FUTEK
ADVANCED SENSOR TECHNOLOGY, INC.

SENSIT™
Test and Measurement Software

Sensor Solutions Source
Load · Torque · Pressure · Multi Axis · Calibration · Instruments · Software

www.futek.com

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TG1002
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Important Tips

The USB Troubleshooting Guide can be found at:
https://media.futek.com/docs/troubleshooting/usb_tsg.pdf

SENSIT 14-day trial link, Terms & Conditions, Release Notes, and User Requirements can all be found on the SENSIT download page at:
https://www.futek.com/sensit-software-download

SENSIT software keys may be looked up on the FUTEK support page under the Find my software key link.
https://www.futek.com/support/productkey

The SENSIT software manual and further support can be found on the FUTEK SENSIT support page:
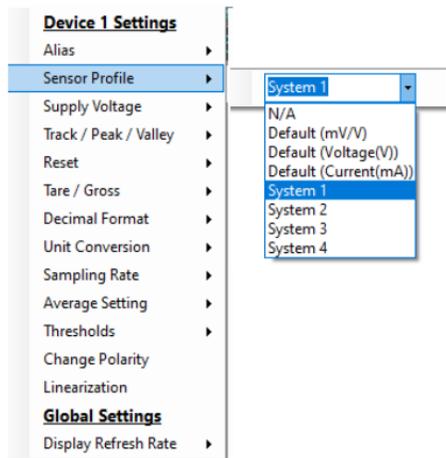https://www.futek.com/sensit-software-support

Profiles used for sensor system calibrations are listed on the calibration cert for instruments with multiple calibration profile capability.

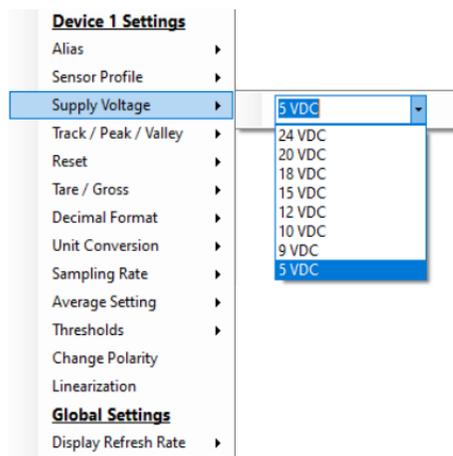| Instrument Information			
S/N: 123456	**ItemNo:** FSH03944	**Model:** USB520	**Channel:** 1
Calibration Settings: Profile System=1			

Readings captured from a Data Logging or Live Graphing session are time stamped by the computer upon a successful read of packet information and are down to second units.
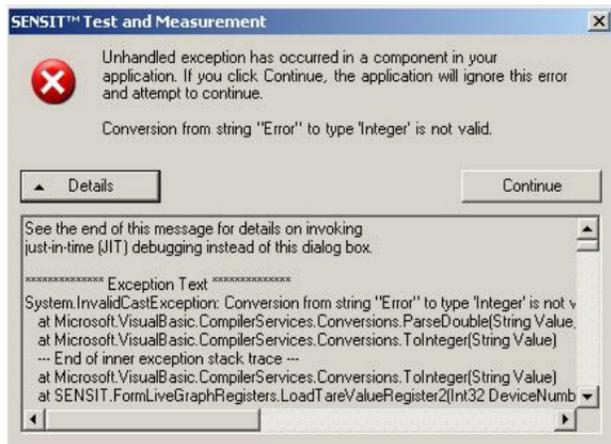
Important Tips

If available, calibration profiles in USB instruments can be selected in the drop-down menu found by right clicking in Display Mode.

Supply voltage options for amplified sensors from USB instruments are accessible from the drop-down menu in Display Mode with a mouse right click.

Device 1 Settings
- Alias
- Sensor Profile
- Supply Voltage
- Track / Peak / Valley
- Reset
- Tare / Gross
- Decimal Format
- Unit Conversion
- Sampling Rate
- Average Setting
- Thresholds
- Change Polarity
- Linearization

Global Settings
- Display Refresh Rate

System 1
- N/A
- Default (mV/V)
- Default (Voltage(V))
- Default (Current(mA))
- System 1
- System 2
- System 3
- System 4

Device 1 Settings
- Alias
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Global Settings
- Display Refresh Rate

5 VDC
- 24 VDC
- 20 VDC
- 18 VDC
- 15 VDC
- 12 VDC
- 10 VDC
- 9 VDC
- 5 VDC

Potential Error Messages

SENSIT™ Test and Measurement

Unhandled exception has occurred in a component in your application. If you click Continue, the application will ignore this error and attempt to continue.

Conversion from string ''Error'' to type 'Integer' is not valid.

▲ Details   Continue

See the end of this message for details on invoking just-in-time (JIT) debugging instead of this dialog box.

************ Exception Text ************
System.InvalidCastException: Conversion from string ''Error'' to type 'Integer' is not v
   at Microsoft.VisualBasic.CompilerServices.Conversions.ParseDouble(String Value,
   at Microsoft.VisualBasic.CompilerServices.Conversions.ToInteger(String Value)
   --- End of inner exception stack trace ---
   at Microsoft.VisualBasic.CompilerServices.Conversions.ToInteger(String Value)
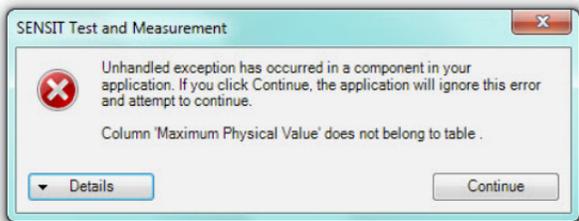   at SENSIT.FormLiveGraphRegisters.LoadTareValueRegister2(Int32 DeviceNumb ▼

"Conversion from string "Error" to type 'Integer' is not valid."

If the USB instrument is unable to generate an ADC number from the sensor's incoming signal, the "Error" notification will be displayed instead. SENSIT will generate this error when it receives the string word, "Error," instead of an integer number.

Possible causes could be if the internal USB instrument calibration was incorrect, and the instrument could not generate an ADC number, or if there was an issue with the signal from the sensor, such as noise or disconnection.
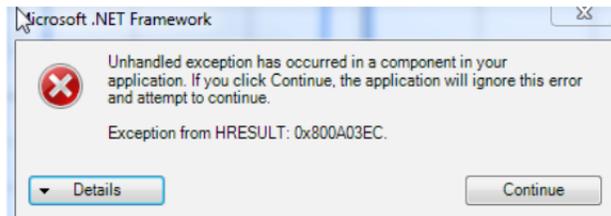
Potential Error Messages

"Column 'Maximum Physical Value' does not belong to table."

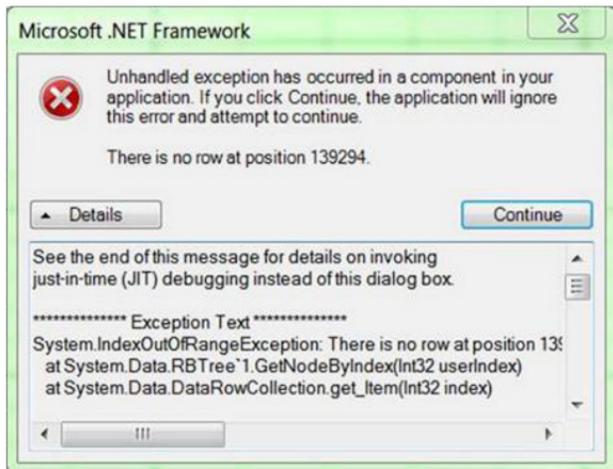In a prior version of SESNIT, there was an issue with support for TEDS.

The issue has been solved and the latest version of SENSIT should be downloaded and installed.

"Exception from HRESULT: 0x800A03EC"

This error message can come up during a test in SENSIT when SENSIT is exporting the information to Excel. There could be an issue if Excel is not installed, a limited version, or a click-to-run version downloaded from Microsoft. If your version of Excel is a click-to-run, an internet search of this version of Excel can provide more information.

This issue can be solved by saving the test results in .CSV or .TXT format, or by downloading full version of Excel for click-to-run related errors.
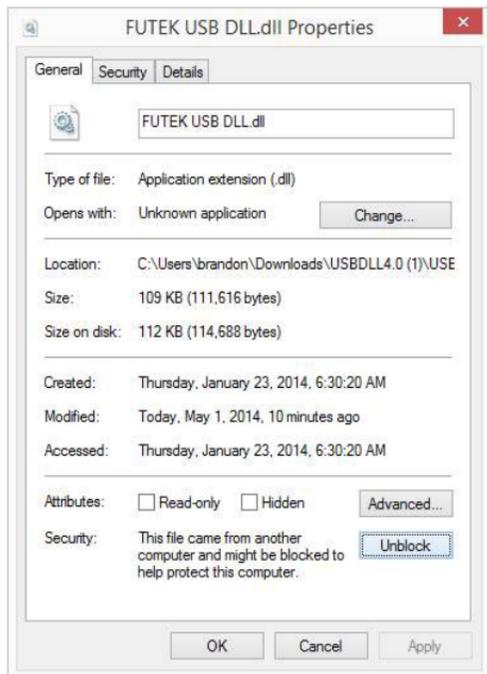
"There is no row at position XXXXXX"

This is caused by a threading issue during Live Graphing.

The issue has been solved and the latest version of SENSIT should be downloaded and installed.

Potential Error Messages

Unable to utilize DLL file

Ensure FUTEK DLL file is not locked under the general properties tab.

Programming Tips

The FUTEK latest DLL file is available on the SENSIT support page at: https://www.futek.com/sensit-software-support

The Command Overview in the Programmer's Guide list all DLL commands and which instrument they are used with at: https://media.futek.com/content/futek/files/docs/API/futek_usb_dll/webframe.html#CommandOverview.html

There is no signal from FUTEK instruments to coordinate when a sample is ready for the computer to be read. If an unsuccessful read attempt is made from an instrument it is recommended to perform a re-read attempt.

To change an active profile in a multiple profile USB instrument:
- There are pages 1 through 7 that store calibration information with pages 4 through 7 as customizable profiles.
- Load the active page 0 with calibration information from another page through the Restore_Back_Up Method where the destination page number is 0 and source page number is the page that contains the calibration information for the new sensor. After loading page 0 with new calibration information, perform a Reset_Board Method and allow a delay of about 15 seconds for the board to reset before taking readings.

Programming Tips

Utilize the Set_ADC_Configuration method to update a USB instrument's sampling rate. https://media.futek.com/content/futek/files/docs/API/futek_usb_dll/webframe.html#FUTEK_USB_DLL~FUTEK_USB_DLL.USB_DLL~Set_ADC_Configuration.html

Values corresponding to sampling rates can be found on the ADC Configuration Codes page of the Programmer's Guide. https://media.futek.com/content/futek/files/docs/API/futek_usb_dll/webframe.html#ADCConfigurationCodes.html

The **Set_ADC_Confuration2** method should be avoided unless there is a need to update the gain of the USB instrument as this method, and any gain adjustments, will affect calibration information.

Visual Studio Tip:
To use existing Visual Studio example with 64 bit DLL:
- Add the 64-bit .dll in the References of the project.
- Set the solution platform to Any CPU or x64.
- All references need to be 64-bit as well.

LabVIEW Tips

Be sure to have the DLL bit match that of your LabVIEW program. (i.e. 32-bit DLL for 32-bit LabVIEW)

In LabVIEW 2015, the FUTEK DLL must be in the same directory as LabView.exe.

You can get drivers from FTDIchip here:
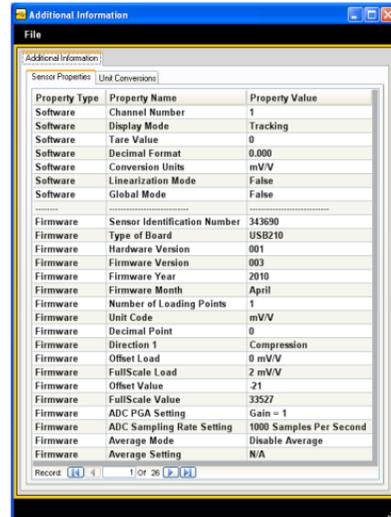http://www.ftdichip.com/Drivers/D2XX.htm

Technical Support

If you need to contact FUTEK Technical Support regarding your SENSIT Software issue, please have the following information available:

1. Version of the USB software you are using, and either full or limited version. (i.e. USB Software 2.0.0.0 Full Version.)

2. Microsoft operating system version, Microsoft Excel version, and operating language. (i.e. Windows 7 64-bit with Microsoft Excel 2010. English language.)

3. Description of what you were trying to perform in the SENSIT Software and when you received the error. (i.e. Live graph, beginning of test)

4. The parameters of any test you were trying to perform.

Also, please have the following if possible:

• A full copy of any error messages you are receiving.

• A full copy of the USB device parameters from ADDITIONAL INFORMATION in the HELP menu (see below). Both can be sent by email.

Additional Information

Property Type	Property Name	Property Value
Software	Channel Number	1
Software	Display Mode	Tracking
Software	Tare Value	0
Software	Decimal Format	0.000
Software	Conversion Units	mV/V
Software	Linearization Mode	False
Software	Global Mode	False
Firmware	Sensor Identification Number	343690
Firmware	Type of Board	USB210
Firmware	Hardware Version	001
Firmware	Firmware Version	003
Firmware	Firmware Year	2010
Firmware	Firmware Month	April
Firmware	Number of Loading Points	1
Firmware	Unit Code	mV/V
Firmware	Decimal Point	0
Firmware	Direction 1	Compression
Firmware	Offset Load	0 mV/V
Firmware	FullScale Load	2 mV/V
Firmware	Offset Value	-21
Firmware	FullScale Value	33527
Firmware	ADC PGA Setting	Gain = 1
Firmware	ADC Sampling Rate Setting	1000 Samples Per Second
Firmware	Average Mode	Disable Average
Firmware	Average Setting	N/A

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Contact Information

A one-year recalibration is recommended. But verification
and calibration period shall be defined based on application,
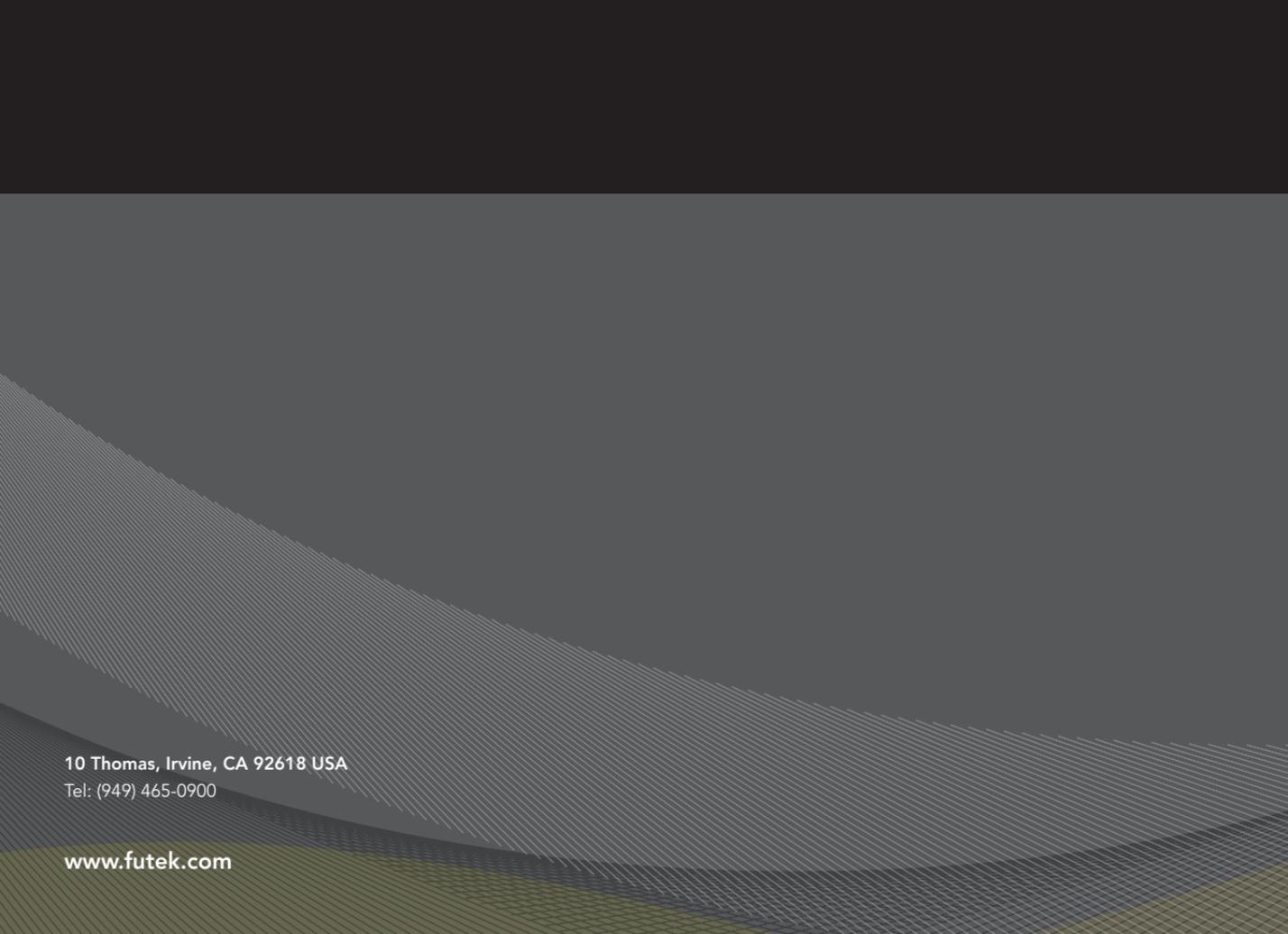conditions, endurance and usage. Calibration data may be
available online at
https://www.futek.com/support/calibrationdata

To send in your sensor or system for recalibration visit our
FUTEK calibration web page at:
https://www.futek.com/recalibration

FUTEK Technical Support may be reached at:
https://www.futek.com/contact/technical-request

To send in your sensor or system for evaluation and repair visit
our FUTEK RMA web page at: https://www.futek.com/rma

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