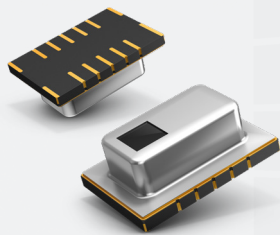# Panasonic
INDUSTRY

Grid-Eye: Infrared Array Sensor
Thermal sensors for next generation of smart embedded applications

WHERE DO WE OFFER ALTERNATIVES:

- Low-cost surface mount device in very small package (11.6mm x 8mm x 4.3mm)

- Package with 64 Thermopile MEMS pixels in 8x8 matrix, ASIC & integrated lens

- Digital readout of temperature data over I2C interface for simple integration

- Portfolio with multiple choices of lenses: 36°, 60° and 90° to address different use cases

- People tracking and counting algorithms for privacy enabled detection

- New evaluation platforms with collocated Grid-eye and camera to design machine learning based detection models
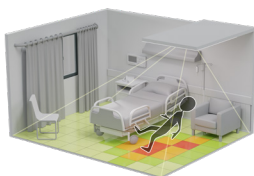
GRID-EYE'S VALUE PROPOSITION:

- Hot spot identification
- Moving and stationary detection
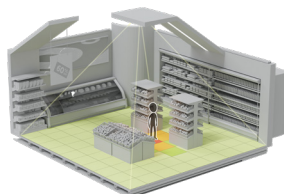- Tracking and counting objects/people
- Area temperature measurement

3 LENS TYPES TO TARGET DIFFERENT APPLICATIONS:

- **Narrow: 36°**

- **Standard: 60°**
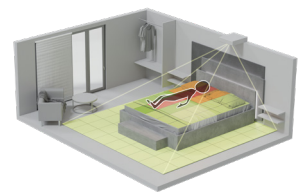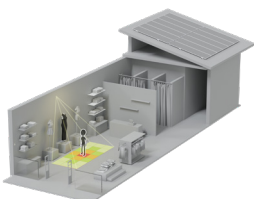
- **Wide: 90°** NEW!

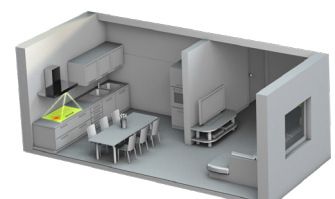## TARGET APPLICATIONS:

Hospital bed monitoring

Smart retail

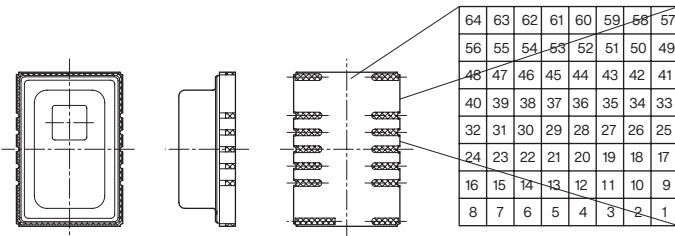Room occupancy

Personalized lighting

Hot-desking

Stove guards

Grid-Eye: Infrared Array Sensor

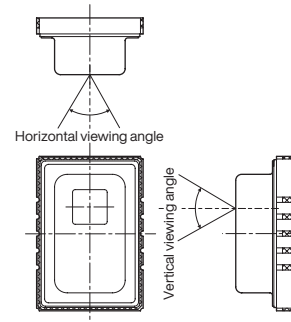## Thermal sensors for next generation of smart embedded applications

1. Pixel array
Pixel array from 1 to 64 is shown below.

64	63	62	61	60	59	58	57
56	55	54	53	52	51	50	49
48	47	46	45	44	43	42	41
40	39	38	37	36	35	34	33
32	31	30	29	28	27	26	25
24	23	22	21	20	19	18	17
16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

2. Viewing field
Sensor viewing field (typical) is shown below.
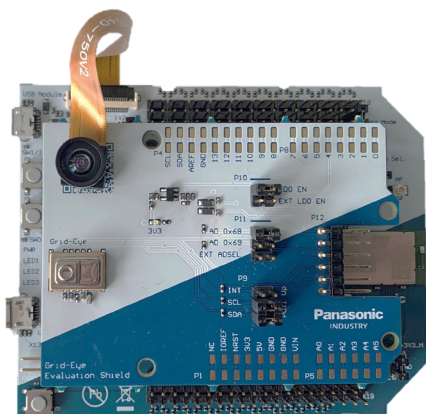

Horizontal viewing angle

Vertical viewing angle

ORDERING INFORMATION

Product Name	Type	Field of view	Amplification Factor	Operating Voltage	Part Number	Temperature of measured object
Grid-Eye	Narrow angle	35.6°	Low Gain	3.3V	AMG883642	-20 to 100℃
	Standard angle	60°	High Gain	3.3V	AMG8833	0 to 80℃
			Low Gain		AMG8834	-20 to 100℃
			High Gain	5V	AMG8853	0 to 80℃
			Low Gain		AMG8854	-20 to 100℃
	Wide angle[†]	90°	High Gain	3.3V	AMG883543	0 to 80℃
				5V	AMG885543	

[†]: Contact Panasonic for more details

EVALUATION PLATFORM

Grid-Eye Connectivity Kit

- Grid-Eye Shield in Arduino Form Factor
- Embedded Wi-Fi using PAN9520 Evaluation Board
- Possible to interface standard arduino camera (not provided by Panasonic)

Simple setup for designing machine learning models

- Camera – Grid-Eye Combination to create aggregated datasets
- Possible to recover dataset over Wi-Fi channel
- Auto-annotation for people tracking & counting applications

Product Name	Wi-Fi	Grid-Eye Type	Order Code
Grid-Eye Connectivity Kit (Arduino style)	PAN9520	35.6 °	ENW49D01AWKF
		60°	ENW49D01AXKF
		90°	ENW49D01AYKF

CONTACT

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