Human Fall Alarm and Voice Emergency Call Radar Sensor



Product Model: FDV6-TUY

User Manual

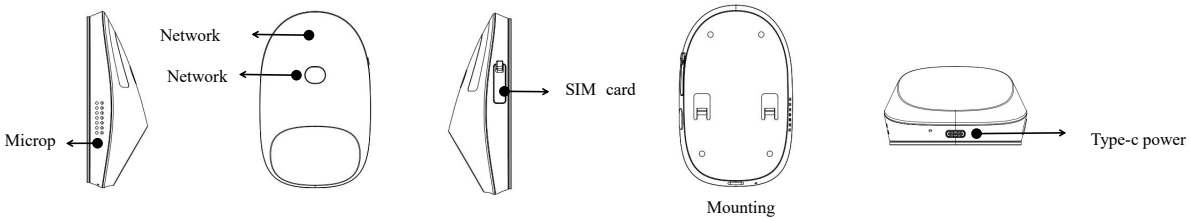
Human Fall Alarm Sensor FDV6-TUY

1. Product introduction

The Human Fall Alarm and Voice Emergency Call Radar Sensor FDV6-TUY, a sensor that monitors human spatial behavior, can detect human presence and give fall alarms without physical contact, while supporting voice emergency calls and night light illumination. It connects to Tuya Cloud via Wi-Fi to achieve scene linkage and status reporting.

Functions	Function description
Human existence	Existence/inexistence, active/still
Alarm Status	Fall alarm, residence alarm
Parameter settings	Installation height, fall time, residence duration
Voice interaction	Voice emergency call, voice learning
Historical record	Human existence record, fall alarm record

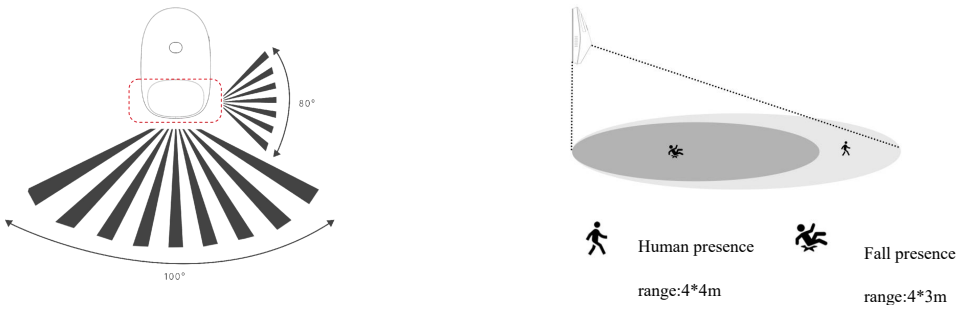
*** This product needs to be used with the Tuya Smart App.**



2. Installation method

2.1 Detection range of radars

The horizontal angle and pitch angle of the red frame are 100° and 80° respectively. The human presence detection range is approximately 4m*4m, and the static residence alarm and fall detection range is 4m*3m.



2.2 Suggestion on installation position

The device mounting plate is fixed to the wall with screws, and the back of the device is hung parallel to the wall on the backing plate. Please note that the detection surface in the red box in the above figure, and the detection surface will be tilted down after installation.

The installation height range is 1.6-2.4 m, with the best installation height being 1.8 m as recommended. The device should be installed at the center of the area where fall detection is needed, covering the main activity area of the human body.

2.3 Installation considerations

The radar is sensitive to objects that move slightly in the space, so vibrations should be avoided during operation. In the installation process, please try to keep the device away from range hoods, exhaust fans, running water, and air outlets.

*Please note that anything that causes vibrations, like moving fans, may affect the device's judgment of presence or absence in the space.

2.4 Connection of the power supply to power the device

After determining the installation position, insert the power adapter into the power socket, and plug the USB plug of the device's power cable into the adapter. This device requires constant power supply. Please ensure the daily power supply of the device.

2.5 Downloading of client apps

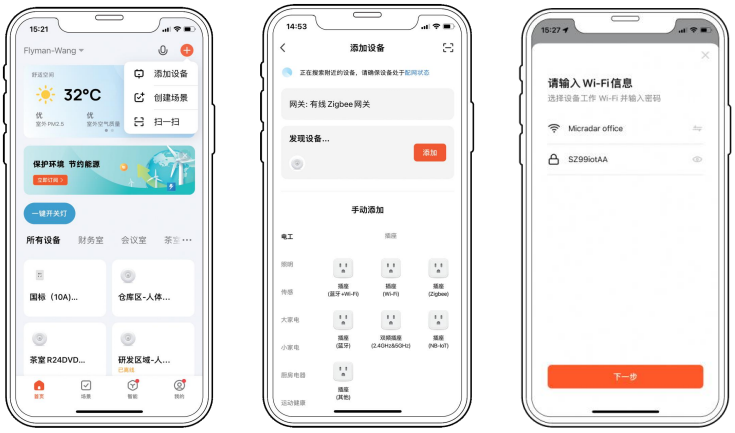
Search for "Tuya Smart" in the app store or scan the QR code below to download the App.

2.6 Adding the device (Wi-Fi)

This device uses Wi-Fi protocol. First, supply power to the device, long press the network connection button for 5s and then the indicator light will be on and blinking (blinking for more than 90s indicates a network connection timeout, which requires users to press the button again for 5s and then enter the network connection mode again), open the "Tuya Smart" App to add the device.

On the device page of the home page of the App, click "+" in the upper right corner, add the device and connect the device to the network according to the prompts from the App

* The Wi-Fi band must be connected to 2.4G; and 5G networks are not supported.



2.7 Device verification

(1) After the device is connected to the network, users can see “existing/active/still” and other functional status changes on the home page of FDV6-TUY, which confirms that the device is successfully connected to the network and enters the working state.

(2) Click and go to the parameter configuration page, and set the installation height, fall sensitivity, fall time and resident duration of the device.

(3) The actual installation height of the device needs to be consistent with that set in the App;

(4) Fall detection sensitivity settings: Levels 1 to 3 represent the fall detection sensitivity, with level 3 as the highest sensitivity level by default;

(5) Resident duration settings: The device has a resident alarm function, which triggers a resident alarm in the App after a person remains still for a certain duration (1 minute to 60 minutes) in any position. This alarm will cease and return to normal detection status once the person resumes movement.

(6) Fall time settings: The time setting for reporting a fall alarm after the radar detects a fall is set to 5 seconds by default, with a range from 5 seconds to 3 minutes. For a setting of 5 seconds, the alarm will start 5 seconds after the radar detects a fall.



3. Instructions for fall alarm detection

3.1 This device uses the millimeter-wave radar technology to detect falls in real time by identifying the spatial posture and height of the human body. When a fall is detected and remains for a specified duration, the device reports the state and triggers a fall alarm to the App on the mobile phone. Users can activate alarms by configuring the app or enabling SMS notifications.

3.2 Voice emergency call function

The radar actively detects a fall and initiates reporting, and the device has a voice emergency call function.

(1) When the radar detects a fall, the device will actively ask “Are you okay? / Have you fallen down?”. The user can reply with “I fell / I did not fall”, and the App will display the status and record it according to the user’s reply.

(2) If the user does not fall but needs help, he/she can still activate the device using voice emergency call phrases and send an alarm message.

3.3 Keywords for voice emergency calls:

Functions	Voice commands	Device announcement
User actively call for help when trouble happens	Help me please! Can you help me? Could you help me? I need help!	Do you need help? Have you fallen down?
Reply by users	I have fallen down I fell down I fall down I fell	Notifying the guardian immediately Guardians notified, please wait a moment.
Reply by users	I am OK I'm OK I'm alright I didn't fall Nobody fall down	OK！
Turn on light	Turn on the light Turn on light	The light is on
Turn off light	Turn off the light	The light is off

	Turn off light	
Customized keywords with learning mode	Enter learning mode	You have entered learning mode. If you need to learn, please say start learning.
Start learning mode	Start learning	Starting learning : I need help Starting learning : I fell Starting learning: Nobody fall down Learning process has been completed
Factory reset mode	The device has been factory reset	Please say that again The device has been factory reset

3.4 Factory reset

Users can restore the device to factory reset mode by long pressing the device reset button for 5 seconds or actively sending voice command [Factory Reset Mode].

4. Description of Device Function

4.1 Introduction to App Interface



4.2 Description of Radar Multi-function Configuration



4.3 Description of Device Multi-automation Configuration

(1) Presence

Someone exists in the detection environment, a person entering from outside triggers detection in less than 300ms, which is more sensitive than PIR detection.

(2) No one

No one exists in the detection environment. The device will check for any micro-movements in the area or the breathing cycle of a person (six cycles), with a judgment time of ≥ 30s (the judgment time may vary). If it is deemed that no one exists, it is recommended to check for micro-movement sources, such as drifting curtains, robotic vacuums, etc.

(3) Active

There is someone moving in the detection environment; and changes in personnel status will be reported in real time.

(4) Still

There is someone standing, sitting, or lying still in the detection environment; and changes in personnel status will be reported in real time.

(5) Alarm status bar

No fall alarm: No one has fallen

Fall alarm: Someone has fallen

* When someone falls in the detection range the fall status will persist until the person safely gets up; if someone remains still for a long time (fainting, lying or sitting still), the residence state will be displayed and will only be canceled once the person resumes activity.

(6) Dwell switch/fall switch

Turns on and off residence and fall detection function; and the function is turned on by default.

(7) Historical records (Existence and fall records)

Record the status of existence/inexistence and fall or not at specific time points within 7 days

(8) Alarm time settings

Customize the alarm time and specify the methods for alerts during designated periods

(9) Fall time settings

After a fall occurs, the device will start a countdown based on the set time, and when the time is up, it will report the fall status. The setting range is 5-180 seconds

(10) Dwell duration settings

In the detection environment, when a person remains still, the device will begin a countdown based on the set time, and when the time is up, it will report the residence status. The setting range is 1-60 minutes

(11) Installation height settings

Before installation, users need to set this parameter according to the actual installation height, and the device supports an installation height range of 1.6 - 2.4m

(12) Sensitivity settings

Fall sensitivity indicates the ability to detect falls and is divided into 1-3 levels, with level 3 being the default and most sensitive

5. Product parameters

Model:	FDV6-TUY
Rated input:	5V ⎓ 3A
Wireless connection:	2.4G band
Radar frequency:	60GHz
Working temperature:	-10℃ ~ +60℃
Working humidity:	0 ~ 95% RH, Non-condensing
Power adapter output:	5V ⎓ 3A
Power adapter input:	EU: 220V—240V～50Hz 0.6A China: 180V — 240V～50/60Hz 0.6A

6. Description of Status Indicator

Indicator lamp states	**Device Status**
The red indicator light flashes, alternating on/off every 500ms (turns off after 90s timeout)	Matching network for the device
No indicator light is on	Normal state/No-button state
The blue indicator light is on	Button triggering
The green indicator light stays on for 3 seconds and then turns off	The device is connected to the router and to the cloud
The red indicator light stays on	The device is disconnected

7. Names and content of hazardous substances in product

	Hazardous substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (Cr(VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
PCB components	○	○	○	○	○	○
Plastic parts	○	○	○	○	○	○
Metal parts	○	○	○	○	○	○
Loudspeaker	○	○	○	○	○	○
AC adapter	○	○	○	○	○	○

This sheet is prepared pursuant to SJ/T 11364.

○ indicates that the content of the hazardous substance in all homogeneous materials of the component complies with the limits set forth in GB/T26572.

× indicates that the content of the hazardous substance in at least one of the homogeneous materials of the component is beyond the limit set forth in GB/T26572.



8. After-Sales Service

The after-sales warranty services of repair, replacement and refund for this product is strictly implemented

according to the *Law of the People's Republic of China on the Protection of Consumer Rights* and *Interests and the Product Quality Law of the People's Republic of China*, with the following service contents:

Warranty Policy

Within the warranty period, you can enjoy free repair, replacement and refund services as stated herein, and the repair, replacement and refund service will be provided according to original invoices.

Service Type	Service Policy
Return	Returns for poor product quality within 7 days from the day following the date of receipt
Replacement	Replacements within 15 days for poor product quality from the day following the date of receipt.
Repair	Repairs within 1 year for poor product quality from the day following the date of receipt.

Friendly Reminder: Due to the need to use packaging boxes for safe transportation of the product, it is recommended to keep the packaging box for at least 30 days from the date of receipt.

9. Performance Breakdowns

Name	Performance breakdowns
Human Fall Alarm Sensor FDV6-TUY	1、Surface damage due to structure or material factors 2、Indicator lamp is not working 3、Failure of network connection button 4、Human presence detection failed

10. Non-Warranty Clauses

- Unauthorized repairs, misuse, collisions, negligence, abuse, liquid ingress, accidents, alterations, incorrect use of non-original accessories, or removal/modification of labels and anti-counterfeiting marks.
- Performance faults after the expiration of the warranty period.
- Damage caused by force majeure.
- Performance faults not listed in the Performance Breakdowns.
- Performance faults of the product and its accessories as listed in the Performance Breakdowns but caused by human factors.