zilog
Embedded in Life
An IXYS Company

ZMOTION™ 8-Pin Occupancy Detection Solution with Lens and Pyroelectric Sensor Selection Options

If you don't have your own lenses and pyros, you can optimize the performance of your product by choosing a lens and pyro to match your application. Zilog combines the ZMOTION MCU in an 8-pin package and integrated motion detection algorithms with a selection of lenses and PIR sensors to fit a wide range of applications. However, if your application requires more analog input and/or additional sensing options than an 8-pin package will provide, Zilog also offers a 20-pin option (part number: ZMOT0BHH).

Zilog's family of lenses spans 360-degree ceiling, 180-degree wall mount, 15-meter long range and 5-meter short range. API settings are provided to match the PIR engine operation to each of our lens and PIR sensor combinations.

ZMOTION™

PIR motion-detection technology provides a dramatic improvement in both sensitivity and stability over traditional designs and is scalable to many market segments including Lighting Control, HVAC, Access Control, Vending, Display, Proximity, Power Management, Occupancy Sensing, and many others.

The ZMOTION 8-Pin MCU is programmed with application software that offers hardware and serial modes of operation. It is designed to be modified for your own custom application while taking full advantage of ZMOTION technology.

Product Features and Benefits

- Wall, ceiling, high ceiling, corner wall and long range mounting options with Fresnel and Nicera lenses
- Circular and rectangular floor pattern options
- Basic dual, premium dual and quad element pyroelectric sensor options
- Lens selection options target lighting control, HVAC, meeting rooms, appliances, vending power management and kiosk/ display control applications
- Optimize the performance of your product by choosing a lens that closely matches your application
- Includes preprogrammed ZMOTION detection algorithms
- API settings are provided to match the ZMOTION Engine operation to each of the lens and PIR sensor combinations provided

Reference Designs, Application Notes and Source Code

Reference Designs

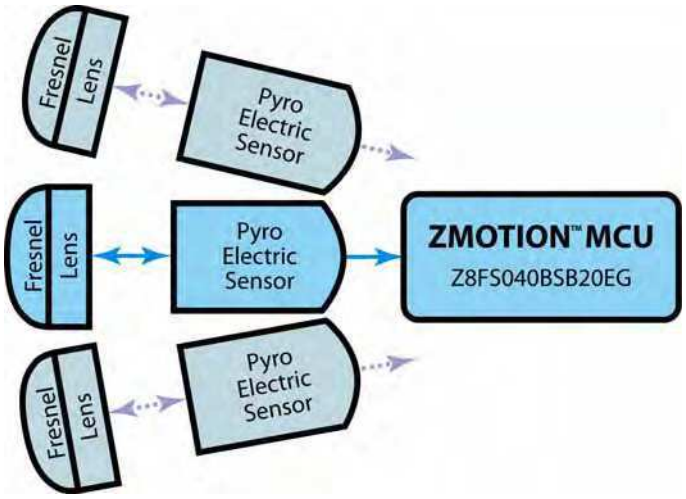
Motion Sensing & LED Control with a ZMOTION/ IXYS Display (RD0003, RD0003-SC01, RD0003-SC02, RD0003-SC03)

Application Notes

ZMOTION Detection Module Application Walkthrough (AN0307, AN0307-SC01)

High Brightness LED Reference Design (AN0309, AN0309-SC01)

ZMOTION Occupancy Detection Block Diagram



Part Numbers

Z8FS040BSB20EG	ZMOTION 8-Pin MCU
ZMOTIONL100ZCOG	ZMOTION Detection and Control Development Kit
ZMOT0BSB0A0AG	Animal Alley Array (88°) Lens, RE200B-P PIR Sensor
ZMOT0BSB0A0BG	Ceiling Mount Array (360°) Lens, SDA02-54-P PIR Sensor
ZMOT0BSB0B0AG	Ceiling Mount Array (360°) Lens, RE200B-P PIR Sensor
ZMOT0BSB0B0CG	Ceiling Mount Array (360°) Lens, SBDI46-504AA PIR Sensor
ZMOT0BSB0C0AG	Ceiling Mount Array (360°) Lens, RE200B-P PIR Sensor
ZMOT0BSB0C0CG	Ceiling Mount Array (360°) Lens, SBDI46-504AA PIR Sensor
ZMOT0BSB0D0AG	Ceiling/Wall Mount Array (180°) Lens, RE200B-P PIR Sensor
ZMOT0BSB0D0CG	Ceiling/Wall Mount Array (180°) Lens, SBDI46-504AA PIR Sensor
ZMOT0BSB1A0AG	Clip-on 15mm Array (360°) Lens, RE200B-P PIR Sensor
ZMOT0BSB1A0CG	Clip-on 15mm Array (360°) Lens, SBDI46-504AA PIR Sensor
ZMOT0BSB1B0AG	Clip-on 10mm wall mount array (80° x 30°) Lens, RE200B-P PIR Sensor
ZMOT0BSB1C0AG	Clip-on 10mm wall mount array (60° x 60°) Lens, RE200B-P PIR Sensor
ZMOT0BSB1D0AG	10mm ceiling/wall mount array (360°) Lens, RE200B-P PIR Sensor
ZMOT0BSB1D0CG	10mm ceiling/wall mount array (360°) Lens, SBDI46-504AA PIR Sensor
ZMOT0BSB1E0AG	10mm wall mount array (18°) Lens, RE200B-P PIR Sensor

Resources & Documentation

Order Samples
Product Information
Development Kit
ZDSII Development Tools
Schematic Diagrams
Product Brief (PB0225)
Product Specification (PS0285)
User Manual (UM0230)
White Paper (WP0018)
Technical Support
Zilog Forum

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A selection of matched lens and pyroelectric sensors available to meet a variety of applications. Optimized configuration parameters for the ZMOTION 8-Pin MCU are provided for each lens/sensor combination ensuring the best possible performance while significantly reducing development risk and minimizing time to market.

Wall, ceiling, high ceiling, corner wall and long range mounting options. Optimize the performance of your product by choosing a lens that closely matches your application. Use your own or select from our family of lenses spanning 360-degree ceiling, 180-degree wall mount, 15-meter long range, and 5-meter short range.

Includes preprogrammed ZMOTION detection algorithms. Zilog's ZMOTION 8-Pin MCU combines the programmability and rich peripheral set of the Flash-based Z8FS040B MCU with built-in software-based motion detection algorithms. These motion detection algorithms comprise the PIR engine and run in the background of the MCU while control and status of the engine is accessed through a software API.

API settings. Optimized API settings are provided for each lens and pyroelectric sensor combination.

Standard and Extended Range Support. An API register setting allows the user to set the sensitivity of the extended detector to detect slower, faster, or more subtle motion.

SLEEP mode for lower-power applications. User-controlled modes. The API register settings allow the user to implement and adjust sensitivity control, range control, directionality detection, hypersense, and low-power modes..

High MTBF. The module is implemented with a small number of components and algorithms that have been tested in numerous applications to ensure highest possible quality and reliability.

Reduced Bill of Materials. Because the pyroelectric sensor is directly interfaced to the MCU, external op amps, electrolytic capacitors and other components are eliminated. The enhanced PIR motion detection engine also eliminates the need for a discrete temperature compensation circuit.

Complete ZDS II development system available. The development kit includes a ZMOTION Development Board, mini-USB serial cable, a selection of lenses and pyroelectric sensors, lens holders, power supply, and a ZDSII USB Smart Cable to allow development and debugging of custom application software.

Insert local contact information here

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