Black Cat Cat's Eye Sensor Quick Start Guide (ZWBCCE)

Product Code	Z Wave Frequency
ZWBCCE-AUS	921.4
ZWBCCE-EURO	868.4
ZWBCCE-USA/Canada	908.4
ZWBCCE-JP	922.5

Cat's Eye PIR Sensor ZWBCCE21S-AUS

Cat's Eye PIR Sensor ZWBCCE21S-AUS has PIR and luminosity functions built in, these are all based on Z-Wave™ technology.

This is a Z-Wave™ plus product that supports Security and OTA. These are the newest features of Z-Wave™ technology. Z Wave™ is a wireless communication protocol designed for home automation, specifically to remotely control applications in residential and light commercial environments. The technology uses a low power RF radio embedded or retrofitted devices fitted into home electronic devices and systems such as lighting, home access control, entertainment systems, environment control and household appliances.

This product can be included and operated in any Z-Wave™ network with other Z-Wave™ certified devices from other manufacturers and/or applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor which increases the reliability of the network.

The device adopts the Z-Wave™ 500 series chip. When your Z-Wave™ network is made up of all Z-Wave™ series devices, the network system will have the following advantages.

• Concurrent multi-channel support which reduces external interference.

• Better RF range, improved about 10 meters in indoor environments

• Supports 100 Kbps transmit speed, speeds up communication.

Including the Cat's Eye PIR Sensor to Z-Wave Network.
The PIR can be included to the Z-wave network by pressing on the code button.
Disassemble the PIR main body.
Prior to inserting the battery or removing the Mylar sticker place the Hub/Controller into Inclusion Mode (see Controller Manual for correct procedure). Make sure the device is located within the direct range of the controller.
Quickly triple click the Inclusion Button, the LED will flash 5 times.
The PIR will be included into the Z-wave Network.
The Hub/Controller will configure the PIR.

Excluding the Cat's Eye PIR Sensor from Z-Wave Network
Make sure the sensor is connected to power source.
Set the main controller into Exclusion mode (see Hub/Controller's operating manual).
Quickly, triple click the code button, LED light will flash for 5 times.
Wait for the Hub/Controller to delete the sensor.

Installation Steps
1. Holder Installation
2. Battery Installation
3. Fix PIR on the holder

Holder Installation.
Option One
Fix the holder with screws and wall plug.

Option Two
Fix the holder with double-sided adhesive tape.

Battery Installation

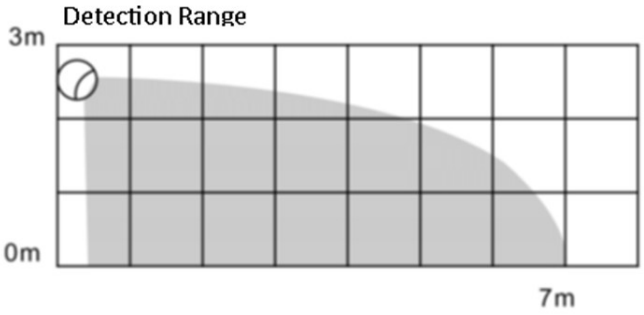

Open the PIR

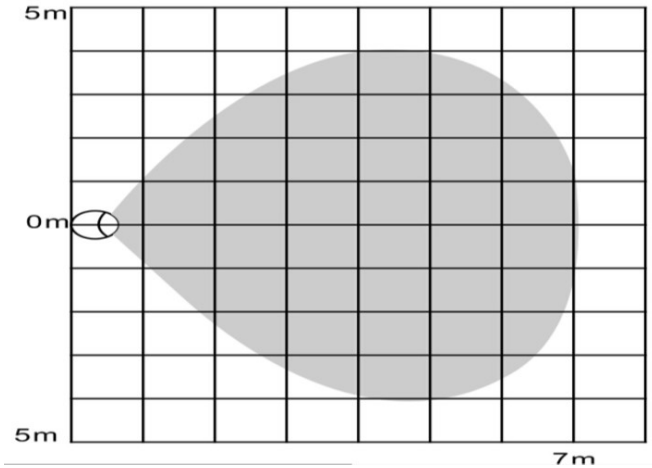

Install the Battery


Close the PIR

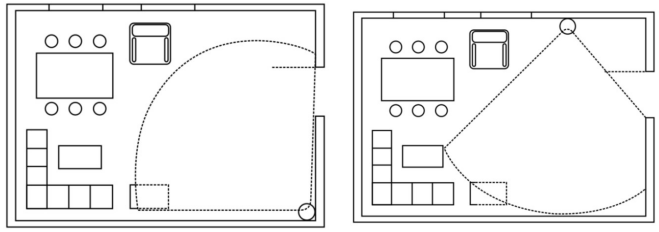
Fix PIR on the Holder.

Detection range and Working conditions.
The PIR has to be installed in a corner of the room or perpendicularly to the doors.
The actual detection range of the sensor can be influenced by environmental conditions. If there are false alarms, check for any moving objects within the sensor's detection area.
False motion alarms may be caused by moving masses of air and heat as well. If the device keeps on reporting false alarms, despite eliminating all of the above-mentioned factors, install the device in another place.





Working conditions.
If there is someone moving within the detection area the PIR will be triggered with the LED indicating 1 flash in the inductive area at the same time.
Work schematic diagram of the PIR is shown in the following picture.



The status of the LED
When the PIR is triggered, the LED flashes for 2 times.
When the PIR battery is installed the LED will flash twice.
Quickly, triple click the code button to add the PIR to the Z-WAVE network or to delete the PIR from Z-WAVE network, the LED flashes 5 times.
Press on the code button for 10 seconds, the PIR will be restored to factory default settings, LED flashes red for once. In normal condition, the LED is not illuminated.

Tips
Make sure the PIR is within the Z-Wave network.
PIR is recommended to be fixed at the height of 2.0-2.2 meters off the ground.
When installing the PIR, please keep it far away from the areas where there are air temperature changes, sensitively; e.g., within the neighbourhood of air conditioners, refrigerators, stoves etc.
Furniture, large objects or other spacers shouldn't be placed within the PIR's detection area.
When installing the PIR, please avoid stairs, elevators and other obstructions within the PIR's detection area.
After installation of the PIR, test whether the PIR works properly, if there is false alarm from PIR, change the location of the PIR.
Association allows for direct communication between Z-Wave network devices.

Association.
This has the effect that when the sensor is triggered, all devices associated with the sensor will receive the relevant reports. Through an association the sensor may control another Z-Wave network device, e.g. the alarm device, wall plug, lamp etc. This Sensor supports two association groups.
Association group 1 is assigned the status of the device status - send the BASIC SET control frame to the associated to the associated devices having detected motion.
Association group 2 reports relay's status to just one device, Z-Wave network's main controller by default. It's not recommended to modify settings of this association group.

The following information is for experienced Installers in setting up a Z-Wave system or for a system that has computer software running a Z-Wave controller or Z-Wave Gateway.

Advanced Configuration
1. Sensitivity Level Setting.
This parameter defines the sensitivity of PIR detector, it is recommended to test the detector with movements from a farthest end of the coverage area at first time of use. If movements cannot be detected sensitively, simply adjust the sensitivity level with this parameter. This parameter can be configured with the value of 1 through 4, where 1 means high sensitivity and 4 means lowest sensitivity.

Function: Sensitivity Level Setting.
Parameter Number: 1.
Parameter Size: 1 Byte.
Available Settings: 1 - 4.
Default Setting: 2.

2. On/Off Duration
This parameter can be determined how long the associated devices should stay ON status. For instance, this parameter is set to 30(second), the PIR detector will send a BASIC SET Command to an associated device with value basic set level if PIR detector is triggered and the associated device will be turned on 30(second) before it is turned off. This Parameter value must be large than Parameter 6#.

Function: On/Off Duration Setting
Parameter Number: 2
Parameter Size: 2 Byte
Available Settings: 5 - 600(second)
Default Setting: 30

2. On/Off Duration
This parameter can be determined how long the associated devices should stay ON status. For instance, this parameter is set to 30(second), the PIR detector will send a BASIC SET Command to an associated device with value basic set level if PIR detector is triggered and the associated device will be turned on 30(second) before it is turned off. This Parameter value must be large than Parameter 6.

Function: On/Off Duration Setting
Parameter Number: 2
Parameter Size: 2 Byte
Available Settings: 5 - 600(second)
Default Setting: 30

3. Basic Set Level
Basic Set Command will be sent where contains a value when the PIR is triggered, the receiver will take it for consideration; for instance, if a lamp module is received the Basic Set Command of which value is decisive as to how bright of dim level of lamp module shall be. This Parameter is used for some associated devices.

Function: Basic Set Level
Parameter Number: 3
Parameter Size: 1 Byte
Available Settings: 0, 1- 99 or 255
0 – OFF, Alarm cancelling or turning a device off
1 - 99 or 255 – ON (Binary Switch Device
Dim Level (Multilevel Switch Device
Default Setting: 99
4. PIR Detecting Function Enabled/Disabled
This parameter can be enabled or disabled the PIR detector detecting function.

Function: Enabled/Disabled PIR Function
Parameter Number: 4
Parameter Size: 1 Byte
Available Settings: 0 or 255
0 – Disable PIR Detector Function
255 – Enable PIR Detector Function
Default Setting: 255
5. Ambient illumination Lux Level (Not Complete, Reserved)
This parameter can set a lux level value which determines when the light sensor is activated. If the ambient illumination level falls below this value and a person moves cross or within the detected area the PIR detector will send a Z-Wave ON command(i.e. BASIC_SET value = parameter 3#) to an associated device and activate it.

Function: Lux Level Set
Parameter Number: 5
Parameter Size: 2 Byte
Available Settings: 0 - 1000(Lux)
Default Setting: 100(Lux)

6. Re-trigger Interval Setting
This Parameter can be used to adjust the interval of being re-triggered after the PIR detector has been triggered. No report will be sent during this interval if a movement is detected. This Parameter value must be less than Parameter 2.

Function: Re-trigger Interval Setting.
Parameter Number : 6
Parameter Size: 1 Byte
Available Settings: 5 ~ 120(s)
Default Setting: 10

7. Light Sensor Polling Interval
This Parameter can be set the light sensor measure ambient illumination level interval time.
NOTE: This Value Must Be less than Wakeup Interval Time.

Function: Light Sensor Polling Interval
Parameter Number: 7
Parameter Size: 2 Byte
Available Settings: 60 - 36000(second)
Default Setting: 600(s)

8. Reserved

9. Ambient illumination Lux Level Report
This parameter defines by how much Lux Level must change, in lux, to be reported to the main controller.
Function: Lux Level Report
Parameter Number: 9
Parameter Size: 2 Byte
Available Settings: 0 - 1000(Lux)
Default Setting: 100(Lux)

Restore the Sensor (PIR Motion detector) to Factory Default Settings
The Reset procedure will delete all information on the Z-Wave network or Z-Wave controller and restores the sensor to the factory default settings.
1. Remove the sensor's cover.
2. Make sure the sensor is connected to power source.
3. Press the code button for 10 seconds, LED will flash for 1 times.
4. Release the code button.

Battery Usage Tips
Battery life of the sensor is approximately 3 years at factory default settings.
The current battery level is displayed in the gateway. A Red battery icon means the battery needs to be replaced. In order to avoid tamper detection, while replacing the battery, please disconnect any Association of the contact sensor with other devices.
Note:
The sensor is battery powered. Using batteries other than specified may result in explosion. Dispose of properly, please observe environmental protection rules.

Command Classes
This Sensor(Motion Detector) supports Command Classes as Below:
* COMMAND_CLASS_ZWAVEPLUS_INFO (V2)
* COMMAND_CLASS_VERSION (V2)
* COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
* COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
* COMMAND_CLASS_POWERLEVEL (V1)
* COMMAND_CLASS_BATTERY (V1)
* COMMAND_CLASS_ASSOCIATION (V2)
* COMMAND_CLASS_ASSOCIATION_GRP_INFO (V1)
* COMMAND_CLASS_WAKE_UP (V2)
* COMMAND_CLASS_NOTIFICATION (V4)
* COMMAND_CLASS_SENSOR_BINARY (V2)
* COMMAND_CLASS_CONFIGURATION (V1)
* COMMAND_CLASS_SENSOR_MULTILEVEL (V7)

FCC ID: Z52NAS-PD02Z

For Indoor Use only.

Specifications are subject to change without notice due to continuing product development.

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Manufactured for
Black Cat Control Systems
26 Tiller Lane, Patterson Lakes
Victoria 3197
Australia by:
Shenzhen NEO Electronics Co., LTD
Address: 6TH Floor, Building No.2, Laobing Industrial Park, Tiezhai Road Xixiang,
BaoAn District, Shenzhen, China.

FCC Interference Statement
This equipment has been tested and found to comply with the limits for a Class B digital module, 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 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 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.
This module complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This module may not cause harmful interference, and
(2) This module must accept any interference received, including interference that may cause undesired operation.
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.