ELVEFLOW USER SUPPORT DOCUMENTS

Use your Elveflow Equipment

How to troubleshoot common ESI warning messages

Important to read

It is always recommended to read the appropriate Instrument User Guides in the Elveflow Documentation before starting to install anything. The Elveflow Documentation is provided in a USB key to each customer following an order or a loan, and can also be found in the Elveflow Knowledge Base, that you can access from https://support.elveflow.com/support/solutions.

These guides and application notes have been specially designed for the final users, and you will find most of the answers to your questions about the use of Elveflow products. The information provided will also give you critical details about user safety, operation conditions, and warranty conditions.

A dedicated installation support webpage (Elveflow.com/unboxing-OB1) already displays a series of videos created specifically to provide our customers with the best experience. Step by step, we guide you to install your OB1 pressure controller, install and connect reservoirs and flow sensors. A dedicated part shows the ESI software installation and the calibration needed as you use it for the first time.

THIS DOCUMENT IS A PRACTICAL QUICKSTART WHICH COVERS THE MAIN STAGES YOU WILL GO THROUGH INSTALLATION, BUT IT DOES NOT REPLACE THE EXISTING USER GUIDES INSTRUCTIONS.

PLEASE READ EACH USER GUIDE BEFORE STARTING INSTALLATION.

Introduction

The Elveflow Smart Interface (ESI) uses National Instrument's libraries and can return error codes associated with those libraries, as well as its own internal error codes. This guide focuses on identifying and troubleshooting the most commonly encountered ESI error codes. There are many situations that could cause ESI to respond to a situation with a particular error code. We will cover common potential causes and solutions.

General Troubleshooting Tips

- When possible, take note of the error code displayed or take a screenshot for future support reference.
- ESI creates alog files called either ESI.log or ConfigESI.log that can be scanned for relevant information. The default folder is C:\Users\Public\Documents\Elvesys\ESI\data. You may send the log file to support, for future reference.
- ESI errors do not always cause a software crash, and it is sometimes still possible to use the software anyway. You may check that you can use the software, regardless of the message displayed.

Now that you have a high-level understanding of HTTP status codes, we will look at the commonly encountered errors.

General Structure of the warning messages list

Warning message displayed

Reason: xxx

Solution: yyy

Warning messages List

Error 1003 occurred at Invoke Node in StartVI_SplashScreen.vi

Reason: When the software has been installed directly from the zip file instead of unzipping the file.

Solution: Uninstall ESI. Then unzip the ESI version to install. Install ESI from the unzipped folder.

Temporary graph data has been detected. This may come from a recent software crash. Would you like to check and recover this data?

Reason: When the software crashed while recording data and can restore the data.

Solution: Choose either to keep or not the temporary file.

Instrument X seems not to be powered.

Reason: X is often 0. This problem often happens when there is a problem with electrical connection with an OB1 (but can also happen with other instruments).

Solution: Check the following:

- Check that the power cable is correctly inserted into the OB1 socket.
- Check that the Maintained Push Button Switch on the front of the OB1 is switched ON.

No BFS found.
Did you install the drivers in Installation folder (Default path is C:\Program Files (x86)\Elvesys\driver\driver_MUX_distAndBFS .exe) ?
Otherwise check the connection.

Reason: It may happen when adding a BFS or a MUX Distributor as a new instrument.

Solution: To solve this:

- Install the driver as described in the message.
- If driver is installed, open NI-MAX (installed with ESI) and check in the devices whether or not there is something connected via a COM port. You should have a line written with ASRLX::INSTR "COMY" where X and Y should be the same (it is not always the case).
    - If you have the corresponding line close NI-MAX and ESI. Relaunch ESI. Add again the instrument.
    - If you do not have the line, check if your instrument is turned ON and connect the instrument to another USB port.
    - Update NI-MAX (F5) and check if the line appears. Relaunch ESI. Add again the instrument.

Instrument Calibrated
Channel X: Pressure too low (P out max = YYYY, normal P out max = ZZZZ)

Reason: This is not a major problem. It means that the maximum pressure is not reached YYYY < ZZZZ. However your regulator should work properly in the range 0-YYYY pressure unit.

Solution: Check your input pressure that goes inside the OB1. If might be due to the fact that the inlet pressure is around YYYY pressure unit.

Instrument Calibrated
Channel X: No pressure connected
Channel X: couldn't go below -600 mbar

Reason: This problem may happen when you are trying to calibrate your instrument. It means that the instrument has not been calibrated properly.

Solution: Concerning the pressure check the following:

- Check if the pressure source is connected to the AF1/OB1 in the "Pressure Inlet" on the back of the OB1 or the side of AF1 when using a pressure generator with AF1.
- Check if the pressure source is turned ON.
- Check if the pressure source has a value higher than 1500 mbar. If not increases it over 1500 mbar.
- If the instrument is an AF1:
    - Turn the pressure generator button to the maximum and check if air is blowing out of the generator by removing all the tubing.
    - If yes check if you connected pressure correctly to the AF1.
    - If not, contact us, using the **Issue Report Document**.

Concerning the vacuum check the following:

- Check if the vacuum is connected to the AF1/OB1 in the "Vacuum Inlet" on the back of the OB1 or the side of AF1 when using a pressure generator with AF1.
- Check if the vacuum source is turned ON.
- Check if the performances of the vacuum pump are sufficient to go below -600 mbar.
- If the instrument is an AF1:
    - Turn the pressure generator button to the maximum and check if air is sucking from the generator by removing all the tubing.
    - If yes check if you connected vacuum correctly to the AF1.
    - If not, contact us, using the **Issue Report Document**.

Regulator and Sensor should both be connected to regulate flow using sensor.

Reason: It happens when "Control mode" button is turned to Sensor in the OB1 and there is no sensor displayed in the sensor part of the channel.

Solution:

- Connect a sensor to the corresponding channel or:
- Change the "Visualized In" channel in the sensor parameters of the sensor that has to be used with this pressure channel.

The microfluidic resistance of your setup is too high.
For a better regulation you could:
Reduce the microfluidic resistance of your setup by removing some resistive elements.
Use a higher pressure line.
Use a flow sensor of a lower rate.

Reason: This problem is not blocking. It happens after clicking on Autotune and it appears often when the microfluidic resistance of the setup is too high. Since it uses a very fast check process, it might also happen when the resistance is too low. In any case, the resistance seems not well adapted to the system.

Solution: Try the following:

- Launch again the Autotune. It might solve the problem.
- Follow the instructions or use the Tuning Resistance module to adapt your microfluidic resistance. Refer to the corresponding Application Note and ESI User Guide to use it.
- After using the Tuning Resistance module and having adapted the resistance, if it still does not work: use the Autotune PID values as a starting point to regulate the flow. Decrease all the values until you get a stable flow. Be careful, the pressure variations may have caused bubbles to form (depending on your setup) and flow regulation can still be perturbed. In this case, check your setup for bubbles, go back to pressure mode to chase away the bubbles then go back to flow regulation when bubbles have disappeared.

The configuration was created with another instrument. Still load this config?

Reason: When you load a sequence that was not created with this instrument.

Solution: You still can load the sequence but you will have to select again the instrument and configuration for all steps including an instrument that was different from the one you saved the sequence with.

The configuration off all subMUX coudn't be found, still load the config file? (All not found data will be OFF by default)

Reason: If you have more MUX in your MUXCustom than the number you had when you created the sequence. It happens when you load a sequence with these missing data from subMUX.

Solution: Try to connect the correct number of subMUX or still load the sequence but every configurations that refer to a MUX that does not exist will be put to OFF by default.

Error 1097: Your computer might go to sleep mode/hibernate. Keep in mind that the device might freeze during/after hibernation

Reason: Error related to the loading of kernel32.dll. Problem with Windows.

Solution: Check the following:

- If possible try to install the ESI on another computer. It might be related to your Windows configuration.
- Contact us.

Error 6000 to 6999: Error Manager:
Error number XXXX:
YYYY.vi > ZZZZ:
AAAA

With:
XXXX = error number (between 6000 to 6999)
YYYY = name of the vi where the error happened
ZZZZ = type of error that happened, either Error (consumer loop) or Event structure
AAAA = LabVIEW description of the source of the problem

Reason: These errors happen for multiple reasons. It has to be solved case by case.

Solution: Please find below some known error code that have been troubleshot.

Other general LabVIEW error codes:

http://zone.ni.com/reference/en-XX/help/371361M-01/lverror/misc_lv_error_codes/

Runtime Incompatibility
A version of NI-845x was detected on your system that is incompatible with the NI-845x Runtime. Please either uninstall NI-845x before installing this product, or upgrade to the latest full version of NI-845x. For more information visit ni.com/info and enter the Info Code NIRuntimeInstallers2014andLater.

Reason: This problem might happen when installing old ESI version.

Solution: Try the following:

- Install the latest ESI version.
- Follow the described process.
- Uninstall/remove any LabVIEW components related to NI-845x from the computer. Then reinstall latest ESI version.

Error number -301708 or -301706
*** TEXT ***

Reason: This is an error related to an internal component of the OB1. There are many reasons that could cause this error to appear but it can only happen with an OB1 or a Digital Sensor Reader. The *** TEXT *** describes where the problem happened.

Solution: Contact us with your ESI version number, a screenshot of the window that appeared, an explanation on the conditions when it happened and how to reproduce the bug.

You may use the **Issue Report Document** for this.

Error number 1077:
*** TEXT ***

Reason: This is an error that can happen particularly when using a BFS instrument but not only. It means that there is an invalid value at a particular moment (like Inf., NaN).

Solution: Try the following:

- If the problem appeared with a BFS. Install the drivers that are in the default path C:\Program Files (x86)\Elvesys\driver\driver_MUX_distAndBFS.exe.
  1) Go to file "C:\Users\Public\Documents\Elvesys\ESI\data"
  2) Delete ESI.ini file
  3) Launch the ESI
  4) No instruments and no sensors are no longer in the list
  5) Add again the instruments.
  Uninstall ESI and reinstall it. Go back to the first step and do the same.

Error number 1448:
*** TEXT ***

Reason: This error may happen if a particular condition is not managed by the code thus conducting to bad data transfer in the code.

Solution: Contact us with your ESI version number, a screenshot of the window that appeared, an explanation on the conditions when it happened and how to reproduce the bug.

You may use the **Issue Report Document** for this.

We apologize for the inconvenience.
ESI XXXXX encountered a problem and needs to close.
*** TEXT ***

Reason: It might rarely happen when the software crashes.

Solution: One possible solution is to reinstall the software.

Status Code: -50808:
A USB transfer failed due to a transaction error reported by the USB host controller. This may be due to a fault in the system's USB host controller, a USB cable, or a USB device.

Reason: This error is not related either to the software nor the hardware. It is related to the host controller.

Solution: Try the following:

- Disconnect the USB cable, then reconnect it
- Remove power from the USB device, then reconnect it
- Try replacing or using a different power supply and/or USB cable
- In Windows, disable, then re-enable the affected device through Windows Device Manager
- NOTE: In some configurations, the steps above may cause Error -5080 on a different USB device connected to the same system.

To have a complete overview on the causes and resolution, please follow the link:

https://knowledge.ni.com/KnowledgeArticleDetails?id=kA00Z000000P8uXSAS&l=fr-FR

Conclusion

Now that you are familiar with the most common ESI error codes, and common solutions to those codes, you should have a good basis for troubleshooting issues you may experience.
If you encounter any error codes that were not mentioned in this guide, or if you know of other likely solutions to the ones that were described, feel free to reach us by email at customer@elveflow.com so that we can discuss them together!