Tutorial – Working with Logger Pro

Enter data into the data table

You can type data directly into the data table from the keyboard. To type data into a cell, click on the cell and type the number. You can use either the mouse or keyboard to move and edit within a table. Press the **Enter/Return** key after entering the value to move to the cell below or to the right as specified in **Preferences**.

Creating a new column

You may create a new calculated column by selecting **New Manual Column** or **New Calculated Column** from the **Data menu**. For example, if you have current and voltage data, you can use a new column to calculate the power (current times voltage).

- Name the new column by editing the text in **Name** and **Short Name** text boxes.
- Enter units in the **Unit** box. Choose a symbol, if needed, from the pull-down menu.
- If you are creating a new calculated column, enter your formula in the **Expression** text box. The definition can contain numbers, calculator functions (sin, sqrt, etc.), other columns, or **Functions** definitions. You can either type the formula or select item(s) from the list of functions below to paste them in the definition box. Access the names of the other columns by scrolling down and choosing from the **Variables (Columns)** menu.
- Click the **Done** button when the information is complete.

Changing options for a single column

Right click in a table, select **Column Options** then choose the column you want to change.

Changing which columns are displayed on a graph

When a new file is opened, the y-axis is set to display the data set labeled "Y". You may want to customize the window by changing the columns that are displayed. To do so, perform the following steps:
- To change which column is plotted along the y-axis, perform the following steps:
  - Position the mouse over the y-axis label and click. A small pop-up with a list of available columns will appear.
  - Select the column you want to display.
  - If you selected **More…** instead of a specific column, you'll be able to display several columns at once. You'll be able to choose from the following scaling options: **Autoscale Larger**, **Autoscale**, **Autoscale from zero**, or **Manual**.

Adding error bars

Right click in a table, select **Column Options** then choose the column for which you want to add error bars.
- Select the **Options** tab.
- Check the box that says "Error Bar Calculations".
- You need to select if the error for the column is expressed as a fixed or a percentage value.
- Then you have two options:

- The error could be the same for all data points. In this case, simply select "Error Constant" and enter the value.
- If the error is not constant, you need to get the values from another column. In this case, select "Use column" and select the column in which you entered the errors (this instruction assumes that you already created a new manual column as described above in which you entered the errors for that column).

Linear Fit

- The **Analyze/Linear Fit** function fits the line $y = mx + b$ to the selected region of a graph and reports the slope (m), the y-intercept (b), the standard deviation of the slope and intercept, and the correlation coefficient. The correlation coefficient is a number between -1 and 1 which measures to what extent two variables are linearly related. A perfect correlation with positive slope is shown by a +1 correlation, while a negative slope is shown by a -1 correlation. A correlation coefficient of 0 means that there is no linear relationship.
- You can fit a line either to the whole graph or to a region of interest. Drag the mouse across the desired part of the graph to select it. Black brackets mark the beginning and end of the range.
- You can click and drag the brackets and the fit will update automatically.
- To remove the fitted line, click the close box in the upper corner of the integral helper object.