

Viewing CSV Data Files in Microsoft Excel® spreadsheet software

Application Note

It is easy to use Excel® spreadsheet software to open the CSV data files created by the Fluke data acquisition software packages. For example, when Excel software is installed, simply double-click on the CSV file to open it, or from within Excel use the **File Open** menu and set **Files of type** to **Text Files** to find and open your CSV data files.

This is the recommended way to handle CSV files in many cases. However, there are two disadvantages to using this simple way of opening the files. One main disadvantage is that once a CSV file is opened, Excel “freezes” the data and does not show any updates. This means that if the data acquisition software adds data to the CSV file, the additional data is not visible unless the file is closed and opened again in Excel software. Another disadvantage is that Excel takes control of the CSV file when it opens it normally; this means that unless Excel is forced to open the CSV file in Read-only mode, the data acquisition software is prevented from writing to the file, which will cause program errors and most likely the loss of any new data.

There is a ‘Data Import’ feature included in Excel software that provides a solution to these issues. While this Data Import takes a few steps to set up, it does enable Excel to update with any

changes in a CSV file manually or automatically, and also allows logging software to add data to the file. Below are instructions for setting up the Data Import on Excel 2002 (Office XP) and Excel 2000 software.

Excel 2002 (Office XP)

To open a CSV file in an Excel worksheet:

1. Under the **Data** menu, select the **Import External Data** sub-menu, then **Import Data...**
2. Use the Select Data Source window to find the CSV file, select it and press **Open**.
3. This brings up the Import Text Wizard. Select **Delimited** file type, and press **Next**.
4. In the Step 2 of 3 window under Delimiters, check **Comma**, and press **Finish**.
5. An Import Data window appears: select either **Existing Worksheet** with a cell location or **New Worksheet**, and press **OK**.

Excel 2000 (Office 2000)

To open a CSV file in an Excel worksheet:

1. Under the **Data** menu, select the **Get External Data** sub-menu, then **Import Text File...**
2. In the Import Text File window, set **Files of type** to All Files (*.*), then find the CSV file, select it and press **Import**.
3. This brings up the Import Text Wizard. Select **Delimited** file type, and press **Next**.
4. In the Step 2 of 3 window under Delimiters, check **Comma**, and press **Finish**.
5. An Import Data window appears: select either **Existing Worksheet** with a cell location or **New Worksheet**, and press **OK**.

Updating the data in Excel software

The Data Import function in Excel software will display the data in the CSV file up to the time of the import. However, this does not update automatically to show new data collected after that time. If you want Excel to display the new data, you can either refresh the data manually or set up an automatic refresh at a particular interval.



To refresh the displayed data manually, go to the **Data** menu, and select **Refresh Data**: this will open the Import Text File window (your CSV data file name is already entered), then press **Import**. This reads the current contents of CSV data file into your worksheet. Note that the whole CSV file is read again every time it is refreshed, so it will take longer to refresh the data as the CSV file gets larger.

To set up Excel to refresh data automatically, go the **Data** menu again and select the **Import External Data** or **Get External Data** sub-menu, then select **Data Range Properties**. On that properties window, first uncheck the **“Prompt for file name on Refresh”** check box. Then, click the **“Refresh every”** check box, and set the time for the refresh. Notice that this refresh time can only be set in minutes: however, since the whole CSV file is read again on every refresh, it would not be practical to update the data faster than this in any case.

Note about date and time in Excel software

You may need to format the first column of the CSV data in Excel to display the date and time correctly. To do this, select all of the date and time cells, then under the **Format** menu, select the **Number** tab and choose the Date or Time

format you prefer. A shortcut method to select all of the date and time cells is to click on the first one (e.g. cell A6), then hold the Shift and Ctrl keys while pressing the down arrow on the keyboard; this will select all of the rest of the cells in that column down to the end of the data.

One issue with displaying the dates and times in a CSV data file is that Excel does not have a standard date and time format with as much resolution as our data acquisition equipment. This is an issue particularly if the scan interval is less than once per minute, since the built-in formats in Excel only display date and time to the minute. If you need more resolution for the time, such as to the second or millisecond, you will need to choose the Custom number format and enter a suitable format string for the Type.

For Hydra data in Excel, try a Custom format Type string like “M/d/yy h:mm:ss” or “yyyy/M/d h:mm:ss” to display the date and time to the second.

For the 2680 Series or NetDAQ, try a Custom Type like “M/d/yy h:mm:ss.000” or “yyyy/M/d h:mm:ss.000” to display the date and time to the millisecond.

If the first column shows all “#” signs, change the column’s width to display the date and time correctly.

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Fluke Calibration
PO Box 9090,
Everett, WA 98206 U.S.A.

Fluke Europe B.V.
PO Box 1186, 5602 BD
Eindhoven, The Netherlands
Web access: <http://www.flukecal.eu>

For more information call:
In the U.S.A. (877) 355-3225 or Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: <http://www.flukecal.com>

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