

TAKEX OUTDOOR PASSIVE SENSOR TX-103R

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.

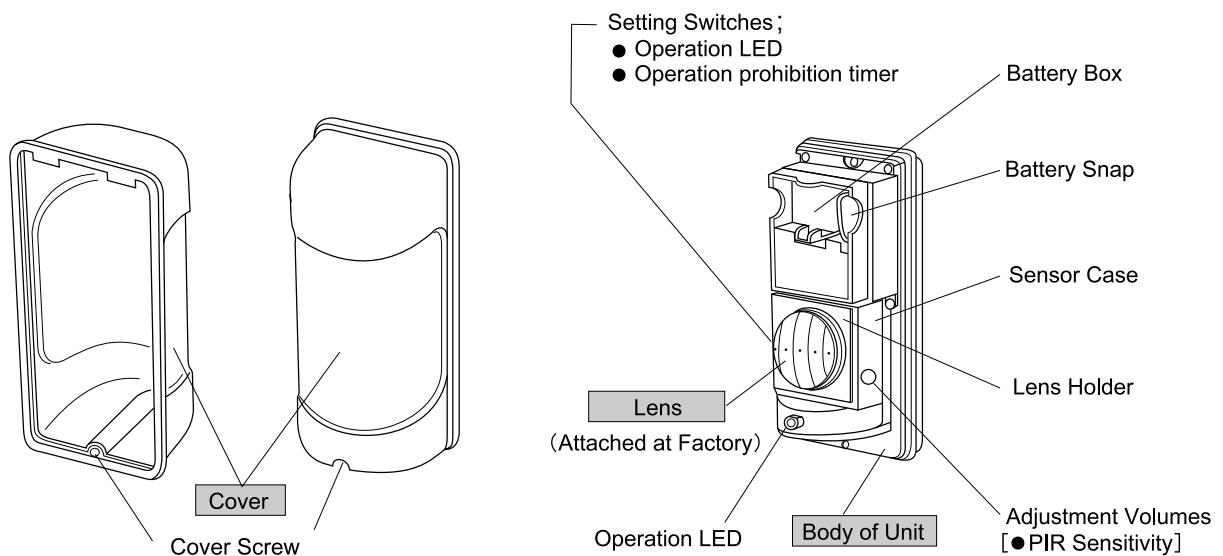
Please Note : This sensor is designed to detect intrusion and to initiate an alarm ; it is not a burglary-preventing device.

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 PRODUCT DESCRIPTION

TX-103R is a passive infrared sensor with low current consumption, which is designed to be equipped with a wireless transmitter in its upper case.

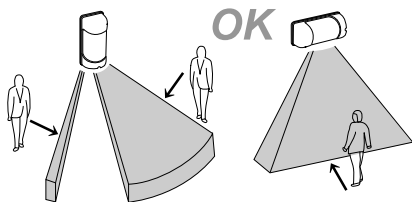
2 PARTS DESCRIPTION



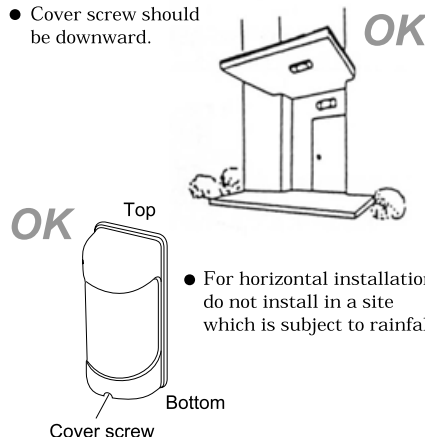
3 PRECAUTIONS

1. Precautions on Installation

- Install the unit in such a direction that people are more likely to cross the detection zones.

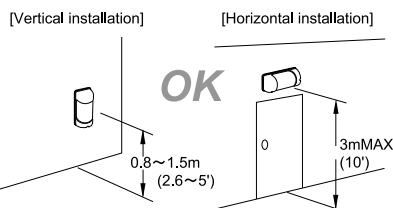


- Cover screw should be downward.

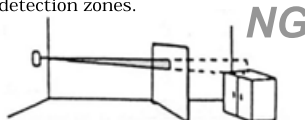


- For horizontal installation, do not install in a site which is subject to rainfall.

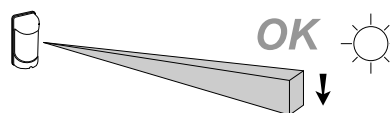
- The unit should be installed as the following.



- Remove obstructions, including glasses, from the detection zones.

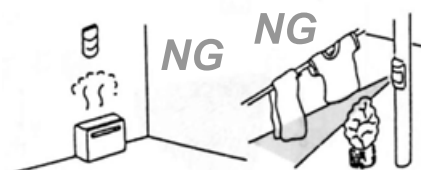


- In case of outdoor installation, adjust the lens holder to 2°, 4°, 6° downward from horizontal.



- Install in a site which avoid direct sunlight. If not, use the filter. (See below)

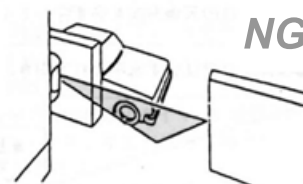
- Do not install the unit by an air conditioning exhaust vent. Remove all obstructions (trees, clotheslines, etc.)



- Do not install in at site which is subject to electrical noise or vibration.



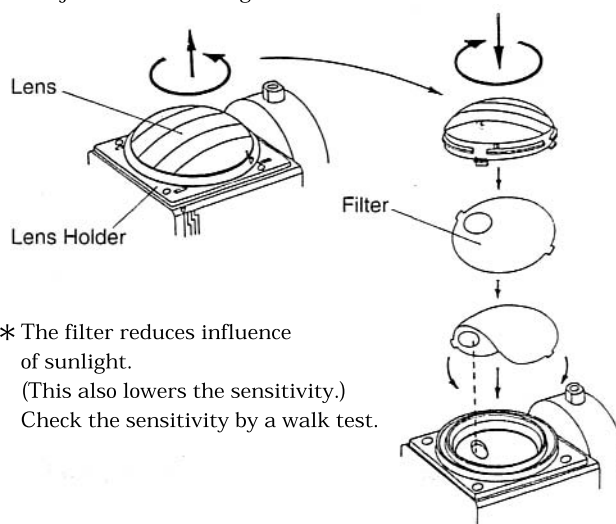
- Check the detection zones before operation. (Unexpected objects may be detected.)



2. Other Precautions

- Avoid using the unit for primary security purpose. (The unit is designed to detect infrared energy variation caused by a human body. Therefore, similar variations in conditions due to other reasons, may cause the sensor to create a signal as it is unable to distinguish between the sources.)

- Insert the filter between the lens and the lens holder when using the unit in an site which is subject to direct sunlight.



- * The filter reduces influence of sunlight. (This also lowers the sensitivity.) Check the sensitivity by a walk test.



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4 DETECTION AREA

TX-103R can set up 4 different patterns of coverages with 2 types of lens.

1.Detection Chart

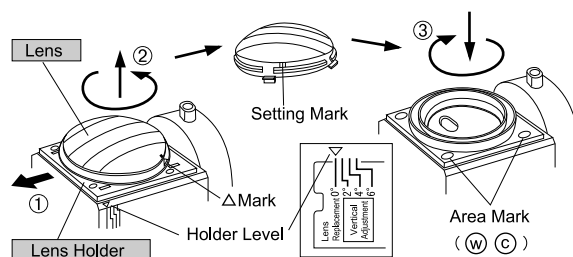
Installation	Vertical Installation			Horizontal Installation
Mounting Position	Indoor / Outdoor Mounting Height 0.8~1.5m(2.6~5')			Indoor Height 3m(10')
Detection Area (Wide Angle : Set at factory)	Wide Angle [Max.10m(33'')]	Curtain [Max.10m(33'')]	Long Range [Max.20m(66'')]	Curtain [Max.3m(10'')]



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2. Lens Setting

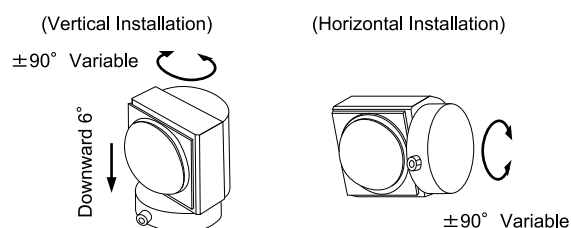
- ① Adjust lens holder to set holder level to 0° .
- ② Remove lens form lens holder.
- ③ Refer to lens setting in chart(4.1).
Attach appropriate lens on lens holder and,
adjust lens to fit Setting Mark to mark
(W) or (C)



3. Angle Adjustment

(1) Angle Adjustment

① Sensor Case



② Angle Adjustment Level

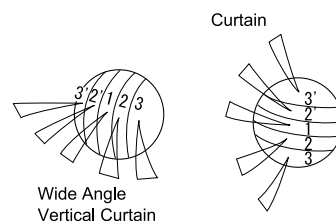
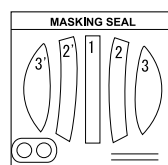
- (a) Turn sensor case to adjust the required angle.
Refer to the seal on the unit.



- (b) In case of vertical installation at outdoor, adjust
lens holder to set holder level to 2° ,4° or 6° .

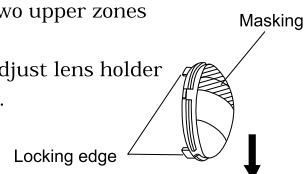
(2) Zone Masking

Coverage



- Use zone masking seal to cut unnecessary zones.

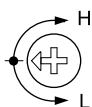
- * In case of curtain coverage, omit two upper zones with seals.
Cut off locking edges of lens and adjust lens holder to set holder level to 2° ,4° or 6° .



5 ADJUSTMENT

(1) PIR Sensitivity

This volume is for adjusting the sensitivity of passive infrared sensor.
Adjust sensitivity as necessary according to environment.
Sensitivity range is from approx.30%(L) to approx.170%(H). The factory set is 100%.

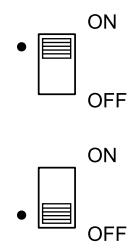


(2) Operation LED

LED can be abled or disabled by a setting switch.
The factory set is ON.

(3) Operation Prohibition Timer

The sensor will sleep for approx.1 minites when the operation prohibition timer is set "ON".
The timer is retriggeder if there is another detection within the sleep period. The factory set is OFF.

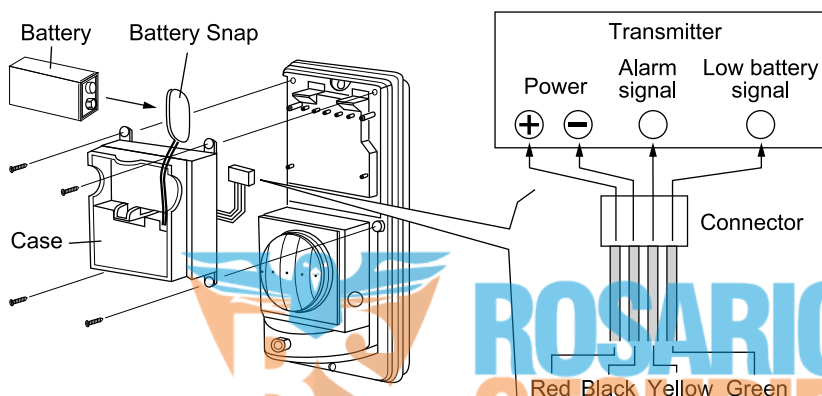


6 ASSEMBLING

- ① Loosen the screws(4 pcs) and detach the case.
- ② Connect to the transmitter and house them inside the case.

Part number of the connector is:
HIROSE DF13-5S-1.25C

- ③ Attach the case and tighten four screws.
- ④ Connect battery.



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7 INPUT OUTPUT SPECIFICATIONS

(1) Alarm signal

- ① Wire color: Yellow
- ② When detection occurs: See the bottom for output signal pattern
- ③ High voltage: CMOS output driven by 5V regulator

(2) Low battery signal

- ① Wire color: Green
- ② High voltage: CMOS output driven by 5V regulator

(3) Battery input (+)

- ① Wire color: Red
- ② Battery voltage: 9V DC
- ③ Operation voltage range: 5V to 10V DC
- ④ Current consumption: 30 μ A for stand-by, 5mA for detection

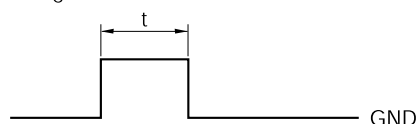
(4) Battery input (-)

- ① Wire color: Black

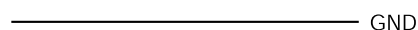
(5) Output signal pattern

① Alarm

a. Alarm signal

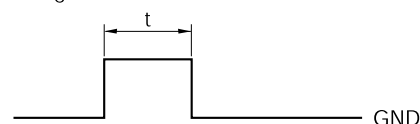


b. Low battery signal

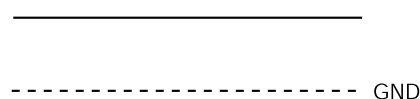


② Alarm under Low battery

a. Alarm signal



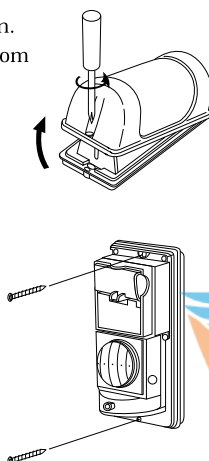
b. Low battery signal



t= 1sec (Operation prohibition timer ON)
t= detection time plus 1sec off delay
(Operation prohibition timer OFF)

8 INSTALLATION

- ① Read PRECAUTIONS (3) before installation.
- ② Loosen the cover screw and remove cover from unit.
- ③ Refer to DETECTION AREA (4) and adjust to the required angle.
- ④ Refer to ASSEMBLING (6) .
- ⑤ Secure the body of unit to wall with screws provided.
- ⑥ Refer to OPERATION CHECK (9) and check the operation.
- ⑦ Refer to ADJUSTMENT (5) and set up for desired operation.
- ⑧ Replace the cover.



9 OPERATION CHECK

- ① Connect a battery with cover detached and wait approx. 2min for warm-up period.
- ② After warm-up period, operate a walk test in the detection area to check, if the required area is covered.
(Operation LED is activated at the time of detection.)
- ③ Readjust the sensor case or mask zones, if necessary.
- ④ Check if whole system functions.



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10 TROUBLESHOOTING

Analyze possible problems according to the following table.

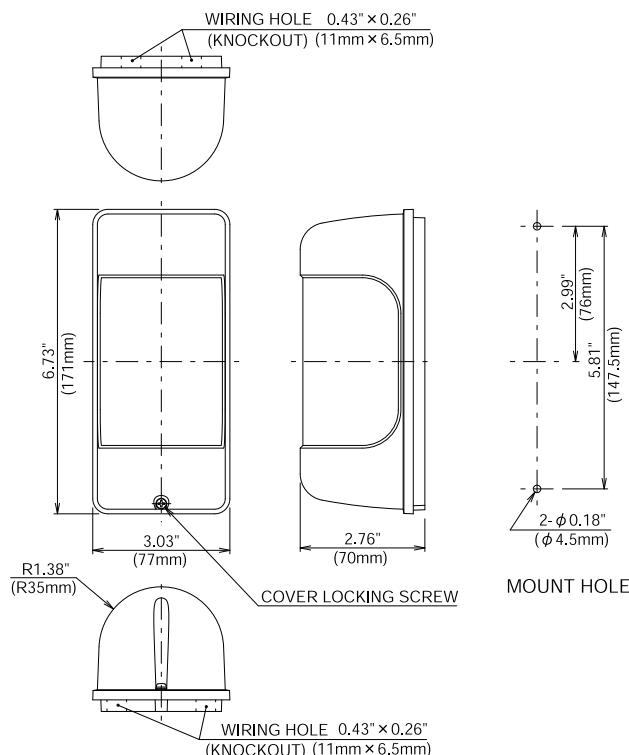
Symptom	Possible Cause	Remedy
Inactive	1. No battery. Inadequate voltage. 2. Warm-up period. 3. Obstructions in the coverage. 4. Mis-alignment of coverage. 5. Stained cover. 6. Mis-setting of detect direction.	1. Supply a new battery. 2. Wait 2min. after power is supplied. 3. Remove obstructions. 4. Readjust. 5. Clean with soft cloth. 6. Reset properly.
Malfunction False signal	1. Low battery. 2. Something moving or rapid temperature variation in detection area. 3. A large electric noise source is located nearby. 4. Direct sunlight shining on the unit. 5. Detecting untargeted objects. 6. Small animals.	1. Replace the battery. 2. Remove cause or change coverage. Turn the sensitivity down. 3. Remove the problem or replace the unit. 4. Remove the problem or replace the unit. Readjust the coverage. Insert the attached filter. 5. Readjust the coverage. 6. Prevent small animals from coming in or readjust unit.
Installed unit does not operate, while LED is on.	1. Bad wiring connection or broken wire or short. 2. Improper unit is connected.	1. Check wiring. 2. Check the conected transmitter copes with CMOS output. Check the interconnection between transmitter and receiver.

If normal operation can not be restored by these means, contact either the dealer from whom you bought the unit or TAKEX directly.

11 SPECIFICATIONS

Model	TX-103R
Detection system	Passive infrared
Coverage	Vertical Installation ●Wide Angle [Max. 10m(33')] ●Curtain [Max. 10m(33')] ●Long Range [Max. 20m(66')] Horizontal Installation ●Vertical Curtain [Max. 3m(10')]
Supply voltage	9V DC(polarity) U9VL(Litium) / 6LR61(Alkaline)
Power consumption	30 μ A (stand-by), 5mA (detection)
Output signal	CMOS (Alarm) and (Low batery)
Adjustment Volumes	PIR sensitivity ●Approx.30%(L)-Approx.170%(H) (100% set at factory)
Ambient temperature	-4° F to +122° F(-20°C to +50°C)
Mounting position	Vertical Installation ●Indoor / Outdoor Horizontal Installation ●Indoor
Operation LED	Light at detection
Connection	Connector
Weight	7.7oz (220g)
Appearance	Cover:PE resin(white) Body:AES resin(white)
Optional	Pole cover(BP-11), Wall mount attachment(BW-14), Magnetic sheet(BR-M5),Pole attachment(BP-12)

12 EXTERNAL DIMENSIONS



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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