

FlukeView Forms

Documenting Software

Tutorial 4: Working with Multiple Data Groups on a Form

Introduction

This tutorial shows you how to enable multiple data groups on a FlukeView Forms form template, and how to customize a form template to display data from multiple meters on a single form. The tutorial also shows how meter data can be copied from one form, and pasted to another.

Tutorial

Beginning with FlukeView Forms 2.0, you can display meter data from more than one meter on a single form. This allows data collected from separate meters, or from the same meter at different times, to be compared side-by-side on a form.

To differentiate between data collected from different meters, a *data group* is associated with each "meter's worth" of data that you transfer to a form. When transferring meter data to the form, you specify a data group to associate with the data. Form items that display meter data are set to a particular data group, and display the meter data corresponding to that data group.

To display multiple data groups on a form, the form template you use **must** be enabled for multiple data groups. Otherwise, the form can only contain data from a single meter. FlukeView Forms Designer is used to enable multiple data groups on a form template.

All form templates contain form items, which are the fields that display meter data or user data. In this tutorial, the term "form item" is generic; text enclosed in angle brackets refers to a specific form item. For instance, a logging summary form item will appear in the text as <logging summary>.

Note

Some basic familiarity with FlukeView Forms Designer is assumed. Please step through Tutorial 1: Creating a Customized Form Template before using this Tutorial if you have not used the Designer before.

Examine the Form Template

1. From the Windows **Start** menu, open *FlukeView Forms*.
2. The path name of the database that you are currently using is shown in the brackets in the blue title bar at the top of *FlukeView Forms*. Remember this path name; you will be changing to a different database for this tutorial, and will want to return to this database when you are finished.

3. From the **File** menu, select **Open Database**. Browse to the directory where *FlukeView Forms* is installed. Open the database **tutorial.fdb**, which contains the form template you will be enabling for multiple data groups.
4. From the **Tools** menu, select **Options**. When the **Options** dialog box appears, select the **Preferences** tab. Make sure **Copy latest meter data when changing form templates** and **Open a saved form when changing form templates** are **not** checked (this would cause different behavior during this tutorial.)
5. From the **File** menu, select **New Blank Form**. Select the form template **Tutorial 4 – Single Data Group Form** and click **OK** to open.

This form template is not enabled for multiple data groups; it cannot contain more than a single meter's worth of data. It contains several form items, including a <logged readings graph>, a <logging summary>, and a <logged readings table>.

1. From the **File** menu, select **Open Saved Form**. Notice that in the **Open Saved Form** dialog box, under the **Tutorial 4 – Single Data Group Form** entry, there are two saved forms listed. Select the one with the description "Light Sensor on a Clear Day", and click **OK**.
2. You are now viewing a saved form which shows a logging session where a meter was used to log the output from a light sensor over a day. Notice that the data is displayed in PPF units; scaling has been applied to the V DC units measured by the meter. The scaling factor is described in the <logging summary> form item on the form, adjacent to "Scaling". (You can set, change or eliminate the scaling factor by selecting **Scale Logged Readings** under the **Tools** menu.)
3. Select **Open Saved Form** again from the **File** menu again, and select the saved form under the **Tutorial 4 – Single Data Group Form** entry with the description "Light Sensor on a Cloudy Day". Click **OK**.
4. Notice that the <logged readings graph> displays a much "noisier" trace, indicating that the readings were more varied than those displayed in the other saved form.

Instead of having to save these two logging sessions on two separate saved forms, it would be preferable to save them on a single form. We will do this by enabling this form template for multiple data groups.

Enable the Form Template for Multiple Data Groups

1. From the **File** menu, select **Exit** to leave *FlukeView Forms*.
2. From the Windows **Start** menu, open *FlukeView Forms Designer*.
3. From the **File** menu, select **Open**. Select the form template **Tutorial 4 – Single Data Group Form**.
4. From the **Layout** menu, select **Data Groups**. The **Data Groups** dialog appears.
5. Click on **Enable display of more than 1 meter's data on the form** so that it is checked. This will enable this form template for multiple data groups.

6. Under **Data Group List**, 8 different data groups are listed. Only those that are checked are enabled. The colors associated with each group are important; form items associated set to display this data group will be tagged with the data group color and number. Also, <logged readings graph> form items will draw the readings using the color associated with the data group they are displaying.
7. Make sure only Data Groups 2 and 3 are checked; uncheck any others. Then click on the **OK** button.
8. The **Undefined Data Groups** dialog box appears. Since this form template was created without multiple data groups being enabled, none of the form items on this form have been set to display a specific data group.
9. Select **Data Group 2** (the data group with the red color) under **Data Group To Display**, and click on the **OK** button. This will set all the existing form items on to display data associated with Data Group 2 (and not the other enabled data group, Data Group 3).
10. Notice that many of the form items on the form, such as the <logged readings table> and the <logging summary>, now display a red shaded "(2)", indicating that by default they will display data group 2.

Now we will save this as a new form template, "Two Data Group Form".

1. At the top of the page is a <label> displaying the text "Tutorial 4 - Single Data Group Form". Move your cursor over the <label> and right-click on it. A border will appear around the <label>, and a pop-up **Properties** menu appears. Select it.
2. The tabbed property dialog box appears. Under the **General** tab, change the **Label text** from "Tutorial 4 - Single Data Group Form" to "Two Data Group Form". Click **OK**.
3. From the **File** menu, select **Save As**.
4. In the **Form template name:** box, type in **Two Data Group Form**. Click **OK**.
5. From the **File** menu, select **Exit**.

Copy Meter Data to the Form

You could now transfer data from a meter (or meters) to the new form template you just created. For the sake of this tutorial, we will instead copy data from existing saved forms into the template.

1. From the Windows **Start** menu, open *FlukeView Forms*.
2. From the **File** menu, select **Open Saved Form**. Select the saved form under the **Tutorial 4 - Single Data Group Form** entry with the description "Light Sensor on a Clear Day". Click **OK**.
3. From the **Edit** menu, select **Copy Form Data**. This will copy the meter data from this form into the clipboard.
4. From the **File** menu, select **New Blank Form**. Select the new form template you just created, **Two Data Group Form**, and click **OK** to open.
5. From the **Edit** menu, select **Paste Form Data**.

6. The **Paste Form Data** dialog box appears, because you need to select which data group to associate with the meter data you are pasting into it.
7. Under **To**, select **Data Group 2** (which displays the red shaded "(2)"). This is the data group you set the form items on this template to display. This will associate the "clear day" data you just copied with Data Group 2. Click **OK**.
8. The data is copied to your form. Also, the **Paste Form Data** dialog box appears again, asking if you want to copy the same meter data to the other data group on the form template, **Data Group 3**. Since you don't want to copy the same meter data to the form twice, click **Cancel**.

Notice that the measurements taken on the clear day are displayed on the various form items. Now let us copy the data from the cloudy day to this form.

1. First, we need to save the form we've been working on. From the **File** menu, select **Save As**. Under **Form Remark**, type "Light sensor on 2 days", and then click the **Save** button.
2. From the **File** menu, select **Open Saved Form**. Select the saved form under the **Tutorial 4 – Single Data Group Form** entry with the description "Light Sensor on a Cloudy Day". Click **OK**.
3. From the **Edit** menu, select **Copy Form Data**.
4. Now we'll return to the saved form you just created. From the **File** menu, select **Open Saved Form**. Select the saved form under the **Two Data Group Form** entry with the description "Light sensor on 2 days". Click **OK**.
5. From the **Edit** menu, select **Paste Form Data**. The **Paste Form Data** dialog box appears again; this time, select **Data Group 3** under **To**, and click **OK**. When the dialog box re-appears, again click on **Cancel** – you don't want to overwrite the meter data from the clear day that you previously copied into the form.

Notice that the appearance of your form has **not** changed. This is because all of your form items are currently set to display data from Data Group 2. However, we can change which data group each form item displays in *FlukeView Forms* at any time.

Let's change the <logged readings graph> to display Data Group 3 instead of Data Group 2.

1. Right-click over the <logged readings graph>. A pop-up menu appears.
2. Select **Select Traces/Groups**. The **Select Traces / Groups** dialog box appears.
3. Under **Groups to show**, select "Data Group 3".
4. Under **Traces**, click on the "Data Group 3" entry so that it is checked, and then click **OK**.
5. The <logged readings graph> now displays the "cloudy day" data you associated with Data Group 3 when you pasted it into the form.

You can also change the data group being displayed by the <logging summary>, <logged readings table> and <meter identification> in the same way.

Now save the "Light sensor on 2 days" form so that it contains both data groups.

1. From the **File** menu, select **Save**. The **Replace current saved form (Save)** radio button should be selected, and the **Form remark** should be "Light sensor on 2 days".
2. Click on the **Save** button.
3. Notice that the **Saved forms** drop-down list box on the *FlukeView Forms* toolbar (above the form) still shows 1 total saved form for this form template. Using **Save**, as opposed to **Save As**, updated the saved form you were working on, instead of creating a new saved form.

Customizing the Form Template for Two Data Groups

We've seen how form templates can be enabled for multiple data groups; and how individual form items can be changed to display meter data associated with different data groups. While this is useful for interactive viewing of data, it doesn't allow us to visually compare the two data logging sessions side-by-side. And we still must print the form twice to have printouts of both logging sessions, which is no improvement over the Single Data Group form template.

However, we can customize our new form template so that it contains form items corresponding to both data groups. To do that, we'll need to go back to *FlukeView Forms Designer* and make some changes to the form template. We'll add a second page to the template, move some of the form items from the first page to the second page, and create new form items that are set to display Data Group 3 instead of Data Group 2.

1. From the **File** menu, select **Exit** to leave *FlukeView Forms*.
2. From the Windows **Start** menu, open *FlukeView Forms Designer*.
3. From the **File** menu, select **Open**. Select the form template **Two Data Group Form**.
4. From the **Layout** menu, select **Number of Pages**. A dialog box appears, showing the current number of pages is set to **1**.
5. Change the value in **Number of Pages:** from **1** to **2**, and click **OK**.

Notice that now there is more room at the bottom of the form. A dotted line shows the division between pages 1 and 2 of the form template.

We will move the tabular form items from page 1 to page 2, to provide more room on page 1 for a second <logged readings graph>. For a description of how to move and insert form items in *FlukeView Forms Designer*, please read *Tutorial 1: Creating a Customized Form Template* before proceeding further.

1. First, move the <logging summary> from page 1 to the top left-hand corner of page 2.
2. Move the other form items on page 1 to page 2 in a similar manner, with the exception of the three form items at the top of page 1: the <logged

readings graph>, the <label> displaying "Two Data Group Form", and the <date time stamp> labeled "Form Last Modified".

3. Keep the form items you're moving in the same relative position to each other that they had on page 1.

Now we'll create new form items to display Data Group 3.

1. Scroll back to page 1 of the form template.
2. Below the current <logged readings graph>, create a new <logged readings graph> form item. This is done by selecting **Insert Form Item** from the **Edit** menu, selecting **FlukeView Logged Readings Graph**, and clicking on the **Insert** button. Click on the **Close** button to close the **Insert Form Item** dialog box.
3. Move the new <logged readings graph> below the existing <logged readings graph>, and resize it to the same general dimensions as the existing graph. The new <logged readings graph> should take up most of the blank space left at the bottom of page 1.
4. Right-click on the new <logged readings graph>, and select **Properties** on the pop-up menu that appears.
5. Select the **General** tab on the **FlukeView Logged Readings Graph Properties** dialog box that appears. Select the text in the **Title** box and delete it. (We don't want "FlukeView Logged Readings Graph" to appear as the title of this <logged reading graph>.) Click **Apply**.
6. Select the **Data Groups** tab on the **FlukeView Logged Readings Graph Properties** dialog box. This is where you select the default data group that a form item will display.
7. Select **Data Group 3** under **Data Group to Display**, and click **OK**.

The new <logged readings graph> will now display Data Group 3 instead of Data Group 2, allowing you to view graphs of both logging sessions on page 1.

Now scroll down to page 2, and create new <logging session>, <logged readings table> and <meter identification> form items. Move each one to the bottom half of page 2, matching the same relative positions and size as the existing form items in the top half of page 2.

Note that each form item you create is already set to display **Data Group 3**; you don't need to specifically set each form item to Data Group 3 via the properties dialog box. *FlukeView Forms Designer* remembers the data group you set the last form item to, and uses it as the default data group for any newly-created form items.

Now save these changes as a new form template, "Logging Session Comparison Form".

1. Change the text displayed in the <label> at the top of page 1. Move your cursor over the <label> at the top of page one and right-click on it. A border will appear around the <label>, and a pop-up **Properties** menu appears. Select it.

2. The tabbed property dialog box appears. Under the **General** tab, change the **Label text** from "Two Data Group Form" to "Logging Session Comparison Form". Click **OK**.
3. From the **File** menu, select **Save As**.
4. In the **Form template name:** box, type in **Logging Session Comparison Form**. Click **OK**.
5. From the **File** menu, select **Exit**.

Compare Two Logging Sessions

Now we'll view the two logging sessions side-by-side. We'll copy the meter data from your first multiple data group form to your new "Logging Session Comparison Form" form template.

1. From the Windows **Start** menu, open *FlukeView Forms*.
2. From the **File** menu, select **Open Saved Form**. Select the saved form under **Two Data Group Form** entry with the description "Light sensor on 2 days". Click **OK**.
3. From the **Edit** menu, select **Copy Form Data**. This will copy all the meter data on the form (both data groups) to the clipboard.
4. From the **File** menu, select **New Blank Form**. Select the new form template you just created, **Logging Session Comparison Form**, and click **OK** to open.
5. From the **Edit** menu, select **Paste Form Data**.
6. The **Paste Form Data** dialog box appears. Make sure that **Data Group 2** is selected in both the **Paste Meter Data From** and **To**. Then click **OK**.
7. The "clear day" data is copied to your form.
8. Now the **Paste Form Data** dialog box appears again, asking if you want to copy the other, "clear day" meter data the form. Make sure that **Data Group 3** is selected in both the **Paste Meter Data From** and **To**. Then click **OK**.
9. Your form now displays both logging session side-by-side – graphically on page 1, and in tabular format on page 2.

Note

*The Y-axis scale of the <logged readings graph> may be different for the two data groups. You can fix this by setting the maximum and minimum Y-axis values in the **Manual Zoom** dialog. Set the Y-axis **Manual Zoom** values of one <logged readings graph> to match those of the other <logged readings graph>.*

Now save the form.

1. From the **File** menu, select **Save As**.
2. Under **Form Remark**, type "Light Comparison", and then click the **Save** button.

Finish Tutorial

You have finished the tutorial, and should return to your own database. From the **File** menu, select **Open Database**, and select the database you were using before you started this tutorial.

Notes

- When you are transferring meter data to a form template that has been enabled for multiple data groups, you will be prompted for the data group to associate with the meter data.
- When interactively logging to a form template that has been enabled for multiple data groups, you need to specify the data group to associate the logged data with on the **Logging Window** under **Setup**. Specify the data group to associate with the logged data under **Log to Data Group**.
- Data groups names (by default, "Data Group 1", "Data Group 2", etc.) can be customized for a particular form template. This can be done in the **Data Groups** dialog box in *FlukeView Forms Designer*, using the **Rename** button.
- Beginning with *FlukeView Forms 2.1*, a single <logged readings graph> form item can now display traces from multiple data groups. To do so, bring up the **Select Traces / Groups** dialog box for the <logged readings graph> in *FlukeView Forms*. Under **Groups to show**, select one of the entries that begins with "Any group...", rather than a specific data group. Traces from more than one data group will then be displayed under **Traces**; select the ones you wish to display on this group.
- To copy the "Logging Session Comparison Form" form template you created to your own database, please see *Tutorial 1: Creating a Customized Form Template*. There is a section at the end of the tutorial that explains how to do this.

See Also

- *FlukeView Forms Users Manual*, "Data from Multiple Meters on a Single Form"