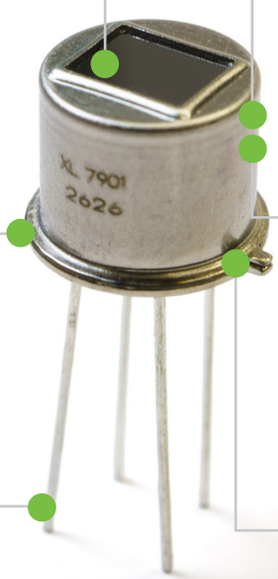
# IMPM - Detector PYT 1197L / 7901

Integrated Motion Presence Multi Detector

# Combined DigiPyro® and DigiPile® Detector with integrated Multi-Zone Lens




**Aperture**
4×5 mm with integrated multi-zone lens

**DigiPyro®**
Highly responsive Dual-element Pyro with digital interface

**DigiPile®**
Highly responsive 1-Pixel Thermopile with digital interface

**Housing**
TO-5 with 6.8 mm height

**Operating Voltage**
2.4 - 3.6 V

**Supply Current typ.**
13.5 µA (@ 3.3 V)

**Lead Length**
13.2 mm

## Motion and Presence Detection. One Compact Sensor.

The IMPM combines pyroelectric and thermopile technologies in one compact housing, integrating DigiPyro® and DigiPile® with a multi-zone lens. It can detect far-range (~10 m) motion, mid-range (~7 m) approaching, and short-range (~5 m) presence. The combination of two sensing technologies allows robust detection algorithms to reduce false detections. The integrated lens creates 8 distinct zones for movement detection and one central zone for presence detection. No external optics such as a Fresnel lens are required to allow smaller and more aesthetic housing options.

## Features

- Integrated digitization
- Best for advanced motion detection algorithms
- Advanced presence detection possible
- Good and stable performance over wide ambient temperature range
- Low power consumption
- TO-5 metal Housing for high EMI immunity
- Fully RoHS compliant

## Applications

- Wall or corner mounting
- Energy savings
- Smart office
- Smart home
- Occupancy surveillance
- Intrusion alarms
- IoT

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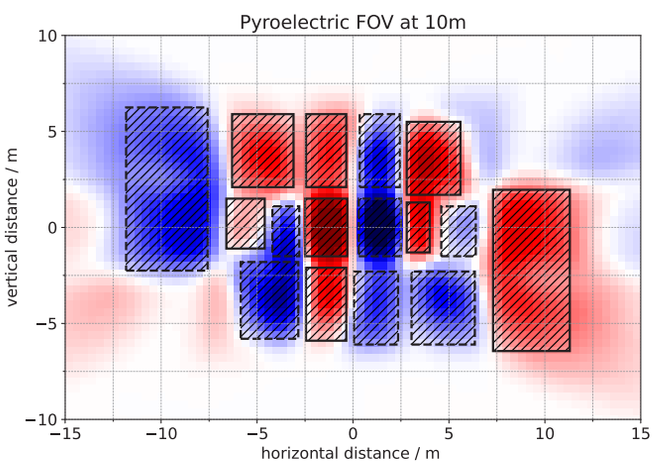
Integrated Motion Presence Multi Detector

## Lens Characteristics

The integrated lens with its multiple sub-lenses is splitting the Field-Of-View (FOV) to create a pattern of different zones of sensitivity. The FOV of both sensing technologies is designed to support broad movement detection while focusing the FOV for approaching and presence detection.

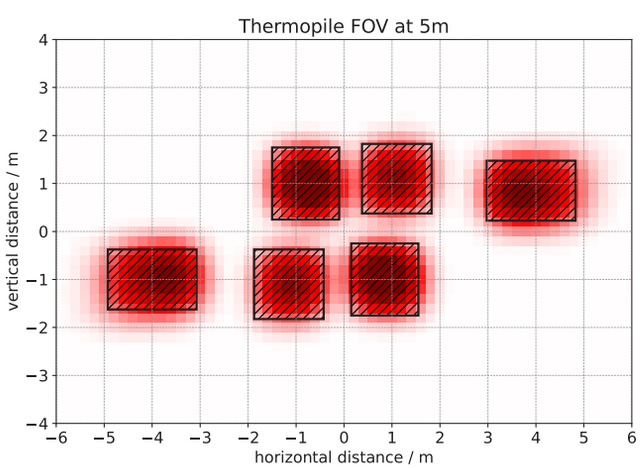
### The sensitive zones of the DigiPyro®

The sensitive zones for the DigiPyro® at the distance of 10m can be seen in the plot on the right. This is roughly the maximum movement detection range.
The zones span 22 m in horizontal-direction (X), which correlates to a FOV of 120° and 11 m in vertical-direction (Y), which correlates to a FOV of 60°. There are multiple zones in both X and Y-direction with its contours marked for better understanding.
Pyroelectric detectors require movement between zones to generate signals. The zones are designed to detect movement from all directions. It is best suited for wall or corner applications due to different FOV in X and Y direction.




### The sensitive zones of the DigiPile®

The sensitive zones for the DigiPile® at the distance of 5m can be seen in the plot on the right. This is roughly the maximum presence detection range. The central sensitive zone spans 3.5m in both directions which correlates to a FOV of 40°. This central zone can be mainly used for Approaching and Presence detection.
Thermopile detectors do not require movements between zones to generate a measurable signal.
This allows presence detection without the necessity of micro movements.




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