

Getting the Highest Resolution on your ECO

Background: I am using a single channel ECO and want to get the highest analog resolution on the analog output.

QUESTION: How do I increase my voltage output?

The single channel ECO's allow the user to modify the range on the analog signal output to encompass the entire range of the instrument or decrease the range (increase the resolution) by a factor of two or four. This capability allows the user to get the high resolution on the digital output on the analog output, albeit with a decrease in range.

The Analog Scale Value (ASV) setting accomplishes this.

For example, for an ECO FI, the ASV setting changes the scale factor, range and resolution:

ASV Value	Scale Factor	Range	Resolution
4	26	0 – 125 ug Ch/I	0.03 ug Ch/I
2	13	0 – 60 ug Ch/I	0.015 ug Ch/I
1	6	0 – 30 ug Ch/I	0.007 ug Ch/I

Note that final resolution depends on the resolution of the recording device.

The instruments are shipped with ASV = 4.

To increase resolution the ASV value on the ECO should be set to 1 for the highest resolution on the analog output.

Using ECOview, load the device file for the instrument and select the Raw Data tab.

Turn the instrument on and then off using the Start and Stop Data buttons.

The instrument will output the current settings. Copy these and save them in a document (e.g. a word-processing file) for your records.

If the ASV value does not equal 1, you should set it to 1.

Select the FI-setup tab.

Click on the Set Analog Range button.

Use the pull down menu to select ASV1: HiResolution

A yellow warning message "Set Up not Stored" should appear in the upper right.

Click on the Store to Flash button.

The yellow warning message should disappear.

Confirm settings change by going to the Raw Data tab and toggling on the instrument (Start/Stop data) and confirming that the ASV value is now set to 1.

