

EKMC(VZ) series

Current consumption **170μA** Digital output



Standard detection type



Long distance detection type



Wall installation type

○Economy type suitable for a wide range of applications

Recommended applications

Lighting control, lighting equipment, heaters, ventilators or air conditioners, security equipment for IP cameras, intrusion alarms, digital signage, vending machines, multi-function printers, display panels for meeting rooms, PCs

Lensless type available

170μA type: EKMC1600100

Specifications

Detection performance	Model no.	Current consumption	Lens color	Output type	Detection distance	Detection area		Detection zones	
						Horizontal	Vertical		
Standard detection type	EKMC1601111	170μA	White	Digital	5m	94°	82°	64	
	EKMC1601112		Black		12m	102°	92°		
	EKMC1601113		Pearl white						
Long distance detection type	EKMC1603111	170μA	White	Digital	12m 12m (1st step lens) 6m (2nd step lens) 3m (3rd step lens)	102°	92°	92	
	EKMC1603112		Black						
	EKMC1603113		Pearl white						
Wall installation type	EKMC1604111	170μA	White	Digital	12m (1st step lens) 6m (2nd step lens) 3m (3rd step lens)	40°	105°	68	
	EKMC1604112		Black						
	EKMC1604113		Pearl white						

■ Ordering information

E K M C 1 6 □ □ 1 □ □

● PaPIRs motion sensor

● Detection(Lens)

00: Lensless / 01: 5m distance standard /
03: 12m long distance / 04: Wall installation type

● Lens color

0: Lensless / 1: White /
2: Black / 3: Pearl white

● Lens

0: Lensless / 1: with lens

Characteristics

■ Maximum rated values

Items	Value		
Power supply voltage	-0.3 to 7V		
Ambient temperature	-20 to +60°C (no frost, no condensation)		
Storage temperature	-20 to +70°C		

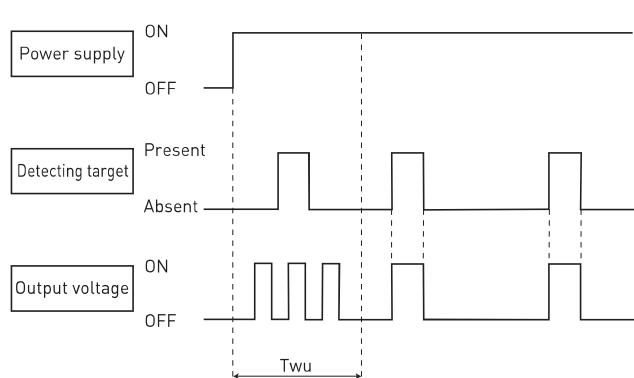
■ Electrical characteristics

Items	Symbol	EKMC (VZ) type	Conditions
Operating voltage	Max Vdd	6.0V	—
		3.0V	
Current consumption (in standby mode) Note 1)	Ave Iw	170μA	Ambient temperature: 25°C $I_{out}=0$ Vdd: 5V
Output current (during detection) Note 2)	Max Iout	100μA	Ambient temperature: 25°C $V_{out} \geq V_{dd}-0.5$
Output voltage (during detection period)	Min Vout	Vdd - 0.5V	Ambient temperature: 25°C Open at no detection
Circuit stability time (when voltage is applied)	Max Twu	30 sec	Ambient temperature: 25°C $I_{out}=0$ Vdd: 5V

Note 1) Current consumption during detection period is the total value of current consumption in standby mode add to output current.

Note 2) Please select an output resistors (pull-down concept) in accordance with Vout so that the output current is lower than or equal to 100μA. If the output current is more than 100μA, this may cause false alarms.

Timing chart

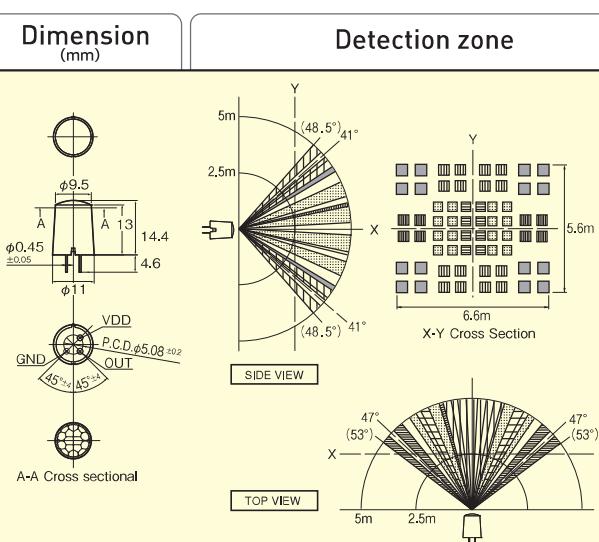
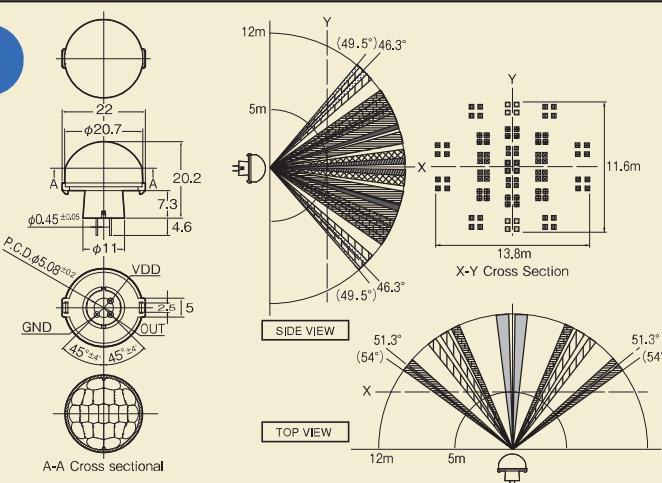
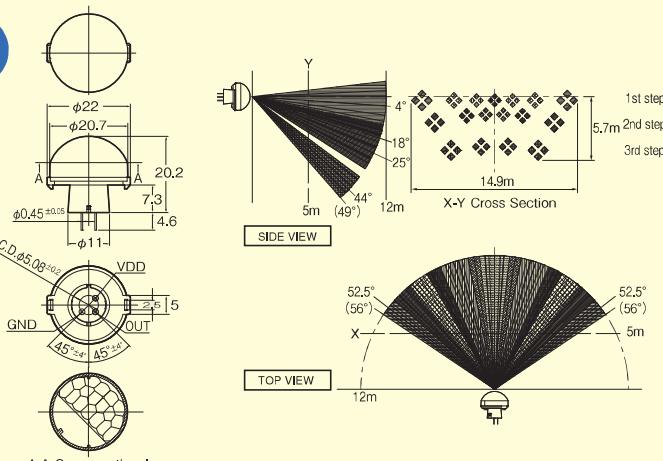
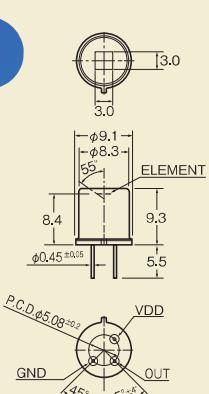
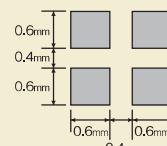
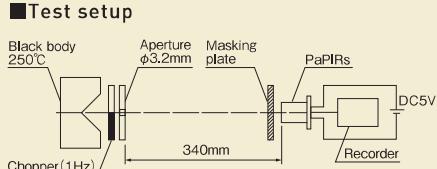


[Explanation of the timing]

Twu: Circuit stability time: max. 30 sec

During this stage, the output's status is undefined (ON/OFF) and detection is therefore not guaranteed.

Lenses for the EKMB/EKMC series

Dimension (mm)	Detection zone	Detection characteristics														
Standard detection type		<table border="1"> <tr> <td>Detection distance</td><td>Max. 5m</td></tr> <tr> <td>Field of view</td><td>94°×82°</td></tr> <tr> <td>Detection zone</td><td>64 beams</td></tr> <tr> <td>Detection condition</td><td> <ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. </td></tr> </table>	Detection distance	Max. 5m	Field of view	94°×82°	Detection zone	64 beams	Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. 						
Detection distance	Max. 5m															
Field of view	94°×82°															
Detection zone	64 beams															
Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. 															
Long distance detection type		<table border="1"> <tr> <td>Detection distance</td><td>Max. 12m</td></tr> <tr> <td>Field of view</td><td>102°×92°</td></tr> <tr> <td>Detection zone</td><td>92 beams</td></tr> <tr> <td>Detection condition</td><td> <ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. </td></tr> </table>	Detection distance	Max. 12m	Field of view	102°×92°	Detection zone	92 beams	Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. 						
Detection distance	Max. 12m															
Field of view	102°×92°															
Detection zone	92 beams															
Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. 															
Wall installation type		<table border="1"> <tr> <td>Detection distance</td><td> <table border="1"> <tr> <td>1st step lens</td><td>Max. 12m</td></tr> <tr> <td>2nd step lens</td><td>Max. 6m</td></tr> <tr> <td>3rd step lens</td><td>Max. 3m</td></tr> </table> </td></tr> <tr> <td>Field of view</td><td>40°×105°</td></tr> <tr> <td>Detection zone</td><td>68 beams</td></tr> <tr> <td>Detection condition</td><td> <ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. </td></tr> </table>	Detection distance	<table border="1"> <tr> <td>1st step lens</td><td>Max. 12m</td></tr> <tr> <td>2nd step lens</td><td>Max. 6m</td></tr> <tr> <td>3rd step lens</td><td>Max. 3m</td></tr> </table>	1st step lens	Max. 12m	2nd step lens	Max. 6m	3rd step lens	Max. 3m	Field of view	40°×105°	Detection zone	68 beams	Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam.
Detection distance	<table border="1"> <tr> <td>1st step lens</td><td>Max. 12m</td></tr> <tr> <td>2nd step lens</td><td>Max. 6m</td></tr> <tr> <td>3rd step lens</td><td>Max. 3m</td></tr> </table>	1st step lens	Max. 12m	2nd step lens	Max. 6m	3rd step lens	Max. 3m									
1st step lens	Max. 12m															
2nd step lens	Max. 6m															
3rd step lens	Max. 3m															
Field of view	40°×105°															
Detection zone	68 beams															
Detection condition	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1.0m/s Target concept: Human body with an approx. size of 700×250mm Target moving direction: Crossing the detection beam. 															
Lensless type	 <p>PIR element</p> 	<table border="1"> <tr> <td>Detection sensitivity</td><td> Average: 5.6μW/cm² Maximum: 7.6μW/cm² </td></tr> </table> <p>※Detection sensitivity is measured by following system</p> <p>Test setup</p> 	Detection sensitivity	Average: 5.6μW/cm ² Maximum: 7.6μW/cm ²												
Detection sensitivity	Average: 5.6μW/cm ² Maximum: 7.6μW/cm ²															

CAD data CAD data can be downloaded from the ((PaPIRs)) PaPIRs WEB site.

Please refer to the formal specification for the dimension, and the tolerance

Panasonic PaPIRs

Search

*Please note that the horizontal and vertical field of view depends on the position of the metal tab on which the lens is mounted.

Horizontally wide detection type

Current consumption 1/2/6/170µA

Digital output



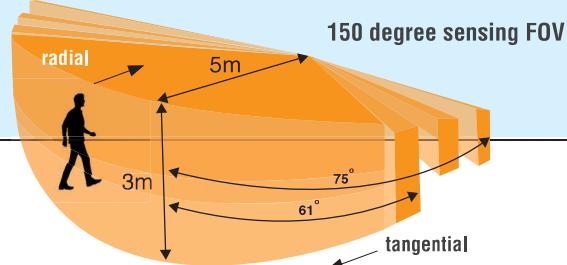
World's first PIR with "Approach Sensing" technology

Panasonic presents the world's first PIR sensor in the shape of a hammerhead with a special optic, which is more sensitive to radial motion.

NEW

Recommended applications

Wall switches, thermostats, IP cameras, wake-up switch for displays, intrusion alarm sensors (e.g. for windows and doors), door intercom systems, entrance and garden lamps, automatic door systems, vending machines



Horizontally wide detection type

Current consumption in standby mode (1µA type: in sleep mode)	1µA	2µA	6µA	170µA
Output	Digital (open collector)			
White	EKMB1105111	EKMB1205111	EKMB1305111K	EKMC1605111
Black	EKMB1105112	EKMB1205112	EKMB1305112K	EKMC1605112
Pearl white	EKMB1105113	EKMB1205113	EKMB1305113K	EKMC1605113

Dimension (mm)	Detection zone	Detection characteristics										
CAD data by request												
		<table border="1"> <thead> <tr> <th>Detection distance</th> <th>Max. 5m*</th> </tr> </thead> <tbody> <tr> <td>Field of view</td> <td>Area A: 122° x 35° Area B: 150° x 20°</td> </tr> <tr> <td>Detection zone</td> <td>Area A: 88 Area B: 16</td> </tr> <tr> <td>Detection condition ▲</td> <td> <ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1m/s Target concept: human head with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones </td> </tr> <tr> <td>Area B</td> <td> <ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 8°C. Movement speed: 1m/s Target concept: human body with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones </td> </tr> </tbody> </table>	Detection distance	Max. 5m*	Field of view	Area A: 122° x 35° Area B: 150° x 20°	Detection zone	Area A: 88 Area B: 16	Detection condition ▲	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1m/s Target concept: human head with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones 	Area B	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 8°C. Movement speed: 1m/s Target concept: human body with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones
Detection distance	Max. 5m*											
Field of view	Area A: 122° x 35° Area B: 150° x 20°											
Detection zone	Area A: 88 Area B: 16											
Detection condition ▲	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 4°C. Movement speed: 1m/s Target concept: human head with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones 											
Area B	<ul style="list-style-type: none"> The temperature difference between the target and the surroundings must be higher than 8°C. Movement speed: 1m/s Target concept: human body with an approx. size of 700x250mm Target moving direction: crossing 2 detection zones 											
SECTION A-A		* Under specified detection conditions ▲ Please refer to "Cautions for use" (page 18) and "Basic principles" (page 18, point 5), for more details										

Please contact your local sales representative for detailed specifications.

Standard and slight motion detection type

Current consumption 1/2/6/170µA

Digital output



» 2 functions in 1 lens

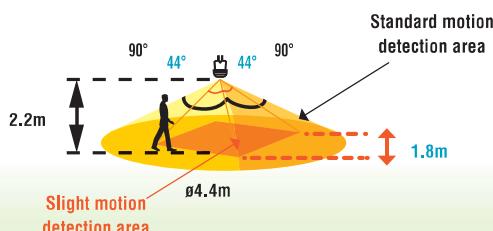
High Sensitivity Centre ZONE: Optimized for detecting small movements and small objects

Normal Sensitivity Outer ZONE: Optimized for detecting larger movements of larger objects

NEW

Recommended applications

Lighting control, heaters, ventilators or air conditioners, IP cameras, intrusion alarms, digital signage, vending machines, multi-function printers, display panels for meeting rooms, PCs

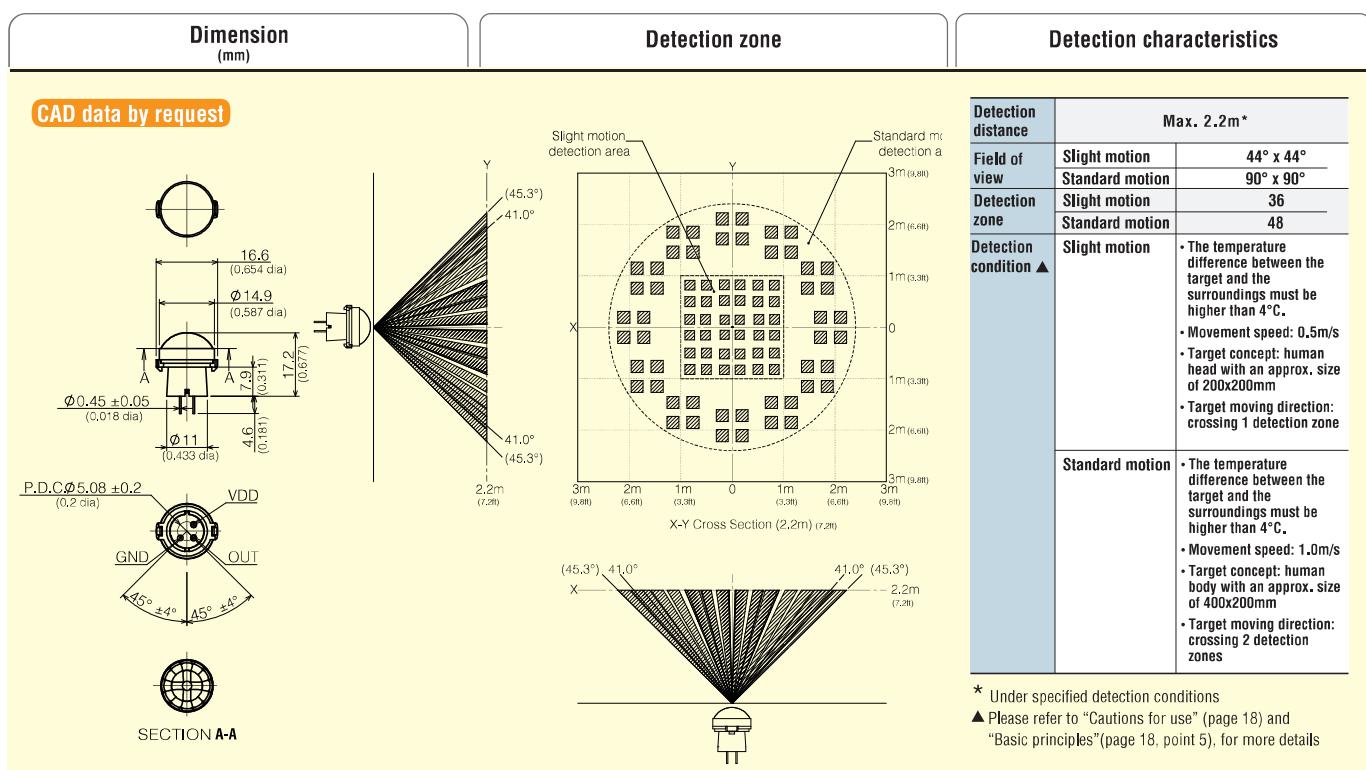


Standard and slight motion detection type

Slight motion detection area

Standard motion detection area

Current consumption in standby mode ► (1µA type: in sleep mode)	1µA	2µA	6µA	170µA
► Output	Digital (open collector)			
White	EKMB1193111	EKMB1293111	EKMB1393111K	EKMC1693111
Black	EKMB1193112	EKMB1293112	EKMB1393112K	EKMC1693112
Pearl white	EKMB1193113	EKMB1293113	EKMB1393113K	EKMC1693113



Please contact your local sales representative for detailed specifications.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panasonic:

[EKMC1601111](#) [EKMC1601112](#) [EKMC1601113](#) [EKMC1603111](#) [EKMC1603112](#) [EKMC1603113](#) [EKMC1604112](#)
[EKMC1604113](#) [EKMC1604111](#) [EKMC1672112](#) [EKMC1672111](#)

ООО "ЛайфЭлектроникс"

"LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибуторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибуторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помочь разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru