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iSensor® ADIS16240 Evaluation Tool Overview



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iSensor[®] *The Simple Solution for Sensor Integration* 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







*i***Sensor**[®] *The Simple Solution for Sensor Integration* Hooking up to the ADIS16240/PCBZ



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

- 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.







ADiS16240_Eval_Rev_1 - Choose Program Group Installation Steps (continued) Setup will add items to the group shown in the Program Group box. You can enter a new group name or select one from the Existing 6. Click Continue Groups list. Program Group: Analog Devices iSensors 7. If this message comes up, Existing Groups: click on "No" Accessories ADIS16130_Evaluation_Rev_2 Analog Devices iSensors 8. Click OK Giveio Infotriever Version Conflict palmOne PowerDesk Pro 5.0 SpamBaves A file being copied is not newer than the file currently on you Startup system. It is recommended that you keep your existing file. WinRAR File name: 'C:\Program Files\Analog Devices iSensors ADiS16350 Eval_Rev_9\CommPort.cfg' Continue Cancel Description: ADiS16240 Eval_Rev_1 Setup ADiS16240_Eval_Rev_1 Setup was completed successfully. Int to keep this file OK Yes No No to All



Installation Steps (continued)

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



Installation Steps (continued)

11. Click "yes" •

12. Giveio Driver complete

Giveio
Install Giveio driver for window NT and 2000 system
Yes
No





*i***Sensor**[®] The Simple Solution for Sensor Integration ADIS16240 Installation on ADISUSBZ











- 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



ADiS Capture Configuration	×
ADIS16240 Event Trigger Configuration	
Step #1 - Configure Capture Parameters (CAPT_CFG) 0023 Pre-Trigger Length Equals	Update
This Value Times 1/16 of Capt_Buff Length Capt. Buff. Length	CAPT_CFG Register
2 128 -	
Step #2 - Set Trigger Source (ALM_CTRL) 3230 Data Source - Buffer #1 Data Source - Buffer #2 OutPut Disabled V Acc	
C Trigger #1 (TRIG_MAG1) C Trigger #2 (TRIG_MAG2) C Both Triggers Enabled C Trigger Disabled C Trigger Disabled	Update ALM_CTRL Register
Step #3 - Set Trigger Levels and Polarity (TRIG_MAG) 804E 804E ALM_MAG1 Polarity ALM_MAG1 Trigger Level ALM_MAG2 Polarity ALM_MAG2 Trigger Level Greater Than 4.0092 Greater Than 4.0092	Update TRIG_MAG1/2 Registers
Trigger Configuration Example: Step 1 - Set Pre-trigger to zero then set Capt_Buff Length to 1024 and press the update Capt_CFG Register button	
 Step 2 - Set Data Source #1 to Xacc and select Trigger #1 button, Press the Update ALM_CTRL Register button Step 3 - Set Trigger Level to 12 then set Polarity to greater than. Press the Update TRIG_MAG 1/2 Registers button 	Update Flash

- 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









- 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.





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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