

# User manual

***Fall detection sensor***

Model No: FDS1300

Brand: MIVATEK



# 1 system introduction

If elders fall and can't get up or is unable to push emergency button, the fall detector will automatically send a signal within 10 seconds. The emergency contacts will know that you have fallen.

If elders fall and stand up in less than 10 seconds, a emergency signal will not be automatically generated. This allows you to recover from falls that are not serious enough to require help. However, if you think you need assistance, you can push emergency button any time you need help.

# 2 Specification

System	
Processor/MCU/RF	TI MSP430
Sensor	STM LIS3DSH Accelerometer
Operating Voltage	3.7V-4.2V
Power Source	Li-battery 70mAh
Powered Port	Micro USB (Input 5VDC)
Power Consumption	3 days (Triggered twice a day )
Battery Low Level Indicator	Low battery indicating if voltage <= 3.7V
Low Battery Alarm Mode	Low battery only alarms when another alarm triggered or heartbeat
Heart Beats Duration	Per 12hrs
Operating Environment	Working Temp: 0°C~50°C Humidity: 5%~80%RH non-condensing
Storage Environment	Temperature: -20°C~60°C Humidity: 5%~85% RH
Safety Regulation	FCC/CE
Environmental Standard	RoHS, REACH
Function	
Detection Type	Fall detect
triggered alarm	Alarm process: 1. When the human body is exposed to the ground, received violent impact, then the body keeps still for a while, the DUT start to alarm. The judgment condition of falling: weight loss - violent impact - quiet. 2. If canceled the alarm within 15 seconds, the buzzer stopped singing, the lights go out, otherwise 15 seconds alarm signal is issued, the buzzer continued to ring, indicating lights flashing 3. After RF warning signal issued, DUT will open a receive

	<p>window for 5 seconds, if received OPU confirmation in this time, the buzzer immediately stop chirping, indicator lights, RF signal no longer sends, the recovery detection after 3 minutes, otherwise, Send a RF alarm signal each 15 seconds, buzzer continued to sing, indicator light blinks continuously.</p> <p>4. In alarm process, push cancel button, the buzzer immediately stop singing, the lights go out, RF signal is no longer sent</p>
Emergency button triggered alarm	<p>1. Emergency Alarm: long press the button about 3S, the buzzer sounded, indicating LED flashing, DUT issued emergency alarm signal; if received OPU confirmation, alarm stop, at the same time buzzer stop singing. LED Lights out, otherwise every 15s DUT send an alarm, buzzer continual tweets, LED flashes red light. if people cancel the alarm, at this time the emergency alarm activated again, the DUT would delay 30s, then transmission alarm, the buzzer would beep, and LED would flash.</p> <p>2. Cancel Alarm: when the buzzer sounded, press the button one times, the buzzer stopped ringing, the DUT canceled transmission signal.</p> <p>3. Sleep Mode: Sleep at any time by pressing the button, the indicator light goes out, into the sleep state.</p> <p>4. Power off: continuous press button 3 times within 5S, the 4 time press the button until the indicator light green light lit up, then release the button. The green indicator light flashes continuously for 4 times, DUT would enter the shutdown mode. DUT would boot only by charging mode (for the customer is not recommended to use the function)</p>
LED Indicator	<p>Charging: Red LED keep lighting</p> <p>Charge Finish: Green LED keep lighting</p> <p>Standard By: Green LED flashing</p> <p>Alarm: Red LED flashing</p> <p>Low power : red and green led flash (yellow )</p>
<b>Communication</b>	
RF Frequency	433.92MHz
Modulation	ASK
Antenna	Internal Antenna
Transmit Power	≥TBD ( use A6 fixture )
RF Range TX	50m indoor (Line of sight, LOS)

### 3 Operating instructions

1. Wear the fall detector and stand the right place where you need to detect.
2. Simulated falling down, wait for the fall detector active.
3. Push the button for 3 seconds to enter emergency Alarm mode.
4. When battery is low power, fall detector would send alarm. Please recharge as soon as possible.

### FCC Statement

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

- a) This device may not cause harmful interference
- b) 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 a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 to correct the interference by one or more of the following measures:

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.