(Standard detection type)

(W) White　(B) Black　(PW) Pearl White

(Long distance detection type)

(W) White　(B) Black　(PW) Pearl White

## APPLICATIONS

**Security Equipment:**

- Wireless security sensors, and cameras.

**Wireless Devices / Mobile Equipment:**

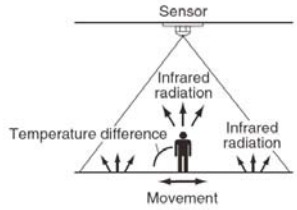
- Wireless occupancy sensors (powered by PV cells or battery)
- PC and smart phone

**What is passive infrared type?**

This sensor detects changes in infrared radiation which occur when there is movement by a person (or object) which is different in temperature from the surroundings.

① As this sensor detects temperature differences, it is well suited to detecting the motion of people by their body temperature.

② Wide sensing area.




**Compliance with RoHS Directive**

***1.*** ***1µA low current consumption with Panasonic's proprietary design***

Development of a specialized circuit allows the reduction of current consumption to 1µA (during sleep mode). When motion is detected, the sensor will shift to "standby" mode.

Reduction of current consumption allows battery life to be extended for battery driven products, including wireless based and low power consumption devices.
(Product lineup includes 1µA, 2µA, and 6µA sensors.)

***2.*** ***Simplified circuitry with fully integrated sensor design***

Panasonic's proprietary high-density embedded circuit design eliminates external sensing circuits. Advantages include reduced development and design schedules.

***3.*** ***Lead-free pyroelectric elements***

PaPIRs sensing elements contain lithium tantalate and are lead-free. Typical PIR sensing elements are ferroelectric ceramic (PZT) containing lead.

***4.*** ***Low curvature lens for product designs***

Panasonic's lens formation technology achieves a semi-flat lens with a smooth surface and minimum protrusion from the device (lens diameter: $\phi$9.5mm).

In addition to white and black lens options, pearl white is offered for design aesthetics.
(※Refer to "Dimensions" on page 5)

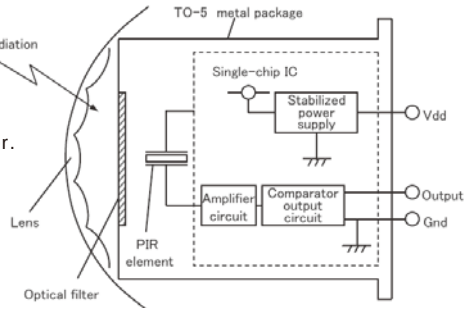
***5.*** ***Robust design prevents false detection***

PaPIRs sensing circuits are enclosed in a metallic can to minimize adverse effects of external electromagnetic fields. Examples include radiated noise caused by cellular phones.

A high S/N ratio minimizes sensitivity to false tripping when operated under various environmental conditions.

***Block Diagram*** *(Digital output circuit)*

Built-in amplifier and comparator connected directly to a microcomputer.




## ORDERING INFORMATION

**EKMB** □ □ □ □ □ □

Output: **1**: Digital

Current Consumption: **1**: 1µA, **2**: 2µA, **3**: 6µA

Detection Performance: **01**: Standard detection type
**03**: Long distance defection type

Lens Color:
**1**: White **2**: Black **3**: Pearl White

Lens Material: **1**: Polyethylene

Mounting: **1**: TO-5

## PRODUCT TYPES

| Detection Performance | Current Consumption | Lens Color | Model No. | Inner Package | Outer Package |
|---|---|---|---|---|---|
| Standard detection type | 1 μA | White | EKMB1101111 | 50pcs | 1000pcs |
| | | Black | EKMB1101112 | | |
| | | Pearl White | EKMB1101113 | | |
| | 2 μA | White | EKMB1201111 | | |
| | | Black | EKMB1201112 | | |
| | | Pearl White | EKMB1201113 | | |
| | 6 μA | White | EKMB1301111K | | |
| | | Black | EKMB1301112K | | |
| | | Pearl White | EKMB1301113K | | |
| Long Distance detection type | 1 μA | White | EKMB1103111 | 50pcs | 1000pcs |
| | | Black | EKMB1103112 | | |
| | | Pearl White | EKMB1103113 | | |
| | 2 μA | White | EKMB1203111 | | |
| | | Black | EKMB1203112 | | |
| | | Pearl White | EKMB1203113 | | |
| | 6 μA | White | EKMB1303111K | | |
| | | Black | EKMB1303112K | | |
| | | Pearl White | EKMB1303113K | | |

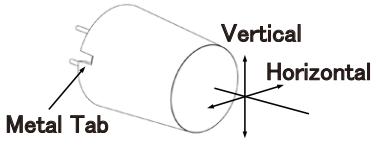
## PERFORMANCE

**1. Detection Performance** [Conditions for measuring: Ambient temperature : 25℃(77℉) Operating voltage : 3VDC]

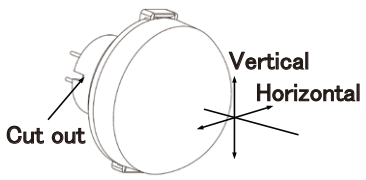
| Items | | Standard Detection type | Long Distance Detection type | Conditions concerning target |
|---|---|---|---|---|
| Detection Range *1) | | Max. 5m | Max. 12m | 1. The temperature difference between the target and the surroundings should be superior to 4℃(7.2℉).<br>2. Movement speed: 1.0m/s<br>3. Target concept is human body (Size: 700× 250mm) |
| Detection Area | Horizontal *2) | 94° (±47°) | 102° (±51°) | |
| | Vertical *2) | 82° (±41°) | 92° (±46°) | |
| | Detection Zone *3) | 64 zones | 92 zones | |

*1) Depending on the target's speed and temperature difference compared to the surroundings, detection can occur at a range superior to the above value. Please use this sensor according to the specifications for guaranteed performance.

*2) Definitions for "Horizontal" and "Vertical":



Standard detection type



Long Distance detection type

*3) Refer to the "detection area" diagram on P.4.