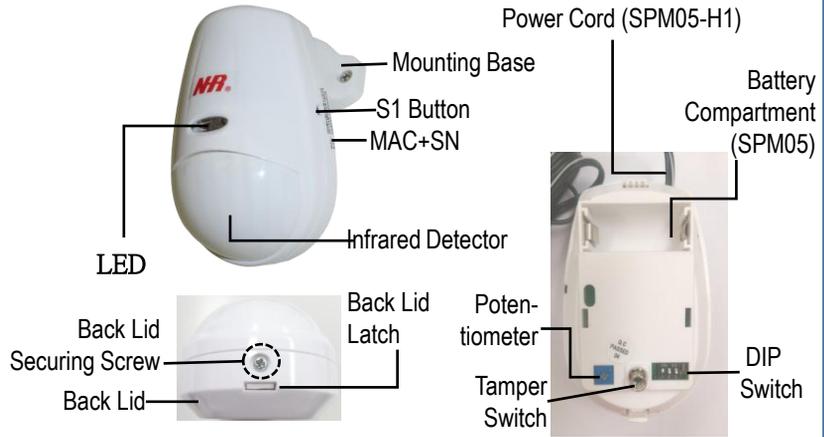


1. Introduction

SPM05 series (WZB-SPM05, WZB-SPM05-H1) wireless PIR motion detector detects human body movement with digital processing and sophisticated radio communication protocol to minimize false alarms and maximize stability. The detector auto-tests and reports status periodically for full supervision via Sentrol Cloud. Built-in tamper switch triggers alarm upon any tamper activity.

SPM05 Series have following model options (may be commonly referred in this manual as SPM05):
 WZB-SPM05 – Battery-powered
 WZB-SPM05-H1 – AC-powered (US type plug)

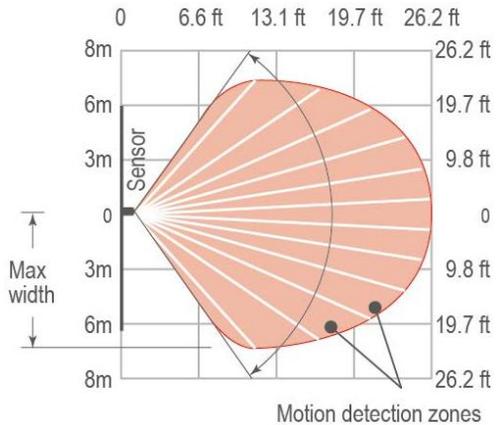


2. Specifications

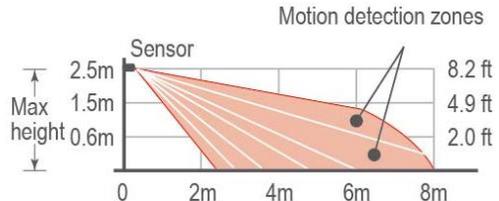
Network protocol	Compliant IEEE 802.15.4 ZigBee 2007/PRO
Frequency	ISM 2.4 GHz
Channel	16 (11~26)
RF output power	0 dBm
Receiver sensitivity	-95 dBm
Communication range	Up to 100m / 328 ft
Working voltage	3V DC (CR123A battery) (SPM05) 5V DC (US-type AC adapter) (SPM05-H1)
Antenna	PCB Antenna
Configure parameters	Baud rate, Pan ID, RF Channel adjustable
Network supports	Star , Tree , Mesh
Auto reconnection	yes (Zero Data Loss technology)
Working Temperature/ Humidity	0°C~50°C / 32°F~122°F, 0~75% RH
Storage Temperature	-20°C~60°C / -4°F~140°F
Indoor White Light Resistance	More than 9000LUX
Max. Current Consumption	Tx: 35 mA ; Sleep: 1.3 μA
Max. Coverage Area	9m / 23ft (12m / 46ft max.) // 100度

Alarm Indication	Alarm LED ON for several seconds
Dimensions (LxWxH)	95 x 64 x 49 mm / 3.74 x 2.52 x 1.93 in
Weight	92 g / 3.25 oz (w/ battery) ; 59 g / 2.08 oz (w/o battery)

Motion Detection Zone – Top View



Side View



3. Installation

Package Contents

1. Detector, mounting package (mounting base, screw x 2, wall plug x 2)
2. CR123A battery (SPM05)
AC to 5VDC adapter (SPM05-H1)

Installation Location

1. Height range: 2.0 to 2.5M
2. Mounting base adjustment angle: 45 degrees

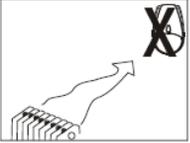
Opening/Closing Back Lid

1. Loosen back lid screw. Use flat-tip tool to push in back lid latch, then remove back lid.
2. After internal settings or battery replacement, replace and close back lid, then secure back lid screw.

Powering ON the Detector

1. SPM05: Install or replace battery.
2. SPM05-H1: Plug AC adapter to live AC mains.

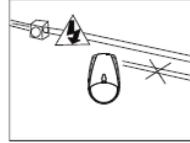
4. Installation Notice



Do not expose to heating/cooling object



Prevent direct sunlight from reaching the detector



Keep wiring away from electrical power cables

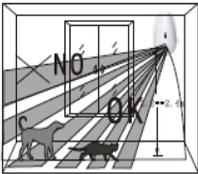


Ensure the stable mounting location

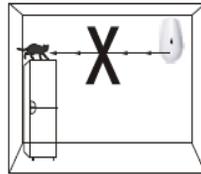


Avoid facing metal wall

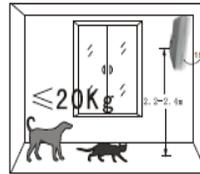
5. Pet-immunity Guidebook



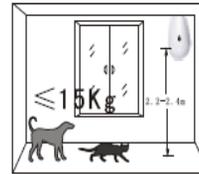
The top of the detecting area is the non-pet-immunity area



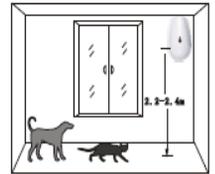
Prevent direct to the places where the pets can climb up



The pet is smaller than 20kgs



The pet is smaller than 15kgs



The installation height of 2.2m to 2.4m is available pet-immunity height

6 Setting IR Detector Time Interval, LED Mode, and Pulse Count

① Setting IR Detector Time Interval:



Potentiometer

The potentiometer sets IR detector time interval (e.g. 5s = check detector every 5 seconds). Turn the potentiometer to align with the reference point, then turn the potentiometer to the desired gridline for the desired IR detector time interval. Change will take effect **after** triggering an alarm or tamper switch.

Potentiometer Gridline	1	2	3	4	5	6	7	8	9	10*
IR Detector Time Interval	120s	60s	20s	10s	5s					

*: Factory default settings

② Setting LED Mode and Pulse Count:



DIP Switches

DIP switches #1 & #3 set the LED mode and the alarm-triggering pulse count. Higher pulse count reduces alarms triggered but can lower the chance of a false alarm.

DIP SW	Setting	Mode	Descriptions
1	OFF	LED disabled	LED will not light after detecting an activity pulse or triggering an alarm.
	ON*	LED enabled	LED will light (for 1 sec) after detecting an activity pulse or triggering an alarm.
3	OFF	1-pulse	Triggers the alarm after detecting 1 activity pulse.
	ON*	2-pulse	Triggers the alarm after detecting 2 activity pulses.

*: Factory default settings

7. Tamper Switch Functions



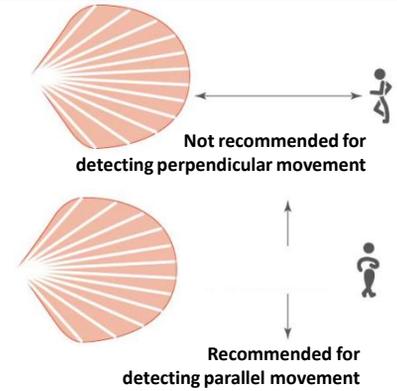
Tamper Switch

While the detector is powered on, the tamper switch works as follows:

- After closing the lid, the tamper switch is continuously pressed by the spring, engaging the anti-tamper protection mode.
- If anybody opens the lid, the tamper switch will be released (triggered), triggering the alarm.

8. Walk Test in Coverage Area:

- ① Set as Test Mode to precess walk-test,pulse count set as 1,2 or3.
- ② Walk across the far edge of coverage area at the speed of 1 step/second(about0.75m/s)
The LED will flash for seconds then alarm (as shown in the right figure)
- ③ Do walk-test in opposite direction to confirm the boundary of both sides, Make sure the detection centre pointing to the centre of protected area.
- ④ Make sure the detection centre at the proper place. Should properly adjust the detection area if you can not get an ideal detection area.
- ⑤ After adjust the detection angle , should redo the walk test as above.
- ⑥ Please change TEST mode to NORMAL mode after the Walk-test .



9. LED Indications and S1 Button Actions

Status	LED Status (SPM05)	LED Status (SPM05-H1)	S1 Button Actions	Functions
Ready to Join	Green LED flash in every 15 seconds	Green LED flash in every 5 seconds	-	Ready to join network of parent device (coordinator, gateway, or router)
Successfully Joined	Green LED quick flash 3 times	Green LED quick flash 3 times	-	Joined network of parent device
Normal Operations	Green LED flash in every 60 seconds	Green LED flash in every 2 seconds	-	Joined network of parent device and functioning normally
Disconnected	No flash	Green LED flash twice in every 5 seconds	-	Joined network, but unable to find any parent device of the network
ZigBee Reset	Red & Green LED light up 2 seconds, then Green LED quick flash once, turn to flash in every 15 seconds	Red & Green LED light up 2 seconds, then Green LED quick flash once, turn to flash in every 5 seconds	Push and hold S1 button for 5 seconds	Reset to factory default, remove all ZigBee network linkages
Removing	Successful: Red LED quick flash then, back to flash in every 15 seconds Failure : Red LED quick flash for 30 seconds, then, back to flash in every 60 seconds	Successful: Red LED quick flash then, back to flash in every 5 seconds Failure : Red LED quick flash for 30 seconds, then, back to flash in every 2 seconds	Push S1 button 3 times within 1.5 seconds	Being removed from the network of the parent device

10. Joining Detector to Parent Device's IoT Network

1. Ensure parent device is powered on.
2. Ensure SPM05 is powered on and is in **Ready to Join** status.
3. Set parent device to **Permit Join** status (please refer to parent device's user manual).
4. SPM05's Green LED will flash 3 times (**Successfully Joined**), then Green LED flashes every 60 or 2 seconds (**Normal Operations**).

If SPM05's Green LED does not flash every 60 or 2 seconds, then **ZigBee Reset** SPM05 (push S1 button 3 times within 1.5 seconds). Check and deal with any other 2.4 GHz device that may interfere ZigBee connection. Then repeat above procedures.

If SPM05 has joined parent device but is showing **Disconnected** status (Green LED not flashing or flashing twice per 5 seconds), ensure parent device is powered on. If parent device functions normally, ensure that SPM05 and parent device are within communication range of each other.

A router may be needed to extend communication range.

10. Using DataView/QuickView for Detector Real-time Monitoring

Requirements:

- ZigBee parent device such as coordinator (WZB-01USBC , WZB-02485C, WZB-05ET, etc.) or router (WZB-01USBR , WZB-02485R, etc.)
- Windows PC that can install DataView/QuickView



1. Ensure SPM05 has joined parent device's IoT network and is in **Normal Operations** status (please refer to "**Joining Detector to Parent Device's IoT Network**" section).
2. Install and launch DataView/QuickView on Windows PC。 Ensure DataView/QuickView can freely communicate with parent device and can successfully show your SPM05's real-time status.
3. Let the test person walk in front of the detector. DataView/QuickView should show real-time motion detection.

Please refer to the latest DataView/QuickView user manual or online tutorials for more details.

11. Using Sentrol Cloud to Interconnect Detector with IoT Devices

Requirements:

- G07 Smart Wireless Gateway Base Station
- Computer or smart device with a browser and/or Sentrol Cloud app installed



1. Ensure SPM05 has joined parent device's IoT network and is in **Normal Operations** status (please refer to "**Joining Detector to Parent Device's IoT Network**" section).
2. If you are using a smart device (smartphone, tablet, etc.), please install Sentrol Cloud app on your smart device.
3. Ensure you have a valid Sentrol Cloud account registering your gateway (regarding account registration, please follow instructions on <http://www.sentrolcloud.com> website or Sentrol Cloud app).
4. Launch <http://www.sentrolcloud.com> website or Sentrol Cloud app, then login Sentrol Cloud with your Sentrol Cloud account.
5. After establishing an appropriate profile, your detector will send real-time data to Sentrol Cloud upon motion detection, then Sentrol Cloud will dispatch real-time events accordingly. If you have interconnected the detector with other end device(s), the interconnected end device(s) will execute your defined actions.
6. Let the test person walk in front of the detector. Sentrol Cloud should show real-time motion detection, and your interconnected end device(s) should execute your defined actions.

© 2016 Nietzsche Enterprise Co., Ltd. All rights reserved.

Nietzsche Enterprise reserves the right to make changes and improvements to its products without notice.

Contact Information: Email: _____, Website: _____