*i*Sensor® PC-USB Evaluation System

Preliminary Technical Data

ADISEVAL/USBZ

GENERAL DESCRIPTION

The ADIS/EVAL/USB is a PC-based evaluation system for many of the SPI-output *i*Sensor® products. This system comes with a USB Interface Board, A-to-B USB cable, and the *i*Sensor® Documentation CD. This CD contains Evaluation Software, along with all of the documentation for each *i*Sensor® product.

GETTING STARTED QUICKLY

Getting started with this system is simple process. Here are the steps to getting started:

Step #1 - Download software to PC

The evaluation software for each *i*Sensor® product is available on the web or in CD format. Online software downloads can be found at the *i*Sensor® Evaluation Tool web site. Go to: www.analog.com/isensor, click on *i*Sensor® Evaluation Tools link, then click on the Evaluation Software Downloads link, which will display a table of each software package, which are product-specific. Click on the appropriate software package (example filename: 350ES(6).zip) and follow the prompts to save it to a temporary location on the local PC. When the *i*Sensor® Documentation CD is inserted into the CD drive, it will automatically load a greeting page. Click on "Evaluation Software Downloads," then on the appropriate link (product-specific), and then follow the prompts to save this file to a temporary location on the local PC.

Step #2 - Install evaluation software package

Unzip the installation package to a temporary location, and then double-click on setup.exe, and follow the prompts. When asked to replace system files, click "No," and the evaluation software will still work fine. Refer to Figure 1, Figure 2, and Figure 3 for windows that will appear during this step.

Step #3 - Install giveio.exe driver

The giveio.exe driver is located in the software's new directory, which is normally under a subdirectory called "Analog Devices *i*Sensor®," located in the Program Files folder. Double-click on the file, giveio.exe, and follow the prompts to install this driver. Refer to Figure 4, Figure 5, and Figure 6 for windows that will appear during this Step.

Step #4 - Install USB driver

Connect the A-to-B USB cable to the PC, and then to the USB Interface PCB. The USB driver installation screen will automatically appear on the screen in a few seconds. Follow the prompts to install this driver. On some machines, the driver installation screen will appear again, after clicking on "Finish." In this case, follow the prompts and complete the process. Refer to Figure 7 and Figure 8 for the windows that will appear during this step.

Step #5 - Connect ADIS16xxx/PCB to USB Interface PCB

Disconnect the USB Interface board from the cable. Set JP1 jumper for the appropriate power supply.

Table 1. JP1 Power Supply Settings

+3.3V	+5V	
ADIS16003	ADIS16003	ADIS16251
ADIS16006	ADIS16006	ADIS16255
ADIS16201	ADIS16080	ADIS16350
ADIS16203	ADIS16100	ADIS16354
ADIS16204	ADIS16250	ADIS16355
ADIS16209		

Note: If a product is listed twice, it can be run at +3.3 or +5V.

Connect it to J1 on the ADIS16xxx/PCBZ board, using connector J1, located on the bottom side of the ADISEVAL/USBZ. Refer to Figure 9 and Figure 10 and Figure 11 for diagrams of these connections. J1 is not "keyed," so exercise caution in making this connection.

Step #6 - Launch evaluation software

Hook the USB Interface board to the cable and then launch the evaluation software by double clicking on the *.exe file. The program will also be in the Start Programs menu in Windows. Figure 14 though Figure 18 offers some basic insights into the operation of each product's evaluation software. Note to European users: some software is sensitive to the decimal notation. If large or unreasonable numbers are observed, change the PC's regional setting to USA. Software packages are being updated to fix this, but were not complete at the time of this document's release.

ORDERING GUIDE

Model	Package Description
ADISEVAL/USBZ	*i*Sensor™ PC-USB Evaluation System

NOTE: ADIS16xxx/PCBZ sold separately

Rev. PrD

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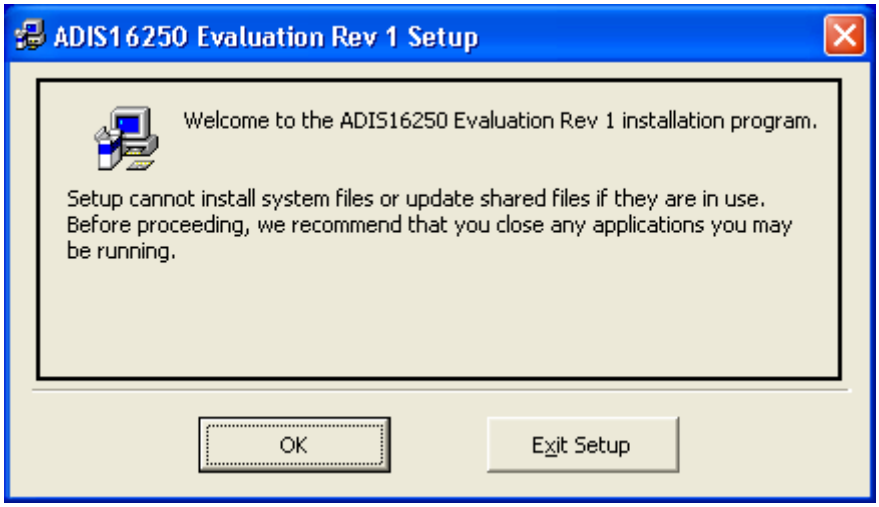

Figure 1. Installation Welcome Screen (Click OK)

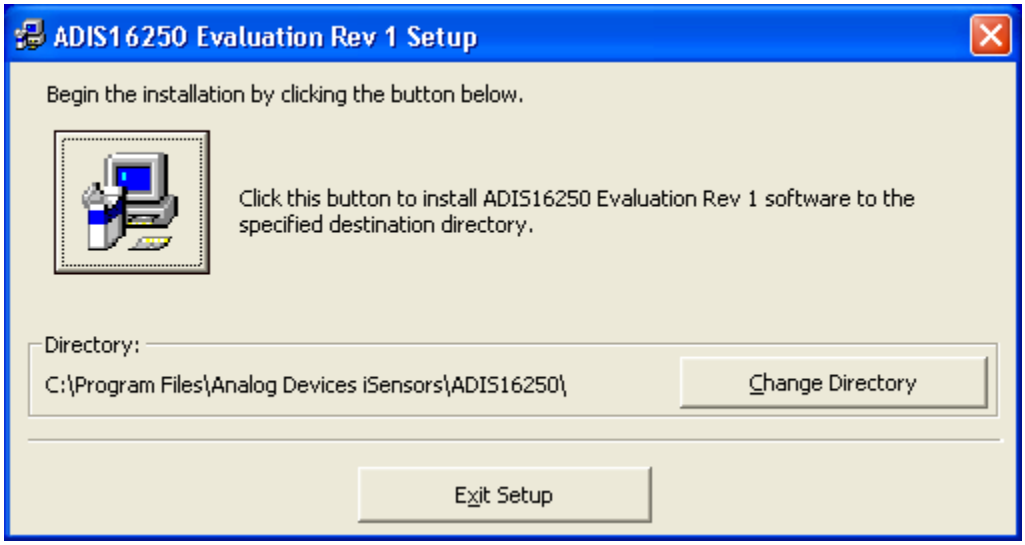

Figure 2. Installation Launch Screen (click on computer button)

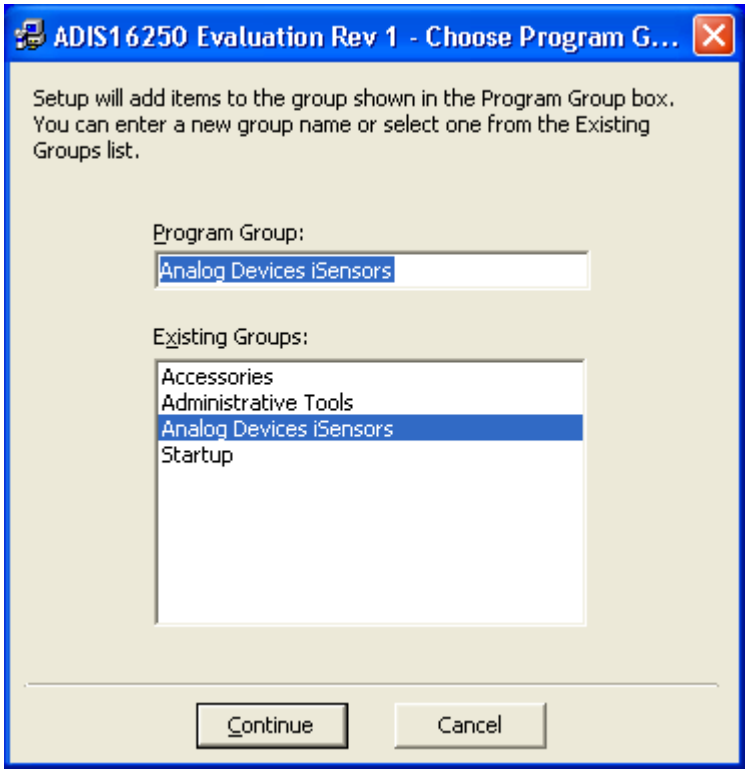

Figure 3. Program Group Menu (Click Continue)

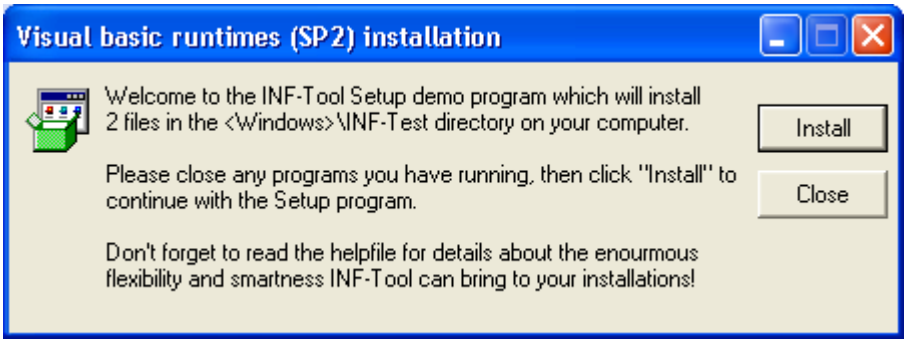

Figure 4. Giveio.exe Installation Screen (Click Install)

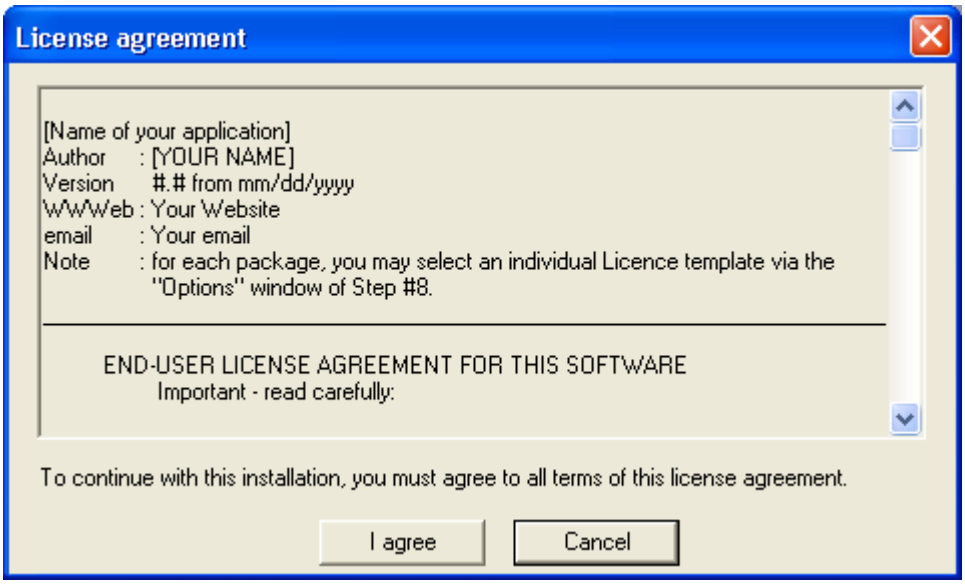

Figure 5. Giveio.exe License Agreement (Click I Agree)

Figure 6. Giveio.exe Installation Confirmation Menu (Click Yes)

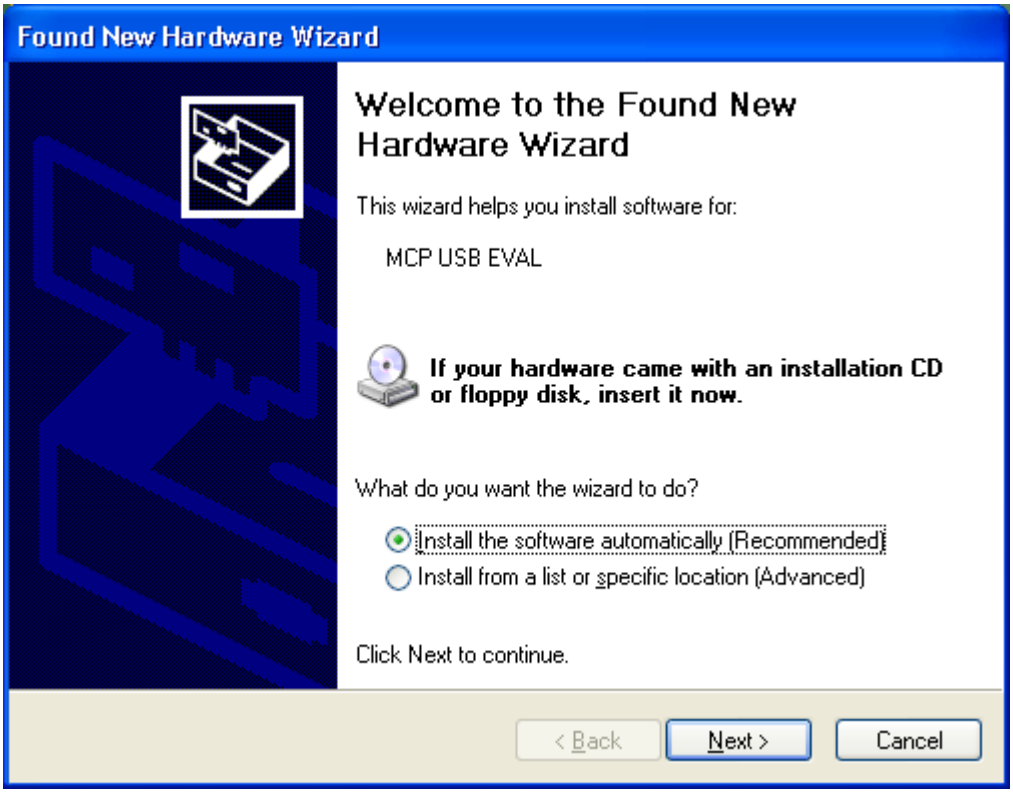

Figure 7. USB Driver Installation (Click Next)

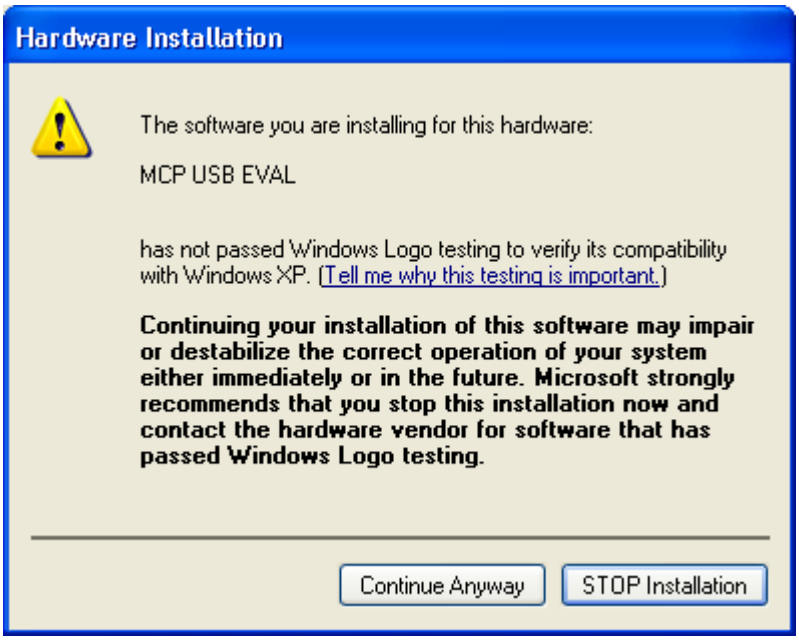

Figure 8 .USB Driver Hardware Installation (Click on Continue Anyway)

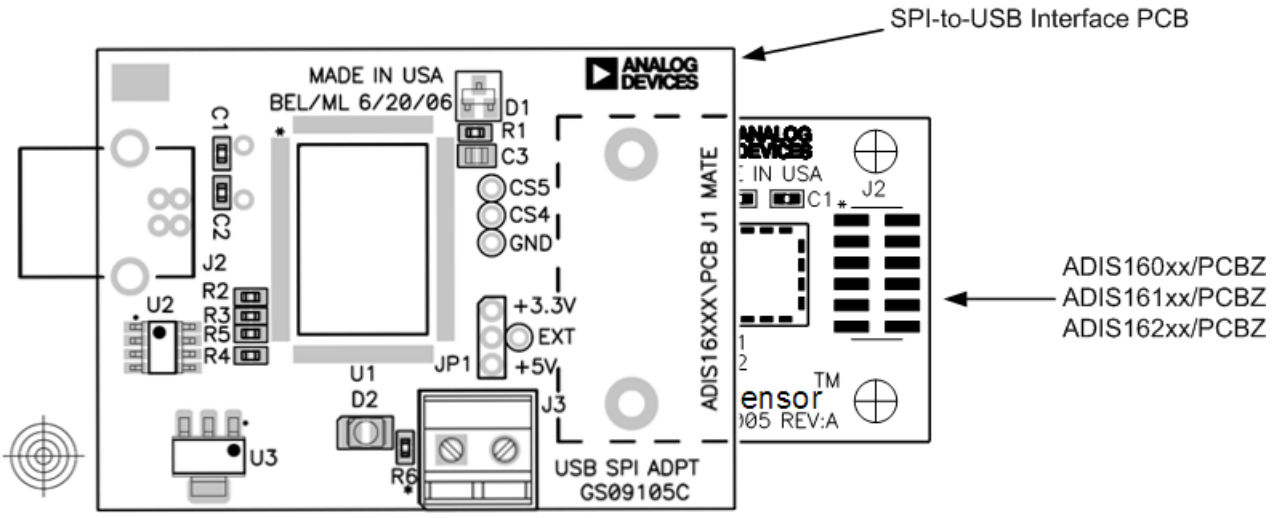

Figure 9. USB Interface PCB connection with ADIS160xx/PCBZ, ADIS161xx/PCBZ, ADIS162xx/PCBZ, Top View

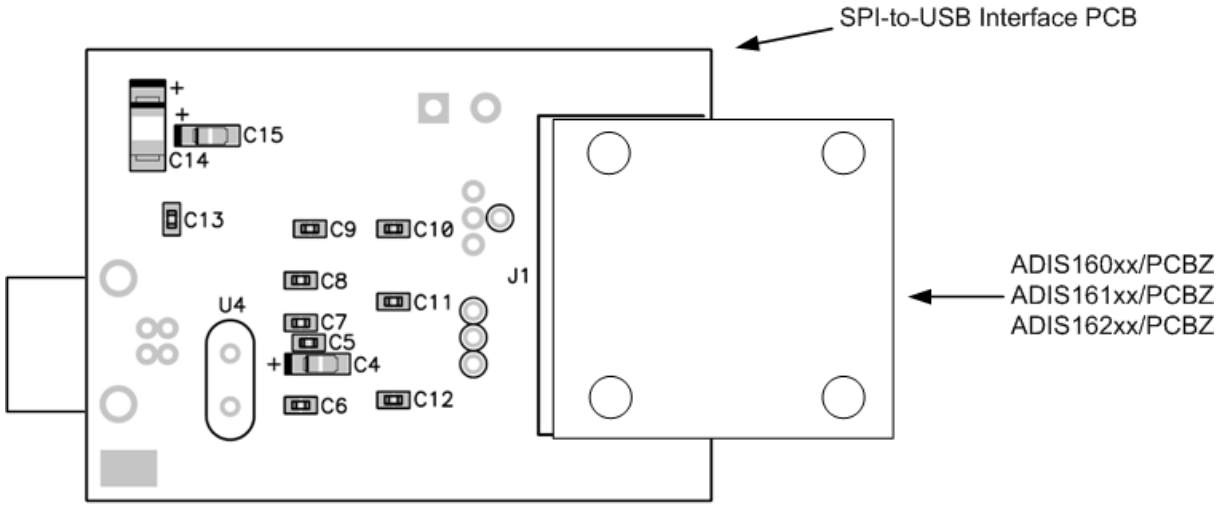

Figure 10. USB Interface PCB connection with ADIS160xx/PCBZ, ADIS161xx/PCBZ, ADIS162xx/PCBZ, Bottom View

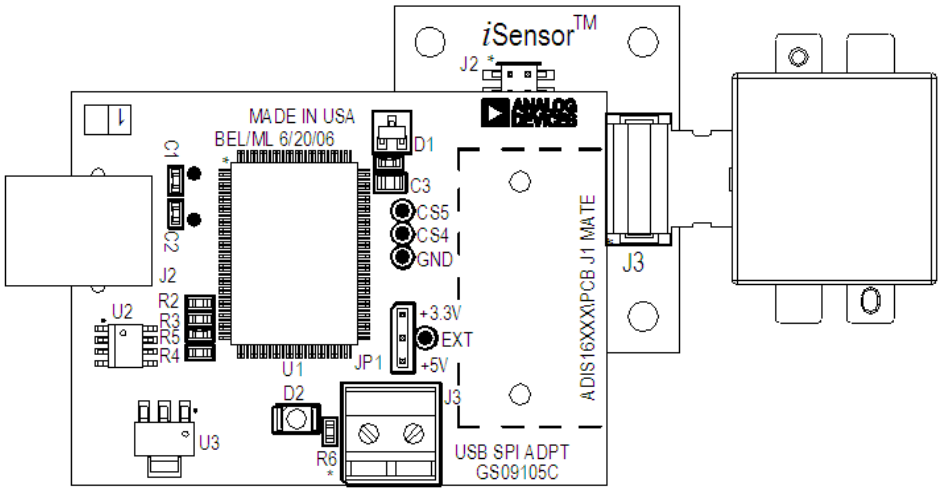

Figure 11. USB Interface PCB connection with ADIS135x/PCBZ, Top View

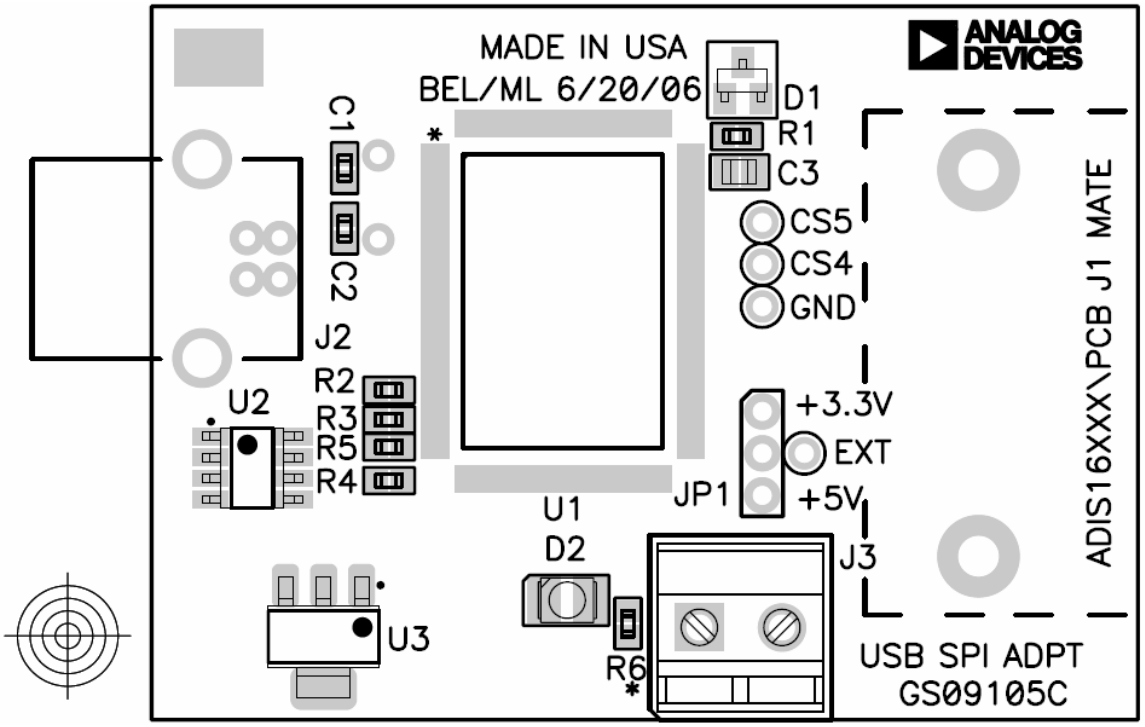

Figure 12 – iSensor™ PC-USB Interface Board Layout (Top View)

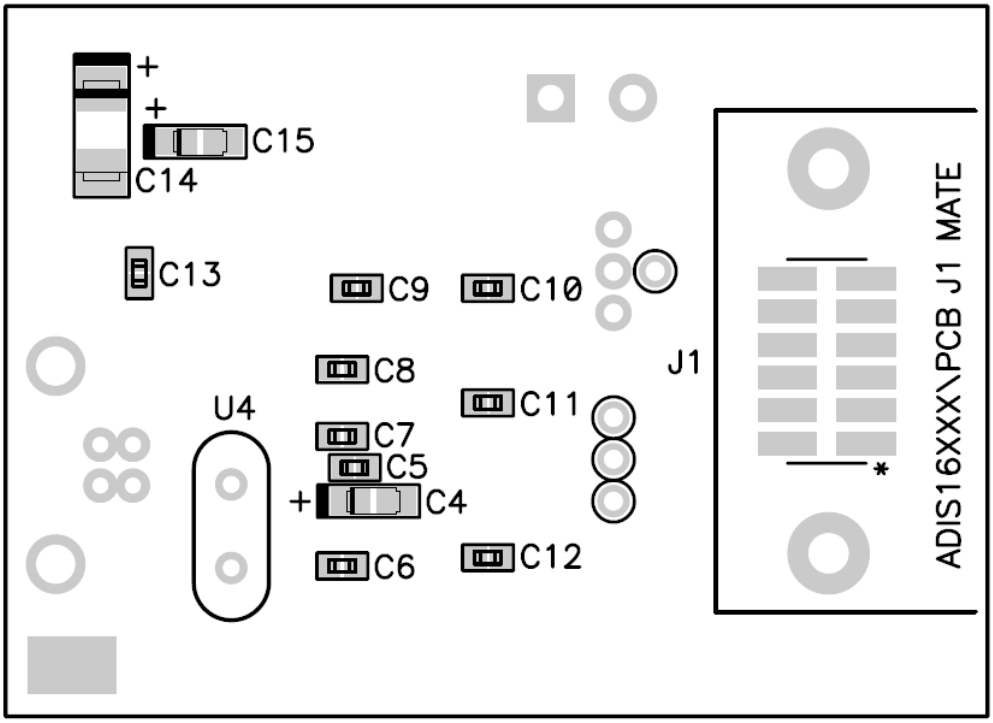

Figure 13 – iSensor™ PC-USB Interface Board Layout (Bottom View)

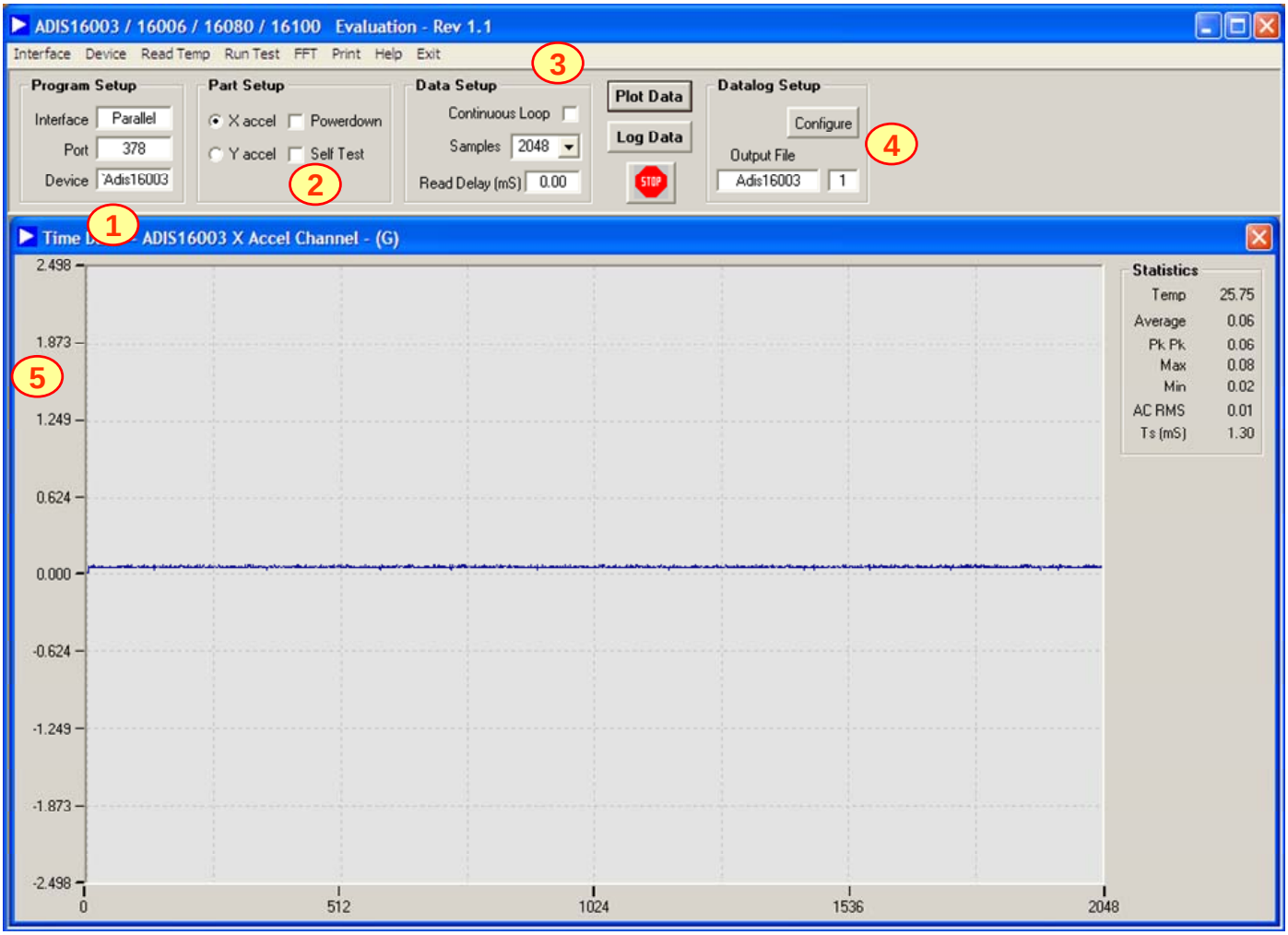

FIGURE FLAG NOTES:

1. Set the Device type to ADIS16003 or ADIS16006. Set the Interface to parallel and set the port address per ReadMeFirst.PDF
2. Set the axis being tested. Test function exercises a self-test during a single sweep on the screen.
3. Plot and log data to files.
4. Set up data logging parameters.
5. Right click over Y-Axis to adjust scale and offset of the plot.

Figure 14. ADIS16003 and ADIS16006 Evaluation Software

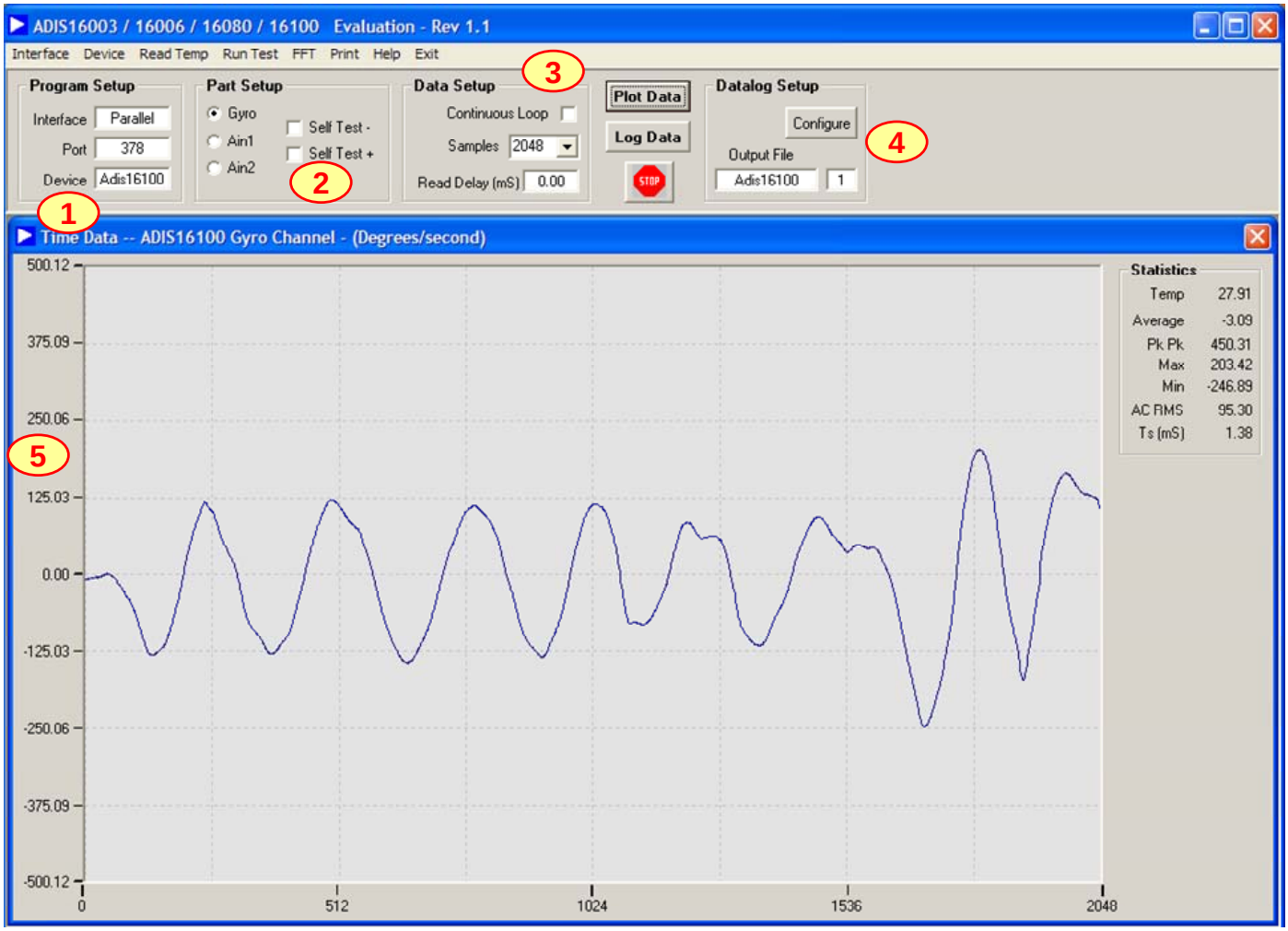

FIGURE FLAG NOTES:

1. Set the Device type to ADIS16080 or ADIS16100. Set the Interface to parallel and set the port address per ReadMeFirst.PDF
2. Set the output channel being tested. Test function exercises a self-test during a single sweep on the screen.
3. Plot and log data to files.
4. Set up data logging parameters.
5. Right click over Y-Axis to adjust scale and offset of the plot.

Figure 15. ADIS16080 and ADIS16100 Evaluation Software

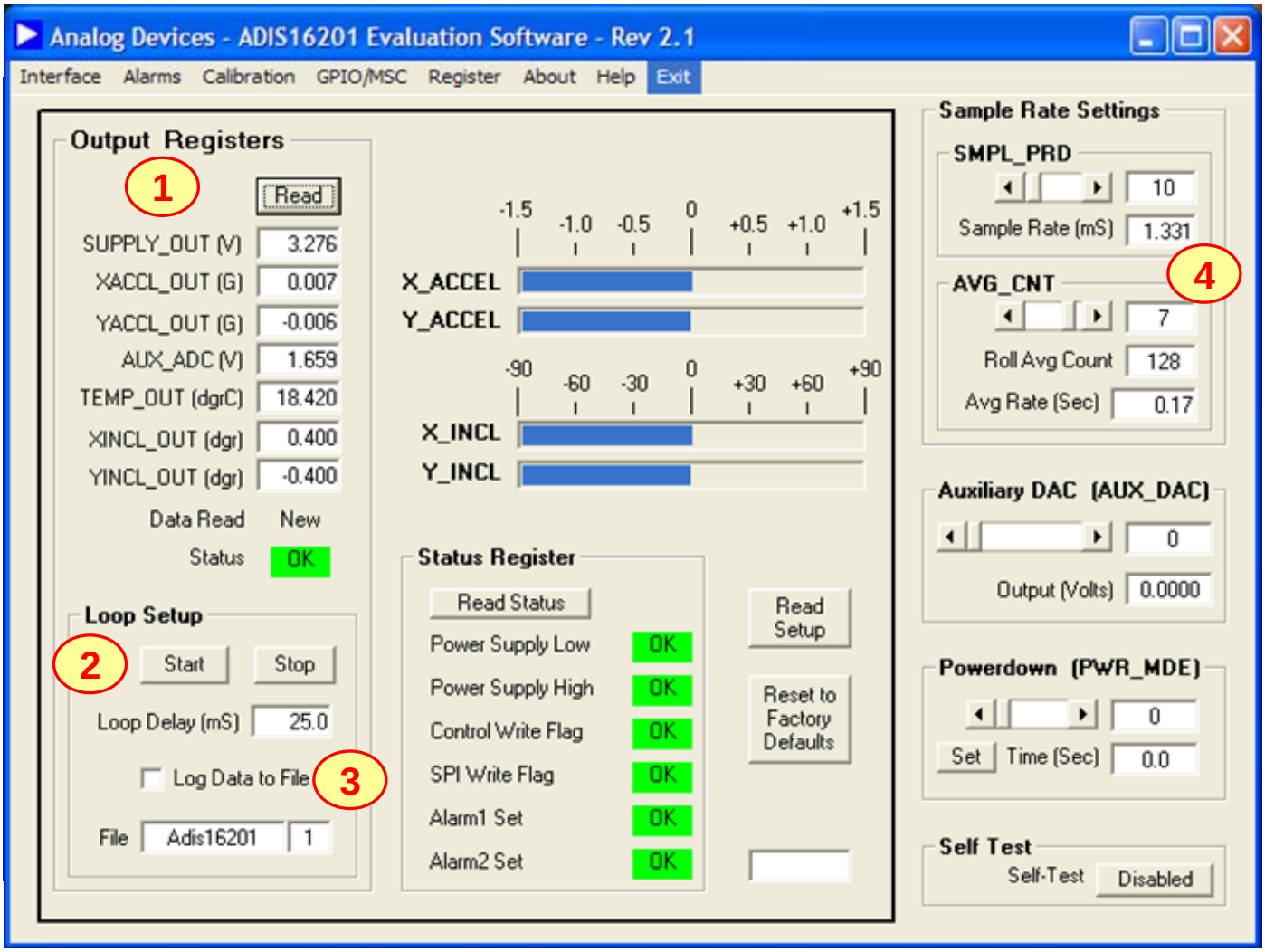

FIGURE FLAG NOTES:

1. Perform a single read of the ADIS16201's output data
2. Start and stop continuous reading of the ADIS16201's output data. Set the acquisition loop delay time. This provides rough control over sample times. Please note that this data will not have a high degree of coherence.
3. Select the file data logging option.
4. Configure the ADIS16201's internal sample rate and filter response.

Figure 16. ADIS16201 Evaluation Software

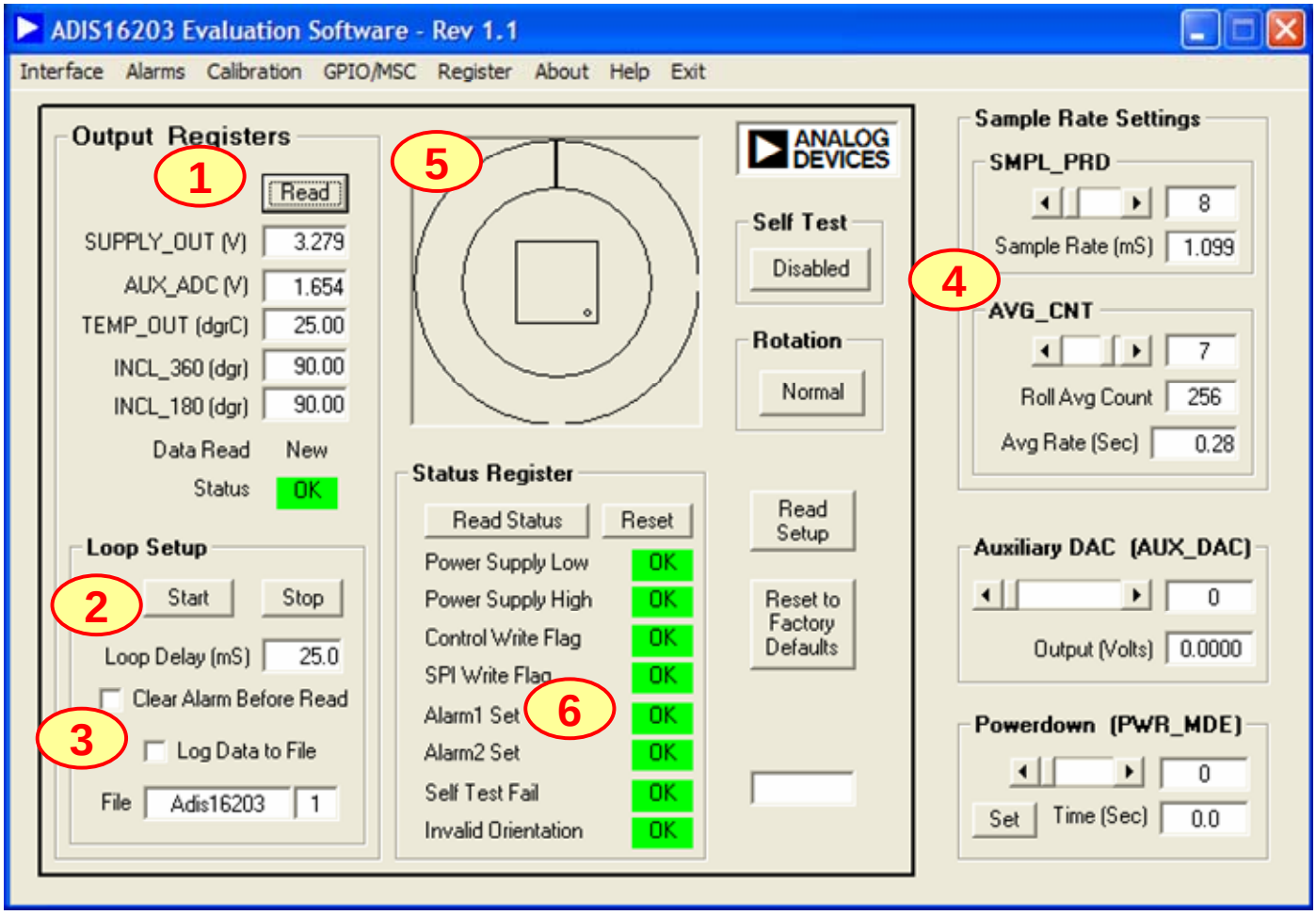

FIGURE FLAG NOTES:

1. Perform a single read of the ADIS16203's output data
2. Start and stop continuous reading of the ADIS16203's output data. Set the acquisition loop delay time. This provides rough control over sample times. Please note that this data will not have a high degree of coherence.
3. Select the file data logging option.
4. Configure the ADIS16203's internal sample rate and filter response.
5. Graphical orientation. Note that for incline angle - 0°, the corner dot would be in the lower, left hand corner.
6. Alarm monitoring. Note that these turn red on alarm condition. They maintain their status until the Reset button is pressed, even if the error condition has cleared.

Figure 17. ADIS16203 Evaluation Software

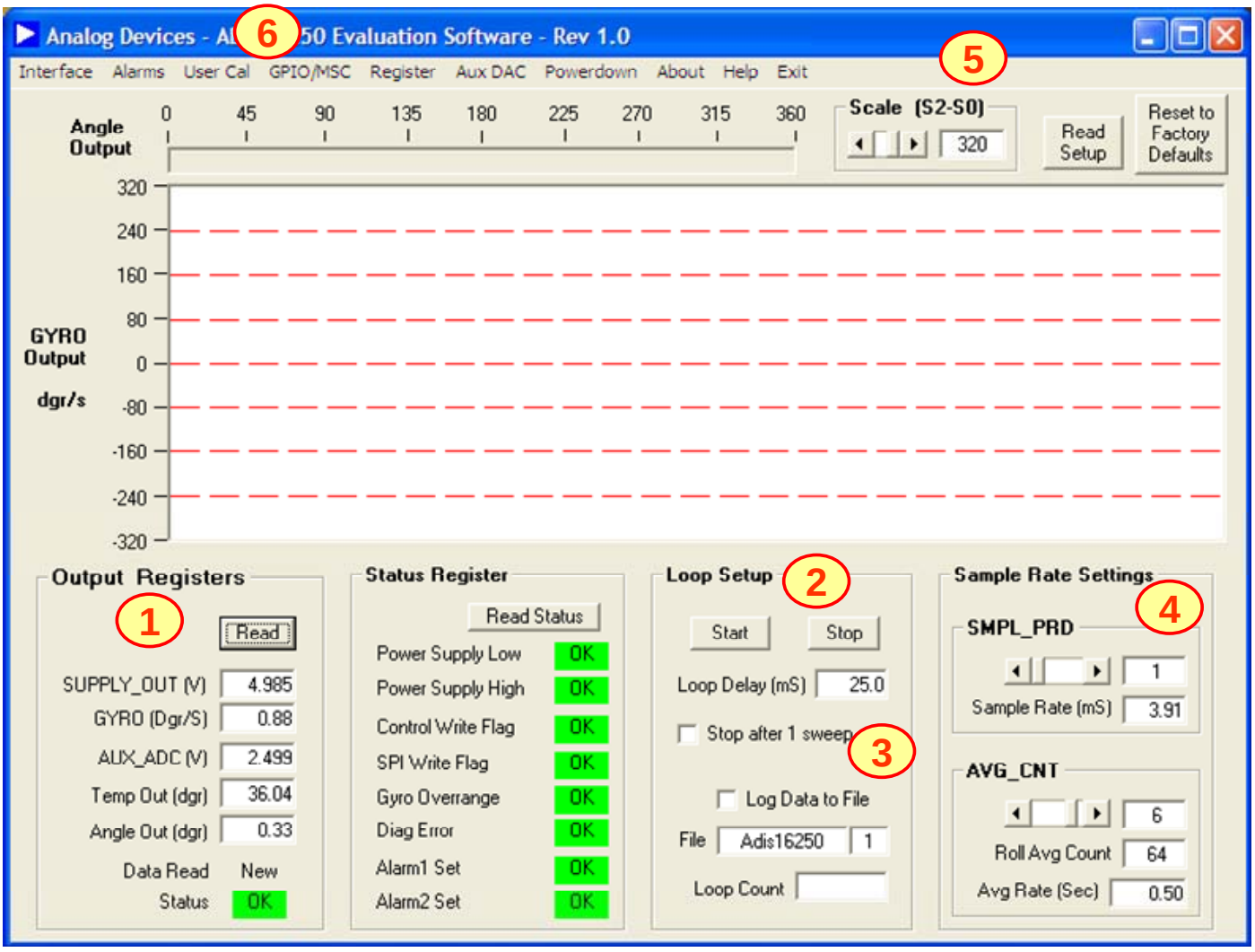

FIGURE FLAG NOTES:

1. Perform a single read of the ADIS1625x's output data
2. Start and stop continuous reading of the ADIS1625x's output data. Set the acquisition loop delay time. This provides rough control over sample times. Please note that this data will not have a high degree of coherence.
3. Select the file data logging option.
4. Configure the ADIS1625x's internal sample rate and filter response.
5. Set the measurement range from the three options available in the ADIS1625x.
6. Exercise the user calibration functions.

NOTE: The ADIS16255 can use this software. The ADIS16251 can use this software, but the rate output measured with be 4 times greater than the actual angular rate.

Figure 18. ADIS1625x Evaluation Software

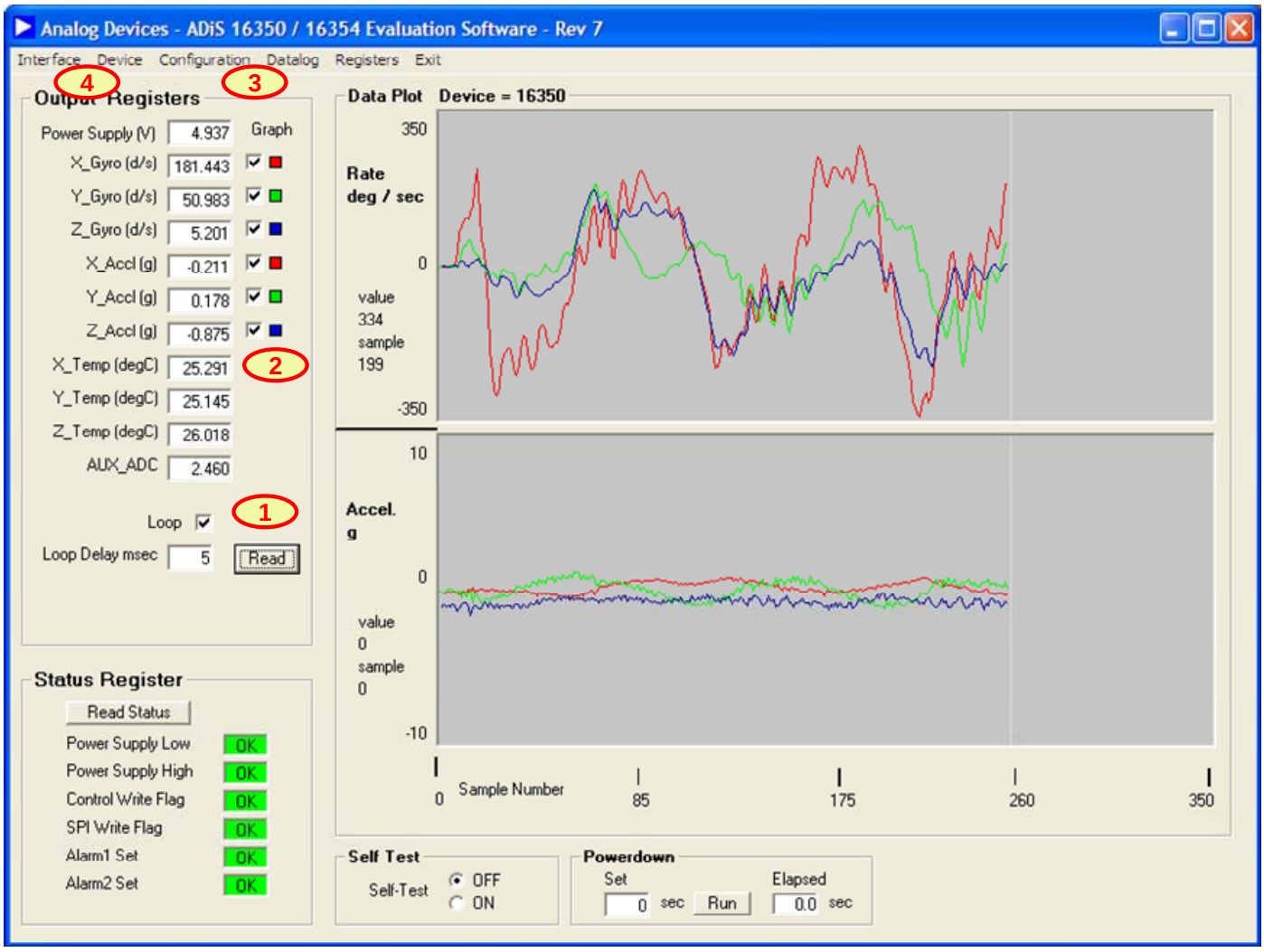

Figure 19. ADIS1635x Evaluation Software

FIGURE FLAG NOTES:

1. Perform a single read of the ADIS1635x's output data. Also select "Loop" checkbox for continuous data scroll across the screen. Use the Loop delay box to add delay between each sample displayed to the screen.
2. Select individual sensor outputs for display.
3. Use Configuration menu to access sample rate, filtering, calibration, I/O control and all other internal configuration controls for the ADIS1635x products.
4. Use Device option to select which part to evaluate.