Panasonic®

Infrared Array Sensor Grid-EYE Unit Type

Model No. **AMGU4241**

Installation Instructions

■ Please make sure to read this manual before installation.

Safety Precautions

Please make sure to follow

⚠ Warning

Must be followed

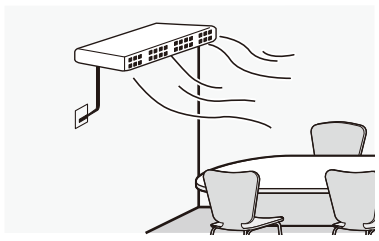
- **Insert cables deep enough for ensuring a wire connection.**
  Inadequate insertion may produce heat, causing burnout or fire.

This product detects the presence of humans by measuring the temperature distribution in the detection area and detecting the movement of objects that have a higher temperature than the background.

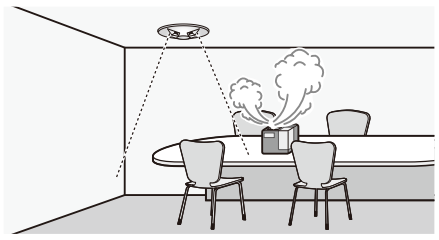
Avoid installation in the following places.

* A human body may not be detected when the difference between its surface temperature and the room temperature is small.

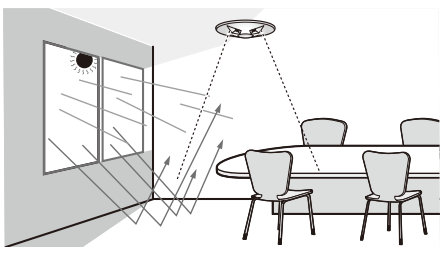
☒ Near the air outlet of an air conditioner, etc.



☒ A place with rapid temperature changes



☒ A place with highly reflective floor surfaces



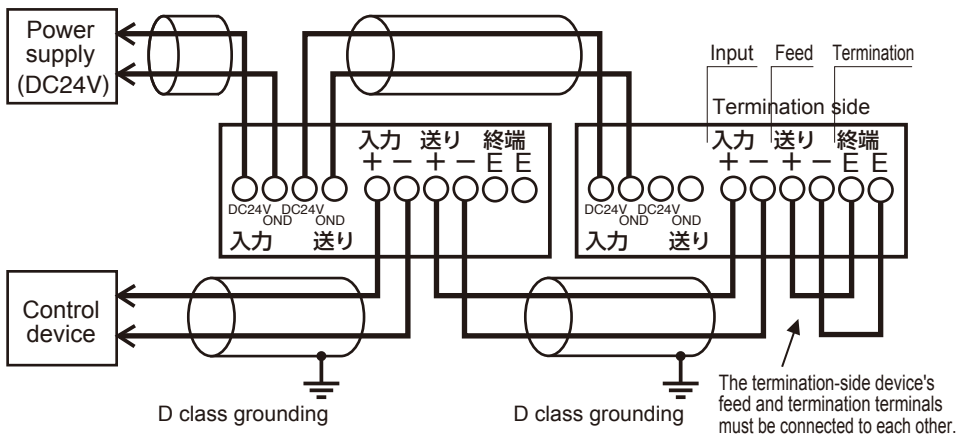
☒ A place with an automated moving object

☒ A place where the floor temperature is high due to sunlight, floor heating, etc.

☒ A place with swinging objects

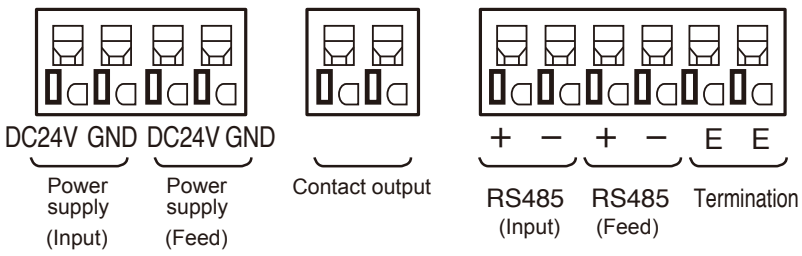
Wiring Diagram

■ RS485 Communication line wiring

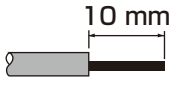


- Use shielded twisted pair cables.
- The shield must be grounded at one end. Ground terminals are for grounding only and require D class grounding.
- Use transition wiring for device connections. (Branch wiring not applicable)

■ Terminal arrangement



■ Applicable cables

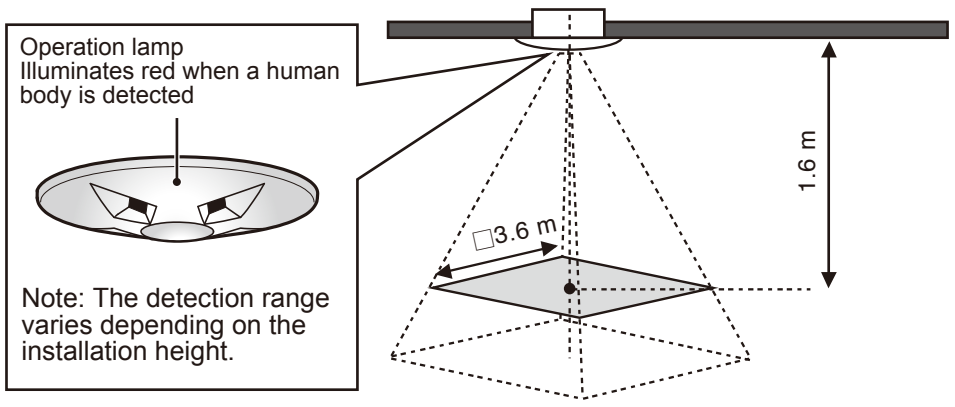
Power cable ϕ0.65 to ϕ0.9 Cu (copper) Single wire only RS485 signal cable ϕ0.65 to ϕ0.9 CPEV cable	

Advance Check Items and Installation Requirements

1. Avoid incorrect wire connections and short circuits.
2. Wipe off stains using soft, dry cloth without scratching.
   Avoid using thinners, alkaline detergents, acid detergents, cleansers, pesticides, etc. Their use may cause a failure.

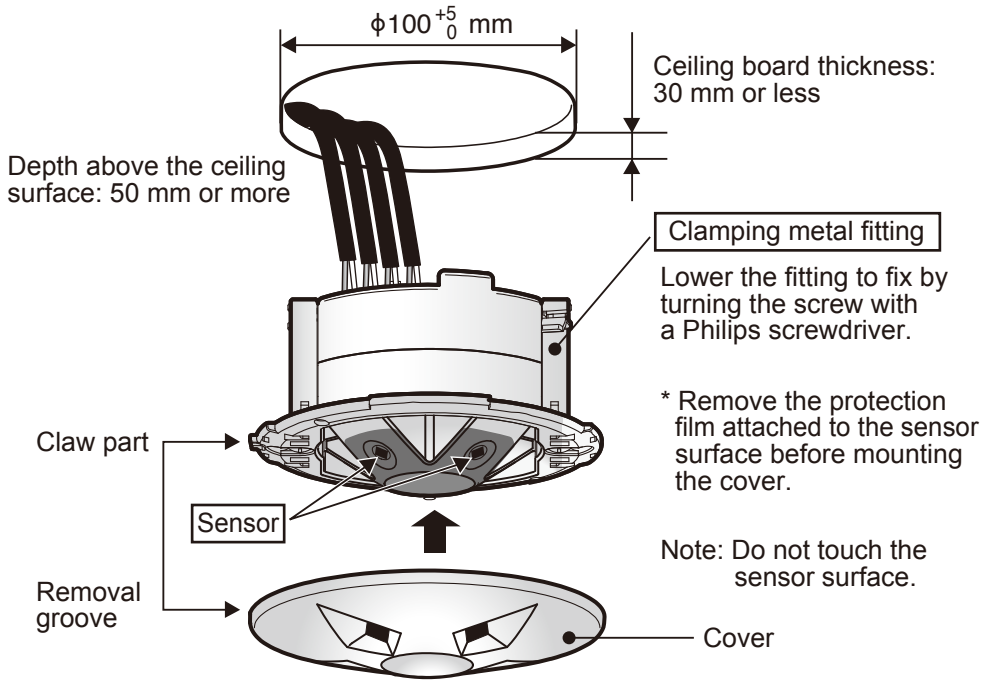
Detection Range

▼Detection range (estimate) when the ceiling is 2.7 m high

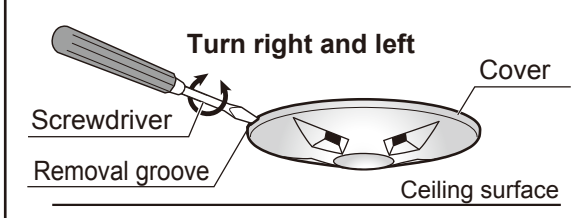


- The ceiling height must be 2.7 m or lower.
  The product cannot be used on a sloped ceiling.

How to Mount

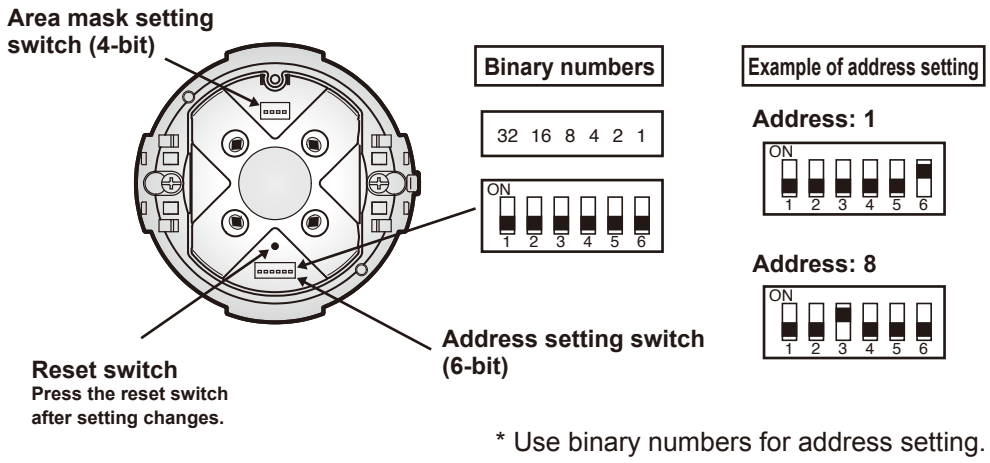


How to Remove the Cover



* Check the detection range after installation.

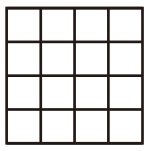
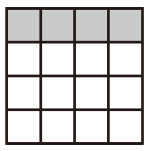
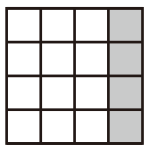
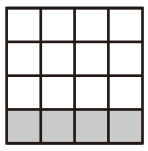
RS485 Address Setting

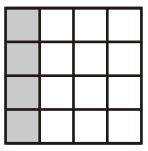
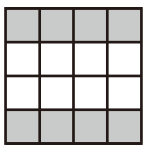
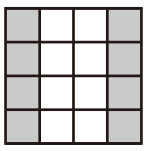
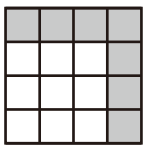


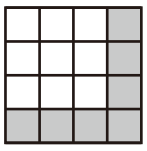
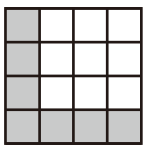
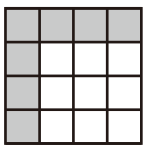
* Use binary numbers for address setting.

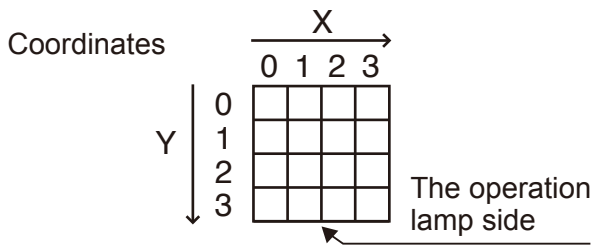
Area Mask Function

Setting the 4-bit switch enables the masking of the detection area. (The shaded area will not be detected.) Press the reset switch after setting changes.

Setting	Mask setting area
ON 1 2 3 4	No masking 
ON 1 2 3 4	
ON 1 2 3 4	
ON 1 2 3 4	

Setting	Mask setting area
ON 1 2 3 4	
ON 1 2 3 4	
ON 1 2 3 4	
ON 1 2 3 4	

Setting	Mask setting area
ON 1 2 3 4	
ON 1 2 3 4	
ON 1 2 3 4	



Ratings/Specifications

Items	Specifications
Rated voltage	24 V DC
Detection range (at a position 1.6 m away from the ceiling)	□3.6 m
Detection object movement speed	1.7 m/s (6 km/h) or lower (Rapid movements may not be detected depending on the temperature difference with the background)
Detection position accuracy	±500 mm (when seated)
Detectable number of people	8 or less (2 or less in □1.8 m)
Room temperature allowing human detection	10ºC to 29ºC (May not be detected due to clothing)
Output coordinates	16 divisions (4×4)
Operation lamp	Illuminates red when a human body is detected
Contact output	Outputs ON when a human body is detected (DC 24 V, 0.1 A or less)
Maximum wiring length	500 m or less

Communication Specifications

Items	Specifications
Communication method	RS-485
Communication protocol	MODBUS (RTU)
Baud rate	38,400 bps
Start bit	1-bit
Stop bit	1-bit
Parity bit	1-bit (Parity: odd)
Communication address setting range	1 to 63

Q&A for Operation Check

State	Possible causes	Check/Action
Unable to communicate	Addresses are not set, or the address of a device coincides with that of other devices.	All the devices connected to the communication line of a control device must have different addresses. Check the address setting status and specify an address different from the other devices. Press the reset switch after setting changes. The setting changes are not effective until the reset switch is pressed.
	Communication cables are not correctly inserted or connected.	Connect the communication cables correctly to the quick-connection terminals.
	Communication settings do not agree with those of the control device.	Check the communication specifications and set the control device to match. (Baud rate, start bit, stop bit, and parity bit)
	Termination-side device is incorrectly connected.	Check the connection status of the termination-side device and connect correctly.
	Termination setting is not specified on the control device.	Check the manual, etc. of the control device and specify the correct termination setting.
Unable to detect	The temperature difference with the background temperature is small.	The product's detection operation is carried out based on the principle of using the temperature difference with the background, therefore a human body may not be detected when the difference between its surface temperature and the background temperature is very small due to cold weather gear, etc.
	The background temperature is higher than that of human subjects.	A human body cannot be detected when its temperature is lower than the background.
	The detection area is not correctly arranged.	Check whether the installation allows for the correct orientation of the detection area (quadrangular pyramid shape).
	High moving speed	A human body may not be detected when it moves fast.
	A person remains still near the edge of an area.	The product recognizes moving processes within the detection area to detect a human body.If it stops moving immediately after entering the area and remains still, the product may not be able torecognize its movement and thus may not recognize it as a human body.
	The installation height exceeds 2.7 m.	If the installation height is too high, a human body will be further away from the product main body. As a result, the size of the human body will appear relatively small and its temperature low, making detection more difficult.
	The area mask setting is enabled.	Area masking setting disables the detection of the masked area.
	The protection film is left unremoved on the main body.	Remove the protection film after installation.
The detection state does not last.	A person remained still or did not move much for a long period of time.	The detection terminates when unable to recognize any movement for more than 90 minutes.
	A person remains still near the edge of an area.	The product recognizes moving processes within the detection area to detect a human body. If it stops moving immediately after entering the area and remains still, the product may not be able to recognize its movement adequately and thus may revise its determination from a human body to an object.
	A person entered the area with another person in mutual proximity and remained still after separating.	A group of people positioned close to each other may be recognized as one person. A person is recognized as an object upon separating from another person in the area, and may not be determined as a human body if he/she remains still after the separation.
Erroneous detection	Moving objects such as animals, moving devices, etc. are within the detection area.	The product's detection operation is carried out based on the principle of using the temperature difference with the background, therefore moving objects that have a temperature difference with the background are difficult to distinguish from human bodies and thus may be erroneously detected.
	Residual heat on a chair, etc., is detected after a person has gotten up and left.	A chair in contact with a human body has the same temperature as the body and may thus be detected even after the occupant has gotten up and left.It will not be detected once the temperature drops.

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