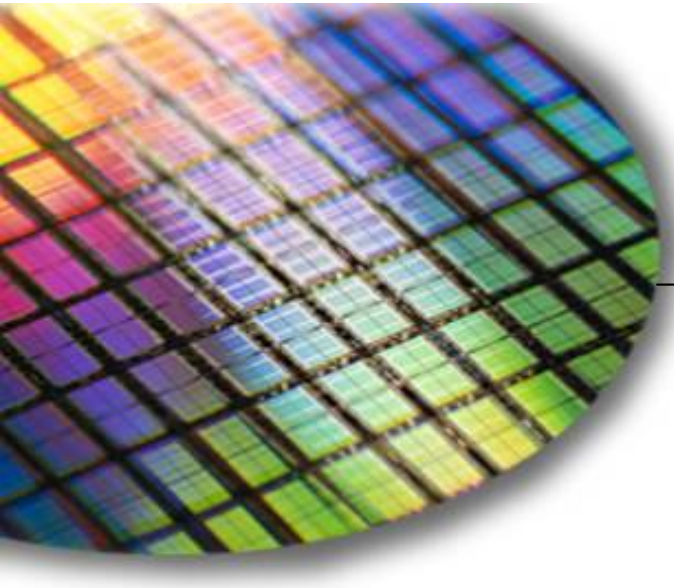

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ADIS16240 Evaluation Tool Overview

Mark Looney
***i*Sensor® Application Engineer**
September 7, 2009

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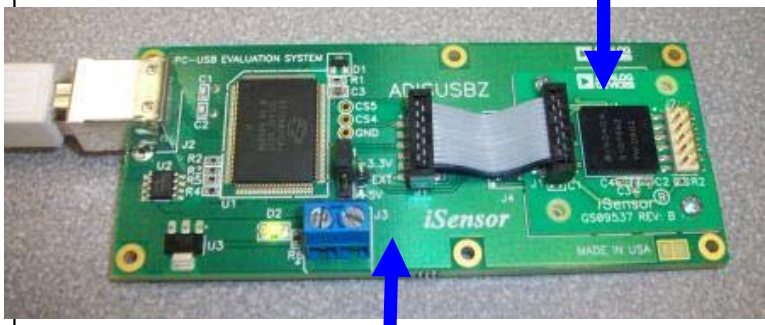
Evaluation Tool Overview

1. **Evaluation/Interface Board (ADIS16240/PCBZ) for simpler connection to an existing processor/system PCB.**
   - These boards provide a simple connector translation that enables user to bypass BGA soldering. The 2mm pitch connectors are easy to interface with 1mm ribbon cable or solder to.
   - Part number for ordering: **ADIS16240/PCBZ**
2. **Evaluation System (ADISUSBZ) for those that prefer a simple PC interface**
   - This system provides a simple USB interface, along with a simple Graphical User Interface (GUI) package, for evaluating most of the ADIS16240 functions and performance.
   - Supports approximately 150-200SPS sample rate.
   - This system is not a development kit that comes with PC development tools, source code and software support.
   - Part number for ordering: **ADISUSBZ**

ADIS16240/PCBZ



ADISUSBZ

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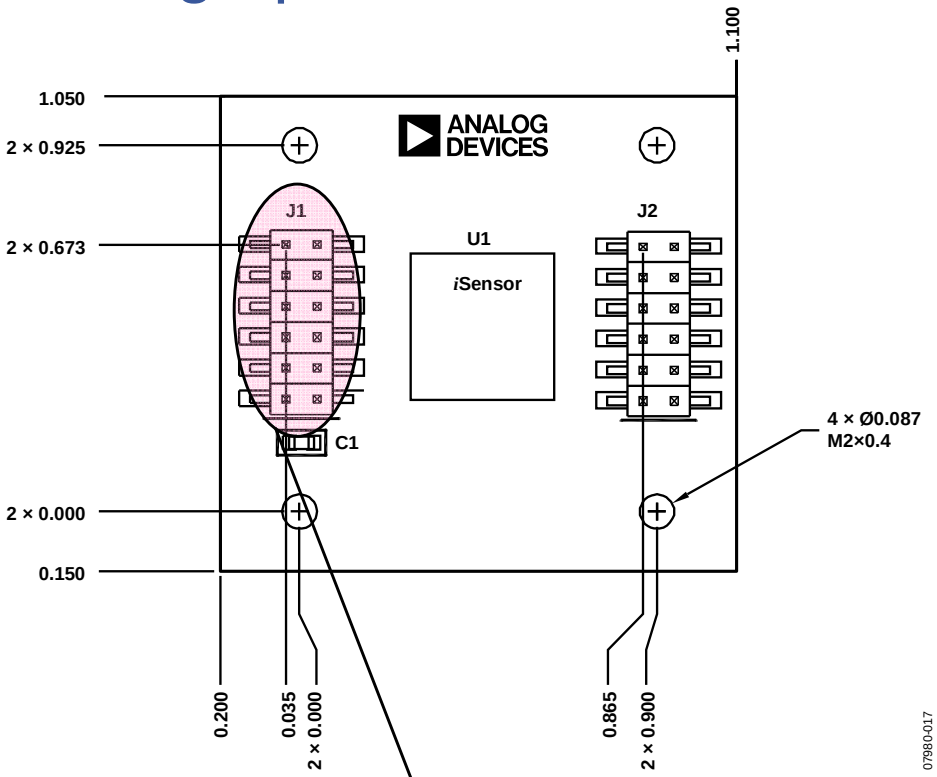
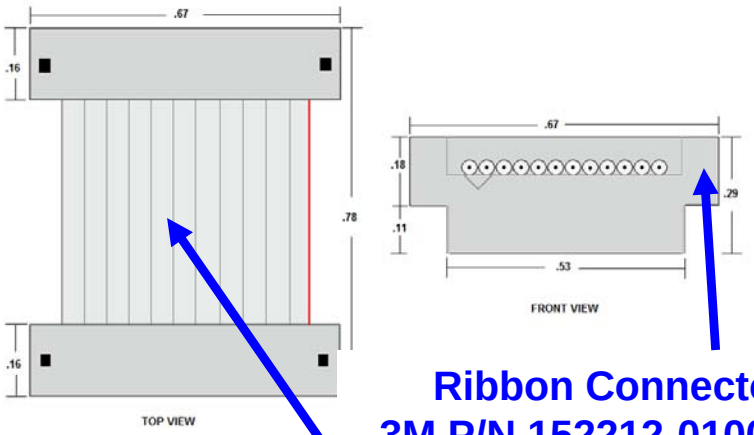
Hooking up to the ADIS16240/PCBZ



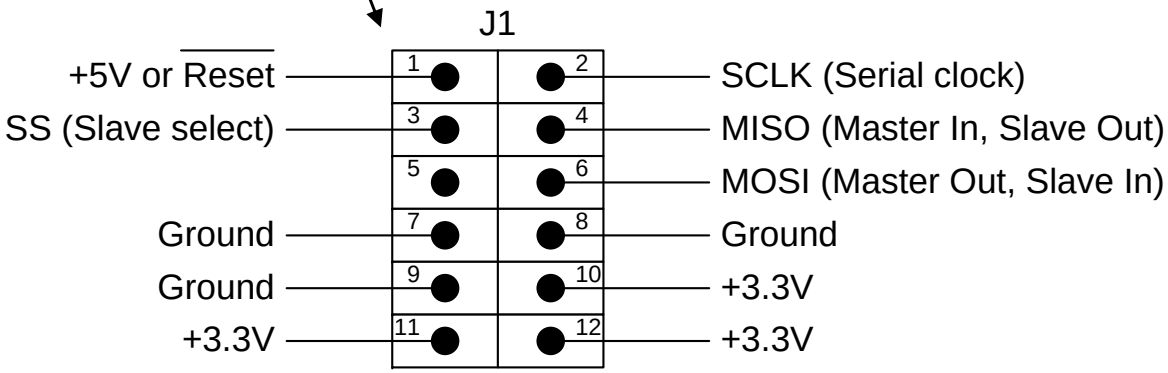
J1 Ribbon Cable Interface Parts



Ribbon Connector
3M P/N 152212-0100-GB

Ribbon Cable
3M P/N 3625/12 (100m)

Master Processor Connection



ADISUSBZ uses the following cable assembly from Samtec:

ASP-140062-01

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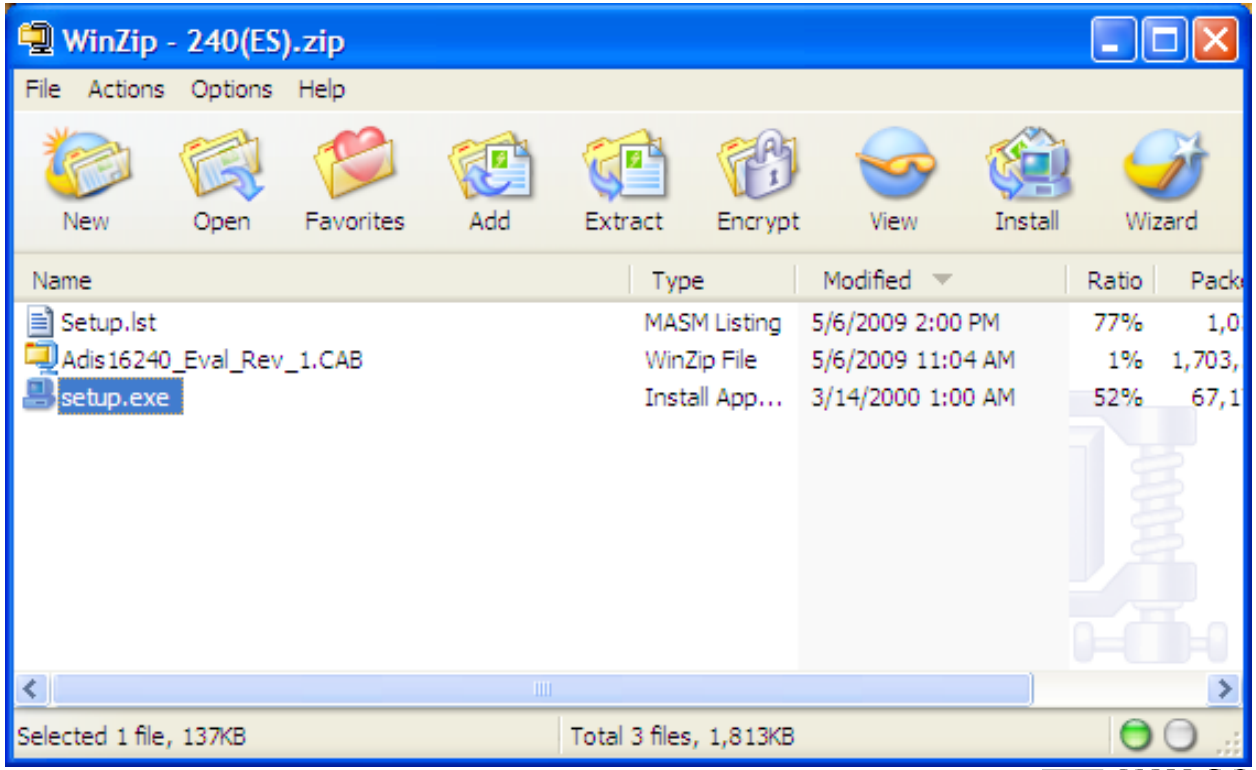
ADIS16240 Demonstration Software Installation

The ADIS16240 demonstration software can be found at
www.analog.com/isensor-evaluation

1. **Click on "Evaluation Software Downloads"**
2. **Click on 240ES.zip and save it to a temporary directory**
3. **Open it and double click on setup.exe.**



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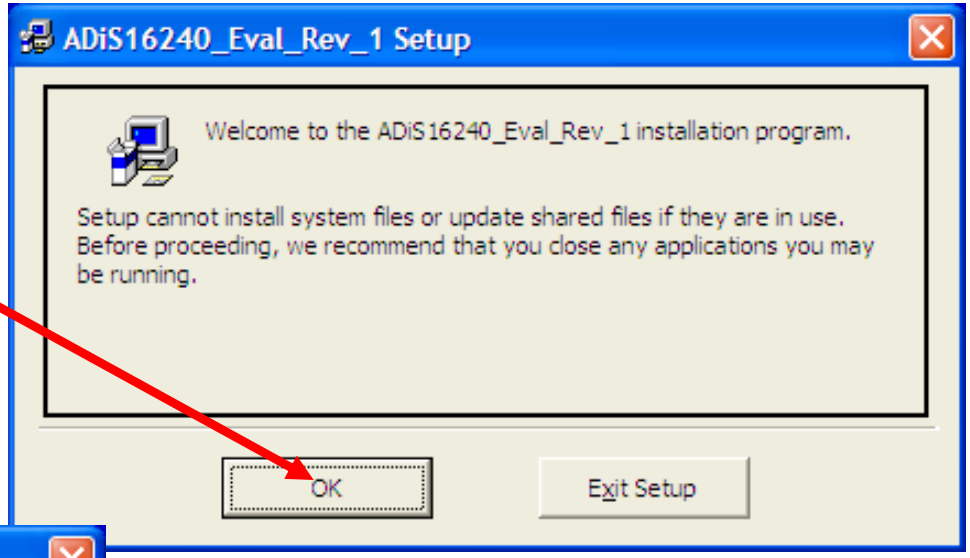
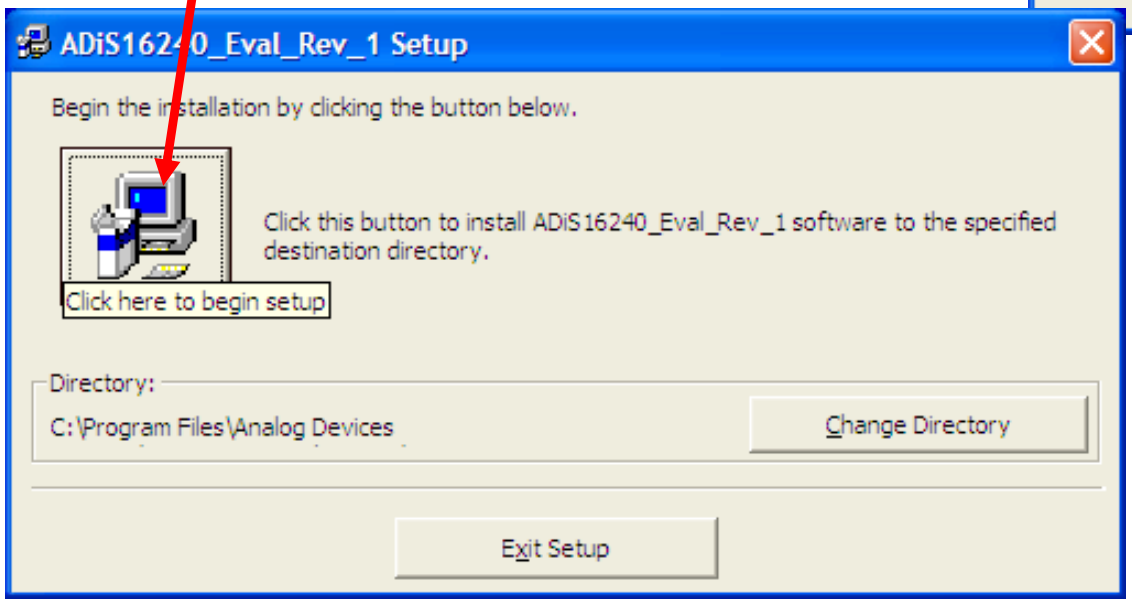
ADIS16240 Demonstration Software Installation

Installation Steps (continued)

4. **Click OK on next screen**
5. **Click here to start installation**





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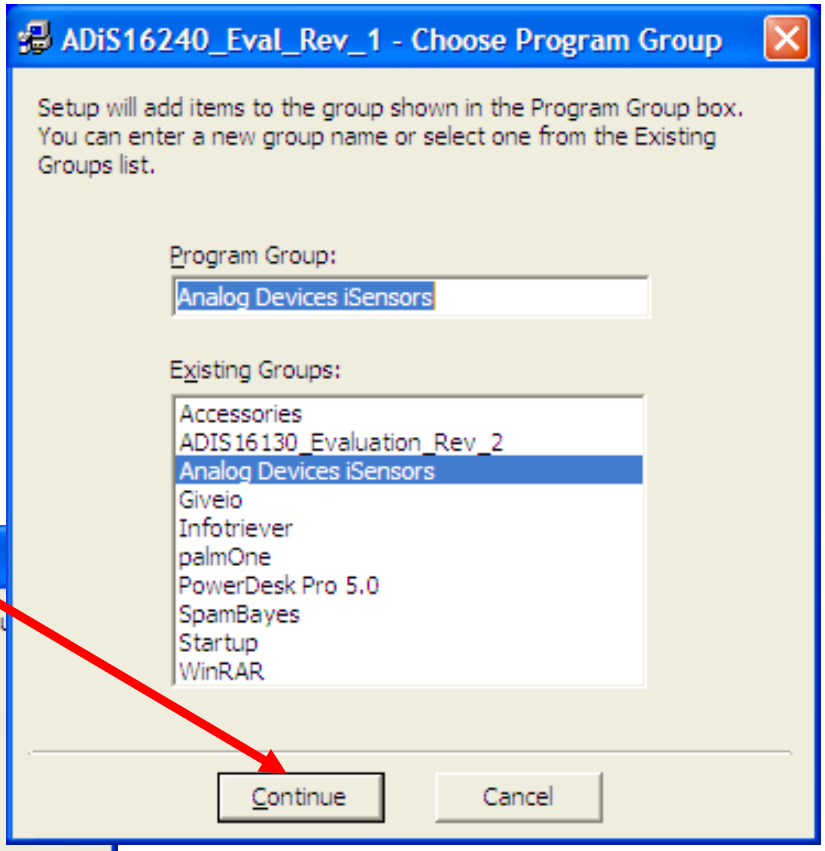
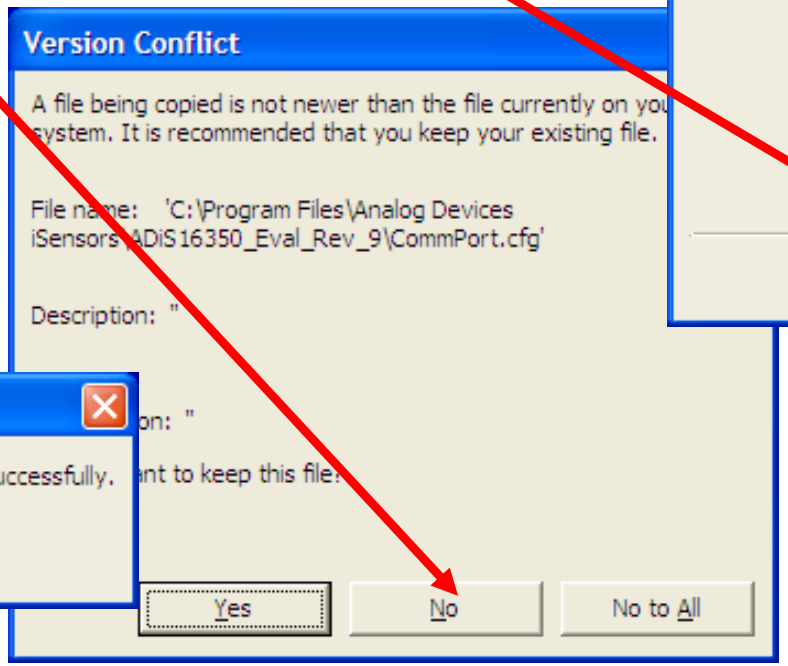
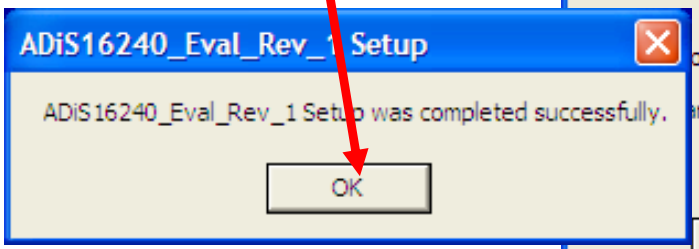
ADIS16240 Demonstration Software Installation

Installation Steps (continued)

6. **Click Continue**
7. **If this message comes up, click on "No"**
8. **Click OK**







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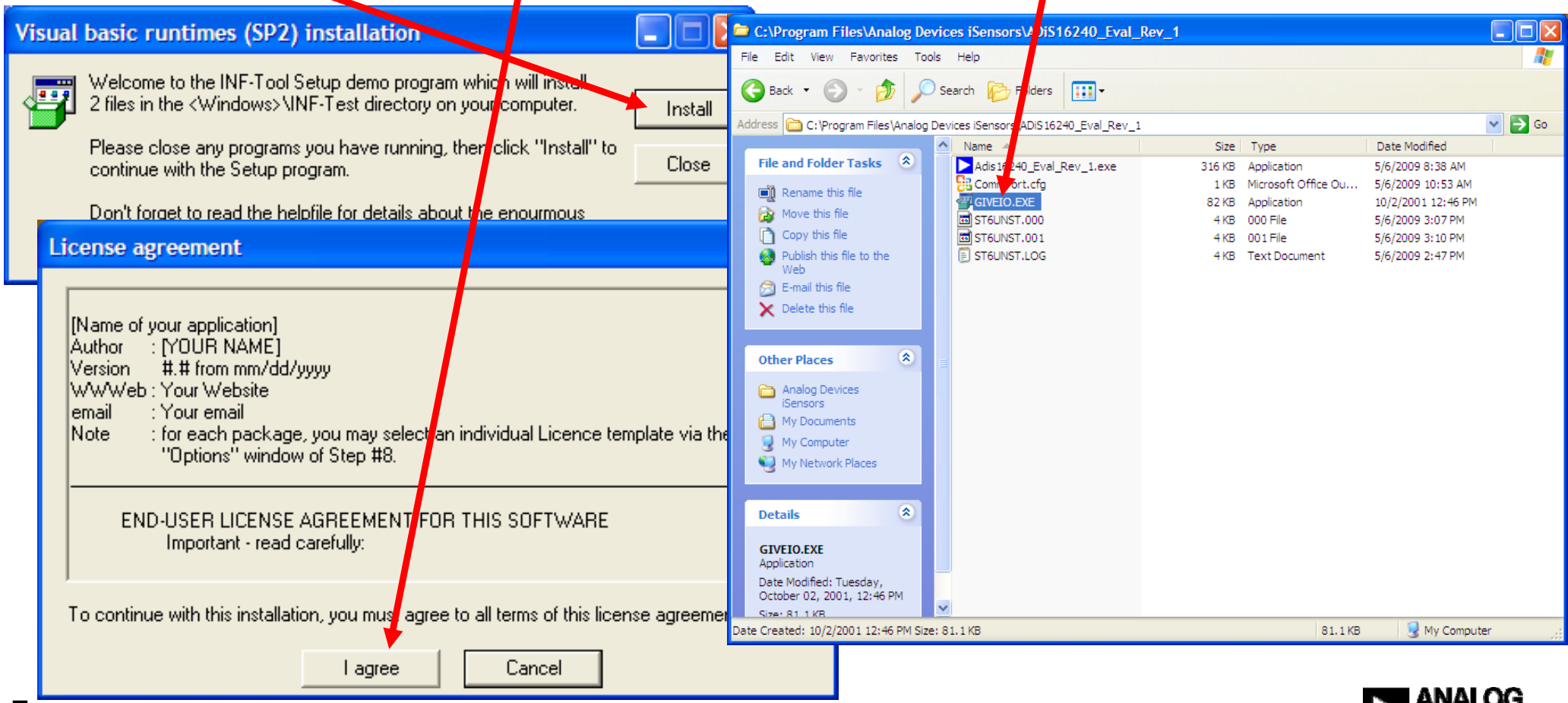
ADIS16240 Demonstration Software Installation

Installation Steps (continued)

9. **Open the newly created directory and double-click onto “giveio.exe”**
10. **Click “Install,” then “ IAgree”**



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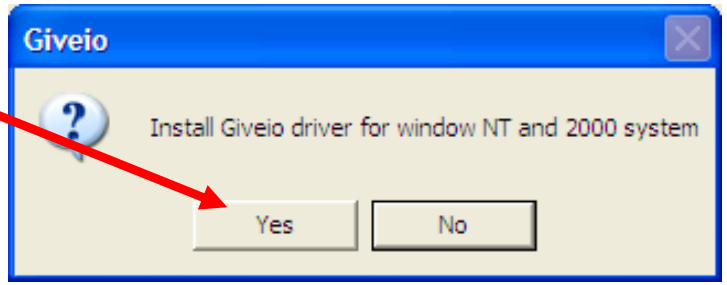
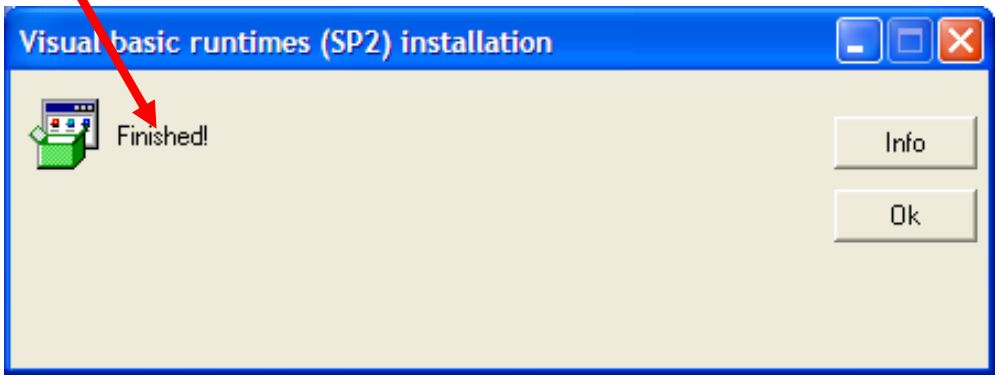
ADIS16240 Demonstration Software Installation

Installation Steps (continued)

11. Click “yes”



12. Giveio Driver complete



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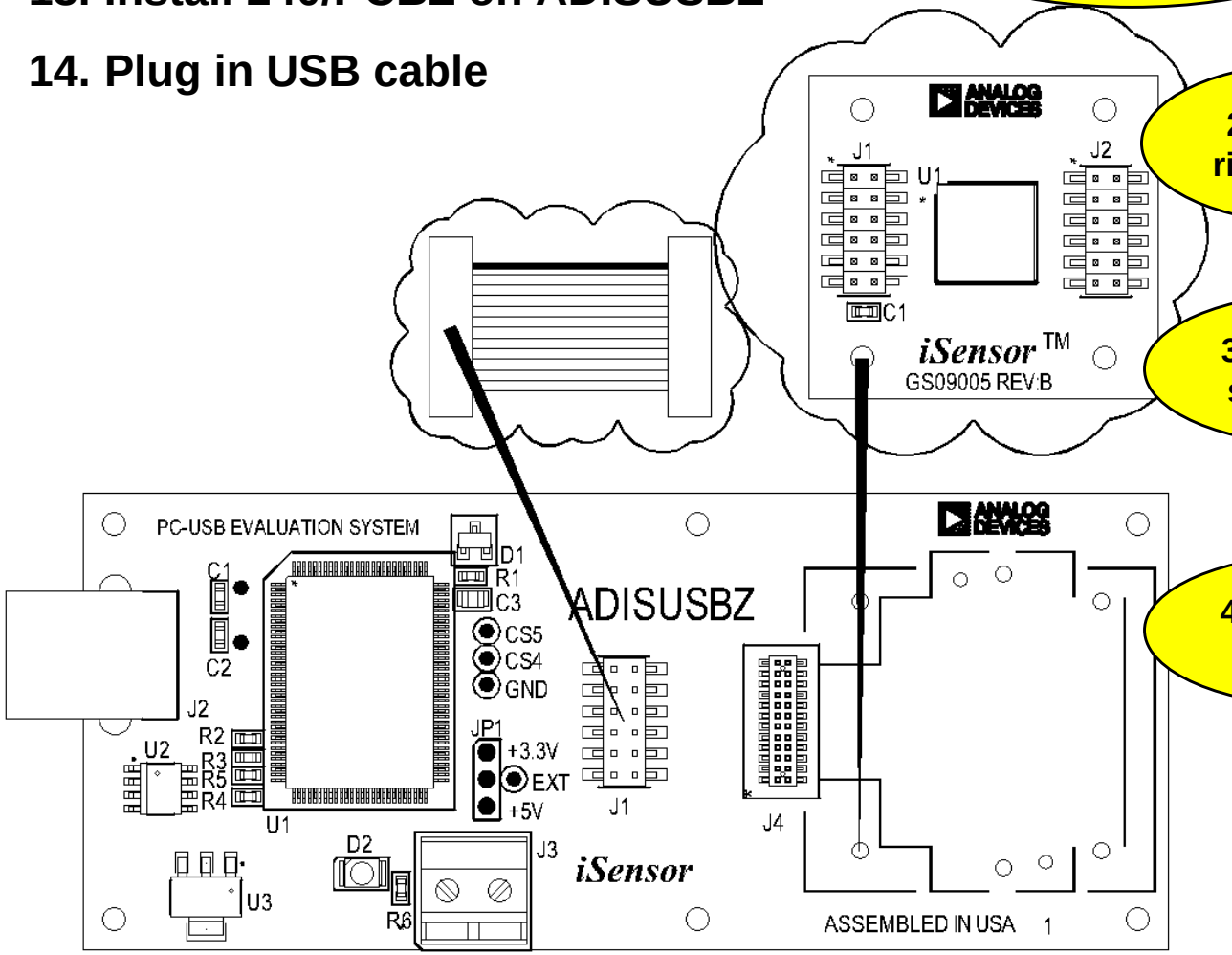
ADIS16240 Installation on ADISUSBZ

Installation Steps (continued)

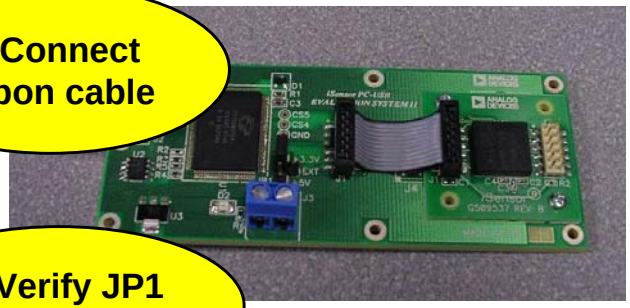
13. Install 240/PCBZ on ADISUSBZ

14. Plug in USB cable

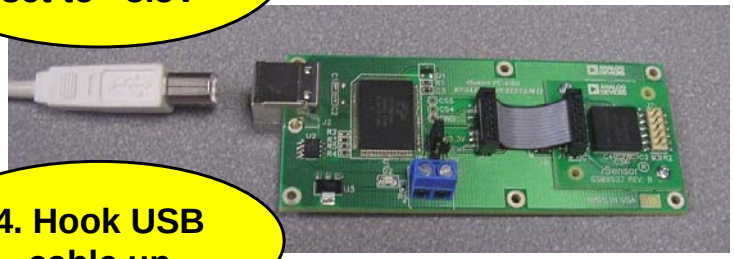


1. Secure 240/PCBZ w/ 2mm screws

2. Connect ribbon cable



3. Verify JP1 set to +3.3V



4. Hook USB cable up

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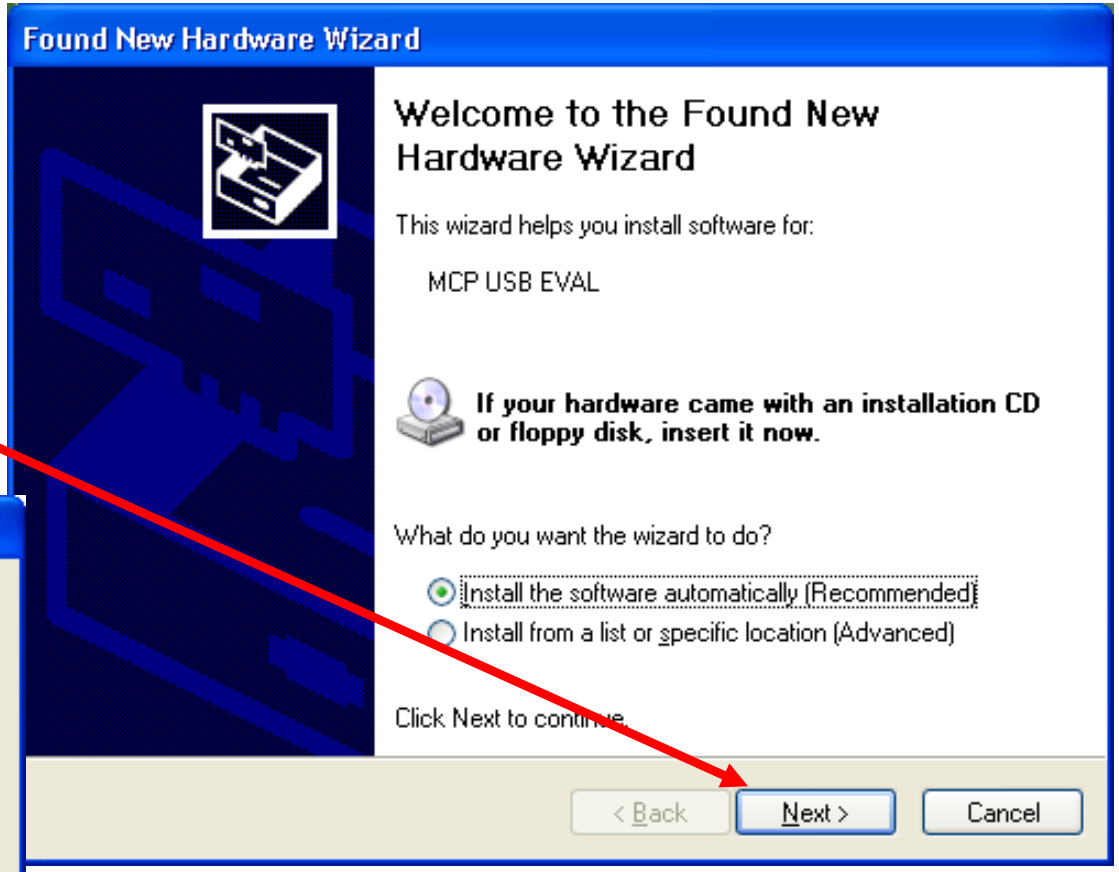
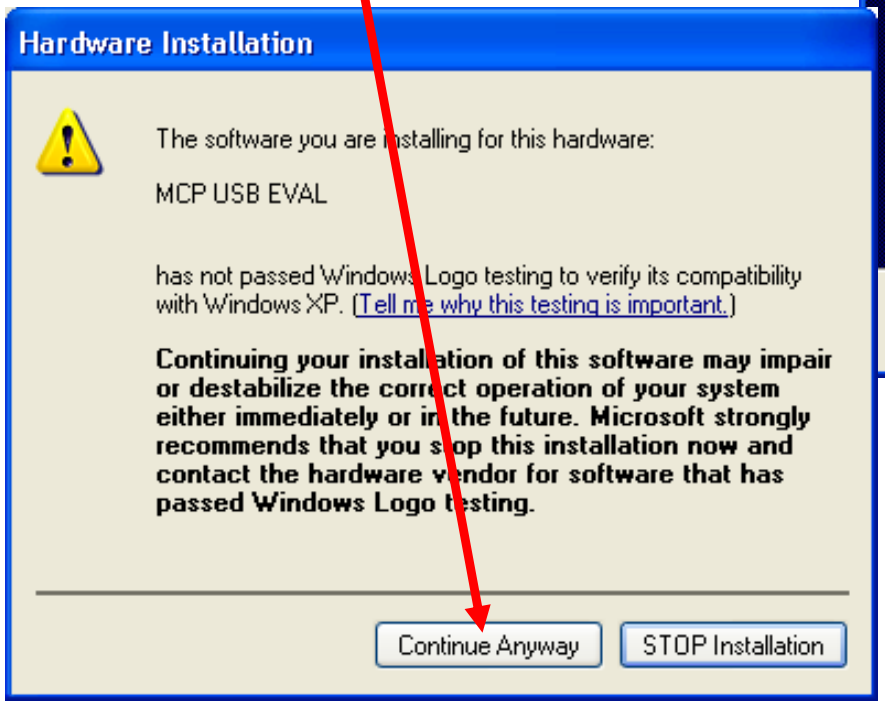
ADIS16240 Demonstration Software Installation

Installation Steps (continued)

15. **USB Driver screen will pop-up**
    Click "Next" to start this process

16. **Then click on**
    "Continue Anyway"





This process will repeat for a second driver file. Just follow the instructions and allow it to go through one more time. After completing this, then the devices is ready for test.

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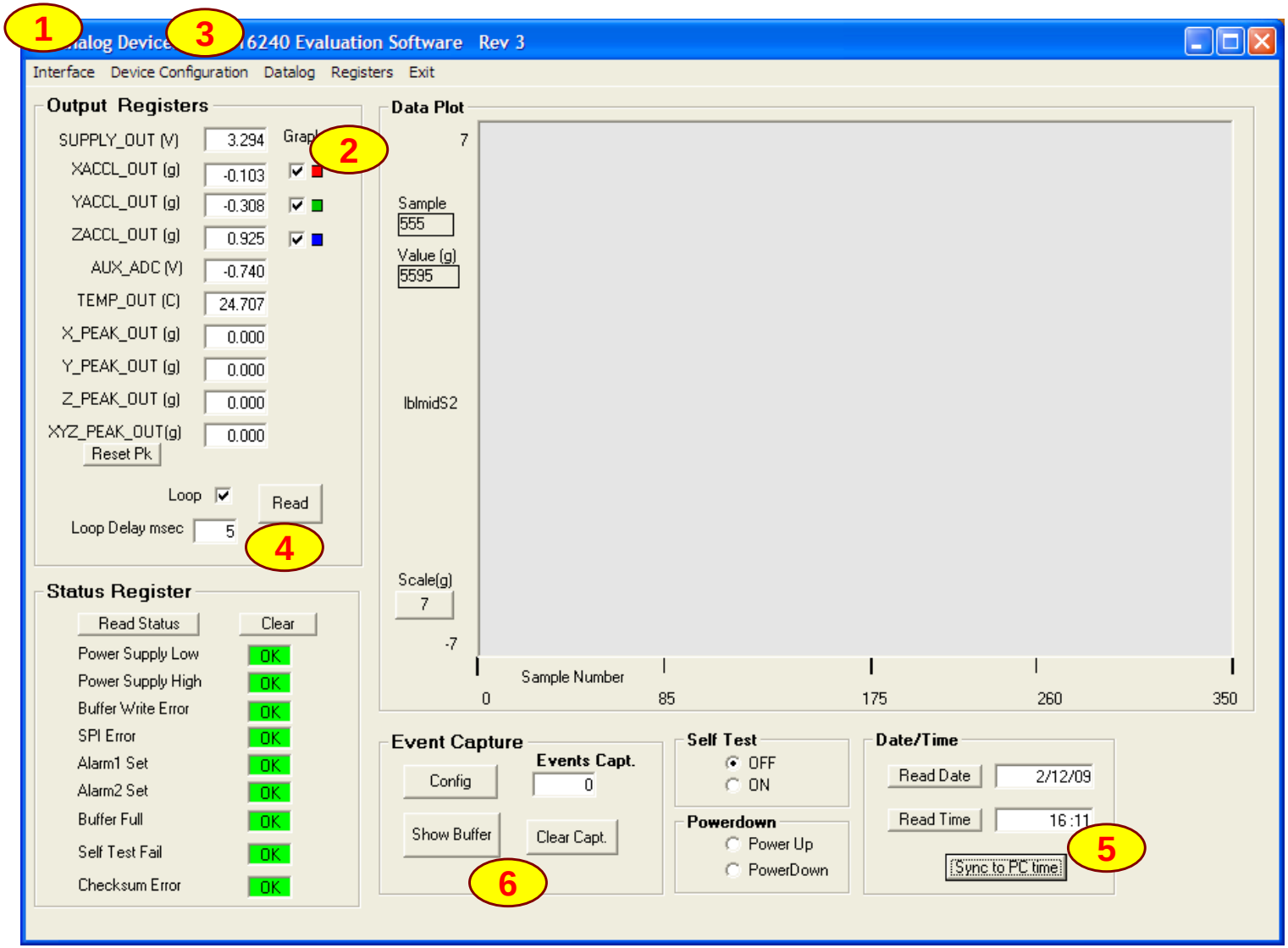
ADIS16240 Demonstration Software Screen



1. **Click on “Interface” and select USB, then OK when the pop-up window shows the USB device is connected.**
2. **Click to enable different accelerometer axes (x,y,z)**
3. **Device configuration options. Turn on peak tracking (MSC_CTRL option), adjust sample rate, etc.**
4. **Start on-screen log**
5. **Sync ADIS16240’s time to the current PC time.**
6. **Capture, Click on Config button and see next page**

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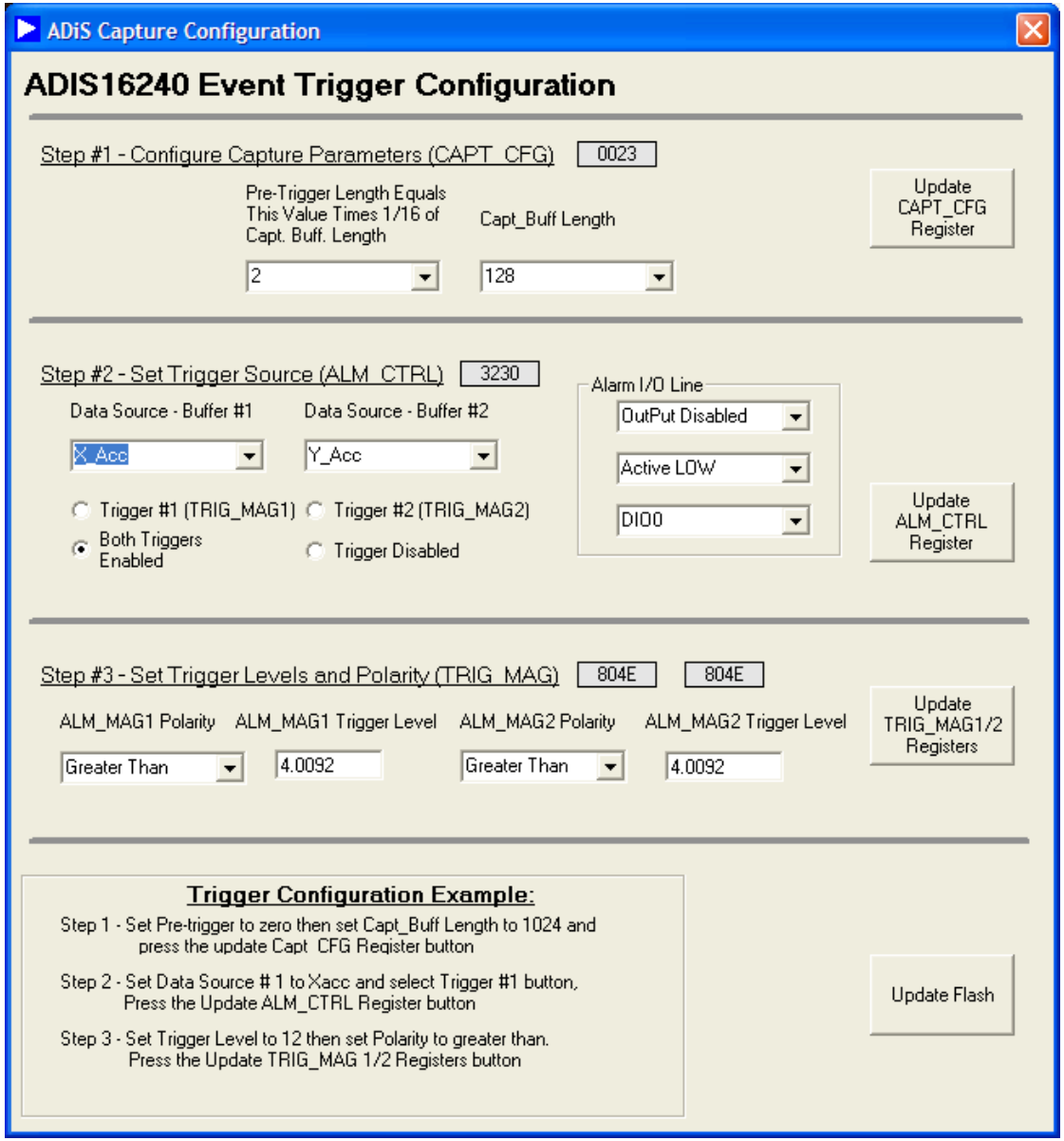
ADIS16240 Demonstration Software Installation



1. **Set number of captures vs. capture length and pre-capture length. Remember to click on the update button!**
2. **Set trigger source. Suggest both triggers. Remember to click on the Update button!**
3. **Set trigger levels and polarity, then hit the Update button.**
4. **Updating the flash makes the changes non-volatile.**
5. **Click on the red X to close and return to the main menu**

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ADIS16240 Demonstration Software Installation

Analog Devices - ADIS16240 Evaluation Software Rev 3

Interface Device Configuration Datalog Registers Exit

Output Registers

		Graph
SUPPLY_OUT (V)	3.314	
XACCL_OUT (g)	-0.154	☑
YACCL_OUT (g)	-1.285	☑
ZACCL_OUT (g)	0.000	☑
AUX_ADC (V)	-0.751	
TEMP_OUT (C)	24.951	
X_PEAK_OUT (g)	0.000	
Y_PEAK_OUT (g)	0.000	
Z_PEAK_OUT (g)	0.000	
XYZ_PEAK_OUT(g)	0.000	

Reset Pk

Loop ☑ STOP

Loop Delay msec 5

Status Register

Read Status Clear

Power Supply Low	OK
Power Supply High	OK
Buffer Write Error	OK
SPI Error	Alarm
Alarm1 Set	Alarm
Alarm2 Set	Alarm
Buffer Full	OK
Self Test Fail	OK
Checksum Error	OK

Data Plot

Event Capture

Config Events Capt. 7

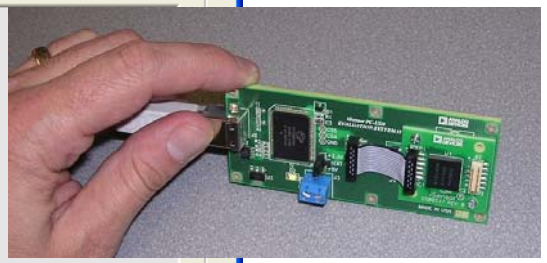
Show Buffer Clear Capt.

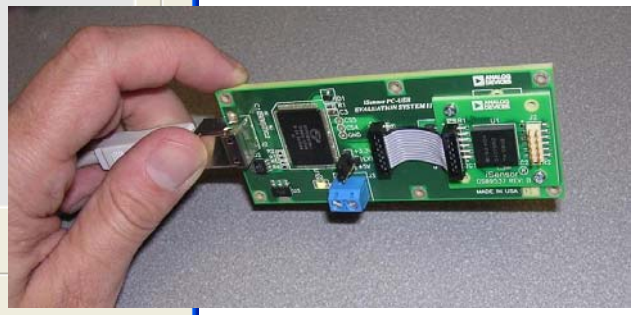
Self Test

OFF

ON

Date/Time





Click on Run and start tapping ADISUSBZ on the desk, then click stop, then "Show Buffer"

Note that the event counter is increasing with each time the ADISUSBZ tap exceeds the pre-set shock level

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ADIS16240 Demonstration Software Installation

1. **Place the mouse pointer over different spikes to see the Event header in the upper right hand corner change.**
2. **Slider bar in lower left hand corner will move event log as desired.**

- **CONTACTS:**
  - **MARKETING: Bob Scannell, 1-336-605-4031**
  - **APPLICATIONS ENGINEER: Mark Looney, 1-336-605-4139**

MORE INFORMATION:

- **www.analog.com/isensor**
- **New Brochure: *i*Sensor Motion Sensor Products**
  - BR067755-2.5-4/08(A)
- **CD's with Product Info and Eval SW**

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