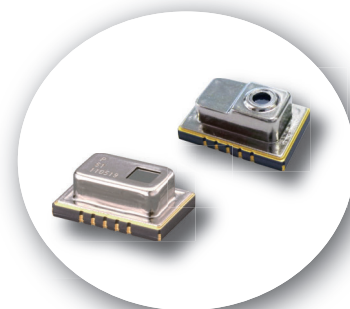


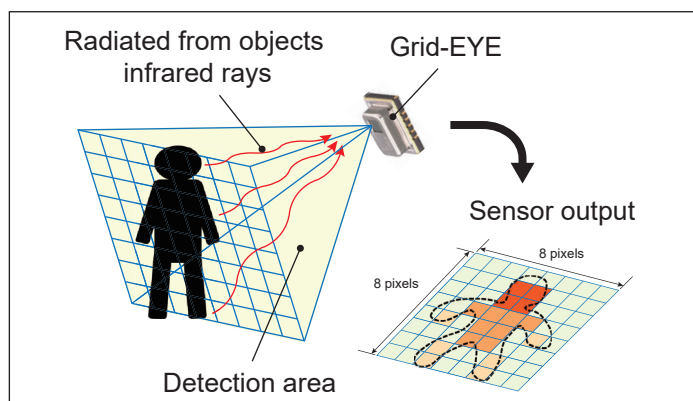
## Infrared array sensor “Grid-EYE”

High precision infrared array sensor based on advanced MEMS technology

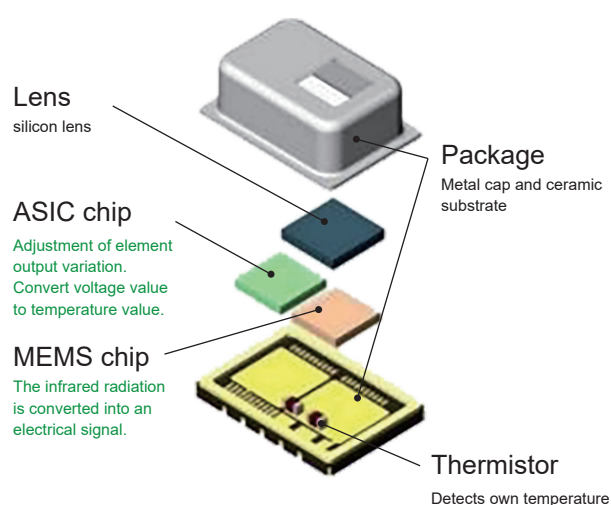


### Product summary

- Non-contact sensor capable of detecting the temperature distribution of an object
  - The sensor receives infrared radiation emitted from objects.
  - The infrared radiation is converted into an electrical signal.
  - Temperature detection achieved on a two dimensional area with  $8 \times 8$  (64) pixels
  - Digital output (Temperature value can be output)
  - Miniature SMD package (Reflow mounting possible)

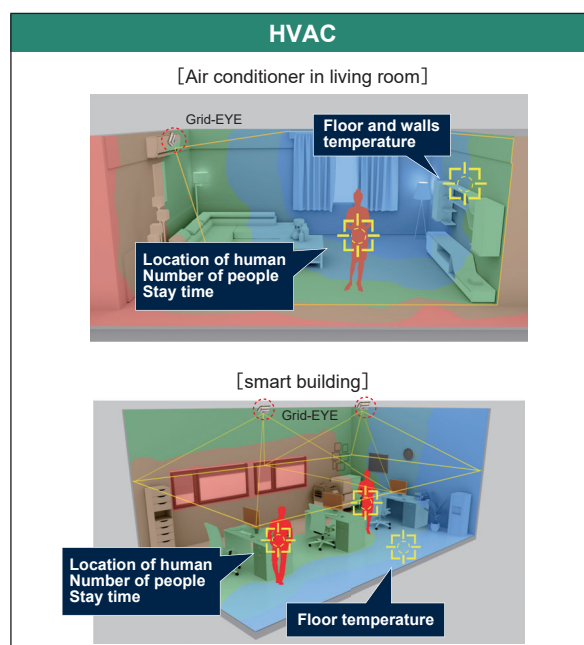
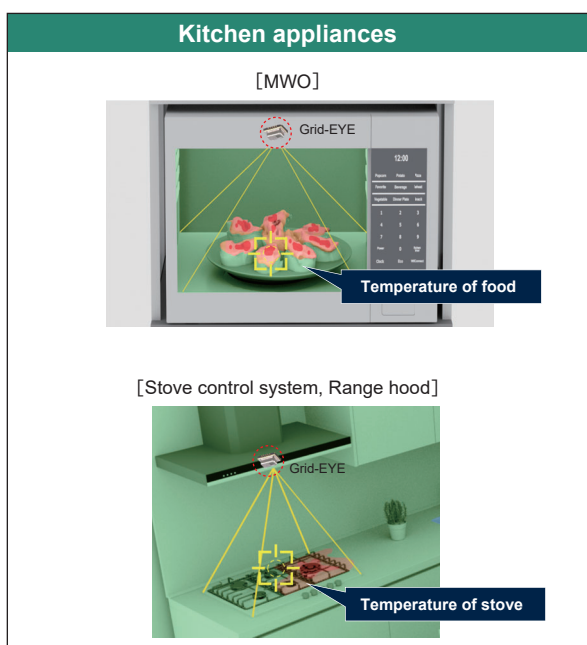


### Internal structure and detection principle



### Applications

- Capable of detecting the floor and walls temperature distribution and location of human, number of people, stay time, by one sensor.

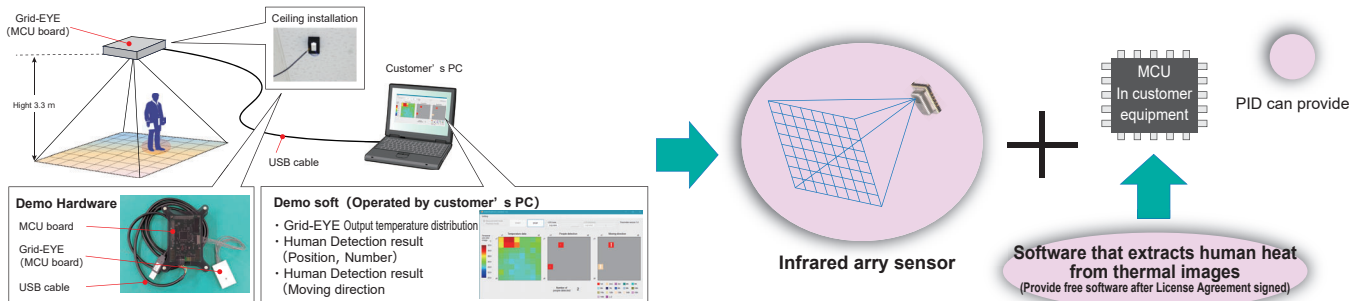


## Comparison with other methods

IR array sensors are suitable for temperature distribution and human detection in private spaces.

		IR Detection			Others		
		PIR Sensor	IR Sensor		TOF sensor	Millimeter wave radar	Visible camera
			Single	Array			
Moving people detection	Exist / not exist	Yes	No	Yes	Yes	Yes	Yes
	Moving direction	No	No	Yes	Yes	Yes	Yes
Stationary people detection	Crowdedness	No	No	Yes	Yes	Yes	Yes
	Existence area	No	No	Yes	Yes	Yes	Yes
Temperature detection	Temperature value	No	Yes	Yes	No	No	No
	Distribution	No	No	Yes	No	No	No
Others	No effect of brightness for performance	Yes	Yes	Yes	Yes	Yes	No
	Avoids privacy violation	Yes	Yes	Yes	Yes	Yes	No

## Human detection solution



### For room air conditioner

Standard type

Grid-EYE (From upper wall)

Visible camera output(Example)

Grid-EYE output

Human detection results

### For commercial air conditioner

Standard type (60°)

Wide type (90°)

Grid-EYE (From ceiling)

Visible camera output(Example)

Grid-EYE output

Human detection results

## Line-up

	Standard type	Narrow type		Wide type	Under development	
					High temp sensing type	Low FPS type
Product number	AMG88**	AMG883642	AMG8854M01	AMG88*543	AMG88*973	AMG88*861
Package	 L :8.0 mm W :11.6 mm H :4.3 mm	 L :8.0 mm W :11.6 mm H :5.93 mm		 L :8.0 mm W :11.6 mm H :4.76 mm	 L :8.0 mm W :11.6 mm H :4.76 mm	 L :8.0 mm W :11.6 mm H :4.3 mm
Number of pixel	64 pixels (8×8)					
Field of view	60° × 60°	36° × 36°		90° × 90°	60° × 60°	
Supply voltage	3.3 V / 5.0 V	3.3 V	5.0 V	3.3 V / 5.0 V		
Temperature range of the object to be measured	-20 to 80 °C (High gain) -20 to 100 °C (Low gain)	-20 to 100 °C		-20 to 80 °C	-20 to 350 °C	-20 to 80 °C
Storage temperature	Operating temperature : to 80 °C, Storage temperature : -20 to 80 °C					
Accuracy	Each pixels Typ. ±2.5 °C (High gain)	Each pixels Typ. ±3.0 °C		Average of all pixels Typ. ±2.5 °C	Each pixels Typ. ±40.0 °C	Each pixels Typ. ±2.5 °C