TAKEX   SENSOR SPEAKER

PV-12 (12VDC POWER WITH DRY CONTACT RELAY 1C)

Instruction Manual

Thank you for purchasing a TAKEX product.   Please read this Instruction Manual carefully for correct and effective use.
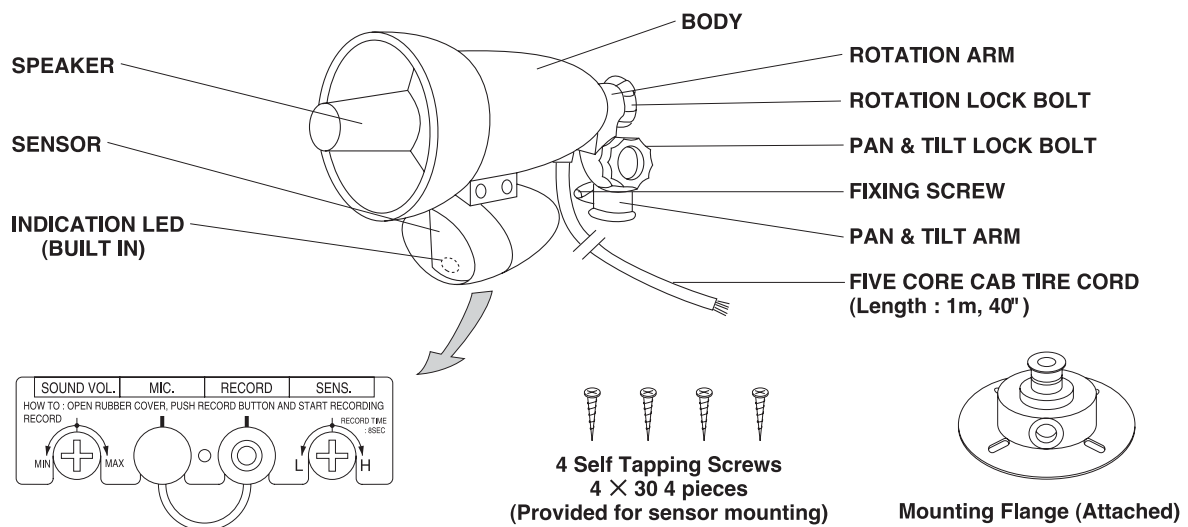
Please Note : This sensor speaker is designed to detect passing objects and to initiate a signal : it is not a burglary-preventing device. TAKEX is not responsible for damage or losses caused by accident, theft, Acts of God (including inductive lightning), abuse, misuse, abnormal usage, faulty installation or improper maintenance. Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any system.

Sensor Speaker, PV-12 is a combination P.I.R. sensor and speech synthesised speaker with amplifier.   The recorded message which is reprogrammable is played back when the P.I.R. sensor detects movement within its field of view.
A dry changeover relay contact is also activated simultaneously.

1 PARTS DESCRIPTION

BODY
ROTATION ARM
ROTATION LOCK BOLT
PAN & TILT LOCK BOLT
FIXING SCREW
PAN & TILT ARM
FIVE CORE CAB TIRE CORD
(Length : 1m, 40")

SPEAKER
SENSOR
INDICATION LED
(BUILT IN)

| SOUND VOL. | MIC. | RECORD | SENS. |
HOW TO : OPEN RUBBER COVER, PUSH RECORD BUTTON AND START RECORDING
RECORD
RECORD TIME : 8SEC
MIN   MAX   L   H

4 Self Tapping Screws
4 × 30 4 pieces
(Provided for sensor mounting)

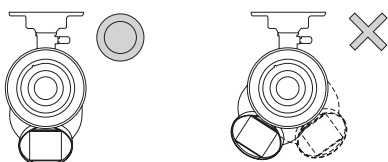**Mounting Flange (Attached)**

2 INSTALLATION INSTRUCTIONS

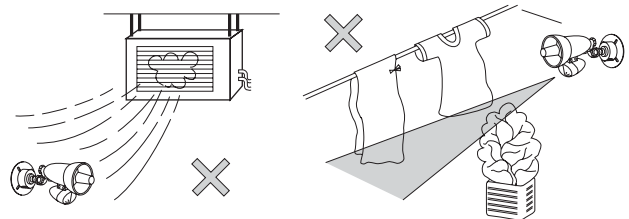● Install the sensor to detect objects moving across the field of view.
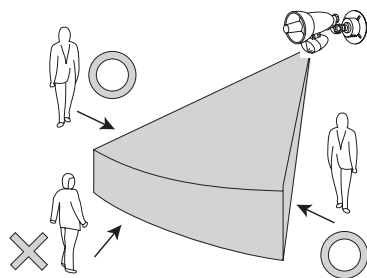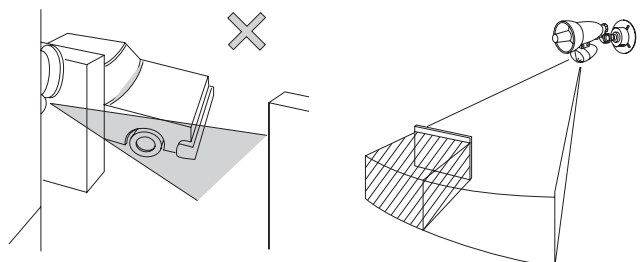

● Install the sensor to face downwards.
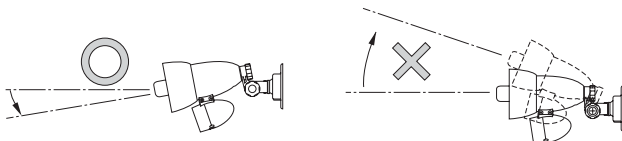
● P.I.R. sensor should be vertical.

● Do not install in areas where the ambient temperature changes suddenly and / or where there are moving objects.

● The detection area should be within inside of compound.

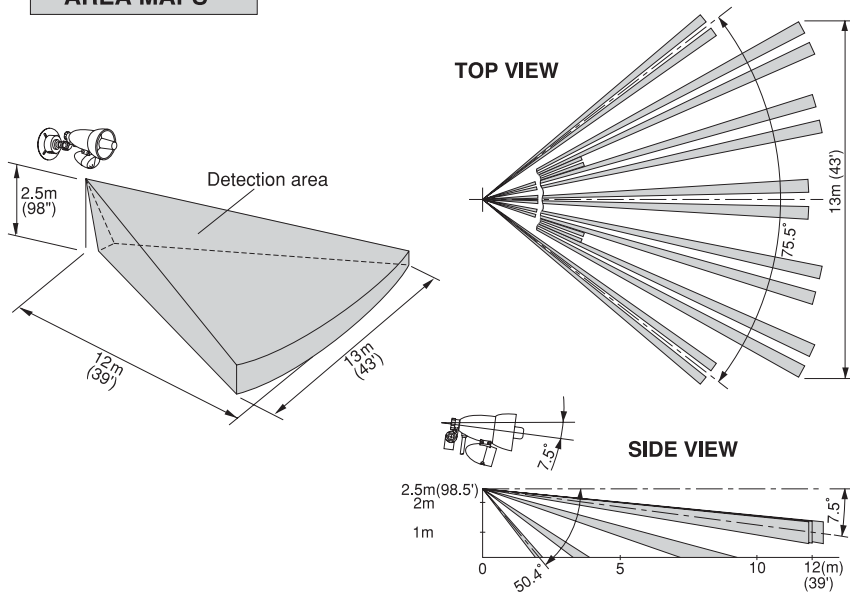● Any objects within the detection area may cause non-sensitive zone.

● Do not install where strong vibration or electrical noise is present.

3 INSTRUCTION FOR USE

- Sensor requires one minute warm-up after power is applied. (Recording is possible during this period.)
- Sound playback time is approximately eight (8) seconds. During playback, further detection does not extend the time period.
- Do not splash water on to the Sensor Speaker, although it is rain-proof, it is not water-proof.
- Give careful consideration to sound volume level, especially if used at night.
- The recorded message will be eliminated if the sensor is not powered for over twenty (20) days.
- The sensor is not a burglary prevention device and should not be used as part of a genuine security system.
- The sensor speaker is designed to detect infrared energy variations against ambient background. Note that similar variations in the detection area due to other reasons may cause sensor to initiate an alarm as it is unable to distinguish between sources.

4 DETECTION AREA

AREA MAPS

Detection area

2.5m (98")

12m (39')

13m (43')

TOP VIEW

13m (43')

75.5°

SIDE VIEW

7.5°

2.5m(98.5')
2m
1m

7.5°

0   50.4°   5   10   12(m) (39')

RANGE ADJUSTMENT

Angle adjustment unit with three-part rotation mechanism as drawn right makes it to adjust many angles.
Adjustment angles are limited as shown in the below diagrams.
Change to install as right figure.

120°   Adjustment Unit   ±180°

90°   ±180°

30°   90°
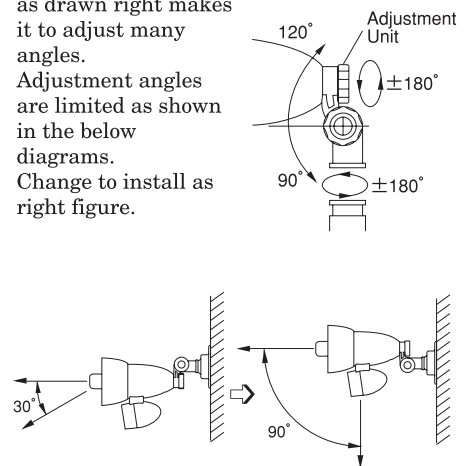
5 HOW TO RECORD AND ADJUST

[RECORDING]

(1) It is preferable to record indoors where wind and other noise can be eliminated.
(2) Power the sensor from 12VDC supply.
(3) Open rubber cover of MIC.
(4) Keep sound source (mouth, etc.) away around 4" / 10cm from MIC. Push Record button once, and start recording.
- Record time is eight (8) seconds.
- Record level function is also equipped with INDICATION LED.
  LED flickering while recording is a right level.
  (Over level : LED off,
  Below level : LED on)
- Do not keep pushing Record button. Recording message shall be eliminated.
  (One push makes Record mode start, and it automatically ends after eight (8) seconds.)

MIC.

(5) Activate P.I.R. sensor by hand to check the recorded message.
(6) Close rubber cover of MIC.
(7) To ensure the memory back up battery is charged. Keep power on for more than thirty (30) minutes.
- After battery charge, the recording shall last about twenty (20) days.
- If you use record message within 2 or 3 days, ten (10) minutes battery charge is enough for use.
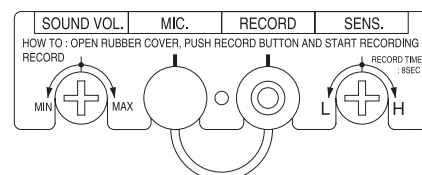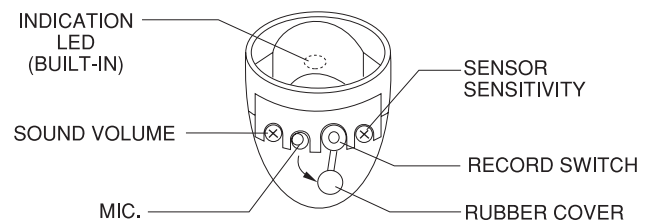 Battery charge before recording is also effective.
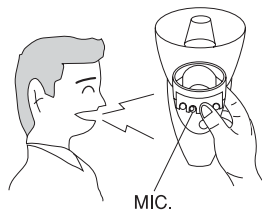
[ADJUSTMENT]

(PLAYBACK VOLUME)

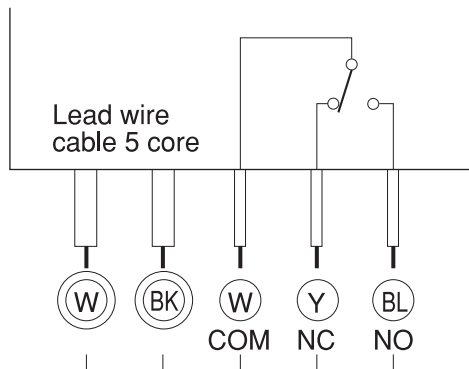Adjustable between silence to max. (100dB : 1m).

(SENSOR SENSITIVITY)

Adjustable between 20% to 180%.
Medium level is 100%. Use medium level for normal usage.
If environment is unstable, adjust it below medium.

INDICATION LED (BUILT-IN)

SOUND VOLUME

MIC.

SENSOR SENSITIVITY

RECORD SWITCH

RUBBER COVER

SOUND VOL.	MIC.	RECORD	SENS.

HOW TO : OPEN RUBBER COVER, PUSH RECORD BUTTON AND START RECORDING

RECORD

RECORD TIME : 8SEC

MIN   MAX   L   H

6 WIRING

CONNECTION

• **PV-12**

Lead wire cable 5 core

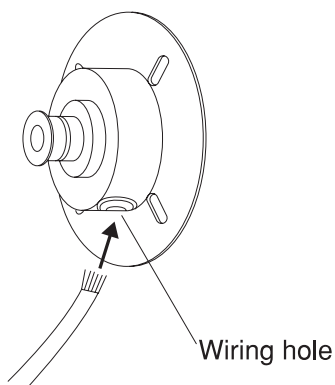| W	BK	W	Y	BL
		COM	NC	NO

White Black
(Thick cable, Power)
12VDC±2V,
Max 500mA
Non-Polarity

(Thin cable, Dry contact relay 1C)
30V AC/DC up to 0.5A
(Resistance load)

SPECIAL NOTICE

If the mounting flange is used, set it so that the wiring hole is underneath.
Ensure sufficient rain proof treatment is given to the surrounding of the flange, fixing screws and wiring hole.
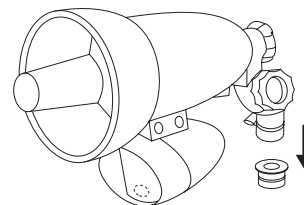

Wiring hole

7 INSTALLATION INSTRUCTIONS

(1) Complete Recording. (See 5.)
(2) Select installation position which should be vertical. (See 2, 4.)
(3) Complete wiring.
(4) Fix flange by fixing screws, 4 pcs, attached.
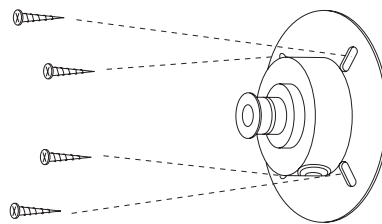
(5) Insert body to fixing flange by loosening fixing screw of rotation arm.

(6) Loosen slightly rotation lock bolt, pan & tilt lock bolt, and fixing screw of rotation arm, adjust rotation arm to obtain best detection direction and angle in the detection area.
Ensure all bolts are then tightened firmly.
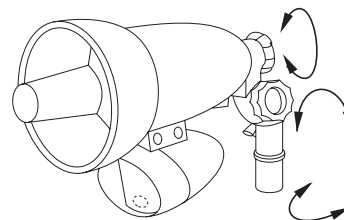
(7) Check all operations are satisfactory. (See 8.)

8 OPERATION CHECK

(1) Confirm the procedures upto 6, wiring.
(2) Confirm the following volumes are set to the following levels.
   －1. Sensor Sensitivity —— Medium
   －2. Playback Volume —— Medium
(3) Wait for one (1) minute after power on.

(4) Walk across detection area, and check size and position of detection area. Adjust angles if necessary.
Operation is able to be checked by sound of playback, or indication LED on.
(Playing back and lighting ON for 8 sec. when once detects.)
(5) Check that any other equipment connected to the system is on or off, etc.
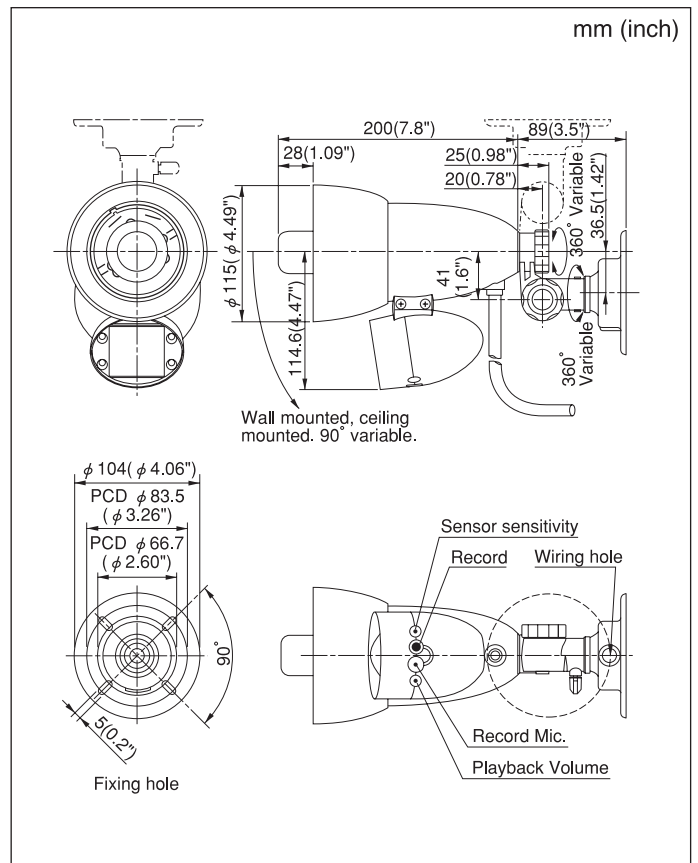(6) Adjust the sound volume of playback.

9 TROUBLESHOOTINGS

Symptom	How to check problems	Remedy
Inactive at all	No power (including wire break). Too low power voltage.	Check power cord and power voltage are right.
	One minute passed after power on ?	Await one minute.
	Any obstacles in detection area (including glasses) ?	Remove obstacles.
	Detection area set up properly (including distance) ?	Readjust detection area (see 4).
Inactive from time to time	Detection area set up properly (including distance) ?	Adjust detection area (see 4).
	Is sensor window stained with dust or water ?	Wipe sensor window.
Malfunction, false signals	Is power voltage stable ?	Adjust power voltage properly.
	Are there any moving obstacles or enormous temperature change in detection area ?	Remove obstacles or readjust temperature. Adjust sensitivity to lower level.
	Are there any electrical noise source near sensor ?	Reinstall sensor speaker.
	Are there any direct rays of Sun or car light coming into sensor ?	Reinstall sensor speaker. Readjust detection area.
	Does sensor detect any objects outside of estimated detection area ?	Readjust detection area.
	Any animals like cats or dogs coming into detection area ?	Prevent them coming in.
Playback and LED operates. But, connected equipment does not operate.	Mis-wiring, short circuit, or wire break of detection signal.	Repair mis-wiring, wire break or short circuit.
	Detection signal is not initiated from output contact.	Check output contact terminal by tester.
	Is the equipment connected normally ?	Check the equipment connection.
LED and connected equipment operate. But, Playback does not. And abnormal noises are heard.	Is SENSOR SPEAKER left unpowered for more than twenty (20) days.	Recharge the memory back-up battery, and record message again. (See 5.)

10 SPECIFICATIONS

Description	Sensor Speaker
Model number	PV-12
Detection system	Passive infrared
Detection area	Wide angle (max. : 12m, 39')
Sensitive zone	24 zones (12 pairs)
Sensitivity volume	Variable 20 to 180% (medium : 100%)
Power voltage	DC12V±2V (non-polarity)
Current consumption	(Standing by) below 20mA (Operating) below 500mA (Max. Vol.)
Output signal	Dry contact relay : 1C Contact capacity : AC/DC 30V, 0.5A (Resistive load) Output time : eight (8) seconds
Power timer	Sixty (60) seconds (no detection, recording O.K.)
Sound synthesis method	ADM method
Record method	Built-in condenser microphone
Record / Playback time	Eight (8) seconds Sound memory capacity : 256 Kbit S-RAM
Record memory back-up time	More than 20 days with non-electrified conditions (temp.=25℃, electrified over 30 minutes).
Sound output motion	One-shot eight (8) seconds playback motion by detection signal (no retrigger during playback).
Sound output power	Max. 2W Over 100dB (1m ahead) at a right record level.
Sound volume adjustment	Continuously variable from 0 to max.
Indication LED	[Record] Level indicator function Right : blink, underrate : LED on, overrate : LED off. [Playback] LED on during playback.
Ambient temperature	−20℃ to + 50℃ (no dew, no frost)
Installation place	Indoor / outdoor (rainproof)
Wiring method	Lead wire (5 core), 40" / 1m attached.
Installation method	Screw on flange.
Weight	1050g, including wire / 100g.
External appearance	Black (PC resin)
Attachments	Installation flange, fixing screws.

11 EXTERNAL DIMENSIONS

mm (inch)

Wall mounted, ceiling mounted. 90° variable.

Fixing hole

Sensor sensitivity
Record
Wiring hole
Record Mic.
Playback Volume