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Demo/Evaluation Tips for the ADIS16300



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# iSensor<sup>®</sup> *The Simple Solution for Sensor Integration* Evaluation Tool Overview

## 1. Interface Connector for those that need to integrate this on a new PCB

- ◆ The ADIS16300AMLZ uses the SFMC-112-02 series of connectors from Samtec. <http://www.samtec.com/SFMC>
- ◆ Mating connector options can be found at: <http://www.samtec.com/SFMC>
- ◆ Acquire mating connector from Samtec, not ADI. [www.samtec.com/samples](http://www.samtec.com/samples)

## 2. Evaluation/Interface Board for simpler connection to an existing processor/system PCB.

- ◆ This provides an ADIS16300AMLZ part plus a simple flex interface which enables connection to the ADISUSBZ or PCB.  
NOTE: Flex PCB not sold separately.
- ◆ Part number for ordering:  
**ADIS16300/PCBZ**



## 3. Evaluation System (ADISUSBZ) for those that prefer a simple PC interface

- ◆ This system provides a simple USB interface, along with software for simple data collection and evaluating most of the ADIS16300 functions and performance.  
NOTE: The ADISUSBZ is sold separately from the ADIS16300AMLZ
- ◆ Supports approximately 150-200SPS sample rate.
- ◆ CAUTION: This system DOES NOT provide an appropriate framework for developing a system around the ADIS16300AMLZ. NO source code or code development support is included with this kit.
- ◆ Part number for ordering: **ADISUSBZ**

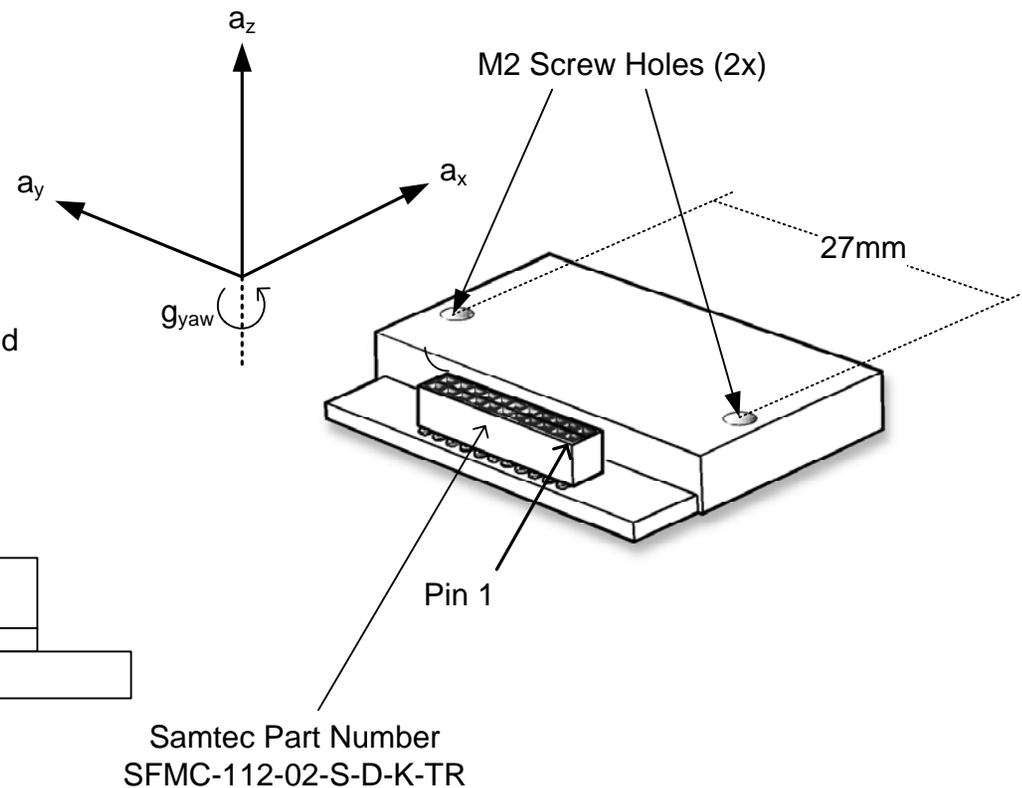
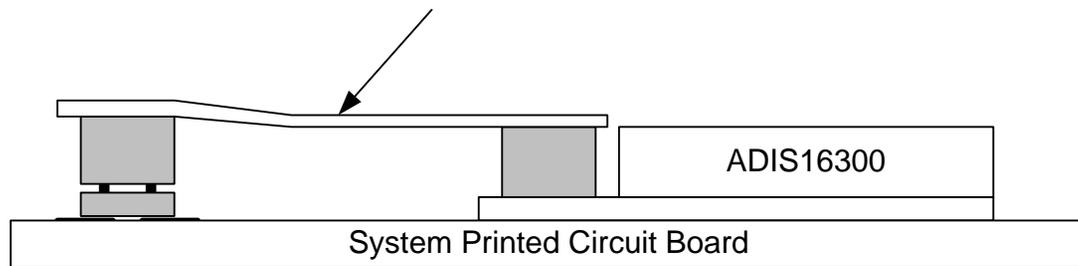


ADISUSBZ & ADIS16300/PCBZ Shown Here (Sold separately)

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## ADIS16300 Connection Options

Interface to system PCB using a ribbon or flex cable that has the ADIS16300 mating connector included  
 Example:  
 Samtec P/N SCF-140379-01-SA



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## ADISUSBZ-based Evaluation

The ADIS16300 is supported by the ADIS16350 Evaluation software. The ADIS16350 installation package will load the appropriate drivers and prepare a PC to evaluate the ADIS16300.

1. Download 350ES.zip into a temporary directory and unpack its contents.

[http://www.analog.com/static/imported-files/eval\\_boards/350ES.zip](http://www.analog.com/static/imported-files/eval_boards/350ES.zip)

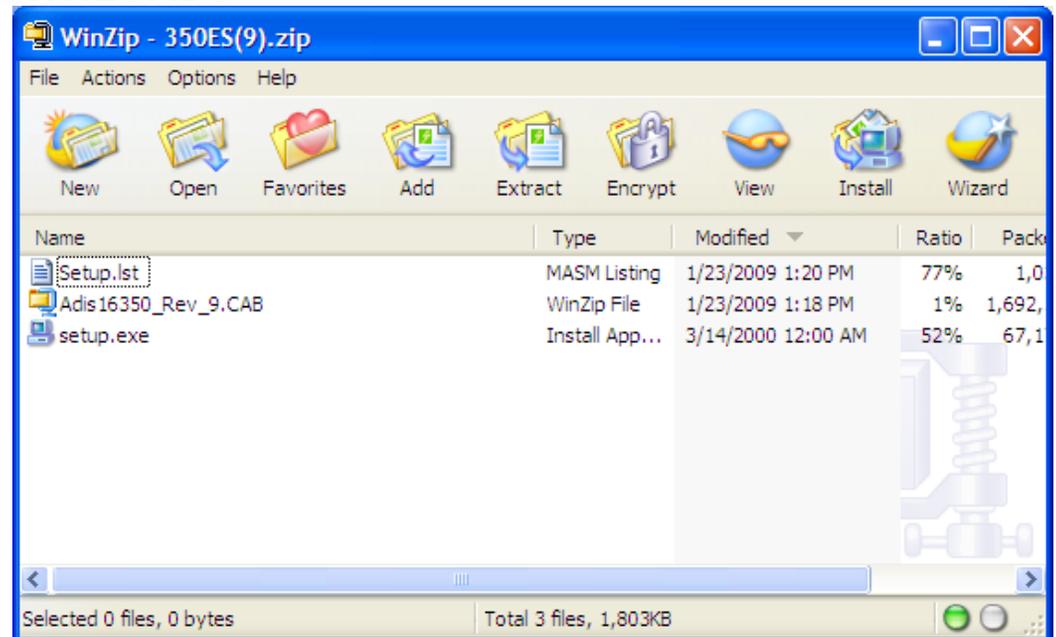
OR GO TO:

[www.analog.com/isensor-evaluation](http://www.analog.com/isensor-evaluation),

then click on EVALUATION SOFTWARE DOWNLOADS

then click on 350ES.zip option

2. Double-click on “setup.exe”

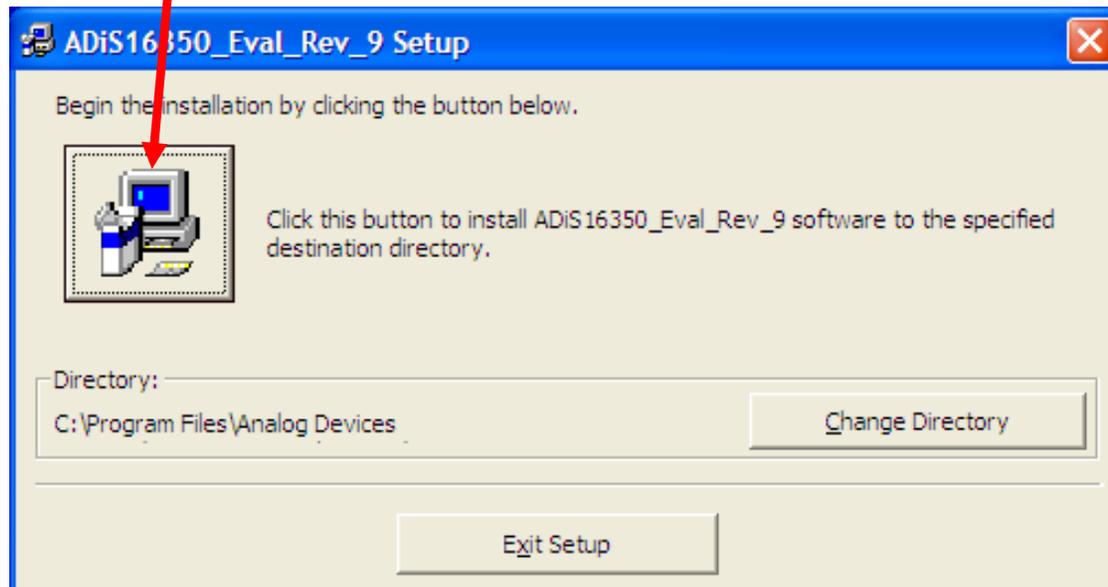
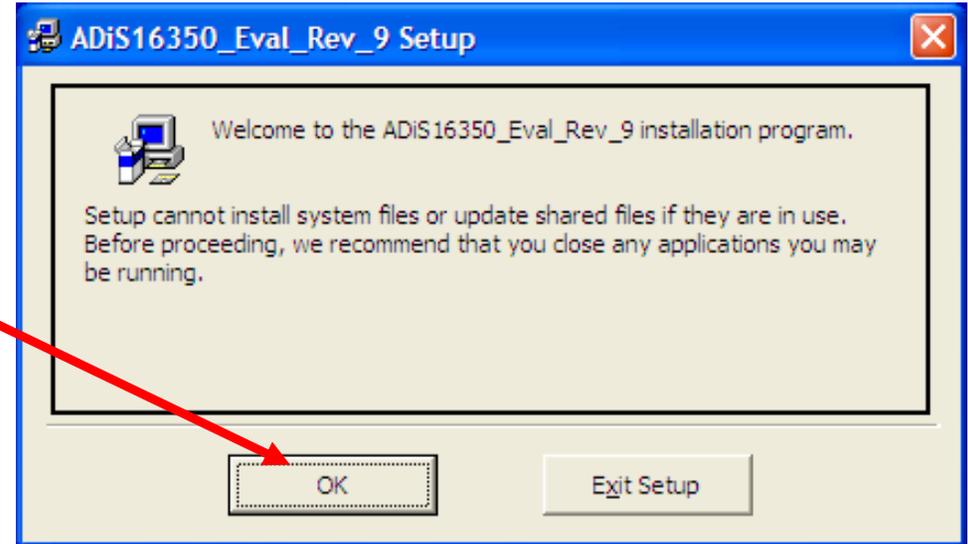


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## ADIS16350 Demonstration Software Installation

### Installation Steps (continued)

3. Click OK on next screen
4. Click here to start installation



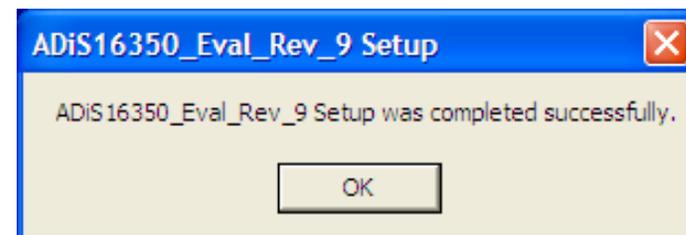
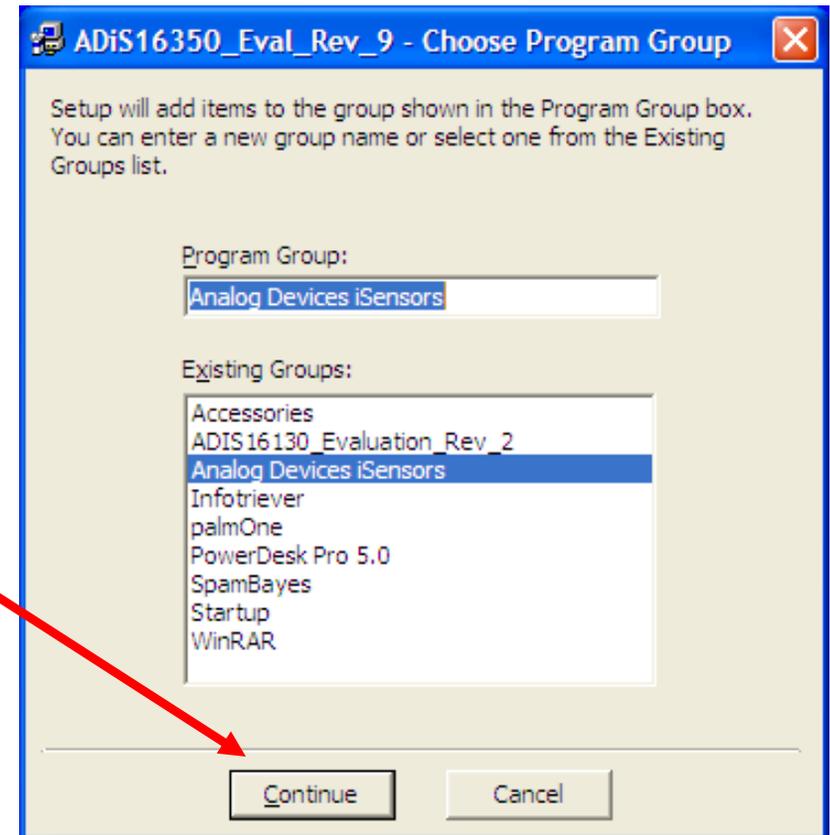
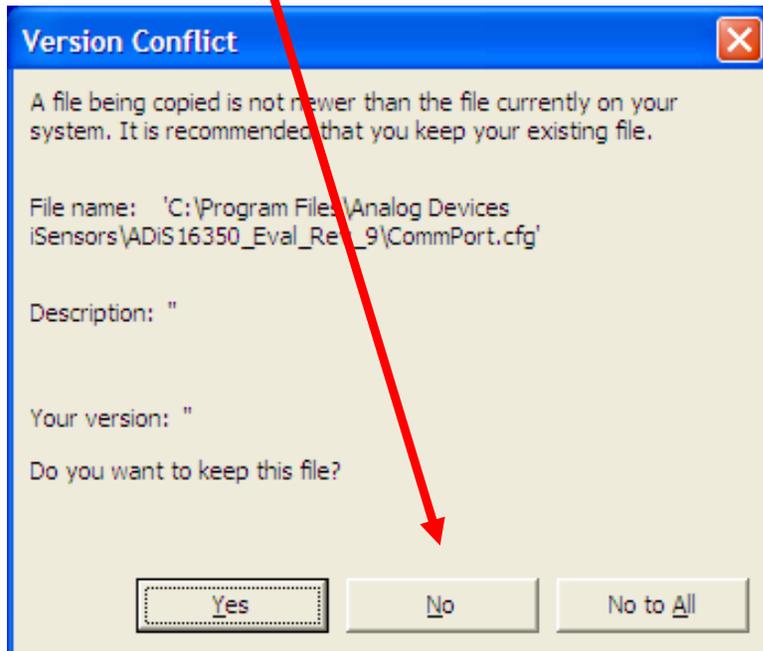
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## ADIS16350 Demonstration Software Installation

### Installation Steps (continued)

5. Click Continue

6. If this message comes up, click on "No"

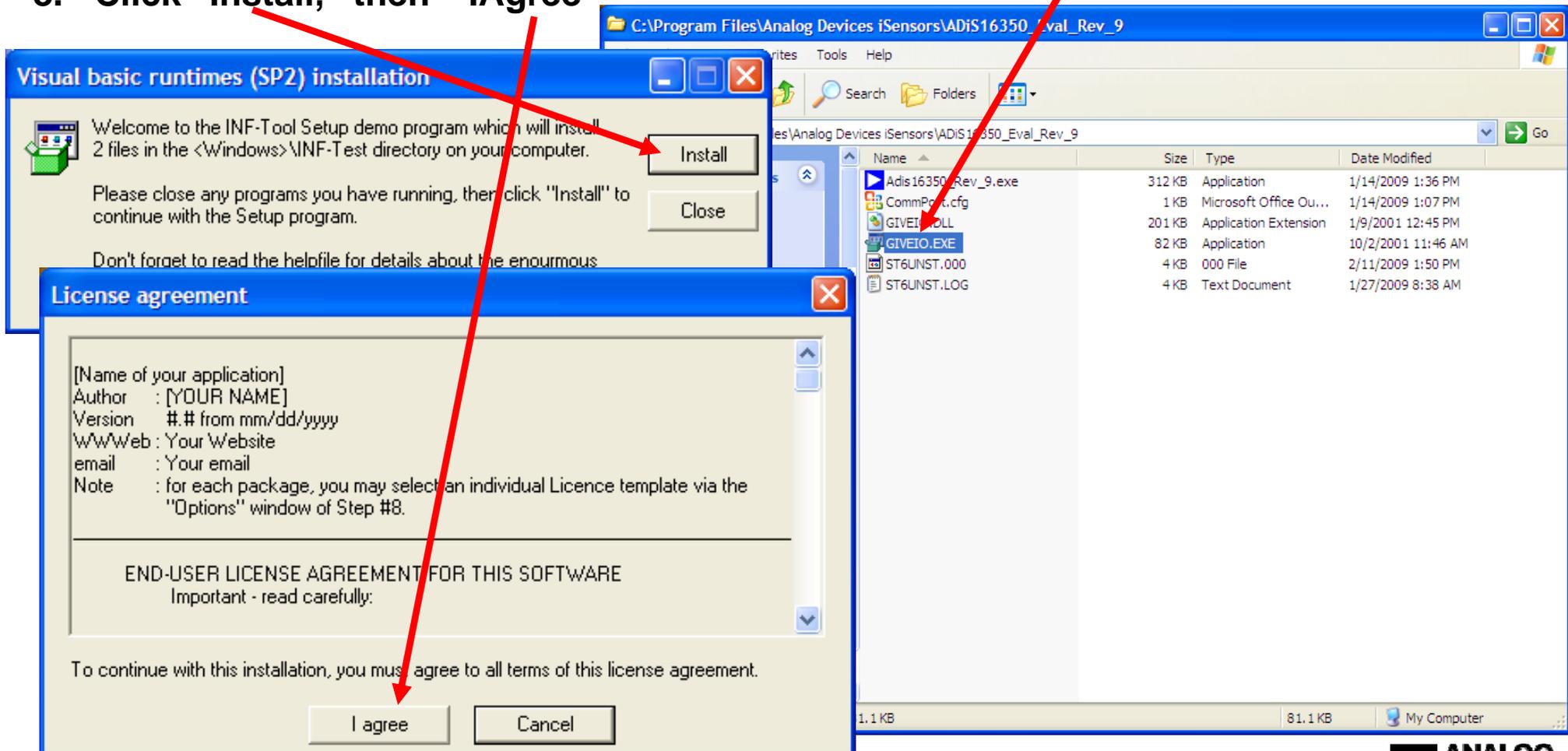


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## ADIS16350 Demonstration Software Installation

### Installation Steps (continued)

7. Open the newly created directory and double-click onto “giveio.exe”
8. Click “Install,” then “I Agree”

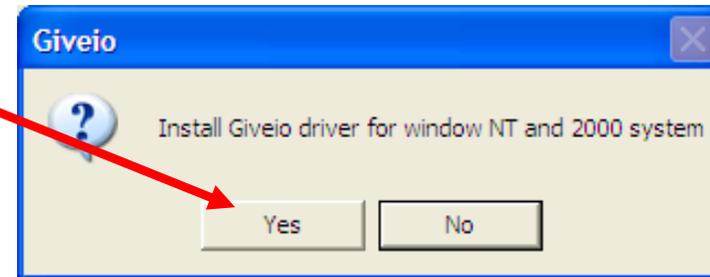


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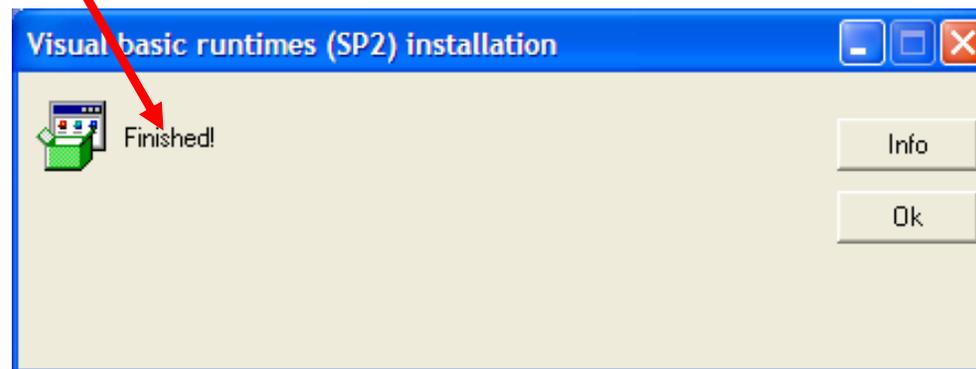
## ADIS16350 Demonstration Software Installation

### Installation Steps (continued)

9. Click “yes”



10. Giveio Driver complete



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## ADIS16300/ADISUSBZ Initial Setup - Parts

### 11. Install ADIS16300 on the ADISUSBZ



**Samtec P/N  
SCF-140379-01-SA**

**ADISUSBZ**

**ADIS130AMLZ(X)**

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## ADIS16300/ADISUSBZ Initial Setup – First connection

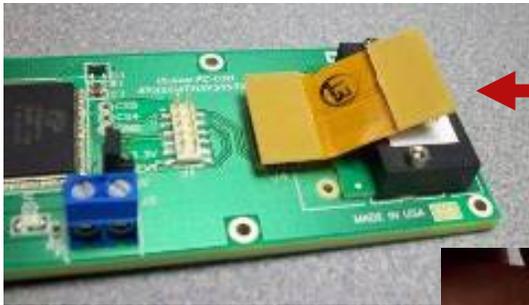
### 11. Install ADIS16300 on the ADISUSBZ (continued)



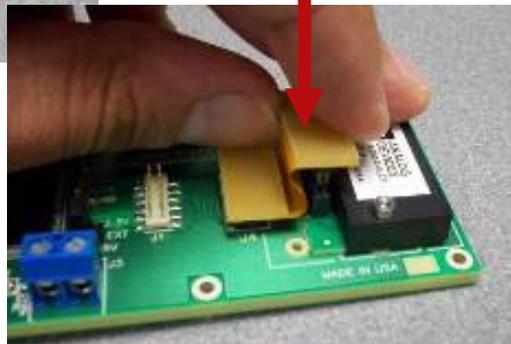
Move the ADIS16300AMLZ over the ADISUSBZ's holes for the ADIS1635x products and use (1) 2x10mm machine screw to attach the product. A 2mm washer may help with attachment strength as well.

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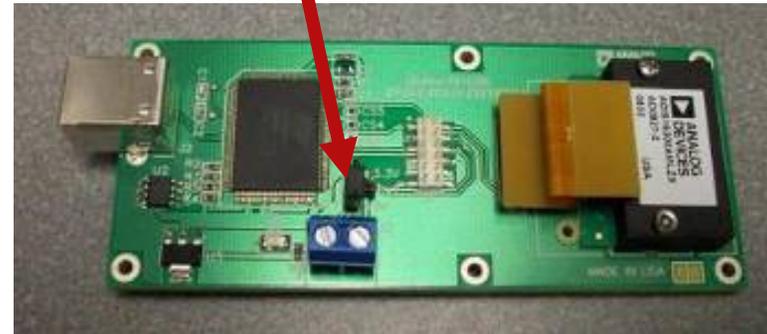
## ADIS16300/ADISUSBZ Initial Setup – Flex & Power



**Install Samtec Flex Assembly to the ADISUSBZ first, then install it on the ADIS16300AMLZ second. Bend the flex with care.**



**Make sure JP1 is set to +5V**



**CAUTION:**  
Flex can tear, handle with care.  
Make sure that the pins in the flex are properly aligned and seated correctly before plugging the USB Cable into the ADISUSBZ.

**12. When this is complete, connect the assembly to the PC using the USB cable**

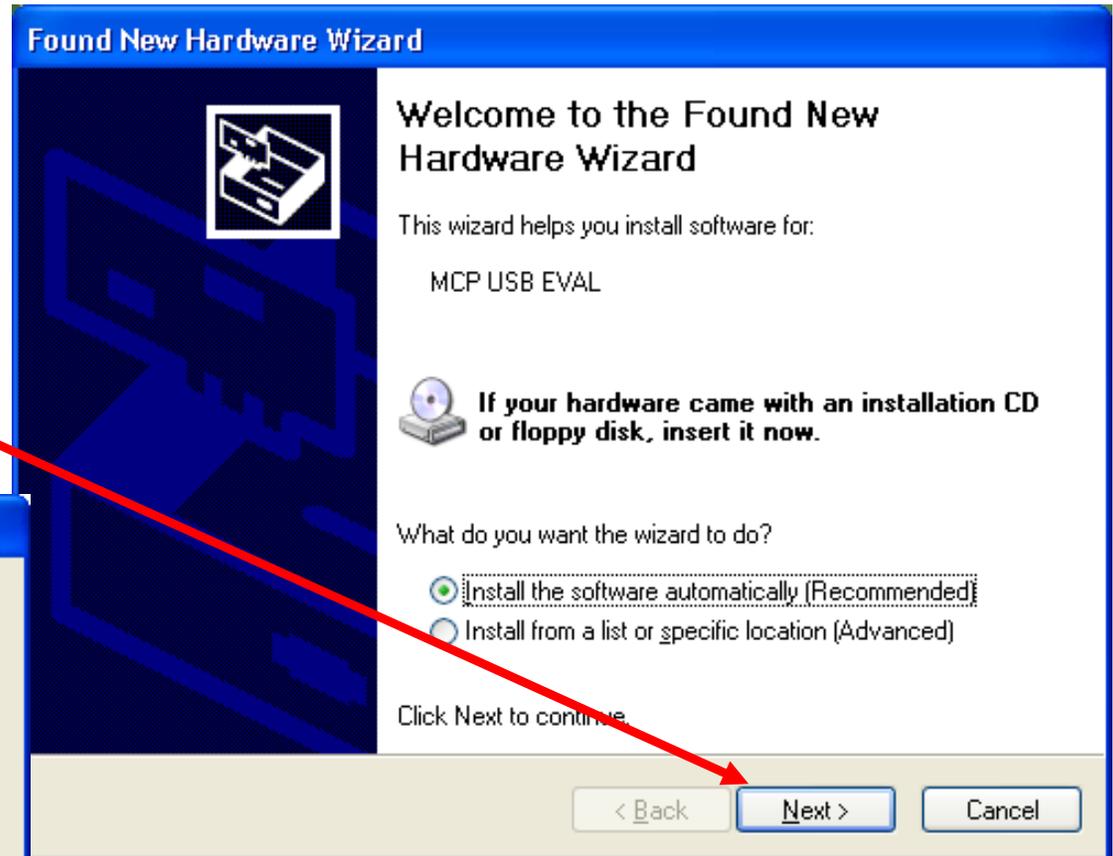
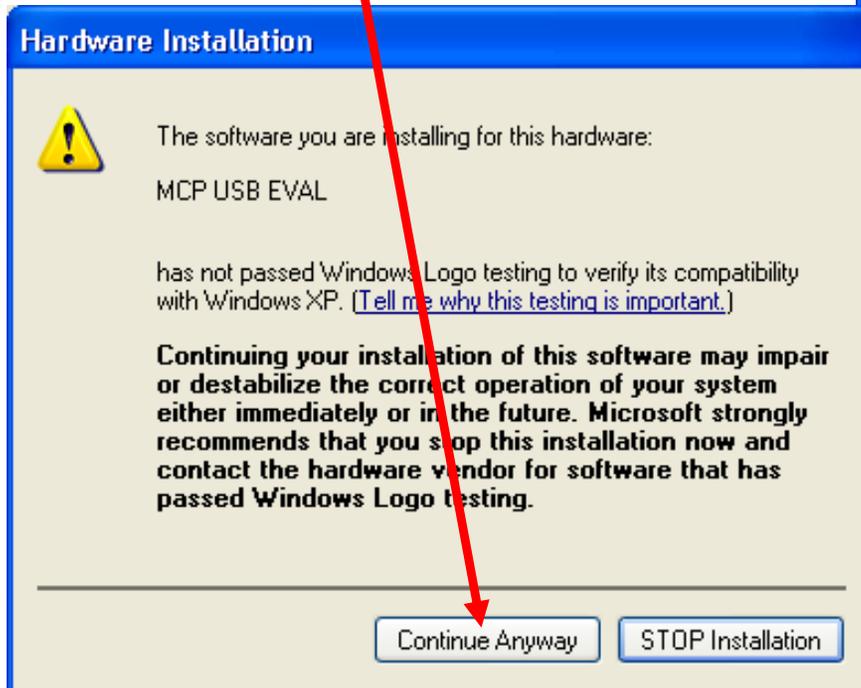
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## MCP USB Driver Installation

### Installation Steps (continued)

13. USB Driver screen will pop-up  
Click “Next” to start this process

14. Then click on  
“Continue Anyway”



This process may repeat. 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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## ADIS16350 Evaluation Software Installation

1. Un-zip the 350ES(9).zip file into a temporary directory.
2. Double click on setup.exe.
3. Go into newly created directory:  
C:\ProgramFiles\Analog Devices iSensors\ADIS16350...
4. Double-click on giveio.exe and follow the prompts to install this driver.
5. Connect the ADISUSBZ to the PC using the A-to-B USB cable.
6. The MCP USB driver installation window will pop-up. Follow the prompts to install the driver. The process may request a repeat. Follow the prompts again, it will complete after the second time through.
7. Double-click on program executable to launch program:  
ADIS16350\*.exe





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## ADIS16350 Evaluation Software Operation

Analog Devices - ADIS 16300 / 16350 / 16354 / 16355 / 16360 / 16364 / 16365 Evaluation Software - Rev 9

Interface Device Configuration Datalog Registers Exit

**Output**

Device	Value	Graph
16300		
16350	4.94	<input type="checkbox"/>
16354	-0.70	<input checked="" type="checkbox"/>
16355	0.00	<input type="checkbox"/>
16360	0.00	<input type="checkbox"/>
16364	0.00	<input type="checkbox"/>
16365	0.00	<input type="checkbox"/>

X\_Accel (g) 0.00   
Y\_Accel (g) 0.02   
Z\_Accel (g) -5.76   
X\_Temp (degC) 26.63  
Y\_Temp (degC) 25.14  
Z\_Temp (degC) 24.05  
Aux\_ADC 1.14

Loop   
Loop Delay msec 5

**Status Register**

Power Supply Low  OK  
Power Supply High  OK  
Control Write Flag  OK  
SPI Write Flag  OK  
Alarm1 Set  OK  
Alarm2 Set  OK

**Data Plot** Device = 16365

Rate deg / sec

value 0  
sample 0

Accel. g

value 6  
sample 23

Sample Number 0 85 175 260 350

**Self Test**

Self-Test  OFF  ON

**Powerdown**

Set 0 sec  Elapsed 0.0 sec

1. Select ADIS16300 in the Device drop-down menu

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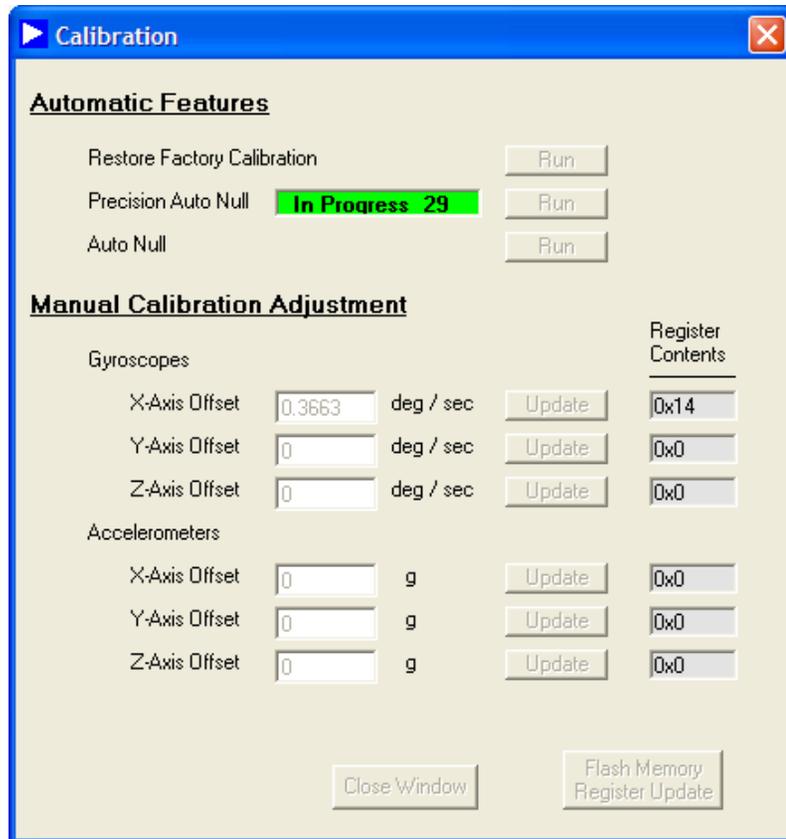
## ADIS16350 Evaluation Software Operation (ADIS16300)





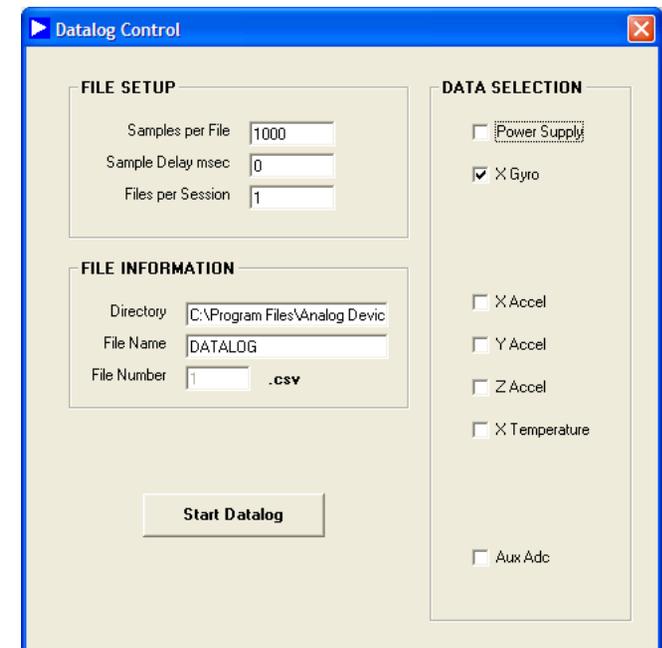
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## ADIS16350 Evaluation Software Operation, Calibration



1. Use Precision Auto Null button to execute this feature in the ADIS16300. Notice the countdown from approximately 32 seconds. Use Flash Memory Update button to make sure the new bias correction factor is stored in non-volatile flash memory.

2. Datalog Menu provides some convenient options for gathering data from the ADIS16300





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