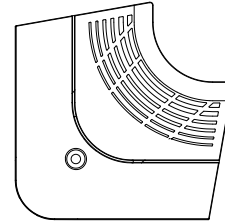




This manual is prepared exclusively for motion detector.



Instruction Manual for Motion Detector

Model: SPHNS-01E
For the Four-way Cassette Type (K3)

Please confirm the model numbers of your air conditioner and motion detector
— Please mark the box with “√”.

Applicable Models	Model No. of Motion Detector
Four-way Cassette Type (K3)	Model: SPHNS-01E

The model numbers of your indoor unit and outdoor unit:

Model No. of indoor unit

Model No. of outdoor unit

Write down the model numbers and hand it over to the customer

To properly use this motion detector, please read this manual carefully and refer to the Operation Manual delivered with the machine. Please keep this manual carefully. When in doubt, please contact your dealer or our service center.

Contents

Introduction1	Before Use
Safety Precautions.....1	
Precautions3	
Applicable Models.....4	
Part Check before Installation4	Operation Method
Installation Gist5	
Safety HCM-01C Installation.....5	
Possible Detection Area of Motion Detector7	
Part Name and Safety Precautions8	Features & Maintenance
How to Use Features of the Motion Detector9	
Maintenance Method10	

Introduction

● This product shall be mounted in the indoor unit and used with wired control.

● Please don't install this product in the following places where air conditioners may frequently break down.

- Places with much oil (including machinery oil) spatter and vapor;
- Hot springs and other places with high contents of sulfurated gases;
- Places that may produce or get filled with flammable gases;
- Coastal areas with high contents of salts



● When using medical appliances and other equipment that generates electromagnetic wave, DO NOT point the electromagnetic wave emitting surface to the electric box, the remote control cable and the remote control, since this helps to prevent false operation of air conditioner.

● In addition, to prevent the electromagnetic wave in the air affects air conditioner, please put any appliance and radio transmitting device, etc. that generate electromagnetic wave at least 3m away from this remote control.



Connotation of Symbol

 WARNING	: False operation may cause serious injury or death.		: Indicate mandatory issues. Give instructions for non-professional general users.
 CAUTION	: False operation may cause injury or damage to articles.		: Indicate reference page.
 NOTE	Precautions, i.e. other precautions than warnings and cautions.		: Shortcut: Help you for easier operation
	: Indicate prohibitions.		

Safety Precautions

● Please use this product properly after carefully reading the [Safety Precautions].

● Matters needing attention itemized here fall into two categories, i.e. **WARNING** and **CAUTION**. The [WARNING] column shows the serious consequences that may arise from faulty operation.

The items listed in the [CAUTION] column, however, may well result in serious consequences in particular cases. Be sure to observe the material items listed since they are associated with safety!

● Please keep this manual in good order after reading it for convenient reference at any time.

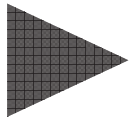
Installation • Electrical Construction

WARNING

● The attached instruction manuals for indoor and outdoor units contain safety-related key precautions. Please observe them by all means!

● Please entrust dealers or professional installation personnel for installation. Improper installation by yourself may bring about injury accidents such as electric shock, fire, and unit fall, etc.

● Electrical constructors have to obtain construction qualification. Please entrust qualified dealers. The construction by yourself may involve improper installation that is likely to result in electric shock and other accidents.



Safety Precautions (Cont.)

Repair and Migration



WARNING

- For the repair and migration of unit, please consult your dealer or our designated service center.
- Improper repair and installation is likely to result in electric shock, fire, and other accidents.

Other Warnings and Precautions



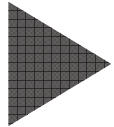
WARNING

- Please keep water away from the interior during maintenance and servicing. Electric parts exposure to water may cause electric shock.
- Please don't modify electric wiring, since this may lead to heavy accidents.
- Please use sturdy scaffolds for maintenance and servicing, or turnover may occur and cause injury.
- Please don't spray water or spray-type detergent into the unit during maintenance and servicing, since the resulting electric short circuit may result in fire and electric shock accident.
- Never fail to maintain the electric parts and connectors during maintenance and servicing, and be sure to keep water away. Otherwise, short circuit may cause fire and electric shock.






CAUTION

- When opening/closing the intake grille and installing/removing the filter screen, please hold them by hand; otherwise, the grille and screen may fall to cause injury accident.






Precautions




For Installation

▲ WARNING	● Be sure to completely turn off the power supply before installing the motion detector, or electric shock may happen. 
	● Please install and use the product in strict accordance with this manual. Improper installation may lead to the fall of motion detector, which may cause crushing accident. 
	● Please don't install this product in places that may produce or get filled with flammable gases. Failure to do so may cause fire. 
▲ CAUTION	● The mounting position of motion detector shall be properly chosen, since it may fail to receive signals when disturbed by external light of fluorescent lamp (variable frequency fluorescent lamp), etc.

For Wiring

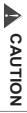
▲ WARNING	● Wiring connection shall be established securely. Loose connection may cause wires to generate heat, which may bring about fire or electric shock. 
	● The wiring shall be fixed completely by external force. Poor fixation may generate high temperature that is likely to cause fire or electric shock. 
	● Please turn off the power supply completely before wiring operation; otherwise, electric shock may arise. 
▲ CAUTION	● Do not arrange the wire of motion detector alongside the 220V power cord. Otherwise, the resulting disturbance may lead to false operation.

For Use

▲ WARNING	● Please don't activate motion detection in rooms where infants & young children or physically disabled persons stay alone. If a person in a room furnished with motion detector hardly moves, the motion detector will consider the room to be "vacant" and cease to function even if that person stays long in the room. 
	● It is possible that the heat source in detection area is not detected provided that its temperature remains unchanged and stationary or that it moves fast. 
	● Please turn off the power supply completely before wiring operation; otherwise, electric shock may arise. 
	● Since the operation under the following circumstances may result in false operation, operation failure or changes in characteristics, please use the detector after adequate confirmation. <ul style="list-style-type: none"> ○ Uninterrupted operation at high humidity; ○ Operation under severe impact; ○ Operation in prolonged state of vibration; ○ Used in places with static electricity and strong electromagnetic wave; ○ Used in places with sharp fluctuation of ambient temperature; ○ Used in places exposed to the air from air heater; ○ Used in places exposed to sunlight or the rays from head light of motor vehicle; ○ Used in places where the lateral surface of lens is immediately exposed to weather; ○ Used in environments with liquids, corrosive gases and moist wind; ○ Used in places where the motion detector assembly and lens may come under severe impact and vibration; ○ Used in places where there are obstacles (glass or fog) that can't be penetrated by infrared ray within the detection range of motion detector assembly.



Precautions (Cont.)

 CAUTION	<ul style="list-style-type: none"> ● Since the motion detector functions in response to human motion, even occupied rooms may be determined to be "vacant". ● Where an object that is hotter or colder than ambient temperature is mounted in a movable position, the room may be judged to be "occupied". (For example, the head motion of electrical heater, etc.) ● In the case of operation with dual wired controls, the motion detection can only be configured with the master wired control. ● The indoor unit operation can only be stopped by controlling the motion detector. (Note) Where a multi-purpose wired control is connected to a machine with motion detector and a machine without motion detector, the machine without motion detector will get out of service if operation is stopped through motion detector. ● If the machine is in ECO or stopped state under the control of motion detector, the wired control interface shows "BEING CONTROLLED BY MOTION DETECTOR". ● Where the centralized controller prohibits the operation of wired control, please choose "CONTINUE TO FUNCTION" or "STANDBY" for the motion detector-controlled "OPERATION IN VACANT ROOM". No selection can be made under the following circumstances in stopped state. <ul style="list-style-type: none"> ○ Provided that "STOP" is chosen through motion detection control and that "wired control prohibition" (complete prohibition) is set through centralized controller, the machine can't be stopped even if the conditions for motion detector-controlled stop are met. ○ Provided that "STOP" is chosen through motion detection control and that "wired control prohibition" (partial prohibition) is set through centralized controller, the machine may be stopped if the conditions for motion sensor-controlled stop are met; however, the indoor unit can't be started again through centralized controller.
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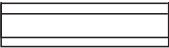

[Applicable Models]

Indoor unit models for which this motion detector applies

Model No. of Motion Detector	Applicable Indoor Unit Model	
SPHNS-01E	Four-way Cassette Type	SHP-G-NK

[Before Installation]

Please check if the following components are in the package before installation.

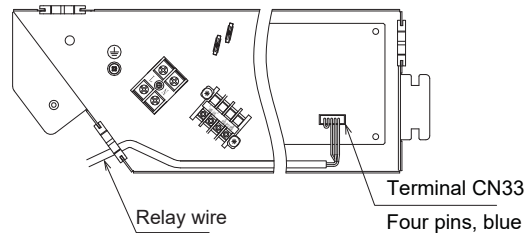
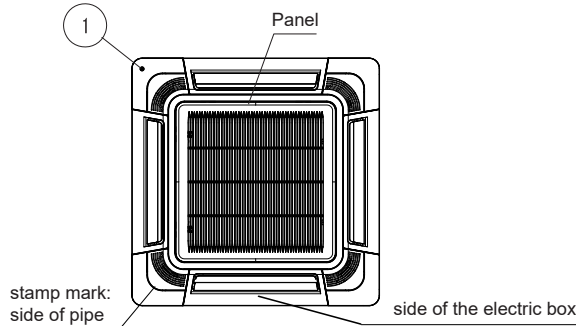
Model	Part name	Q'ty	Remarks
SPHNS-01E	Signal receiver 	1	With wire
	Relay wire 	1	For wiring
	Protective cover for wiring 	1	For protection of relay connector
	Wire tie 	3	For fixation of the protective cover for wiring and the relay connector
General-purpose	Manual	1	—

In the case of lack of part in package, please contact your dealer or our service center.

[Installation Gist]

● Installation of SPHNS-01E

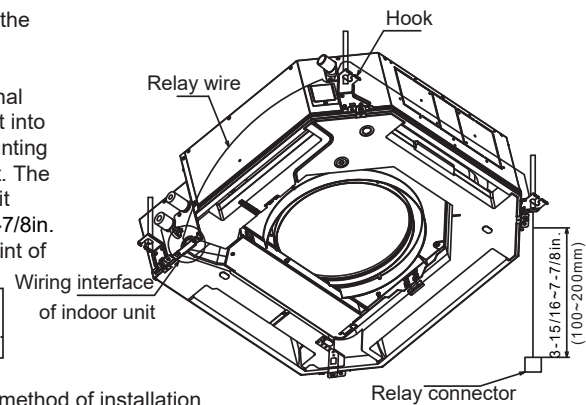
- 1) Please install the motion detector when installing the indoor unit and chosen panel.
- 2) Where the motion detector is to be installed after the installation of indoor unit and panel, the motion detector shall not be installed before power-off and the removal of panel.
- 3) This detector can be installed at ① of panel corners.



4) Take off the electric box cover of indoor unit, and connect the terminal CN33 on base plate of the electric box for indoor unit at the point indicated on the upper right figure to the attached relay connector.

5) After the proper connection of the attached relay wire to terminal CN33, the relay wire shall be led out of the indoor unit wiring inlet into the ceiling or to the outer side of indoor unit, and then to the mounting position of detector; refer to the instruction manual for indoor unit. The relay wire shall be connected by passing it through the indoor unit hanger to the mounting position of motion detector. A 3-15/16~7-7/8in. (100~200mm) long space shall be reserved at the connection point of relay connector.

(Note) For the connection of relay wire, wire ties shall be used to tie the surplus part of wire into the ceiling or onto the indoor unit.

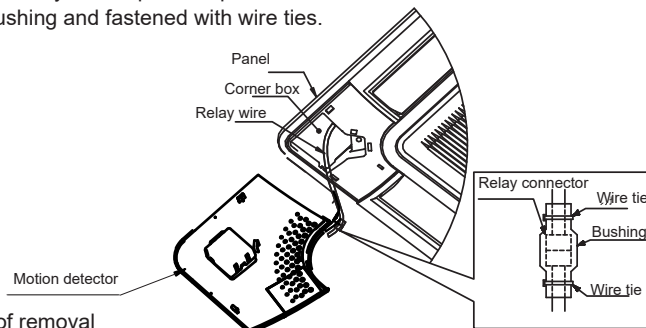


6) Installation of chosen panel

Please refer to the instruction for installation of the panel for the method of installation.

7) Install the motion detector after the panel is in place.

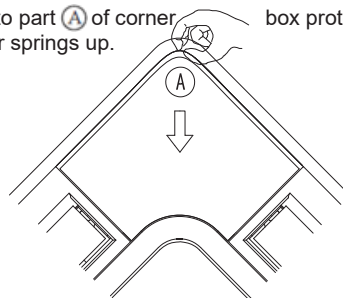
Lead the relay wire out of the corner box of panel, as shown in the figure below, and connect the wire of motion detector to the connector of relay wire. Upon completion of the connection with connector, the connector shall be tightly wrapped with the attached bushing and fastened with wire ties.



● Method of removal

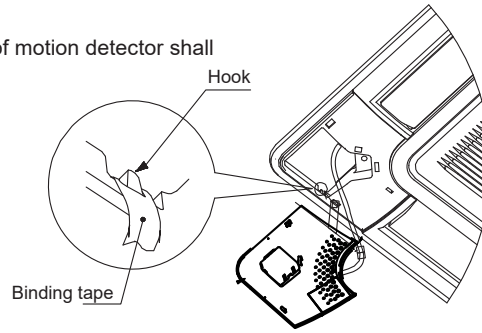
The general corner box protection cover shall be removed in the same way as the corner box protection cover designed with motion detector. The method is described below with a corner box protection cover as example.

- ① Insert a slotted screwdriver or a finger into part A of corner box protection cover, apply force gently in the direction of arrow, when the corner box protection cover springs up.



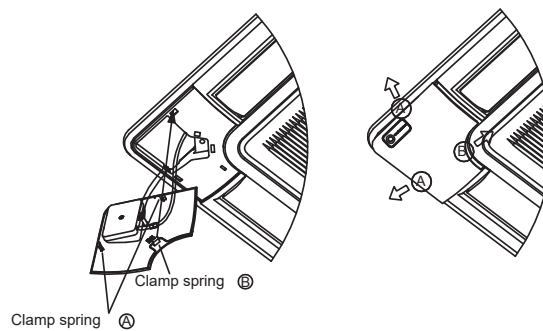
②As shown in the figure below, the binding tape on the back of motion detector shall be hanged to the panel hook.

Note) Make sure the binding tape has been hanged onto the hook. Otherwise, the detector being removed may fall and cause injury.



③Hold the wire down while pressing the 3 clamp springs of motion detector into the corner box in the direction of arrow; gently force clamp spring (A) into corner box, and then force clamp spring (B) into corner box gently.

Note) Be sure to press the two clamp springs A into box before forcing clamp spring B there-into. Reverse order may cause damage to other clamp springs.



8) Mount other protective covers (3 left) of panel corner box after the proper installation of motion detector. Refer to the Installation Manual for Panel for further information about installation procedure.

Note) After the detector is properly mounted, there should be one corner box left unused.

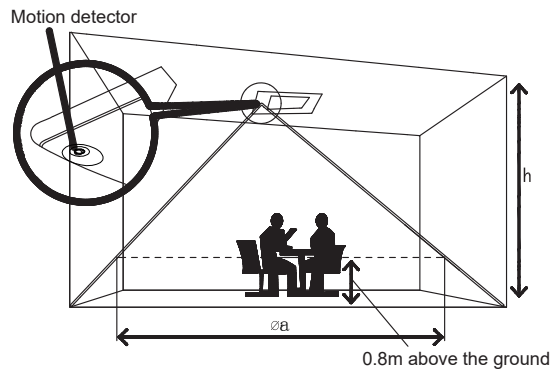
////// Possible Detection Area of Motion Detector ////

- Four-way Ttype

●The figure on the right shows the sensing area of motion detector when the motion detector in panel is in service.

Mounting height h of indoor unit ft.(m)	8.20ft(2.5)	10.5ft(3.2)
Sensing area Φa of motion detector ft.(m)	Approx. 22.97ft(7.0)	Approx. 28.87ft(8.8)
Direction of motion	Human motion	

note:The long side of the human-sensing control Board should correspond to the long side of the room and operate according to the indication stickers



- Choose an appropriate position based on the output air distribution of indoor unit in order that the indoor unit offers consistent temperature at each point.

The indoor unit is recommended to be mounted 7.87-8.86ft.(9.51*-10.5ft.)above the ground. If the mounting height of indoor unit is more than 8.86ft.(10.5ft.), uniform air flow distribution is attainable by increasing the fan speed or setting the operation mode to "three-side air output".

note: (*)used to the 38-54 type.

- Choose an appropriate position based on the output air distribution of indoor unit in order that the indoor unit offers consistent temperature at each point.

- Keep the air vent free of obstacles that may impair air flow.

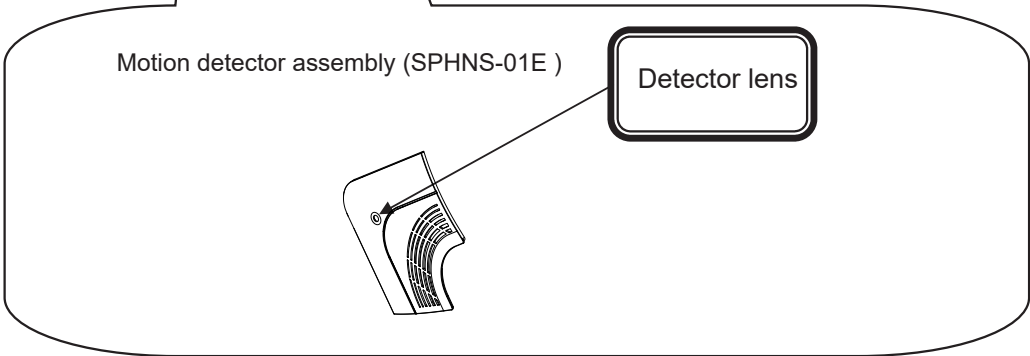
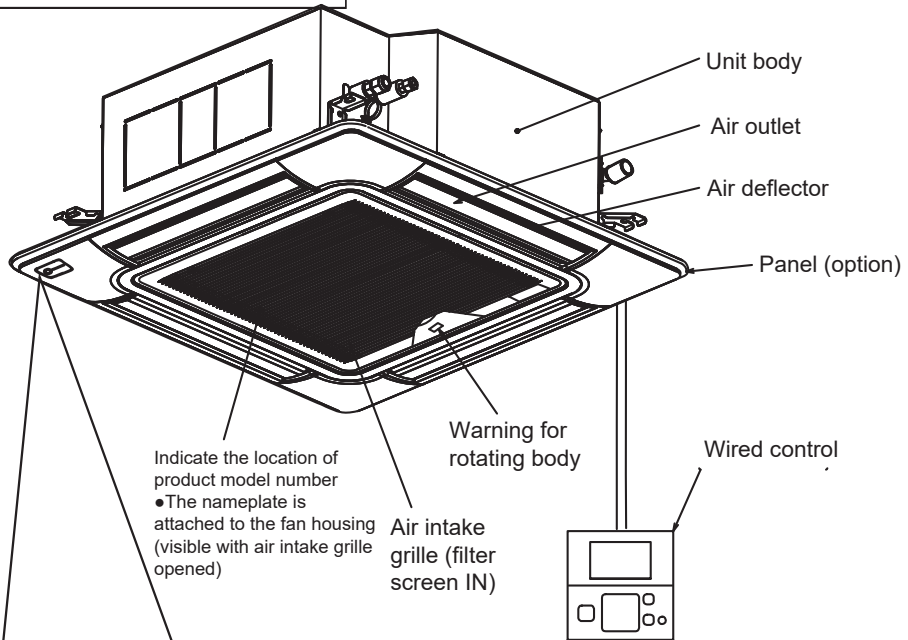


Part Names and Precautions for Installation

Four-way Cassette Type

● For safety's sake, the body of air conditioner indicates the safety notice. Please follow the precautions when using and servicing the machine.

Safety Notice	Warning for rotating body
Connotation	<p>警告 警告 警告 警告 Do not insert a finger or stick into the fan unit. It could cause a person's injury.</p>



Mounting position of notice label	● Attached in <input type="checkbox"/> shown in the figure above.
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How to Use Features of the Motion Detector

● How to Set the Motion Detector

(Applicable only to panels with motion sensors.)

Function and Operation

- Human motion is detected using a motion detector (based on the variation of infrared light). This function enables auto ECO setup (correction of set temperature, air volume, and air direction) depending on practical situation.
- When a room is found to be vacant for a certain period of time according to multi-purpose wired control settings, it's possible to automatically get back into original ECO, standby or stopped state.

Control Content

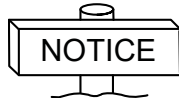
- The following items will be automatically stopped depending upon practical situation under motion detection control.
 - Design temperature: Adjustment by 33.8°F(1°C) or 35.6°F(2°C) towards ECO.
 - Air volume: Set to be lower than the set air volume or gentle air output. (Except dehumidification)
 - Air direction: Set to "horizontal".

Setup Items Description

- Motion Detector Setup
 - Valid: Set motion detector control to be valid.
 - Invalid: Set motion detector control to be invalid. ("Valid" by default.)
- Operation in Vacant Room
 - Vacancy judgment time: Based on the "vacancy judgment time" settings, the indoor unit can be set to "continue to function", "stand by" or "stop" if no man is detected within the set time. ("CONTINUE TO FUNCTION" by default.)
 - Continue to function: Continue to work in ECO mode. Normal operation will be resumed if the room is found to be occupied within a certain period of time.
 - STANDBY: Standby state (gentle air output). Normal operation will be resumed if the room is found to be occupied within a certain period of time.
 - STOP: Stop the operation of indoor unit.
 - When all indoor units that are designed with motion sensors and connected to the same multi-purpose wired control meet the prior conditions for stop (the room found to be vacant within a certain period of time), the multi-purpose wired control brings the units out of service. Normal operation will be resumed if the room is found to be occupied before shutdown.
- Vacancy Judgment Time
 - When the room is found to be vacant for a certain period of time, the "OPERATION IN VACANT ROOM" is resumed. The time could be chosen from "15 min.", "30 min.", "60 min.", "90 min.", "120 min.". ("30 min." by default.)



Maintenance Method



- Do not wipe with a wet piece of cloth as this may lead to a fault. Consult the operation manual for indoor unit.
- Do not use gasoline, thinner and detergent since they may result in discoloration or deformation.

