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## Introduction

This Quick Start Guide acquaints users with Zilog's ZMOTION 20-Pin Detection and Control Development Kit Revision B or later, and provides instructions for setting up and using the kit to demonstrate its basic operation<sup>1</sup>. The following topics are covered:

- [Getting Started](#): the quickest way to get the board up and running; see page 2
- [Lens Mounting Options](#) – see page 4
- [Attaching the Circuit Board Lens](#) – see page 4

## Kit Contents

- ZMOTION 20-Pin Detection and Control Development Board
- USB SmartCable Debugger
- 0.9" focal flat lens holder
- 0.77" focal circular lens holder
- Selection of lenses (see [Table 1](#) on page 4)
- Selection of pyroelectric sensors (RE200B-P is preinstalled on the Board)
- Mini-USB serial cable
- Wall-mount power supply
- Various mounting hardware

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<sup>1</sup>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.

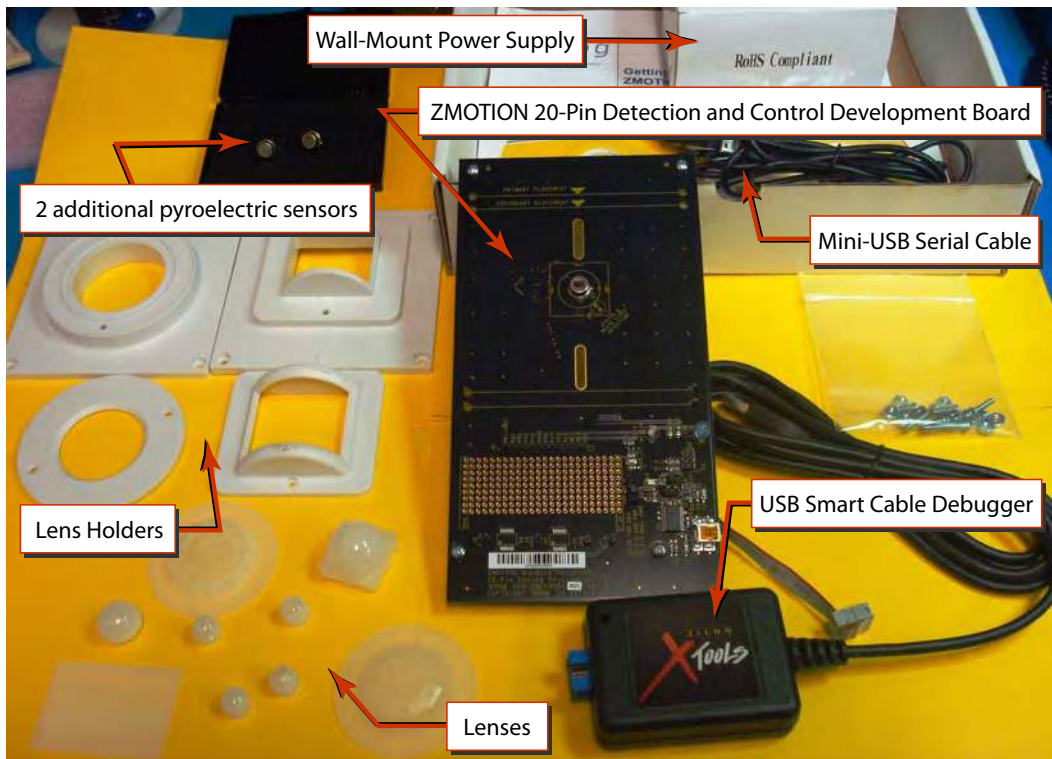


Figure 1. ZMOTION 20-Pin Detection and Control Development Kit Components

## 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 3.3V 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 ZDSII application code and additional details, please refer to the [ZMOTION 20-Pin Detection and Control Development Kit User Manual \(UM0239\)](#).
11. ZMOTION software and documentation are available as a downloadable file from the Zilog Store. Observe the following steps to install this software.
  - a. In a web browser, visit [zilog.com/store](http://zilog.com/store). At the top left, under Categories, click **Downloadable Software** to present a list of the available software in the Zilog Store. In this list, click **ZMOTIONL200ZCOG Software and Documentation**; the Product ID for this software is SD00026. On the Product Details page, click the **Add to Cart** button and complete the Checkout process to download the ZMOTION Software and Documentation files to your hard drive. (If you are a first-time visitor to the Zilog Store, you will be required to register before downloading this software).
  - b. When the download is complete, unzip the file to your hard drive, double-click to launch the ZMOTIONL200ZCOG\_<version>.exe installation file, and follow the on-screen instructions.
  - c. When the installation is complete, the user manual can be viewed in the following path:


C:\Program Files\Zilog\ZMOTIONL200ZCOG\_<version>\ZMOTION  
Lighting Documentation

## 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**

<b>Lens Mounting</b>	<b>Lens Supported</b>
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

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**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**

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

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To learn more about this product, find additional documentation, or to discover other facts about Zilog product offerings, please visit the Zilog Knowledge Base at <http://zilog.com/kb> or consider participating in the Zilog Forum at <http://zilog.com/forum>.

This publication is subject to replacement by a later edition. To determine whether a later edition exists, please visit the Zilog website at <http://www.zilog.com>.



**Warning:** DO NOT USE THIS PRODUCT IN LIFE SUPPORT SYSTEMS.

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