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## Introduction

This Quick Start Guide acquaints users with Zilog's ZMOTION Intrusion Detection Development Kit (part number ZMOTIONS200ZCOG) and provides instructions for setting up and using the Kit to demonstrate its basic operation. The following topics are covered:

- [Getting Started](#): the quickest way to get the board up and running; see page 3
- [Installing the Lens](#): see page 5

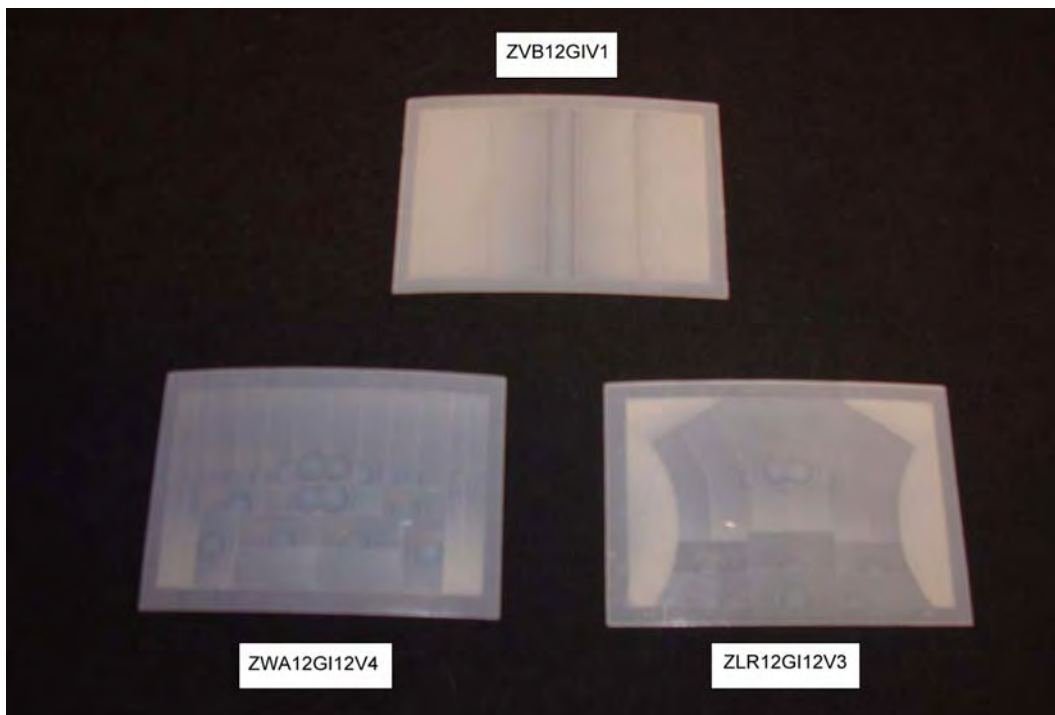
## Kit Contents

- ZMOTION Intrusion Detection Development Board
- USB SmartCable Debugger
- 1.2" focal flat lens holder
- Three 1.2" focal flat lenses
  - ZWA12GI12V4
  - ZLR12GI12V3
  - ZVB12GIV1
- Mini-USB serial cable
- Wall mount power supply
- Mounting hardware

Figure 1 shows the components of the Intrusion Detection Development Kit and Figure 2 displays the three lenses.



**Figure 1. ZMOTION Intrusion Detection Development Kit Components**



**Figure 2. The Three Lenses contained in this Development Kit**

## Getting Started

The ZMOTION Intrusion Detection Development Kit contains several lens options. To provide a quick method of getting the Kit up and running, the ZMOTION MCU is initially programmed with a `ZMOTION_Intrusion_Demo` project using the RE200B-P pyroelectric sensor and the ZWA12GI12V4 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 ZWA12GI12V4 lens as described [on page 5](#).
2. Insert the power supply output connector into the Mini-USB Plug P1 on the ZMOTION Development Board and insert the other end into the wall outlet. Move SW1 on the board up to the ON position.

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► **Note:** Use the power supply provided with the Kit.

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3. The Blue power LED will illuminate and the Red LED will flash 1 second on and one second off until the pyroelectric sensor stabilizes – a period of approximately 10 to 60 seconds. After the pyroelectric sensor has stabilized, the Red LED turns OFF and turns ON again only when motion is detected.
4. To test this procedure, wave your hand over the lens and notice the LED turning ON for approximately 1 second.

To learn more about the operation of the Kit, including how to use the additional features of the preloaded sample project and how to download and modify other ZMOTION projects, refer to the [ZMOTION Intrusion Detection Kit User Manual \(UM0233\)](#), available from [the Zilog website](#).

## Downloading ZMOTION Software and Documentation

ZMOTION software and documentation are available as a downloadable file from the Zilog Store. Observe the following steps to install this software.

1. 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 **ZMOTIONS200ZCOG Software and Documentation**; the Product ID for this software is SD00030. 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).
2. When the download is complete, unzip the file to your hard drive, double-click to launch the ZMOTIONS200ZCOG\_<version>.exe installation file, and follow the on-screen instructions.
3. When the installation is complete, the user manual can be viewed in the following path when using the default installation directory:  
C:\Program Files (x86)\ZiLOG\ZMOTIONS200ZCOG\_<version>\ZMOTION Product Documentation

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## Installing the Lens

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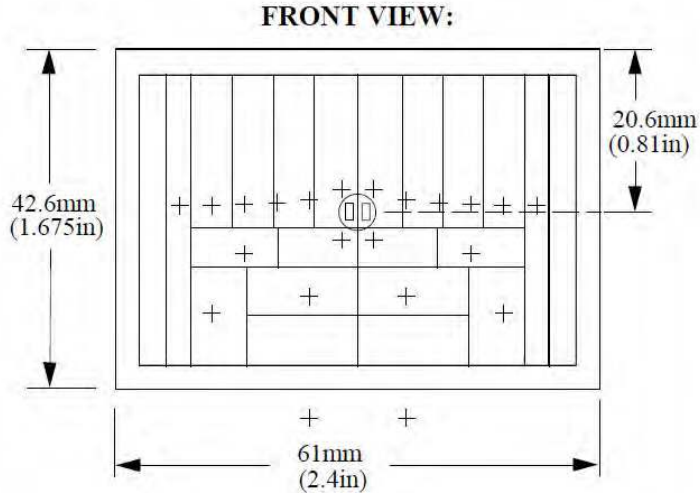
- **Note:** When mounting the ZMOTION Development Board vertically, special consideration should be taken regarding the height, angle and level plane of the board. Be sure to follow the lens manufacturer's recommended height and mounting angle requirements to ensure optimal performance.
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### Flat Lens Holder

The flat lens holder, shown in Figure 3, is a two-piece assembly that provides a 1.2" focal length mounting. Figure 4 shows the detail of the ZWA12GI12V4 lens, with its correct orientation.



**Figure 3. Flat 1.2" Lens Cap (Top) and Lens Base (Bottom)**



**Figure 4. Flat Lens: ZWA12GI12V4**

To assemble this flat lens and holder, observe the following brief procedure.

1. Place the lens into the inside of the cap, ensuring that the grooves of the lens are facing inward.
2. Place the cap over the base, ensuring that the top of the lens is toward the arrow on the base. Use the provided  $\frac{3}{4}$ " machine screws (2) with a nut to secure the cap in place, as shown in Figure 5.



**Figure 5. Assembled Flat 1.2" Lens Holder and Flat Lens**

3. Place the lens and lens holder assembly onto the ZMOTION Development Board with the arrow on the lens holder pointing up, as shown in Figure 5; use the *Primary Placement* position labeled on the circuit board for the ZWA12GI12V4 lens. The four screw holes in the circuit board should line up with the four upper mounting holes in the lens holder.
4. Fasten each of the four (4) provided  $\frac{3}{8}$ " machine screws with a nut to secure the lens holder in place. Figure 6 shows an example of the top of the lens holder installed on the ZMOTION Development Board.



**Figure 6. Top of Lens Holder on the ZMOTION Development Board**

## **Installing ZDSII and the USB SmartCable**

To learn more about installing ZDSII and the USB SmartCable, installing the FTDI driver for the serial cable, downloading and running the sample project, and making changes to the sample project, refer to the [ZMOTION Intrusion Detection User Manual \(UM0233\)](#), available on [zillog.com](http://zillog.com).



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## References

Refer to the documentation in Table 1 for additional information about Zilog’s ZMOTION products.

**Table 1. ZMOTION Documentation**

<b>Document Number</b>	<b>Description</b>
<a href="#"><u>PS0288</u></a>	ZMOTION Intrusion Detection Product Specification
<a href="#"><u>PB0230</u></a>	ZMOTION Intrusion Detection Product Brief
<a href="#"><u>UM0233</u></a>	ZMOTION Intrusion Detection Development Kit User Manual
<a href="#"><u>WP0018</u></a>	ZMOTION Lens and Pyro Configuration Guide
<a href="#"><u>PS0228</u></a>	Z8 Encore! XP F082A Series Product Specification
<a href="#"><u>PS0286</u></a>	ZMOTION Lens Product Specification
<a href="#"><u>PS0336</u></a>	ZMOTION Pyroelectric Sensor Product Specification
<a href="#"><u>RD0001</u></a>	ZMOTION Intrusion Reference Design
<a href="#"><u>WP0017</u></a>	ZMOTION – A New PIR Motion Detection Architecture



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