

# TAKEX PIR REX\* DOOR SENSOR

## PS-520E



### Instruction Manual

\*Request to Exit  
(INDOOR ONLY)

We appreciate your purchase of a TAKEX passive infrared REX 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 device is not intended to be used as an Intrusion Detection Unit ; 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.

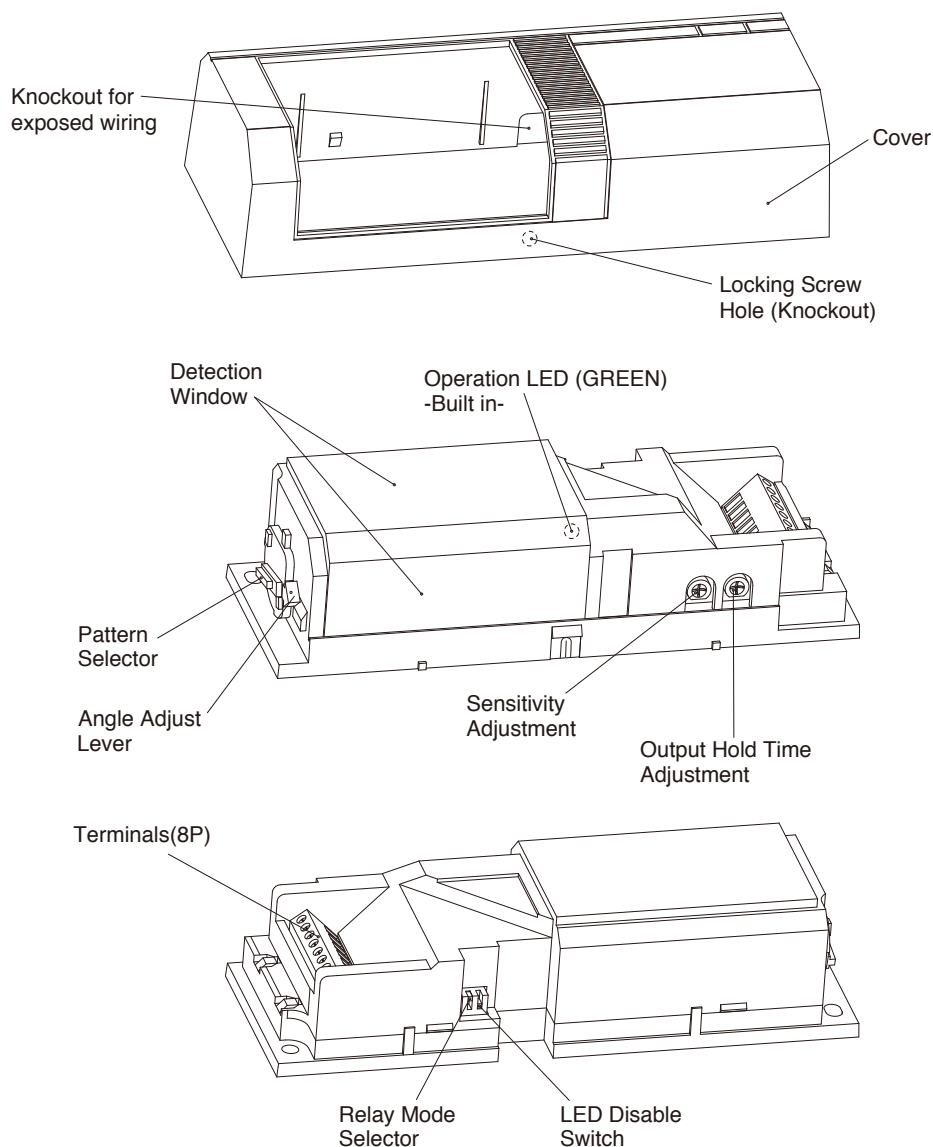
## PRODUCT DESCRIPTION

The TAKEX PS-520E passive infrared "request-to-exit" sensor is specifically designed for applications involving coverage at the threshold of a doorway. A number of field selectable options and adjustments make it a compatible choice for access control applications, door strike release, alarm system shunting and automatic door operation.

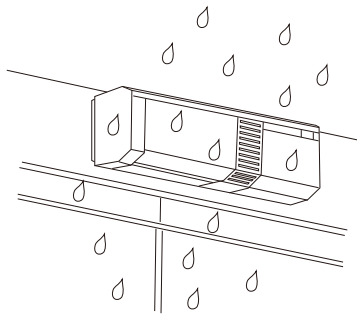
The level of access control feature (UL294) :

Destructive Attack Level I. Line Security Level I. Endurance Level IV. Standby Power Level I.

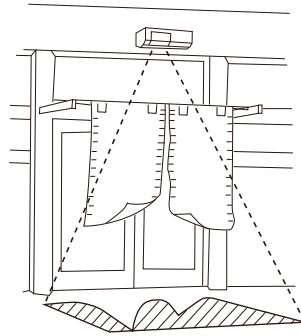
## 1 PARTS DESCRIPTION



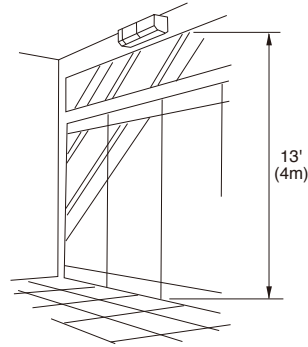
## 2 DO'S AND DON'T'S



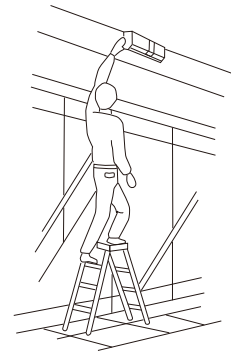
●Do not install the unit in places where it may be affected by rain.



●Do not blind the unit by placing any object in the detection area.



●Keep installation height within 13' (4m).



●Adjust the detection area after installation.

### [MAINTENANCE]

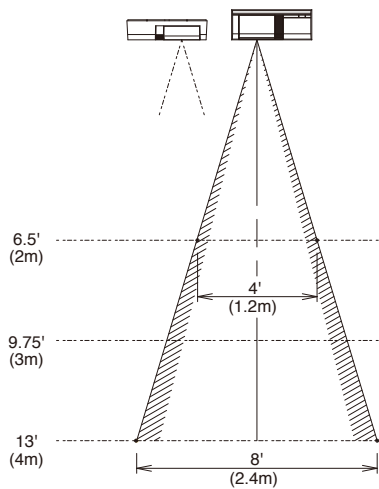
1. When the unit is soiled, clean the cover with a soft cloth moistened with a small amount of cleansing-solution. Do not use chemicals such as thinners or alcohol.
2. Check operation once a week. Do not fail to check operation whenever furniture in coverage area is moved.

●The PS-520E is designed to detect infrared energy variations caused by the presence of a human body. Therefore, note that similar variations in conditions in the detection area, due to other reasons, may cause the sensor to create an output as it is unable to distinguish between source.

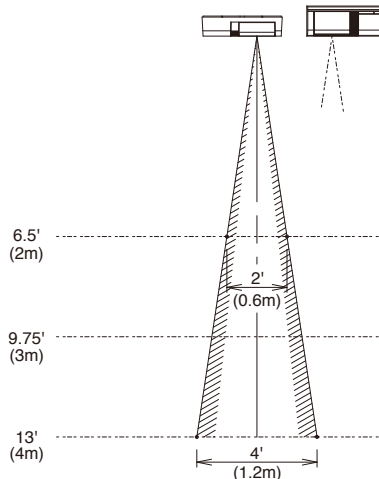
## 3 DETECTION AREA

### 1. DETECTION AREA

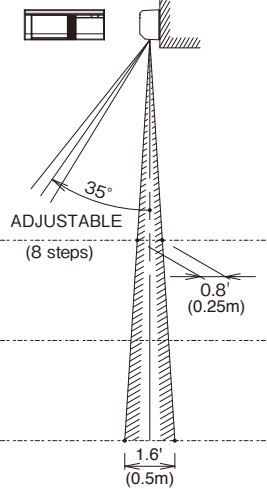
[FRONT VIEW]  
DOUBLE DOOR



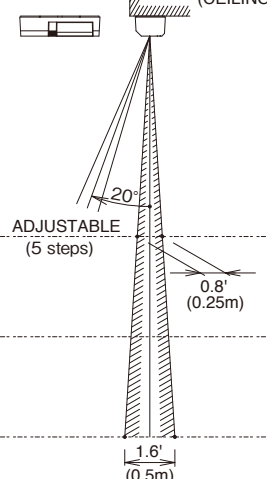
SINGLE DOOR



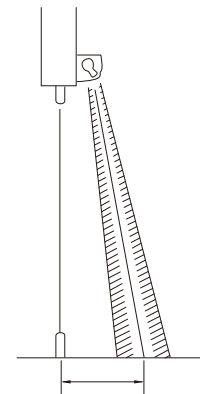
[SIDE VIEW]  
WALL&FRAME MOUNT



OVERHEAD MOUNT  
(CEILING)



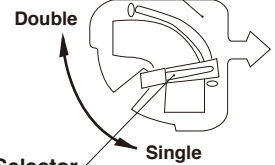
### 2. ADJUSTMENT



1.6' (0.5m) away from door

1. Set the pattern selector to double or single door by Pattern Selector.

#### Angle Adjusting Lever

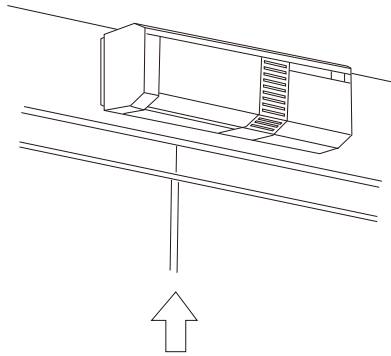


#### Pattern Selector

2. Set the arrow of the angle adjusting lever to detection area. The arrow of the angle adjustment lever points to the detection area.
3. Walk test the unit to ensure proper detection pattern.
4. Check the functioning of the unit once a week. This check should also be carried out whenever the detection area has been altered.

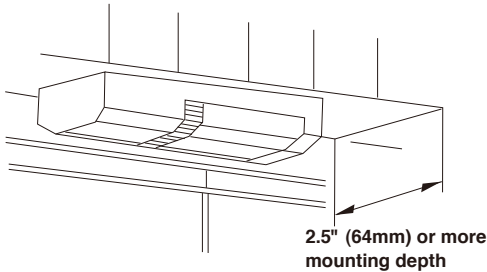
# 4 INSTALLATION

1) Select the mounting location and position of sensor (wall mount or overhead mount).



Mount the unit in the center of door.

Wall mount

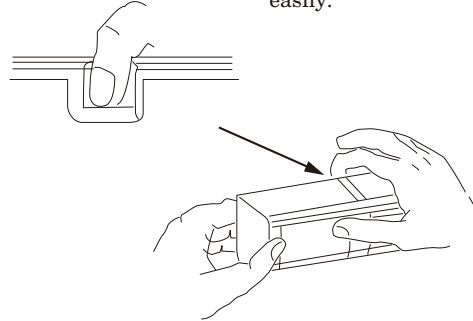


2.5" (64mm) or more mounting depth

Overhead mount

2) Separate the cover from the sensor unit.

Thumb ..... Push the window.  
Forefinger ..... Place finger on the knockout and pull this side to detach the cover. It will come off easily.



3) Drill the mounting hole.

Place the unit body on the mounting location and undermark the screw hole and wiring hole.

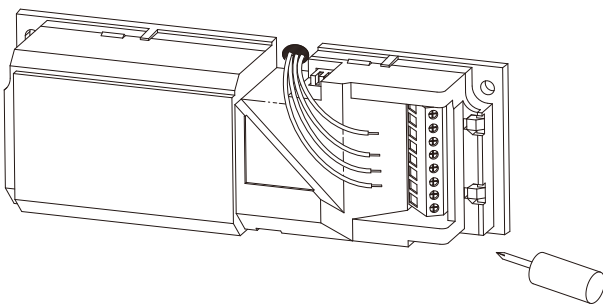
4) Mount the base.

Pull wires through the wiring hole and mount the unit body with the tapping screws provided.

5) Securing the cover

To lock the cover, pierce the cover locking screw hole. Insert cover locking screw and tighten. This is necessary for all UL installations.

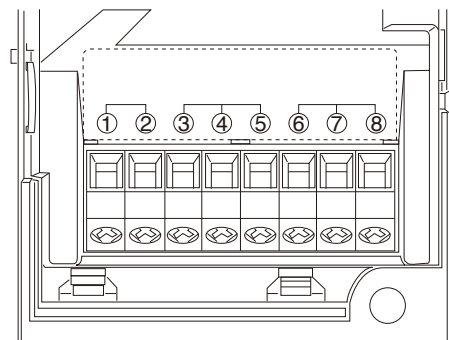
# 5 WIRING



- Run wires through the wiring ditch and insert to the wiring holes on the left side of the terminal unit.
- The terminals accept from AWG 14 up to AWG 22.
- Connect attached resistor (82Ω, 3W) in series with the power input when supply voltage is 20 to 24VAC.
- The NC and NO output will reverse according to the "relay mode" set up. (See 6 for explanation)
- The unit is intended to be powered by either a UL Listed power supply or a UL Listed Class 2 transformer.

## [TERMINAL ARRANGEMENT]

POWER		OUTPUT1		OUTPUT2			
12 to 24V DC / AC (50/60Hz)		DRY CONTACT RELAY 2c					
40mA MAX./DC		30VDC 1A / 24VAC 0.6A					
70mA MAX./AC		( ) : RELAY MODE B					
FOR 20 to 24V AC		N.C.	COM.	N.O.	N.C.	COM.	N.O.
REFER Instr.Doc. 04-999 Rev.1506		(N.O.)	(N.O.)	(N.O.)	(N.O.)	(N.C.)	(N.C.)
①	②	③	④	⑤	⑥	⑦	⑧



# 6 OPERATION AND FUNCTION

## 1) Operation

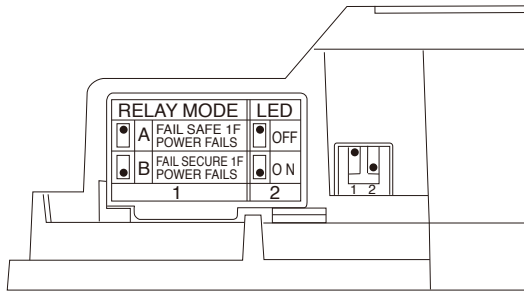
The sensor initiates two relay outputs and turns on the LED when it detects human body.

The hold time of the relay can be adjusted by the timer control.

The hold time does not retrigger by detection while the relay is activated.

## 2) Set up

The following functions can be set up by the 2 dip switches on the side of the inner cover.



### Relay mode



Relay mode can be selected by dip switch 1.

#### Relay mode "A"

This mode selects "FAIL SAFE" (OPENING DOOR OR UNLOCK ELECTRIC STRIKE) operation in the event of power failure.

#### Relay mode "B"



This mode selects "FAIL SECURE" (CLOSING DOOR OR LOCK ELECTRIC STRIKE) operation in the event of power failure.

SET UP	RELAY MODE	CONTACT
 1	A	Fail safe if power fails (FACTORY SET)
 1	B	Fail secure if power fails

\*Note that NC and NO output terminal configuration reverses according to the relay mode.

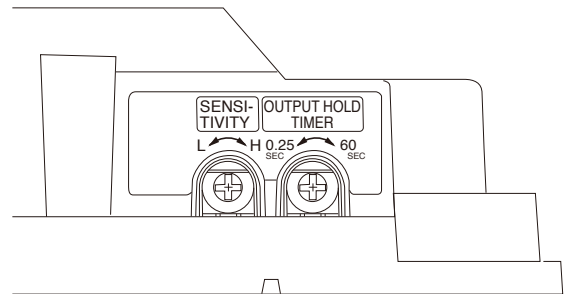
### LED mode

The LED operation can be disabled by dip switch 2.

SET UP		LED
 2	OFF	Disabled
 2	ON	Turns on during the relay hold time. (FACTORY SET)

## 3) Adjustment

The following functions can be set up by the 2 control dials on the bottom of the inner cover.



### Sensitivity

The detection sensitivity can be adjusted.

Turn the dial by the sensitivity control clockwise for higher sensitivity and counterclockwise for lower setting.  
(FACTORY SET : MEDIAN)

### Output hold time

The hold time for the 2 output relays and the LED can be adjustable between approximately 0.25 sec. and 60 sec. (FACTORY SET 0.25 sec.)

# 7 OPERATION CHECK

- (1) After wiring, set the LED to the on mode and check the operation. It takes approx. 1 minute for "warm up" after turning power on.
- (2) Confirm the detection zone by walk test.
- (3) Check the operation of the connected equipment.
- (4) If necessary, make fine adjustment.

# 8 TROUBLESHOOTING

Solve possible problems according to the following table.

If normal operations cannot be restored by this means, contact either the dealer from whom you bought the unit or TAKEX.

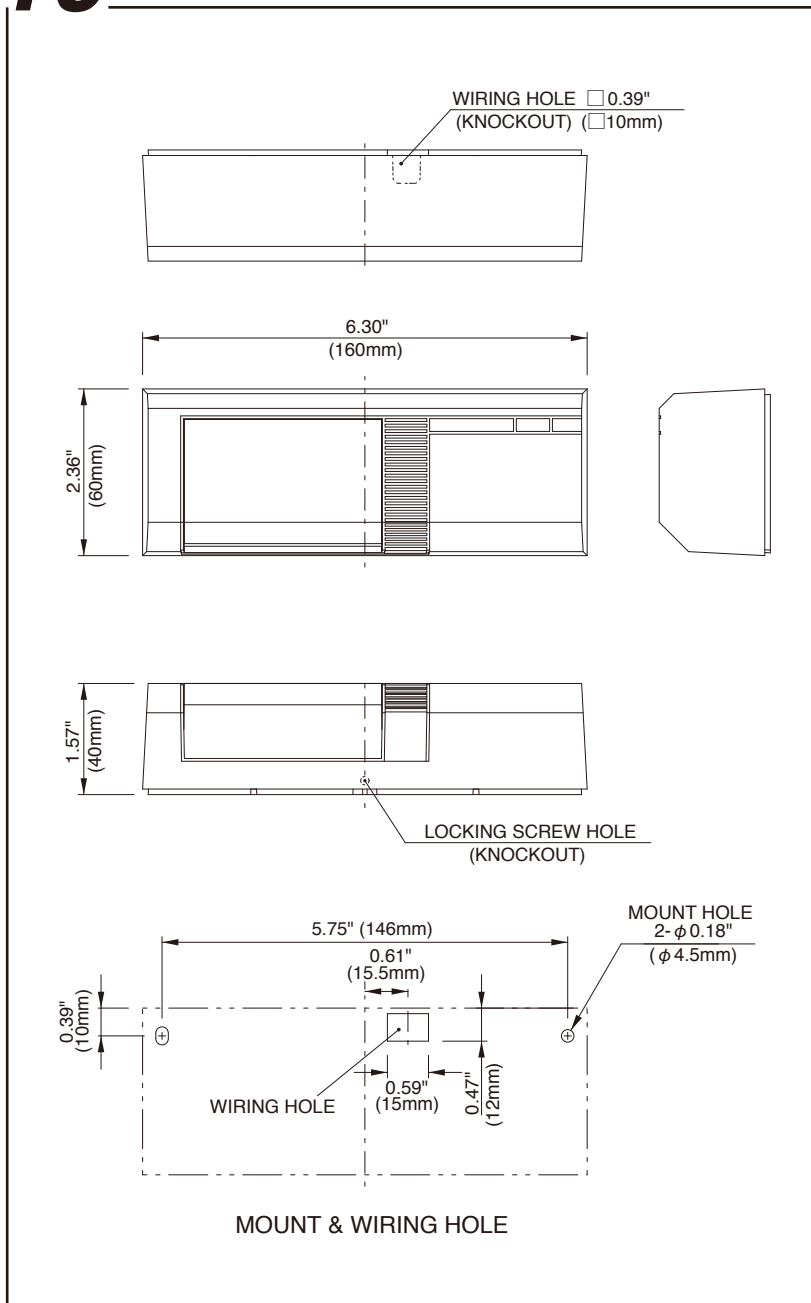
Trouble	Check	Corrective Action
Completely inactive	No power supply, broken wire or improper voltage.	Correct power supply or replace broken wire.
	Cover shielded by substances (including glass).	Remove the substances.
	Improper area adjustment.	Readjust the protection area setting.
Sometimes inactive	Improper area adjustment.	Readjust the protection area setting.
	Cover face is soiled with dust or water drop.	Clean the cover with soft cloth. (Do not use chemicals such as thinners or alcohol.)
Activated when no person has passed	Not yet 1 minute after power turned on	Allow for warming up time (about 1 min.)
	Unstable power voltage.	Stabilize the power voltage.
	Something moving in protected area or too rapid temperature variations.	Remove the cause.
	Large electrical noise source such as power machine nearby or its wiring close to that of sensor.	Relocate device.
	Intense reflection of sun light or head light shining on the sensor.	Relocate device. Shield with a blind.
	Is the sensor reacting to passersby outside ?	Readjust the protection area.
The alarm LED lights, but connected units are inactive	Poor contact output connection or broken wire or short circuit.	Check the wiring or connection.
	Contact output is not working.	Check the contact output terminal using a tester.
	Is the connected unit operation normal ?	Check the connected unit.

# 9 SPECIFICATION

PRODUCT NAME		REX SENSOR (REQUEST TO EXIT SENSOR)		
MODEL		PS-520E (W)	PS-520E (S)	PS-520E (B)
DETECTION SYSTEM		Passive infrared		
DETECTION AREA	MOUNTING HEIGHT	13' (4m) Max		
	PATTERN	Single (Door) or Double (Door) } Selectable		
	ADJUSTMENT RANGE	Wall mount : Vertically 35° (8 steps) Overhead mount : Vertically 20° (5 steps)		
	SENSITIVITY	Adjustable		
POWER SUPPLY		12 to 24VDC (Non polarity) or 12 to 24VAC (50Hz / 60Hz) (UL Listed Class 2) ( When operated at AC20 to 24V, ) connect attached resistor.		
POWER CONSUMPTION		40mA or less / DC 70mA or less / AC		
OUTPUT		Dry contact relay 2C Operation : One shot Hold time : Adjustable approx. 0.25sec. to 60sec. Contact capacity : 30VDC 1A or less / 24VAC 0.6A or less (Class 2 Power Limited) *Selectable relay operation		
LED		Green Operation : synchronous dry contact relay (LED disabled)		
WIRING CONNECTION		Terminals		
AMBIENT TEMP. RANGE		+14° F to +122° F (−10°C to +50°C) without condensation		
MOUNTING POSITION		Wall, ceiling, on or under frame (indoor)		
WEIGHT		5.95 oz (170g)		
APPEARANCE	COVER (ABS RESIN)	White	Silver	Bronze
	WINDOW (PE RESIN)	White	White	Grey
ACCESSORIES		<ul style="list-style-type: none"> <li>• Tapping screw : 2 pcs.</li> <li>• Resistor (82Ω, 3W) : 1 piece (connect when operated at AC20 to 24V)</li> <li>• Cover locking screw : 1 piece</li> </ul>		

The specifications are subject to change without notice.

# 10 EXTERNAL DIMENSIONS



## CAUTION

\* Follow the voltage of the indicated power supply and wiring instruction. Incorrect voltage and wiring may cause fire, electric shock etc.



\* Do not connect equipment that exceed the indicated output capacity. It may cause fire.



\* Do not decompose, modify this product. It may cause fire, electric shock etc.



### Limited Warranty :

TAKEEX 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 TAKEEX. All implied warranties with respect to TAKEEX, 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, TAKEEX 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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