FuelCell Addendum – Minimum iR Drop

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Introduction

FuelCell version 3.x will suppress the display of the calculated iR Drop as well as calculated iR resistance (mOhm) if it iR Drop is very small.

1) The default limit is 0.005 V (5 mV).

2) To modify this value:

Open the "fuelcell.ini" file using Notepad (if the computer controls duel stations, the ini files for each station must be modified).

In the [CellInfo] section, add the MinIRDrop setting as shown below. Note that the other settings in the System section may not be the same as those shown below.

[CellInfo]
MinIRDrop=0.005
MinIControl=0.2
MaxIControl=100
MaxEControl=20
MaxPControl=125
MinI=0.1
MaxI=100

Save the file and close Notepad.

3) How it works:

The instrument measures the normal (uncorrected) cell voltage as well as the corrected voltage measured during an interrupt.

The iR drop is calculated as the difference between the corrected and uncorrected voltages.

The resolution and accuracy of the voltage measurements are on the order or 1mV. If the iR Drop is very small, it will have no significance and will become an arbitrary noise value.

If the iR Drop is below the specified minimum, the iR Drop values will display as 0 (zero) and iROhm values will display as '---'.

The Whole and Half Cell iR values are checked separately so it is possible to have the Whole Cell iR values displayed fully, and the Half-Cell values suppressed.