

# FlukeView Forms

## Documenting Software

### *Tutorial 4: Working with Multiple Data Groups on a Form*

*Note: This tutorial is not applicable to FlukeView Forms Basic, whose form templates do not support multiple data groups.*

## 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 set to display a data group will be tagged with the data group's color and number. Also, <logged readings graph> form items will draw the traces associated with a data group using the data group's color.

The colors for each data group are pre-defined, and cannot be changed.

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 reappears, 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 could change the data group being displayed by the <logging summary>, <logged readings table> and <meter identification> in the same way. Also, the <logged readings graph> can display more than one data group at a time; we'll demonstrate this later in the tutorial.

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, copy some of the form items from the first page and paste them to the second page, and set the new, pasted form items on the second page 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 copy the tabular form items on page 1 and paste them to page 2, to display Data Group 3 data in a tabular format.

1. Click on the <logging summary table>, so that it is selected (a gray border appears around it).
2. Now, holding down the **Shift** key, also click on the <meter ID> to the right, and the <logged readings table> directly below, the <logging summary table>. This selects these form items as well.
3. From the **Edit** menu, select **Copy Form Items**.
4. Scroll down to the very top of page 2 – just below the dotted line at the top of the page.
5. From the **Edit** menu, select **Paste Form Items**. Depending on the size of the *FlukeView Forms Designer* window, you may get a warning message saying that the 3 form items will be pasted outside of the window. If so, scroll down to where the form items have been pasted.
6. The pasted form items should still be selected. If not, click on each of them, holding the **Shift** key so they will all be selected.

7. Position the mouse pointer over the border of the “primary” form item selected – it will display black squares (anchors) at the corners and midpoints of the border. When the mouse pointer changes to crossed arrows, hold down the **Ctrl** key, and drag the form items to the top of page 2.

You may also want to align the form items to one another, and to the form items on page 1. See *Tutorial 1* for examples of aligning form items to one another.

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

1. Right-click on the new <logging summary table> on page 2, and select **Properties** on the pop-up menu that appears.
2. Select the **Data Groups** tab on the **FlukeView Logging Summary Properties** dialog box. This is where you select the default data group that a form item will display.
3. Select **Data Group 3** under **Data Group to Display**, and click **OK**.

The new <logging summary table> will now display Data Group 3 instead of Data Group 2. Repeat this for the new <meter ID> and <logged readings table> on page 2.

Note that we have not copied the <logged readings graph> to page 2. This is because multiple data groups can be displayed on a <logged readings graph>. We will demonstrate this later.

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, “cloudy 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**.

Note that the tabular form items on page 1 display Data Group 2, and those on page 2 display Data Group 3.

However, the <logged readings graph> displays only Data Group 2. We'll change it so it displays both data groups.

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 “Any group with Event data”.
4. Under **Traces**, check both traces.
5. Now check the **Share Axis** button, to set both data groups to same Y-axis scaling.
6. In the **Share Axis Scaling** dialog, select both **PPF** traces, and then click on the **Share** button. Then click **OK**, and then **OK** on the **Select Traces / Groups** dialog.
7. The graph displays both data groups. However, since they started on different days, they do not overlap one another.
8. We can solve this by right-clicking on the graph and selecting **Elapsed Time**. Now the two traces are displayed relative to the time they started, instead of an exact date and time.

Your form now displays both logging session side-by-side – graphically on page 1, and in tabular format on pages 1 and 2.

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.
- 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”