



## User Manual

Non-contact Vital Signs Monitoring  
Radar Sensor



## Index

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Before installing the product, read the user manual carefully and follow the installation procedures.

※ Be sure to deliver this manual to the person who uses it after construction.

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## Safety Precautions

This manual indicates various things to ensure safe and correct use of this product and to prevent each risk or property damage associated with use in advance.

Please read before using the product and keep it in a place where the user can read it at any time.

 <b>Caution</b>	This indication means that the person may be possibly injured, or property damage may occur if he or she uses the machine improperly, ignoring this indication
 <b>Reference</b>	Displays useful information related to the use of the product.

### **Caution**

- Do not throw this product into fire or water or disassemble or modify it.
- This product cannot be used outdoors.
- Do not insert metal or inflammable materials into the product.
- Do not drop the product or subject it to strong impact.
- Please follow the instructions of the administrator in places where use and carrying are prohibited by each institution..
- Do not use the product in places where the use of wireless devices is restricted, such as inside an airplane.
- Do not store or use in places exposed to direct sunlight or places with high temperatures such as stoves or heaters.
- When cleaning, be sure to disconnect the power from the outlet.
- Do not disassemble or modify by yourself.
- Do not place towels or other objects on the product.

## Safety Precautions

- For smooth power supply, please use the provided adapter.
- When connecting the adapter, make sure it is connected to the power connector.
- Use only attachments and accessories provided with the product.

### **Reference**

- This product uses a radar sensor and may be affected by the surrounding wireless environment.
- Information cannot be monitored normally if used in a place with a weak Wi-Fi signal. Please install and use in a place with good Wi-Fi communication.
- Normal service may not be provided during regular server maintenance and update times for the purpose of improving functionality or usability.
- The contents of the user manual are subject to change with or without prior notice.

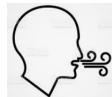
## Product Features

This product is a health care device that uses a 24GHz band micro-Doppler type radar to measure biosignals such as heartbeat and respiration in real time in a contactless manner.



### Heart Rate

Contactless heart rate measurement



### Respiration Rate

Contactless respiration rate measurement



### Activity Time

Provide activity time & amount of activity at home



### Occupancy / Absence

Provide user's presence or absence information



### Sleep monitoring

Provides information on the user's sleep time and sleep quality



### Fall

Detect user's of falling



### Reference

This product is not a medical device and cannot be used for diagnosis or prevention of disease.

## Components

Please check that all of the components below are included in the box.

### ■ Basic Components



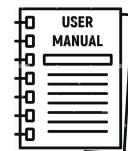
Radar Sensor



Adapter



Double-sided  
Tape



User Manual

### ■ Optional Parts(Sold Separately)



Power  
Extension  
Cable



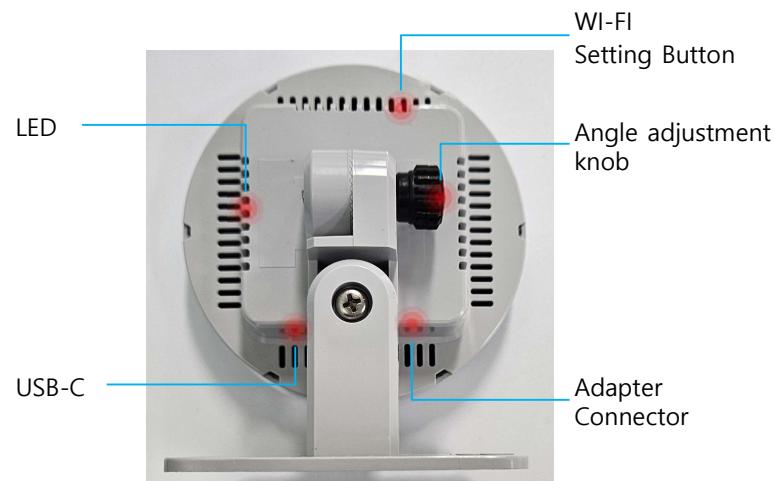
Fixing Screw



Anchor Bolt

## Name of each part

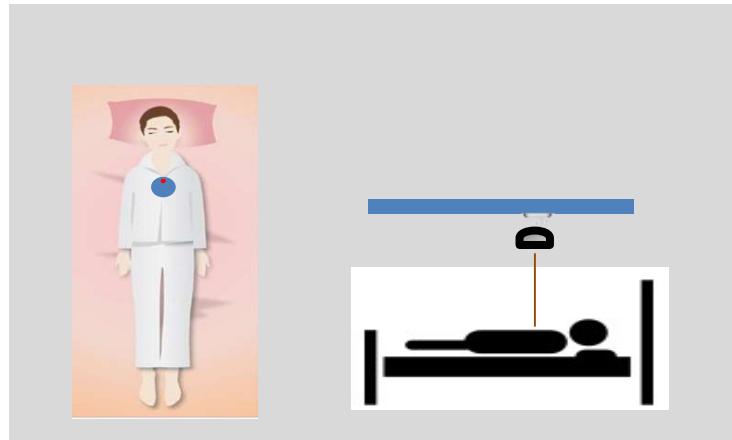
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## Sensor installation method

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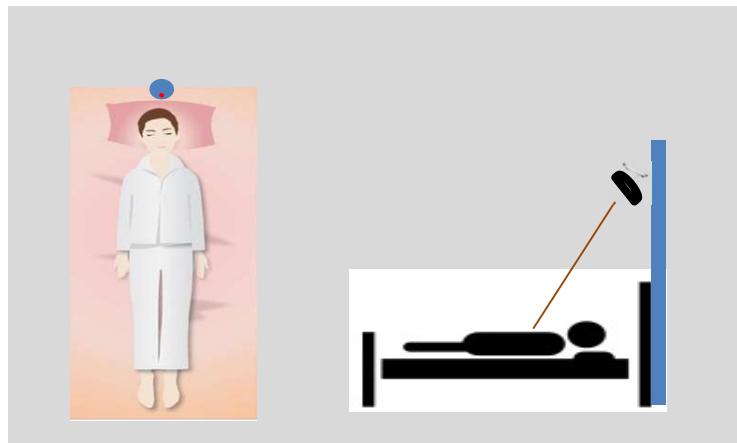
### ■ Positioning for Ceiling Mounting



- ※ When installing on the ceiling of a place where the subject sleeps, install it so that the front of the radar sensor can face the subject's chest.
- ※ When installing, be careful that the IR sensor in the radar sensor is in the direction of the subject's head when lying down.
- ※ When installed, the distance between the radar sensor and the subject's chest is 1.5 to 2.0m. This distance is the most accurate and appropriate distance for measuring bio-signals. If you are out of this distance, the vital signs may not be accurate.

## Sensor installation method

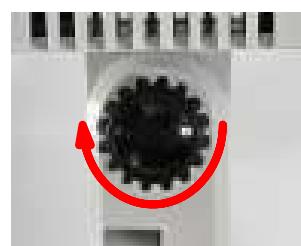
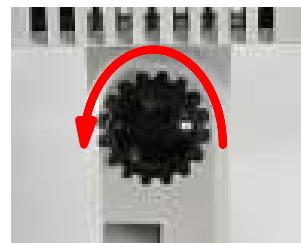
### ■ Positioning when installing on a wall



- ※ When installing it on the wall of the sleeping place, please install it on the wall in the direction where the head is located.
- ※ When installing, the direction of the IR sensor is built into the sensor should be toward the floor.
- ※ Adjust the angle so that the front of the radar sensor faces the target's chest.
- ※ When installed, the distance between the radar sensor and the subject's chest is 1.5 to 2.0 m. This distance is the most accurate and appropriate distance for measuring bio-signals. If you are out of this distance, the vital signs may not be accurate.

## Sensor installation method

### ■ Adjust the angle of the radar sensor



1. Unlock the radar sensor by turning the knob of the angle adjustment part counterclockwise..

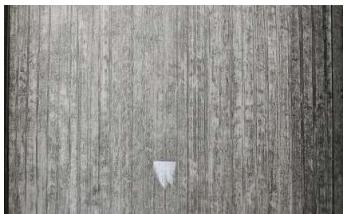
2. Adjust the radar sensor to the desired vertical angle.

3. Turn the knob of the angle adjustment part clockwise to fix the radar sensor.

- ※ The angle adjustment range of the radar sensor is 90° up and down. The angle can be adjusted in increments of 10° through the teeth of the adjuster.
- ※ If necessary, an additional 90° left and right can be adjusted by adjusting the angle adjuster bolt using a Phillips screwdriver.

## Sensor installation method

### ■ Installation using double-sided tape



1. Select a part without curves as the attachment surface after checking the installation location.
2. Check the condition of the attachment surface and clean it after removing foreign substances.



3. Remove the film on one side of the double-sided tape and attach it to the bottom of the sensor bracket.



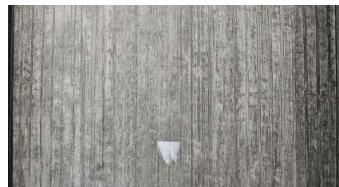
4. Remove the film on the remaining side of the double-sided tape and fix it to the desired location.

#### Caution

When installing this product on a wall or ceiling using double-sided tape, be careful when installing it as it may fall depending on the installation environment or during a humid season such as the rainy season.

## Sensor installation method

### ■ Installation using fixing screws



1. Select a location for installation by selecting a part with no bends as the attachment surface.



2. Place the sensor bracket on the mounting surface and fix it by turning the fixing screw into the screw hole.

#### Caution

If the material of the wall or ceiling on which the product is to be installed is not wood (gypsum board, concrete, etc.), use anchor bolts suitable for installation.

## Sensor installation method

### ■ Connecting the adapter (Power)



1. Connect the adapter connector to the adapter connection terminal.



2. After a few seconds, the blue and red LEDs flash alternately and then turn off. The red LED will then turn on.

※ If the distance between the installed radar sensor and the adapter is far, please use a separate power extension line.

※ The product turns on automatically when connected to the adapter without a separate power button and turns off when the adapter is disconnected.

#### Caution

Be sure to use the adapter provided as a basic component. Using other adapters may cause malfunctions.

Do not use the USB-C port on the left side of the adapter connection port. This is a terminal for A/S, and if used arbitrarily, it may cause a malfunction.

## Wi-Fi connection method

This product operates normally only when a wireless connection through 2.4GHz Wi-Fi is completed. Check if there is a Wi-Fi wireless router that can be connected.

Due to security issues when connecting to Wi-Fi, please connect to a Wi-Fi wireless router that uses encryption (WPA2PSK & AES). For the above reason, this product cannot be used in public Wi-Fi service.

### ■ Wi-Fi Setting

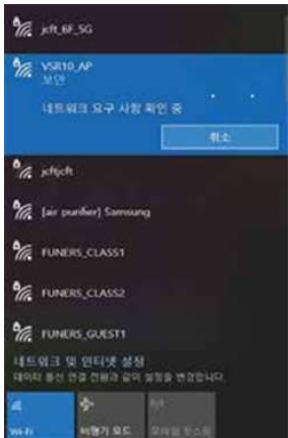
Please follow the procedure below to set up the product's Wi-Fi connection.



1. While the red LED is on, press the Wi-Fi setting button on the top of the product.

The blue LED lights up, then the red LED and blue LED blink alternately, then the blue LED lights up.

## Wi-Fi connection method



2. Select [VSR10\_AP] on the Wi-Fi search screen of your laptop or mobile device and enter 12341234 when requesting a password.

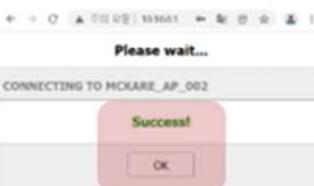


3. Open an internet browser, enter 10.10.0.1 in the address bar and press the enter key to move to the [VSR10 SETUP] window.

## Wi-Fi connection method



4. Select an SSID to connect from [AP LIST] at the bottom.



5. Move to the [Enter Password] window, enter the password, press the [Join] button, and wait until [Success!] is displayed on the screen. Then press [OK].

## Wi-Fi connection method



6. [When you return to the [VSR10 SETUP] window, press the [Apply] button and complete the setup. The red LED lights up, the blue LED and red LED flash alternately, then all LEDs turn off.

7. After the Wi-Fi setup is complete when the power is removed and reconnected, it is automatically connected without repeating the above process. At this time, after a few seconds, the blue LED and the red LED blink alternately, and then all LEDs turn off.

※ If the Wi-Fi connection is not normal, repeat the Wi-Fi setup the process from the beginning.

## Signs of Failure

The table below describes solutions to problems that may occur while using the product. In case of product failure, if the product does not operate normally even after checking the solution, contact the place of purchase or the customer center.

Problem	Resolution

## Product Specification

Please check the product specifications.

Category	Specification
Model No.	VSR22-WR
Radar Frequency	24GHz (24.050 ~ 24.250GHz)
Radar Measurement Method	Micro Doppler Processing Method
Radar Measurement Distance	1 ~ 5m (Heart Rate: within 2m(Max.))
Radar Measurement Angle	80°(H) x 34°(V)
Radar Antenna	2 x 4 patch antenna
IR Sensor Measurement Range	0 ~ 65°C
IR Sensor Measurement Angle	45°(H) x 45°(V)
IR Sensor Accuracy	±2.5°C
Sensor Angle Adjustment	90° degrees up and down
Wi-Fi	2.4GHz (802.11 b/g/n)
Power	9V / 1A (Adapter provided)
Power Consumption	300mA
Size / Weight	105(W) x 90(D) x 130(H)mm / 165g
Operating Temp. / Humidity	0 ~ 80°C / Max. 85%

## Product Warranty

### ■ Warranty Contents

1. This product is made through a strict quality control and inspection process.
2. Warranty benefits for products are based on what is stated in the warranty certificate.
3. The free warranty period is based on the date of purchase.
4. If the date of purchase is not indicated, the warranty period is calculated after 3 months from the date of manufacture.
5. Matters not described in the quality guarantee are guaranteed for the product in accordance with the "Consumer Dispute Resolution Standards" announced by the Fair-Trade Commission.

### ■ Paid Service

When a customer makes a service request, travel expenses may be incurred regardless of whether the product is defective or not. Please read the user manual before requesting service from us.

Even if the warranty period has expired or is within the warranty period, the following cases are subject to paid repairs.

1. In cases where the replacement of parts or disassembly of the product is not required, and the problem can be solved by the customer checking the user manual and changing the product settings
2. In case of product failure or damage due to external shock or flooding, a fire ignited from outside the product, or water falling from the ceiling
3. In case of product failure due to dropping or impact.
4. If parts are lost or damaged due to the customer's arbitrary disassembly
5. If a failure occurs using an adapter other than the supplied one
6. In the event of a failure due to installation, movement, removal, etc. of the product by a person other than an employee or engineer recognized by the company

## Product Warranty

### ■ Notification

1. When repairing, be sure to present the product warranty.
2. Please keep the warranty as it will not be reissued.
3. The warranty is only valid in Korea.

Model No.	VSR22-WR
product serial No.	
Date of Purchase	Day / Month / Year
Customer Name	
Contact No.	
Place of Purchase	

※ The product serial number can be found on the back of the radar sensor.

### ■ Customer Support

Manufacturer: JCFTechnology Inc.

Tel: 02-867-7733

Address: #B-805, Woolim Lions Valley, 168, Gasan digital 1-ro,  
Geumcheon-gu, Seoul, 08507 Republic of Korea



#B-605, Woolim Lions Valley, 168, Gasan digital 1-ro, Geumcheon-gu,  
Seoul, 08507 Republic of Korea

TEL : +82-2-867-7733

<http://www.jcft.co.kr>



## FCC Information

This device complies with part 15 of the FCC Results. Operation is subject to the following two conditions :

- (1) This Device may not cause harmful interface, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correct the interference by one or more of the following measures:

- 1.1. Reorient or relocate the receiving antenna.
- 1.2. Increase the separation between the equipment and receiver.
- 1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
- 1.4. Consult the dealer or experienced radio/TV technician for help.

## WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### IMPORTANT NOTE:

#### FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.