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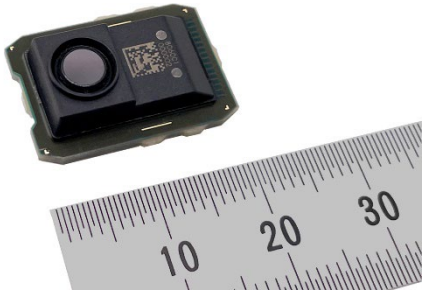
Mitsubishi Electric to Launch 80×60-pixel Thermal-diode Infrared Sensor with More Than Double the Field of View of Existing Sensors

Greatly expands range of monitoring people and objects, contributing to elderly care and more



MelDIR 80×60 pixel thermal-diode infrared sensor (MIR8060C1) with 100°×73° field of view

TOKYO, October 24, 2024 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today the upcoming launch of a new MelDIR-brand 80×60-pixel thermal-diode infrared sensor (MIR8060C1) with a 100°×73° field of view, more than double that of the company's existing thermal-diode infrared sensors,* to accurately and efficiently identify people and objects. The expanded field of view will reduce the number of sensors required to effectively monitor large areas, contributing to the safety, security and convenience of solutions for monitoring elderly care facilities and building air-conditioning systems, counting people, and measuring body temperatures. The launch is scheduled for January 6, 2025.

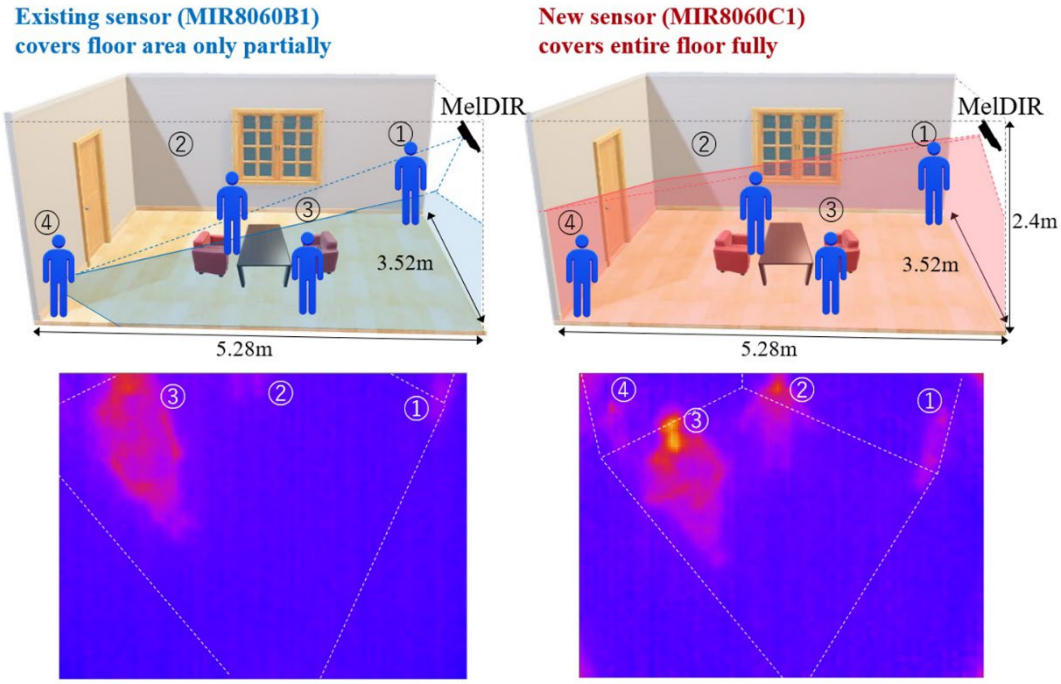
The new MelDIR thermal-diode infrared sensor suppresses incident-light components that blur thermal images and uses a newly designed lens for an expanded field of view. Wide-area monitoring is possible with a single unit, which reduces the cost of monitoring systems, while still providing high-precision 80×60-pixel detection for the accurate identification of people and objects, monitoring behavior, etc. As with existing MelDIR products, support tools are provided to help device manufacturers integrate the sensor into their products, contributing to faster product development.

* Including thermal-diode infrared sensor MelDIR MIR8060B1 (78°×53° field, 80×60 pixels).

Product Features

1) *More than double the detection range of existing products*

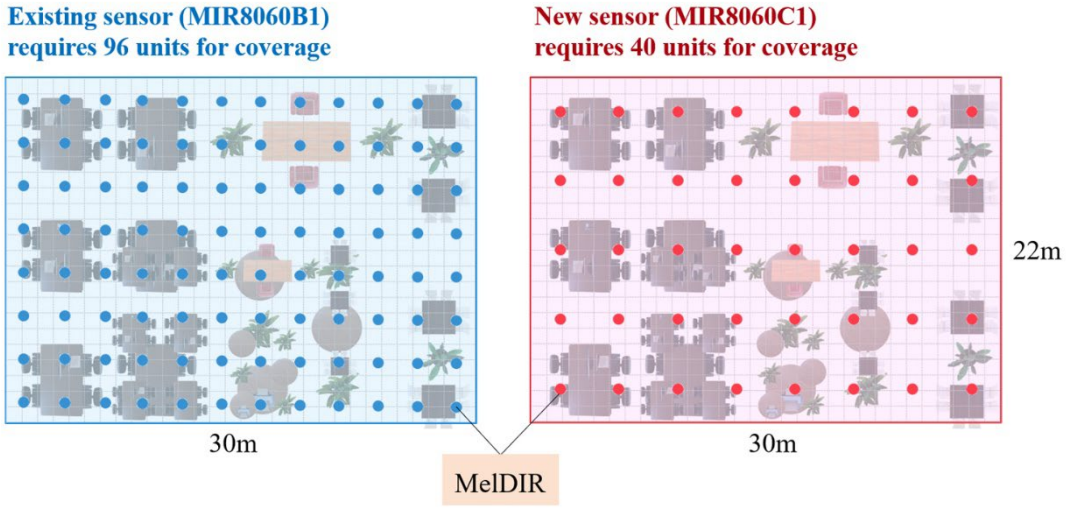
- Suppressing incident-light components that blur thermal images and using a newly designed lens enabled the field of view to be expanded to 100°×73°, more than double the 78°×53° range of existing products.
- As in existing products, proprietary thermal-diode technology realizes high-precision 80×60-pixel identification of people and objects, behavior monitoring, and temperature measurement.



New sensor achieves wider area coverage (top) and greater thermal sensitivity (bottom)

2) *Wide field of view saves costs by reducing number of units required for monitoring*

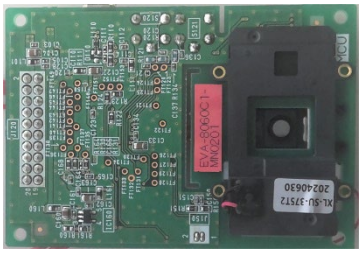
- The extra-wide field of view lowers the number of units required in systems compared to existing infrared sensors, helping to reduce system costs.



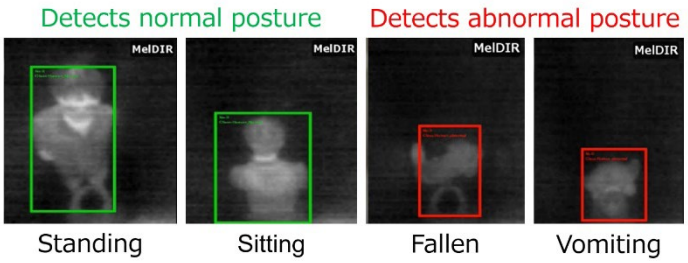
New sensor requires fewer ceiling-mounted units to cover room (660sqm office)

3) User support tools help to shorten product-development time

- The provision of a demo kit** for product evaluation and various information, such as reference designs*** for hardware and software development, shorten the product-development time when incorporating the sensor into devices.
- Mitsubishi Electric also provides AI model training tools for creating algorithms to detect humans and recognize postures for elderly monitoring, counting people and confirming personnel presence in smart-building.



Evaluation demo kit
(78mm×54mm×18mm)



Examples of restroom posture-detection algorithm

Main Specifications

Model	MIR8060C1
Detectable temp. range	-5 to +60°C
Pixels	80×60
FOV	100°×73° (Typ.)
Frame rate	4/8fps (selective)
Temp. resolution (NETD)	180mK (Typ.)
Current consumption	50mA or less
Interface	Serial peripheral interface (SPI)
Product dimensions	19.5×13.5×9.7mm
Launch date	January 6, 2025
Price	By quotation

Product Lineup

	New Product	Existing Products		
Model	**MIR8060C1**	MIR8060B3	MIR8060B1	MIR8032B1
Detectable temp. range	-5 to +60°C	-5 to +200°C	-5 to +60°C	
Pixels	80×60	80×60		80×32
FOV	100°×73° (Typ.)	78°×53° (Typ.)		78°×29° (Typ.)
Temp. resolution (NETD)	180mK (Typ.)	250mK (Typ.)	100mK (Typ.)	
Launch date	Jan. 6, 2025	May 1, 2023	July 1, 2021	Nov. 1, 2019
Price	By quotation	By quotation	By quotation	By quotation

** Kit for using PC to display and save thermal images captured with MelDIR sensor, integrating printed. circuit board with components such as MelDIR, microcontroller and shutter. Available from Jan. 6, 2025.

*** Information for developing products incorporating MelDIR sensor, including circuit diagrams, BOM lists, Gerber data, and other software and hardware details.

Devices and systems that use infrared and other sensors to monitor temperature, brightness, etc. are increasingly in demand in sectors such as elderly care and smart-building management. A MelDIR-brand infrared sensor launched by Mitsubishi Electric in 2019 for privacy-protected detection of human postures and movements in the dark is being used for purposes such as monitoring the elderly, counting people to assess congestion, and managing air-conditioning systems. More recently, demand has increased for infrared sensors that offer extended detection range for monitoring large areas. Going forward, Mitsubishi Electric will continue to develop its MelDIR infrared sensors in support of safer and more convenient services for elderly-care facilities, smart buildings and more.

Trademark

MelDIR is a registered trademark of Mitsubishi Electric Corporation.

Environmental Awareness

This product is compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive 2011/65/EU and (EU) 2015/863.

Website

Optical and high-frequency devices and infrared sensors:
https://www.MitsubishiElectric.com/semiconductors/infraredsensor/

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