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# USB to I<sup>2</sup>C Interface Adapter Kit

## Model ZM00056-KIT

**User Manual** 



REV. 1.2 JUN 11, 2007





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#### Introduction

The USB to I<sup>2</sup>C interface adapter kit includes a USB to I<sup>2</sup>C interface adapter part number ZM00056 and a 4-foot I<sup>2</sup>C cable. The adapter is intended for communication between a PC equipped with a USB port and the I<sup>2</sup>C interface on a ZM7100 or ZM7300 series Digital Power Manager.

#### 1. Reference Documents

The I<sup>2</sup>C-Bus Specification, Version 2.1, Philips Semiconductors ZM7100 Digital Power Manager. Data Sheet ZM7300 Digital Power Manager. Data Sheet Z-Alliance Graphical User Interface Version 6.0.0 or later

#### 2. Description

The adapter is shown in Figure 1. The dimensions of the adapter are approximately 3" by 1" by 0.75".

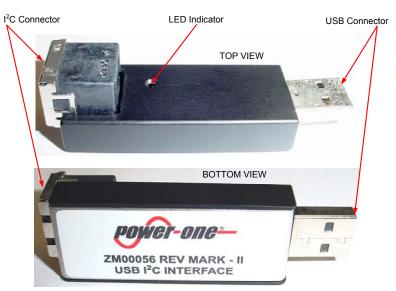


Figure 1. USB to I<sup>2</sup>C Interface Adapter Model ZM00056

The I<sup>2</sup>C connector is a Tyco Electronics connector part number 4-943197-1. The pinout of the connector is shown in Figure 2.

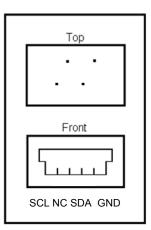


Figure 2. Pinout Of I<sup>2</sup>C Connector







The 4-foot I<sup>2</sup>C cable shown in Figure 3 is used to connect the adapter to a board with ZM7100 or ZM7300 series Digital Power Managers. For proper interface, the board needs to have the Tyco connector mentioned above or equivalent.

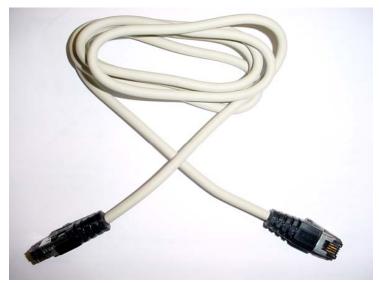


Figure 3. I<sup>2</sup>C Cable

#### 3. Setup

#### 3.1 GUI Installation

- 1. Launch the GUI Installer
- 2. Follow directions on the screen. When the warning message shown in Figure 4 appears, click **Continue Anyway** and complete the installation



Figure 4. Software Installation Warning Message

**Note:** Drivers for the USB to I<sup>2</sup>C interface adapter are downloaded during installation of the GUI.







#### 3.2 Connecting the Adapter

1. Plug the adapter into a USB port on the host PC as shown in Figure 5.



Figure 5. Adapter Plugged Into USB Port

2. If the adapter is plugged in for the first time, the Windows will start the **Found New Hardware Wizard**. Allow Windows searching for the software and click **Next** in the **Welcome to the Found New Hardware Wizard** window shown in Figure 6



Figure 6. Welcome to the Found New Hardware Wizard Window







- 3. In the next window, select Install the software automatically and click Next
- 4. When the warning message shown in Figure 7 appears, click **Continue Anyway** and complete the installation



Figure 7. Hardware Installation Warning Message

#### 4. Operation

- 1. When the adapter is plugged in the USB port, the red LED on the top of the adapter will start flashing every 3s, indicating that the adapter is properly powered and in the idle mode.
- 2. Connect the adapter to the target board using the enclosed I<sup>2</sup>C cable.
- 3. Double-Click the maXyz icon **I** to launch the GUI
- 4. Click **Operate System** in the Introduction Window. The **IBS Monitoring** window shown in Figure 9 will appear
- 5. Click Connect in the IBS Monitoring window. The USB interface window shown in Figure 8 will appear

I2C Communication - USB interface	
I2C Addresses         I2C clock rate: <ul> <li>100 kHz</li> <li>Max</li> <li>DPM Address:</li> <li>Dx5e</li> <li>Note: The clock rate should be set to 100kHz when communicating with a 7100 series DPM.</li> </ul> <li>Note: The clock rate should be set to 100kHz when communicating with a 7100 series DPM.</li>	Connect
	Help

Figure 8. USB Interface Window

- 6. Select the DPM address according to the settings on the target board and an appropriate I<sup>2</sup>C transmission speed.
- Click Connect. The IBS Monitoring window will start displaying status and parametric information as shown in Figure 10. The LED will be ON during periods when data is transmitted over the I<sup>2</sup>C interface.







**Troubleshooting Tip:** If the USB connection is not established, the Serial Interface window will appear. Close the window, unplug and plug back the USB cable, and repeat steps 5 to 7.

USB-I<sup>2</sup>C Interface Adapter Kit

**User Manual** 

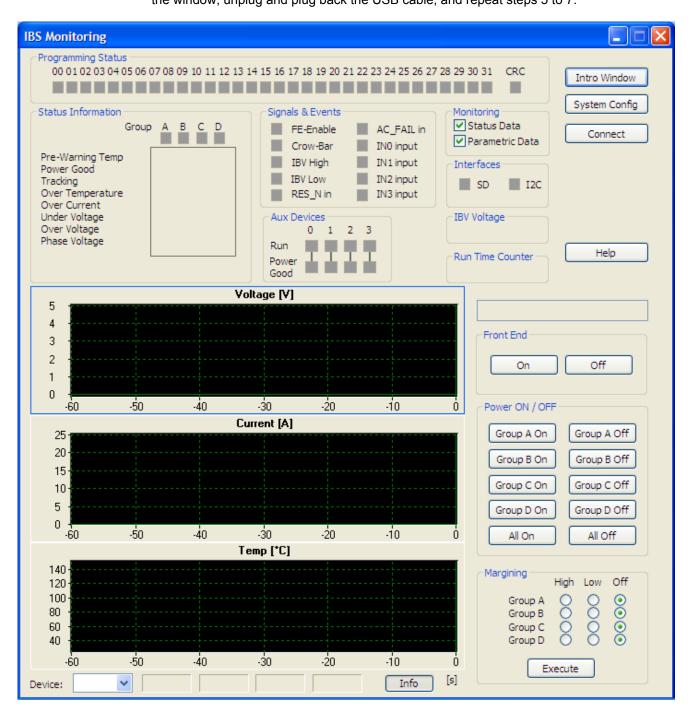


Figure 9. IBS Monitoring Window, Communication Is Not Established







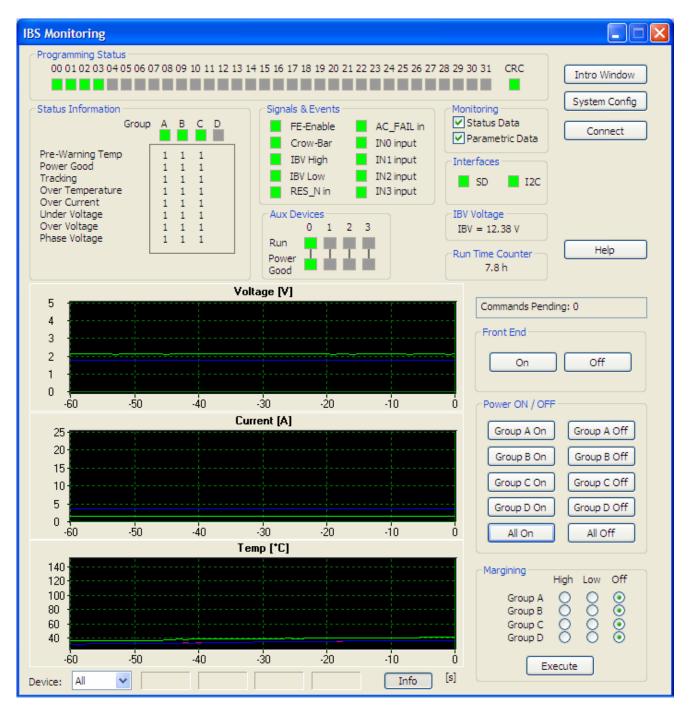


Figure 10. IBS Monitoring Window, Communication Is Established

