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ZMOTION™ 20-Pin Detection and Control Development Kit

Quick Start Guide

QS008501-0312

Introduction

This Quick Start Guide acquaints users with Zilog's ZMOTION 20-Pin Detection and Control Development Kit and provides instructions for setting up and using the kit to demonstrate its basic operation[1]. The following topics are covered:

Kit Contents

- ZMOTION 20-Pin Detection and Control Development Board
- USB Smart Cable Debugger
- 0.9" focal flat lens holder
- 0.77" focal circular lens holder
- Selection of lenses (see Table 1 on page 3)
- Selection of pyroelectric sensors (RE200B-P is preinstalled on the Board)
- Mini-USB serial cable
- Wall mount power supply
- CD with sample applications and product documentation
- CD with ZDSII
- Various mounting hardware

[1] For a more in-depth approach to assembling and configuring your ZMOTION 20-Pin Detection and Control Development Kit, Zilog recommends the ZMOTION 20-Pin Detection and Control Development Kit User Manual (UM0239).

Figure 1 shows the components of the kit, plus the sensors and lenses it contains.

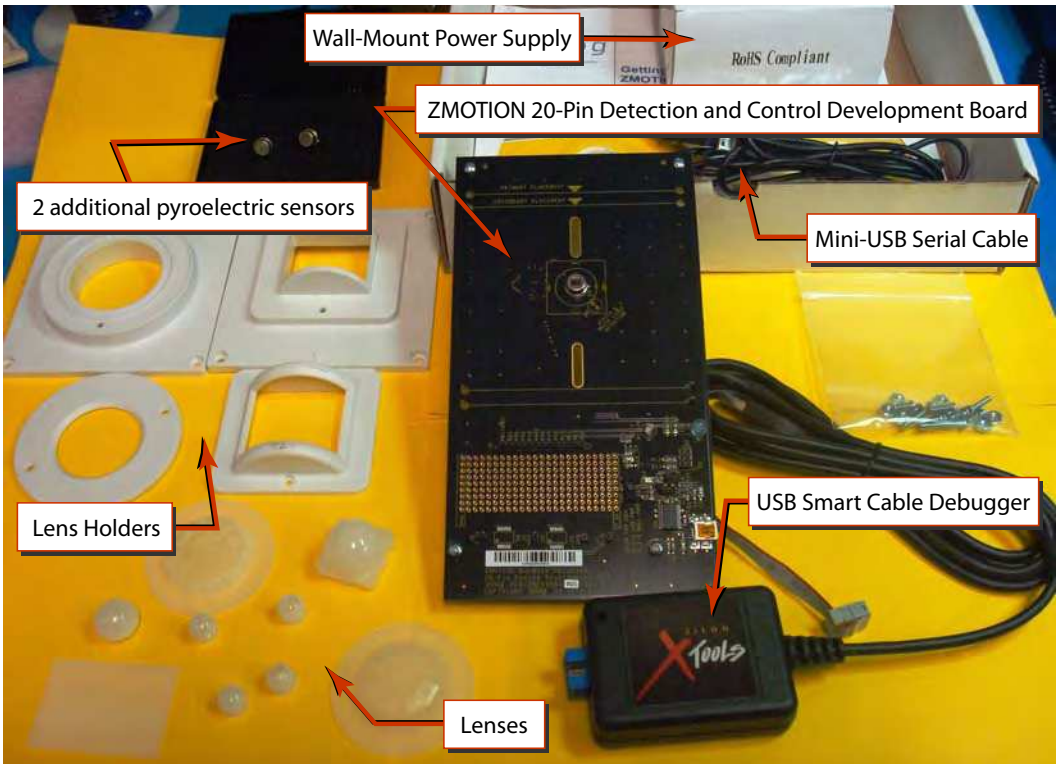

Figure 1. ZMOTION 20-Pin Detection and Control Development Kit Components

Getting Started

The kit contains a number of lens options. To provide a quick method of getting the kit up and running, the ZMOTION MCU is initially programmed with a `ZMOTION_Serial_Config` project using the CWM 0.5GI V1 lens. By installing the lens and then applying power, the basic operation of the kit can be observed.

To get started with the kit, observe the following brief procedure.

1. Install the CWM 0.5 GI V1 lens, as described on page 4.
2. Ensure that jumper J5 is in the WALL position (i.e., positions 2–3 are closed) and that the Power Switch (SW1) is in the OFF position.

3. Install the AC plug adapter appropriate for your region into the wall-mount USB power supply.
4. Plug the wall-mount power supply into a suitable AC outlet.
5. Insert the power supply output connector into Mini-USB Plug P1 on the ZMOTION 20-Pin Detection and Control Development Board.
6. Apply power to the Board by sliding Power Switch SW1 to the PWR ON position.
7. The blue 3.3 V power LED (LED1) will illuminate and the red motion LED (LED3) will initially illuminate and remain on until the pyroelectric sensor stabilizes – a period of approximately 5 to 30 seconds.
8. After the PIR sensor has stabilized, the red motion LED turns OFF and will turn ON only when motion is detected.
9. Wave your hand over the lens and observe the red motion LED turning ON for approximately 0.5 seconds.
10. For more information about ZMOTION lens configurations, downloading the ZDS II application code and additional details, please refer to the ZMOTION 20-Pin Detection and Control Development Kit User Manual (UM0239).

Lens Mounting Options

The ZMOTION 20-Pin Detection and Control Development Board supports four lens mounting options, as indicated in Table 1. For detailed drawings and information about the lenses, please refer to the ZMOTION Lens and Pyroelectric Sensor Product Specification (PS0286).

Table 1. Lens Mounting Options

Lens Mounting	Lens Supported
PIR Sensor Clip On	NCL-9(26)
	NCL-3B
	NCL3R
	NCL-10S
	NCL-10IL
Circuit Board Clip In	CWM 0.5 GI V1
Circular Lens Holder 0.77 Focal	CM 0.77 GI V3
	CM 0.77 GI V5
Flat Lens Holder 0.9 Focal	AA 0.9 GI T1

Note: When mounting the ZMOTION 20-Pin Detection and Control Development Board vertically or from the ceiling, special consideration should be taken regarding the height and levelness of the board. Be sure to follow the lens manufacturer's recommended height requirements to ensure optimal performance.

Attaching the Circuit Board Lens

This *clip-in* lens style clips directly into the circuit board over the top of the PIR sensor. There are 4 mounting clips on the lens that are aligned with the slots in the circuit board. Note the locating tab on the side of the lens is to be aligned with the silkscreened tab, as indicated in Figure 2.

Figure 2. Assembled Clip-In Lens Installed on the ZMOTION 20-Pin Detection and Control Development Board

References

Refer to the documentation in Table 2 for additional information about Zilog's ZMOTION products.

Table 2. ZMOTION Documentation

Document Number	Description
ZMOTION 20-Pin Detection and Control Documentation	
PB0225	ZMOTION Detection and Control Product Brief
PS0285	ZMOTION Detection and Control Product Specification
QS0085	This ZMOTION 20-Pin Detection and Control Development Kit Quick Start Guide
UM0239	ZMOTION 20-Pin Detection and Control Development Kit User Manual
Additional ZMOTION Documentation	
PS0286	ZMOTION Lens and Pyroelectric Sensor Product Specification
PB0223	ZMOTION Detection Module Product Brief
PS0284	ZMOTION Detection Module Product Specification
PB0230	ZMOTION Intrusion Detection Product Brief
PS0288	ZMOTION Intrusion Detection Product Specification
RD0001	ZMOTION Intrusion Detection Reference Design
RD0001-SC01	Source code for the ZMOTION Intrusion Detection Reference Design
WP0017	ZMOTION: A New PIR Motion Detection Architecture White Paper
QS0076	ZMOTION Detection and Control Development Kit Quick Start Guide
UM0230	ZMOTION Detection and Control Development Kit User Manual
WP0018	ZMOTION Detection Lens and Pyro Sensor Configuration Guide
AN0301	Power Management and Customer Sensing with Zilog's ZMOTION Detection Module
AN0307	ZMOTION Detection Module Application Walkthrough
AN0319	Controlling Power with the ZMOTION Detection Module and Clare Solid State Relays

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