the maximum distance to 20m(66') :
Choose area selector [B/C]

[Example 3] High position mode
Mounting height : 6m(20')
To set the maximum distance to 40m(135') :
Choose area selector [C]

Detection distance adjustment



Locking screw can be tightened both from left and right, but the tightening direction is different.
Tighten the screw as indicated on the plate.

Detection distance [rough adjustment]

Refer to the area setting table inside the sensor unit, and set the detection area corresponding to the installation site using the area selector and indicator. Then tighten the locking screw. (When moving the area selector up and down, the indicator will show the letters from A to E. Select the position based on the installation height and maximum detection distance.)

[Example] Middle position mode
Mounting height : 3m(10')
To set the maximum distance to 30m(100') :
Choose area selector [B]

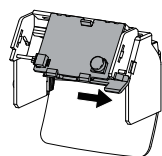
Detection distance [fine adjustment] using LED area checker

To enable fine adjustment mode, slide the two alignment levers to the right and latch into place, this will activate the alignment LEDs. Look at the sensor to check the sensitive zones, the mirror surfaces will appear red or green when standing inside the detection area. Use the horizontal direction adjustment to fine-tune as required.

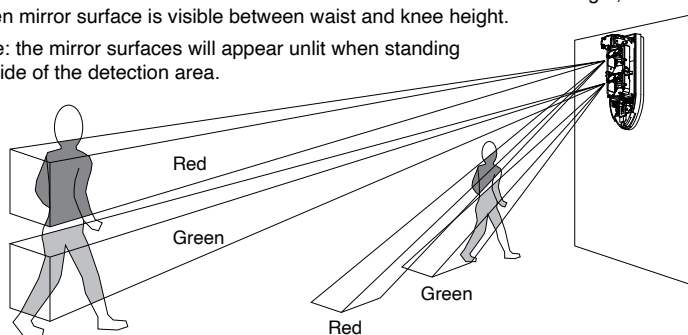
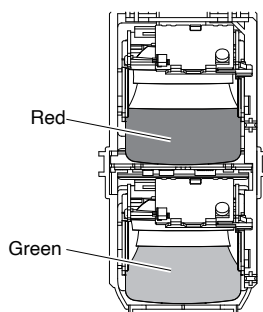
Stand at the maximum distance of your desired coverage and adjust the area selector so that the red mirror surface is visible between shoulder and chest height, and the green mirror surface is visible between waist and knee height.

Note: the mirror surfaces will appear unlit when standing outside of the detection area.

For LED on



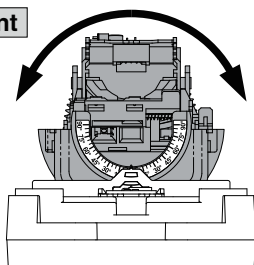
Slide the alignment lever to the right, and latch it.



When the zone faces a place where false operation can occur (refer to "3 PRECAUTIONS"), adjust or mask the area to avoid.

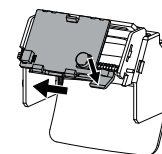
Horizontal direction adjustment

Turn the mirror unit to the direction you want to protect to adjust the detection area.
(±90° adjustable [in 5° steps])



When the adjustment has been completed unlatch both alignment levers and ensure they return to the left edge of each mirror unit.
If the levers are not returned to the original position, the unit will issue a continuous alarm output and the alarm LED will illuminate.

For LED off



Unlatch the alignment lever and return to its original position

9 OPERATION CHECK

1. Insert the batteries and attach the sensor unit to the back box to power the sensor ON. The alarm LED (red) will start flashing, indicating that the unit is in the warm-up state. Attach the cover unit and wait for about 1 minute for the flashing to stop. The alarm signal will not be transmitted during the warm-up period.
2. Once the flashing has stopped, the sensor will enter walk test mode for approx. 5 minutes, and check that the alarm works by walking around the detection area in this mode.

* If the signal reception is poor, change the location or use a converter to relay the signal.

* The walk test mode will be extended for another approx. 5 minutes each time a detection occurs.

* If there is no detection for approx. 5 minutes, the system will automatically go back to normal operation mode.

10 TROUBLESHOOTING

If the unit does not operate properly, refer to the following table and check the unit.
If the unit cannot be restored to normal operation after checking, contact the dealer or TAKEX.

Status	Cause	Remedy
Unit does not operate at all	(1) Power is not turned ON (2) Depleted battery (3) Incorrect battery polarity (4) Sensor unit not installed correctly (5) Shielding objects in front of the detection area (including glass) (6) Incorrect detection area setting	(1) Insert the specified battery (2) Replace with a new specified battery (3) Correct battery polarity (4) Install the sensor correctly (5) Remove shielding objects (6) Set detection area again
Unit does not operate from time to time	(1) Depleted battery (2) Incorrect detection area setting (3) Cover surface is dirty with dust or water (4) Inappropriate detection distance (5) Small temperature difference between human body and surrounding area (6) Too long distance between the receiver and this unit or deteriorated surrounding environment	(1) Replace with a new specified battery (2) Set detection area again (3) Wipe off dirt using a soft, dry cloth (Do not use any chemicals, such as thinner or benzene, which may result in damage to the unit) (4) Set the detection distance within the rated distance (Maximum detection distance: 45m(150')) (5) Set the sensitivity setting to 130% (6) Move the receiver closer to the unit or use a converter
Unit operates when no human body passes through the area	(1) There are moving objects (i.e. pets), or equipment subject to rapid temperature fluctuations (e.g. air outlets, outdoor units of air-conditioning equipment, refrigerator, or clothes dryer) (2) Any sources of electric noise near the unit (3) Strong sunlight reflection or headlights on the units (4) Human body detected, while passing outside the detection area (5) Sensitivity set too high (6) Pets detected (7) Automatic cleaning robot detected	(1) Remove objects causing the trouble (2) Change the mounting place (3) Change the mounting place, or shield the light using shades, etc. (4) Set detection area again (5) Set the sensitivity setting to 70% or 40% (6) Keep them away from the detection area (7) Keep them away from the detection area

Maintenance

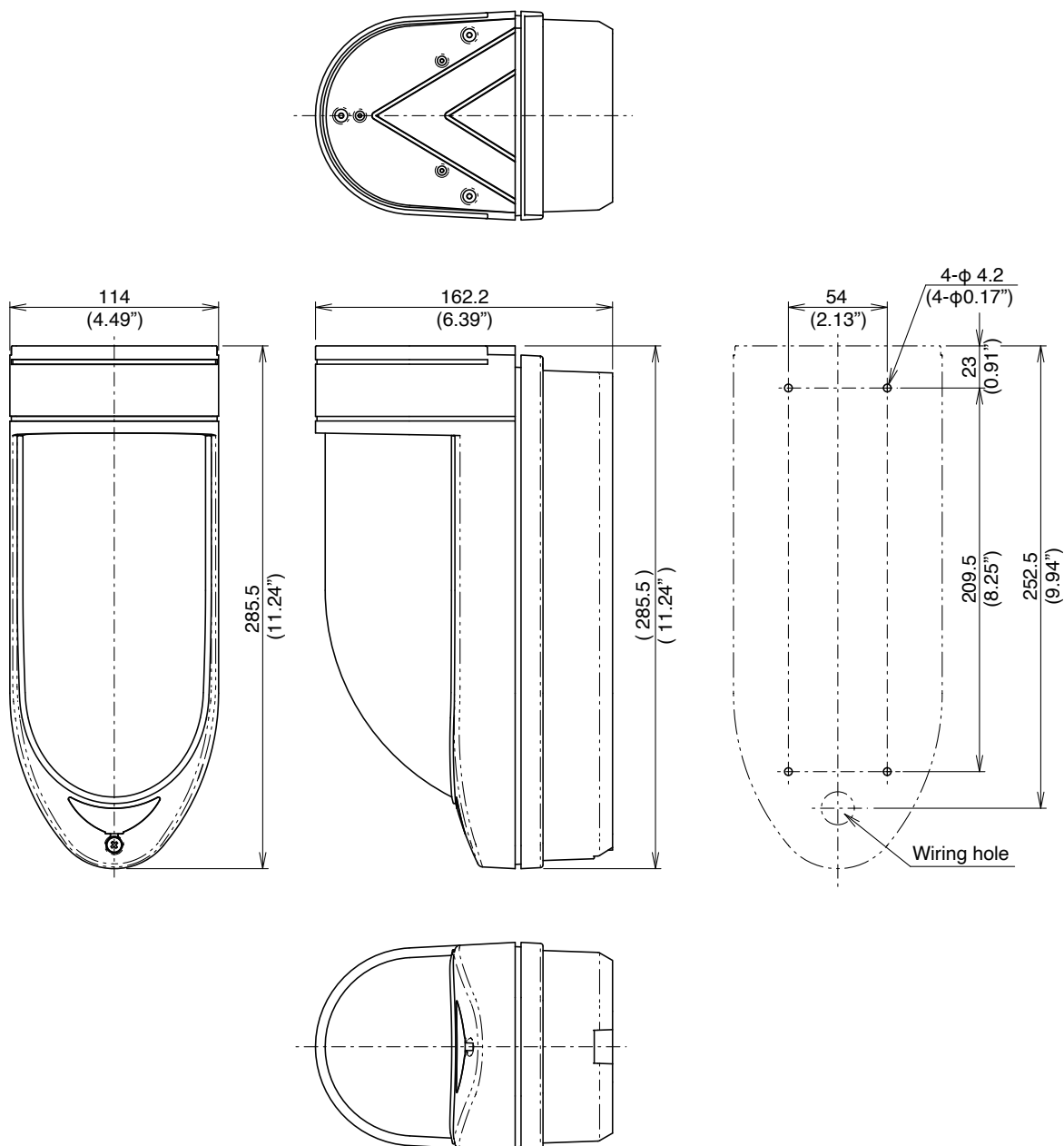
- For maintenance, wipe the unit clean using a soft, wet cloth, and wipe off any water. If the unit is seriously dirty, lightly wipe the unit clean using a soft cloth that has been immersed in water diluted neutral detergent, and the wipe off the detergent completely. Do not use thinners or benzene. (Otherwise plastic components may become deformed, discolored, or changed)
- Check operation periodically, approximately every week. Also make sure to check operation when you move tables and partitions and change the layout in protected rooms.

11 SPECIFICATIONS

Model	TRIPLE MIRROR PASSIVE SENSOR
Model number	PIR-T40NR (W) / (BL)
Detection system	Passive infrared (Triple mirror)
Detection area	Vertical curtain protection Detection distance : Max 45m (150'), 46 rays (23 pairs)
Power supply voltage	3.6V DC (recommended battery : SAFT lithium-thionyl chloride battery LS33600)
Battery life	Approx. 3 years (detects 100 times a day, at normal temperature, with 1 recommended battery, excluding wireless transmitter)
Contact operation	- Alarm output : One-shot operation when detecting intrusion - Tamper output : Continuous output in the event of cover monitor error - Alarm + Tamper : Continuous output in the event of self diagnosis error - Low battery : Continuous output in the event of alignment position error
Alarm output	Contact method : Dry semi-conductor contact, N.C. Contact capacity : 3.6V DC 0.01A (resistive load)
Tamper output	Contact method : Dry semi-conductor contact, N.C. Contact capacity : 3.6V DC 0.01A (resistive load)
Low battery output	Contact method : Dry semi-conductor contact, N.O. Contact capacity : 3.6V DC 0.01A (resistive load)
Battery power output	3.0 to 3.6V DC 65mA max. (1 or 2 × new batteries)
Alarm LED	Red LED : Blinks during warm up (ON/OFF selectable using the mode selector) Lights up when detecting intrusion (ON/OFF selectable using the mode selector) Continuously blinks in the event of cover monitor error Continuously blinks in the event of alignment position error Continuously blinks in the event of self diagnosis error Continuously blinks in the event of Low battery error
LED area checker	Red / Green LED : Continuously blinks in the event of alignment position error
Functions	Sensitivity selection Self diagnosis Low battery monitoring Temperature compensation LED area checker / Alignment position monitoring Environmental adjustment Creep zone detection Walk test
Mounting height	2.0 to 6.0m (6.6' to 20') (varies depending on the operation mode) - Low position mode : 2.0 to 2.5m (6.6' to 8.3') (Max. detection distance : 40m (135')) - Middel position mode : 2.5 to 3.5m (8.3' to 11.5') (Max. detection distance : 35m (115')) - High position mode : 3.5 to 4.0m (11.5' to 13') (Max. detection distance : 30m (100')) - High density mode : 2.0 to 6.0m (6.6' to 20') (Max. detection distance : 45m (150'))
Area angle adjustment range	Horizontally : $\pm 90^\circ$ (in 5° steps) Vertically : 17° (without steps)
Ambient temperature range	-20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$) (no condensation and freezing) (Battery performance may deteriorate below 0°C or above $+40^\circ\text{C}$)
Mounting position	Indoor / outdoor wall surface (mountable on poles / ceilings / under eaves using optional accessories)
IP rating	IP55
Weight	Approx. 850g (30oz) (excluding batteries)
Appearance	Body , Window : Resin (White) / (Black)

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

12 EXTERNAL DIMENSIONS Unit: mm (inch)



- Options : Pole attachment BP-32
 Pole attachment BP-02
 Ceiling attachment KP-32

Limited Warranty :

TAKEX products are warranted to be free from defects in material and workmanship for 12 months from original date of shipment. Our warranty does not cover damage or failure caused by natural disasters, abuse, misuse, abnormal usage, faulty installation, improper maintenance or any repairs other than those provided by TAKEX. All implied warranties with respect to TAKEX, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to 12 months from original date of shipment. During the Warranty Period, TAKEX will repair or replace, at its sole option, free of charge, any defective parts returned prepaid. Please provide the model number of the products, original date of shipment and nature of difficulty being experienced. There will be charges rendered for product repairs made after our Warranty Period has expired.



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