(Standard detection type)



White



(PW) Pearl White

(Long distance detection type)

Black



APPLICATIONS

Commercial / Residential Equipment

- Lighting fixtures, Sensor switches,
- Video intercoms, Vending machines,
- Home automation control panels

Home Appliances (Energy Savings)

- Television and PC monitor
- Air conditioners, Air purifiers

1. 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.

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.

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

3. Robust design prevents false detection

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

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

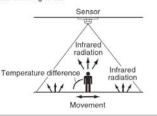
Lead-free pyroelectric elements

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

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.

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



Compliance with RoHS Directive

Block Diagram (Digital output circuit)

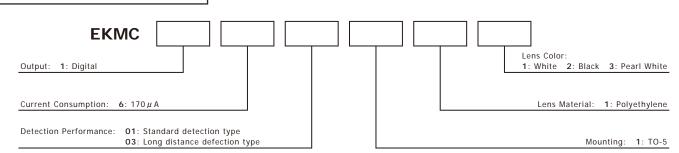
Built-in amplifier and comparator connected directly to a microcomputer.

Single-chip IC

Stabilized power supply

Amplifier Comparator output circuit outpu

ORDERING INFORMATION



PRODUCT TYPES

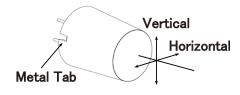
Detection Performance	Current Consumption	Lens Color	Model No.	Inner Package	Outer Package
Standard detection type	170 <i>μ</i> A	White	EKMC1601111		1000pcs
		Black	EKMC1601112	50pcs	
		Pearl White	EKMC1601113		
Long Distance detection type	170 μ A	White	EKMC1603111		
		Black	EKMC1603112	50pcs	1000pcs
		Pearl White	EKMC1603113		

PERFORMANCE

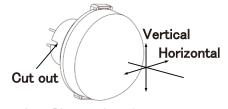
1. Detection Performance [Conditions for measuring: Ambient temperature: 25°C (77°F) Operating voltage: 5VDC]

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

- *1) Depending on the target's speed and its temperature difference with the surroundings, detection can occur at a range superior to the above value. However, please use this sensor according to the specifications.
- *2) Definitions for "Horizontal" and "Vertical"



Standard detection type



Long Distance detection type

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

2. Maximum Rated Values

Items	Specified value		
Power Supply Voltage	-0.3∼7.0V DC		
Usable Ambient Temperature	$-20\sim+60^{\circ}\text{C}~(-4\sim+140^{\circ}\text{F})$ Do not use in a freezing or condensation environment.		
Storage Temperature	-20~+70°C (-4~+158°F)		