

# TAKEX

# PASSIVE INFRARED SENSOR

Wide angle protection : PA-450EA  
 Wide angle protection : PA-450PIA (40 lbs PET IMMUNE)  
 Vertical curtain protection : PA-460EA

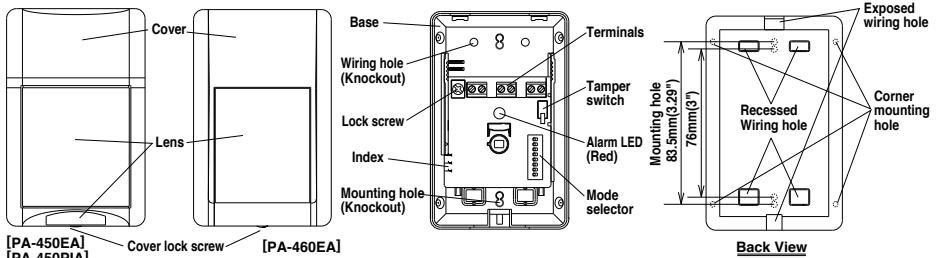
## Instruction Manual

We appreciate your purchase of a TAKEX passive infrared sensor. This sensor will provide long and dependable service when properly installed. Please read this Instruction Manual carefully for correct and effective use.

Please Note : This sensor is designed to detect intrusion and to initiate an alarm ; it is not a burglary-preventing device.

TAKEX is not responsible for damage, injury or losses caused by accident, theft, Acts of God ( including inductive surge by lightning ), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

## 1. PARTS DESCRIPTION



## 2. DO'S AND DON'T'S

- Install the sensor in a location such that intruders are more likely to cross the protection zones, not to approach head on.
  - Do not install in a site which is subject to electrical noise or intense vibration.
  - Avoid direct sunlight, spot light or intense reflections on the sensor or the protection zone.
  - Do not install the sensor outdoors (indoor use only).
  - Do not install the sensor directly on the ceiling.
- (For ceiling mount, use optional attachment BCW-401.)

- The passive infrared sensor is designed to detect infrared energy variations caused by the presence of a human body. Therefore, note that similar variations in conditions in protection area, due to other reasons, may cause the sensor to create an alarm as it is unable to distinguish the sources.

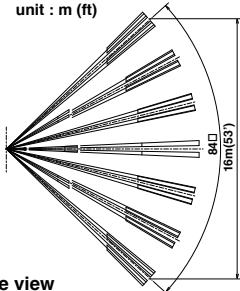
### [MAINTENANCE]

- When the unit is soiled, clean the cover with a soft cloth moistened with a small amount of cleansing solution. Do not use chemicals such as thinners or alcohol.
- Check operation once a week. Do not fail to check operation whenever furniture in coverage area is moved.

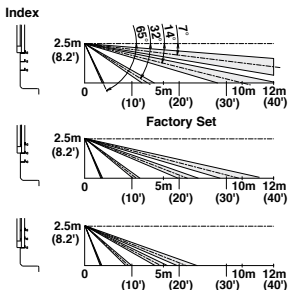
## 3. COVERAGE AND RANGE

### ■ Wide Angle (PA-450EA)

unit : m (ft)



### Side view

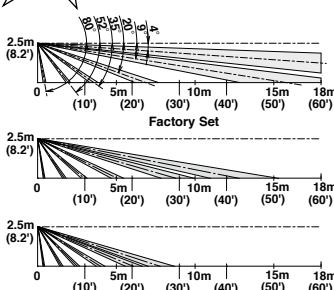
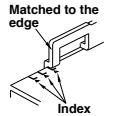


### ■ Vertical Curtain (PA-460EA)

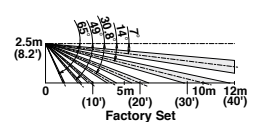
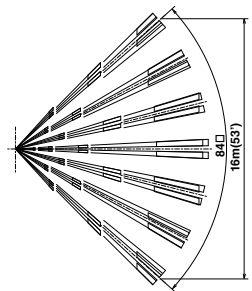


### AREA ADJUSTMENT

Loosen the lock screw and move the inner PCB upwards by using the index as a guide in order to shorten the coverage of sensor.  
 (PA-450EA, PA-460EA)



### ■ Wide Angle (PA-450PIA)



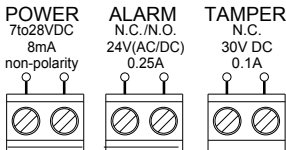
### PET IMMUNITY (PA-450PIA)

- To maintain maximum pet immunity, install the sensor 2.5m (8.2ft) from the floor vertically without moving the inner PCB (factory set).

- Use the optional mounting bracket 'BCW-401' to optimize the pet immunity performance, when area adjustment is required.



## 4. WIRING



[Allowable wiring distance between sensor and power source]

| Size of wire used    | Distance at 12VDC |
|----------------------|-------------------|
| AWG 20 (Dia. 0.80mm) | 1,700m(5,600 ft.) |
| AWG 18 (Dia. 1.00mm) | 2,700m(8,800 ft.) |

- The maximum wire length, when two or more units are connected, is the above distance divided by the number of units.
- The protection circuit can be wired up to a distance of 1,000m(3,280 ft.) with AWG 22 (0.65mm dia.) wire.

## 5. INSTALLATION

1. Loosen cover lock screw and detach the cover.
2. Open knockout hole.
3. Install the base on the wall.  
\*Two mounting pitches are available.  
\*When installed on wall corner, make use of knockouts on sides.
4. Connect wires to terminals (Refer to 4. WIRING)
- \*Plug up an opening of wiring hole.
5. Attach the cover, and tighten cover lock screw.

## 6. OPERATION

1. Turn the power ON, and wait for approx. 1 minute until the alarm LED stops blinking.
2. Walk test in the protection area to check if an alarm is activated. Check on both of the alarm LED and control panel.  
It is important to check operation whenever the area of protection is changed.
3. After correct operation has been confirmed, turn the alarm LED OFF with mode selector on PWB unit. (When set at OFF, the alarm LED does not light even if an alarm is activated.)

## 7. MODE SETTING

Sensor operation can be changed by mode selector on PWB unit.

(\*) : factory set

1 : Alarm LED

OFF(\*) LED disabled  ON Lights at alarm

Alarm LED OFF:

LED operates according to alarm memory function.

2 : Alarm memory

OFF(\*) No operation  ON Auto reset operation

Auto reset operation :

When an alarm has been activated, the alarm LED blinking for 3 min. and then remains lit for 47 min. It automatically reset and memory is also canceled, in case that the sensor retriggers while its LED is lit, LED lights for further 47 min. after that.

3 : Selection of alarm contact

N.C. (\*) Open at alarm  N.O. Close at alarm

4,5 : Sensitivity

60%  80%  100%(\*)  120%

6,7 : Pulse count

1  2(\*)  3  4

count [1] : Most sensitive.

count [2] : Normally set to this position.

count [3]/[4] : Least sensitive, prevents false alarms caused by temperature fluctuation.

\*Do not use count [3]/[4] for Vertical curtain(PA-460EA).

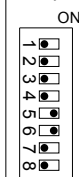
8 : Walk test mode

OFF (\*)  ON

Walk test mode ON :

After warming up or turning on the switch, the LED lights when the sensor detects for 5 minutes, the alarm memory is not accepted for 5 minutes as well. After 5 minutes, the LED function follows "Alarm LED" settings.

Factory set



## 8. SPECIFICATIONS

| Model                     | PA-450EA   | PA-450PIA                   | PA-460EA                          |
|---------------------------|--|-----------------------------|-----------------------------------|
| Detection system          | Passive infrared   |                             |                                   |
| Coverage                  | Wide Angle<br>12m(40') max.  | Wide Angle<br>12m(40') max. | Vertical curtain<br>18m(60') max. |
| Sensitive zone            | 18 Pairs   | 29 Pairs                    | 6 Pairs                           |
| Supply voltage            | 7 to 28V DC (non-polarity)   |                             |                                   |
| Current consumption       | 8mA max.   |                             |                                   |
| Alarm output              | Dry contact (Semi-Conductor) (N.C. / N.O. selectable)<br>Reset : Approx. 2sec.<br>Rating : 24V (AC/DC), 0.25A max. (protective resistance 3.3Ω)        |                             |                                   |
| Tamper output             | N.C. 30V DC 0.1A   |                             |                                   |
| Alarm LED (Red)           | : Blinking at warming up<br>: Lighting at alarm (LED disabled)<br>: Blinking at memory activated (3 min.)<br>: Lighting at memory indication (47 min.) |                             |                                   |
| Coverage adjustment       | Vertically 3 steps   |                             |                                   |
| Sensitivity               | 60%/80%/100%/120% selectable   |                             |                                   |
| Pulse count               | 1/2/3/4 selectable   |                             | 1/2 selectable                    |
| Alarm memory              | Autoreset : 3 minutes blinking, 47 minutes lighting and automatically reset  |                             |                                   |
| Ambient temperature range | -15°C to +55°C (+5°F to +131°F) without condensation   |                             |                                   |
| Mounting position         | Indoor use only (ceiling mount with optional attachment BCW-401)   |                             |                                   |
| Weight                    | 90g (3.2oz)  |                             |                                   |
| Appearance                | Body : resin(white) Lens : resin(white)  |                             |                                   |

\*The specifications are subject to change without notice.

**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 Acts of God (including inductive surge by lightning), 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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