

FLUKE®

FlukeView Forms

Documenting Software

Getting Started

PN 1574021
September 2000

© 2000 Fluke Corporation. All rights reserved. Printed in USA
All product names are trademarks of their respective companies.

Table of Contents

Title	Page
Introduction.....	1
Contacting Fluke	1
FlukeView Documentation.....	2
FlukeView Features.....	2
Installation	3
System Requirements	3
Installing FlukeView Forms from the CD	3
Installing FlukeView Forms from Floppy Disks	4
Copying the Setup Program to Floppy Disks	4
Installing the Setup Program from Floppy Disks	5
Overview of FlukeView Forms.....	5
Starting FlukeView Forms	8
Selecting a Form Template	8
Getting Data from the Meter to the PC.....	8
How Your Meter Communicates Data	9
Connecting the IR Cable to a PC	9
Changing the Communications Port.....	9

Logged Readings and Display Readings	10
Uploading Data	10
Interactive Logging.....	11
Event Logging	14
Setting Up Your Logging Session	15
Viewing the Status of a Logging Session	17
Single-Reading Copy to Form.....	17
Using Forms.....	18
Manually Adding User Data	18
Formatting Data on an Existing Form	19
Printing a Form.....	19
Saving a Form.....	20
Finding and Opening Saved Forms	20
Opening a Saved Form.....	20
Managing the Database.....	21
Opening Databases	21
Backup Procedures.....	21
Troubleshooting	22
Setting the Comm Port.....	22
Testing the Cable Connection.....	22

Fluke Corporation
FlukeView® Forms License Agreement

BY USING THIS SOFTWARE PRODUCT IN ANY MANNER, YOU ARE AGREEING TO ACCEPT THE FOLLOWING TERMS AND CONDITIONS.

Fluke Corporation (Fluke) grants you a non-exclusive right to use FlukeView Forms Documenting Software (Product) on a single PC or workstation (node), or on multiple nodes, provided that a multi-use license is obtained from Fluke and the number of nodes does not exceed the number of nodes for which license fees are paid. This grant of license does not include the right to copy, modify, rent, lease, sell, transfer or distribute the Product or any portion thereof. You may not reverse engineer, decompile, or disassemble the Product.

Fluke warrants that the Product will perform in its intended environment substantially in accordance with the accompanying written materials for a period of 90 days from the date of license acceptance. Fluke does not warrant any downloading errors or that the Product will be error free or operate without interruption.

FLUKE DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SOFTWARE AND THE ACCOMPANYING WRITTEN MATERIALS. In no event shall Fluke be liable for any damages whatsoever (including, without limitation, indirect, consequential, or incidental damages, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or inability to use this Product, event if Fluke has been advised of the possibility of such damages.

FlukeView Forms Documenting Software

Introduction

FlukeView Forms Documenting Software lets you transfer data from a supported digital multimeter directly to forms on your computer. This automates your troubleshooting or recording process, reduces the possibility for manual error and allows you to collect, organize and display meter data in a format that meets your needs.

Contacting Fluke

To order accessories, receive assistance, or locate the nearest Fluke distributor or Service Center, call:

USA: 1-888-99-FLUKE (1-888-993-5853)

Canada: 1-800-36 FLUKE (1-800-363-5853)

Europe: +31 402-678-200

Japan: +81-3-3434-0181

Singapore: +65-738-5655

Anywhere in the world: +1-446-356-5500

Address correspondence to:

Fluke Corporation

P.O. Box 9090

Everett WA 98206-9090

USA

Fluke Europe B.V.

P.O. Box 1186

5602 BD Eindhoven

The Netherlands

Visit us on the World Wide Web at: www.fluke.com

FlukeView Documentation

The following documentation is available for use with *FlukeView Forms*.

Table 1. Documentation Sources

Documentation	Format	Use For
Getting Started Guide	Printed	Installation, basic operation
Users Manual	CD/Online Printable .pdf	Installation, basic and advanced operation
Meter Connection Pages	CD/Online Printable .pdf	Step-by-step instructions for each type of meter
Tutorials	CD/Online Printable .pdf	Step-by-step instructions for procedures
Online Help	Windows Help	On-the-spot application help
Technical Notes	Web at www.fluke.com Available on the <i>FlukeView Forms</i> CD	Detailed troubleshooting and technical information.

FlukeView Features

Acquires and documents readings from supported digital meters through IR or standard serial communications.

- Displays acquired results in graphs and tables.
- Allows you to save and print results.
- Allows you to retrieve and view previously saved results.
- Allows real-time logging directly to a connected PC, with meters that support interactive logging.
- Allows you to transfer collected readings to other PC applications.
- Provides standard form templates to display results professionally.
- Includes *FlukeView Forms Designer* program for creating customized form templates.

Installation

This section describes how to install *FlukeView Forms* and *FlukeView Forms Designer*. Also, follow these instructions to upgrade from an older version of the software.

System Requirements

Operating System: Microsoft Windows 95 or later, Windows NT 4.0 or later, or Windows 2000.

Minimum recommended hardware: Pentium class microprocessor, 32 MB RAM, and 70 MB hard disk space (100 MB to install).

Note

To install the software on Windows NT and Windows 2000, you must log in with Administrator privileges.

Installing FlukeView Forms from the CD

If your PC does not contain a CD-ROM drive, skip to the section, "Installing *FlukeView Forms* from Floppy Disks."

1. Insert the CD into your CD-ROM drive.
2. A window appears that lists options on the CD.
If the window does not automatically appear:
 - a. On the Windows taskbar, select **Start**, then **Run**.
 - b. Type `d:\viewer.exe` (where `d:` is your CD drive letter).
3. Select **Install Software**.
4. Select **Install FlukeView Forms**.
5. Follow the installation instructions that appear.

Installing FlukeView Forms from Floppy Disks

Copying the Setup Program to Floppy Disks

Have blank, formatted 1.44 MB floppy disks available.

1. Insert the CD into a PC that has a CD-ROM drive.
2. Browse to `d:\floppy` (where `d:` is the CD-ROM drive letter).
3. There are two subdirectories listed. Select `d:\floppy\useurope` if you use English or a European language, or `d:\floppy\asia` if you use an Asian language.
4. The subdirectory you select contains subfolders named `Disk1`, `Disk2`,...
5. Copy the files in subfolders `Disk1`, `Disk2`,... on the CD to the floppy disks labeled `Disk1`, `Disk2`,..., respectively.
6. If you are installing *FlukeView Forms* on Windows 95, create a blank formatted disk, label it `DCOM95`, and copy the file `d:\DCOM95\DCOM95.exe` from the CD to the `DCOM95` floppy disk.
7. Read the next section "Installing the Setup Program from Floppy Disks."

Installing the Setup Program from Floppy Disks

1. Insert *Disk1* into the floppy disk drive.
2. On the Windows taskbar, select **Start**, then **Run**.
3. Type `a:\setup.exe` (where `a:` is your floppy drive letter).
4. Click **OK**.
5. Follow the installation instructions that appear. The setup program prompts you to switch disks.

Overview of FlukeView Forms

The *Getting Started Guide* and *Users Manual* detail processes you need to know to use *FlukeView Forms*. They include:

- Starting *FlukeView Forms*
- Selecting a form template

- Transferring data from the meter to the PC
- Managing forms to meet your needs
- Saving and retrieving data
- Exporting data
- Managing your database
- Troubleshooting

Most users start *FlukeView Forms*, select a form template, connect the meter to the PC, transfer data, add user data, and then print and save the form. More advanced users might spend time customizing form templates, retrieving and exporting data, and managing the database.

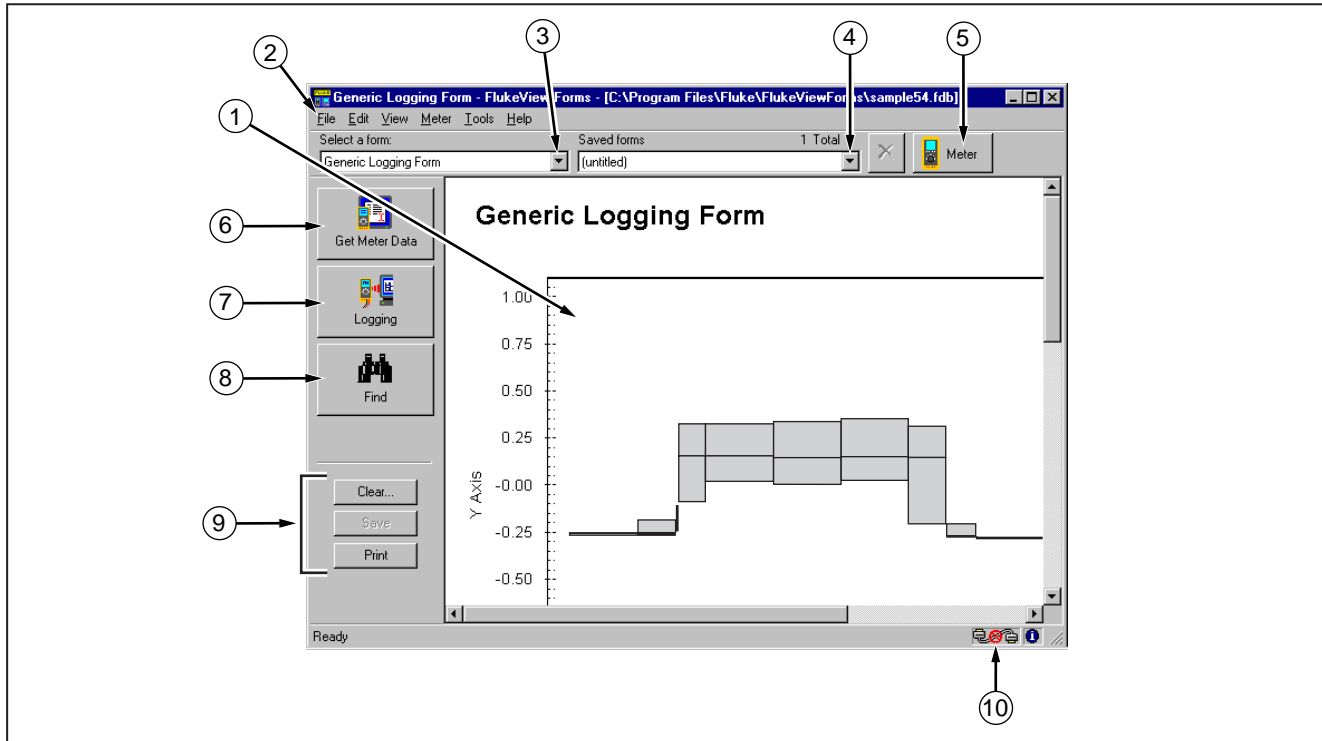


Figure 1. FlukeView Forms Screen

zk01f.eps

Table 2. Graphic User Interface Components

No.	Description
①	Active form template. Displays meter data and user-entered data.
②	<i>FlukeView Forms</i> menu.
③	Select a form drop-down list. Lists all form templates available in the open database. Identifies the active template currently being displayed.
④	Saved forms drop-down list. Lists all forms you have saved with the active template. Displays the name of the saved form you are viewing, or (untitled) if the form has not been saved.
⑤	Virtual Meter button. Opens the virtual meter window. The virtual meter displays the active meter readings and copies single-readings to the active form. It also lists, summarizes, and exports uploaded data.
⑥	Get Meter Data button. Uploads data from meter memory and displays it in the active form.
⑦	Logging button. Begins set up and interactive logging from the meter. Displays logged data on the active form.
⑧	Find button. Helps you locate forms you have saved previously.
⑨	Clear, Save or Print the active form.
⑩	Meter connection icon tells you if a meter is connected and communicating with your <i>FlukeView Forms</i> software.

Starting FlukeView Forms

To start *FlukeView Forms*:

1. From the Windows taskbar, select **Start, Programs, Fluke**, then **FlukeView Forms**.
2. Click the **FlukeView Forms** menu item.

Selecting a Form Template

FlukeView Forms templates are designed to display data in different ways. After you select the appropriate form template, it becomes the active form. When you transfer meter data, it displays in the active form.

1. On the **File** menu, select **New Blank Form**.
2. A **New Blank Form** dialog box appears. Double-click a form template name in the **Select a form** list.

Note

If you are working in an active form when you open a new blank form template, FlukeView Forms asks if you want to save changes you have made to the original active form.

FlukeView Forms provides general-purpose form templates. See online tutorials for more information on using form templates.

Getting Data from the Meter to the PC

The meter communicates with a PC through an IR (infrared) serial cable. *FlukeView Forms* transfers meter data to the PC three ways:

- Upload data from meter memory
- Interactive logging
- Single-reading copy to the active form

The type of meter you have determines which transfer methods can be used.

How Your Meter Communicates Data

The following table shows how certain Fluke meters communicate data to the PC. If you do not see your meter in this table, see this table in the online *Users Manual*.

Table 3. Meter Communication Styles

Fluke Meter Model	Uploading	Interactive Logging	Single-Reading Copy to Form
87 IV / 187		X	X
89 IV / 189	X	X	X
53 / 54	X		

Connecting the IR Cable to a PC

1. Attach the 9-pin serial connector of the IR serial cable to the serial port on your PC.
2. Attach the other end of the IR serial cable to the meter. For more details or information on your specific meter, see *Meter Connection Pages* on your CD.

Changing the Communications Port

To change the communications port that *FlukeView Forms* uses:

1. Open *FlukeView Forms*.
2. On the **Tools** menu, select **Options**. The **Options** dialog box appears.
3. Click the **Communications** tab.
4. In the **Port** list, click the communications port you want to use. The default communications port for *FlukeView Forms* is COM1.

Logged Readings and Display Readings

FlukeView Forms deals with two types of meter data, *logged readings* and *display readings*.

Logged readings are taken during a logging session. There are two ways to generate logged readings:

- During interactive logging between a meter and a PC running *FlukeView Forms*.
- Some meters support logging directly to meter memory. In this case, logged readings are stored in meter memory and uploaded from meter memory to *FlukeView Forms* at a later time.

Display readings are taken one at a time, as opposed to being recorded during a logging session. Display readings are transferred to *FlukeView Forms* two ways:

- When you upload individually saved readings from meter memory.

Note

Readings stored in meter memory are identified variously as saved readings, stored readings or memory readings in the meter manuals.

- When you perform a single-reading copy to form.

Logged readings in a logging session always have the same units. For example, results are all V ac, all V dc, etc. However, display readings may be in different units. Display readings are not graphed in *FlukeView Forms*, but logged readings can be.

Uploading Data

If your meter has memory, the meter can record data without a PC present and store it in meter memory. *FlukeView Forms* then uploads data from the meter memory to the PC. Data storage on the meter is limited by the meter memory.

Meters that support uploading data are listed on Table 3.

To upload data:

1. Start *FlukeView Forms*.
2. Select the form template you want to use by opening the **File** menu and selecting **New Blank Form**. Highlight the form template in the **New Blank Form** dialog box and click **OK**.
3. Connect the meter to the PC using the IR cable.
4. Turn the meter on.

Note

If your meter has a PC/IR SEND button, you must use that button to initiate communication with the PC.

5. On the **Meter** menu, select **Get Meter Data** to upload the meter data to the active form. The **Get Meter Data** dialog box appears. In some cases, this step is unnecessary. Instead, you are prompted with the **Get Meter Data** dialog box automatically.

You can also press the **Get Meter Data** button to access the dialog box.

6. Data readings are copied directly into the active form.

Interactive Logging

In interactive logging, readings are logged directly from the meter and stored on the PC. This allows *FlukeView Forms* to take advantage of the PC's larger memory. However, it requires the meter to be connected to the PC while the logging session takes place; and the meter must have sufficient battery power to run for the length of the logging session.

Meters that support uploading data are listed on Table 3.

To begin interactive logging:

1. Connect the meter to the PC.
2. Select the form template you want to use by opening the **File** menu and selecting **New Blank Form**. Highlight the form template in the **New Blank Form** dialog box and click **OK**.
3. On the meter, choose the meter function and range you want to use to measure the input.
4. In *FlukeView Forms*, click the **Meter** button at the top right-hand portion of the toolbar. Use the virtual meter to confirm that the meter readings are correct.
5. From the **Meter** menu, select **Logging**. The **Logging** window appears. You can also press the **Logging** button to access the **Logging** window.
6. Set up your logging session using the on-screen items on the logging window (or make no changes to the setup, and use the default configuration).

7. Click **Start** or **Stop** to start or stop logging.

The **Setup** and **Status** radio buttons in the **Logging** window display settings for and provide information about the logging session. Use them to:

- Change the default logging settings under **Setup**.
- Use **Example Log** to examine the effects of your logging settings on example data.
- Manually **Start** and **Stop** a logging session, or set **Auto Start/Stop** times for a logging session.
- Examine the **Status** of the active logging session.

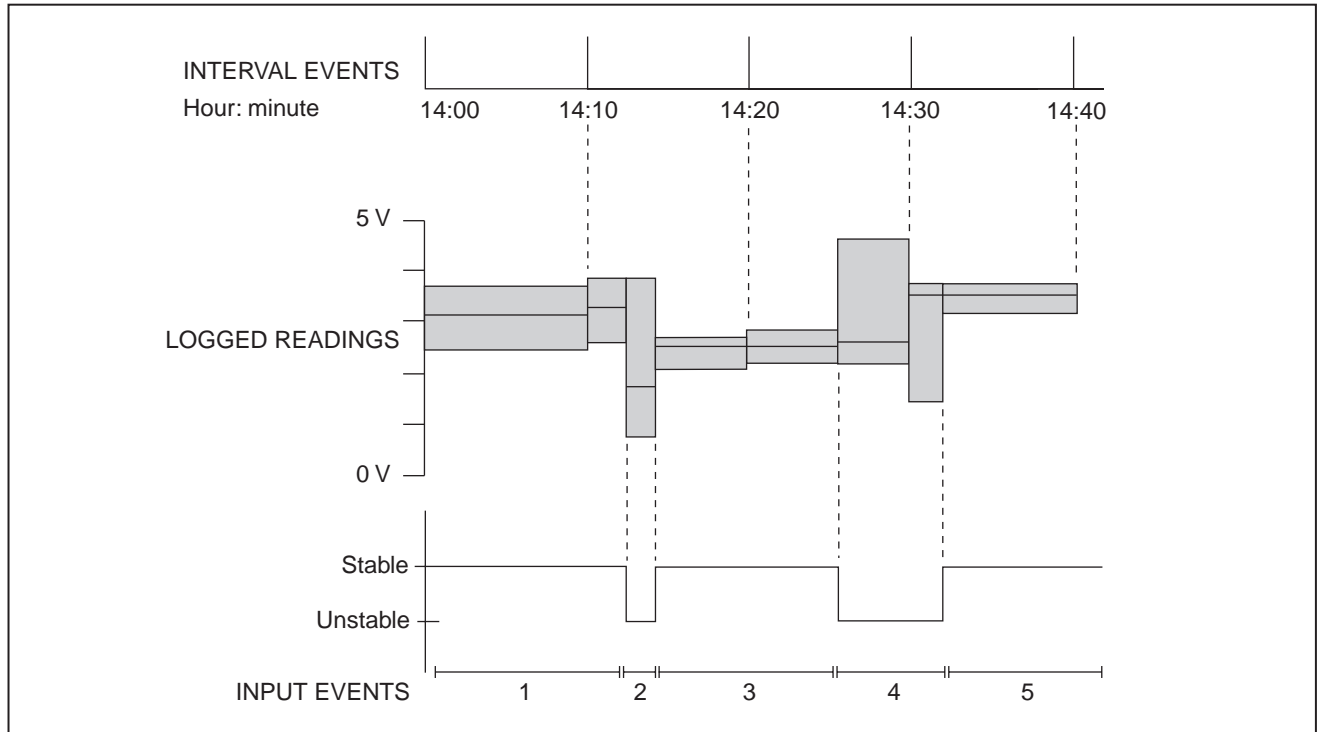


Figure 2. Interval Events and Input Events

zk02f.eps

Event Logging

During interactive logging, *FlukeView Forms* compresses the input being measured by the meter into a series of *events*. Each event is represented by a duration, starting time, ending time, and the highest, lowest and average values detected during the event.

For a more detailed discussion of all types of events, see the *FlukeView Technical Notes*, available on your CD.

Each event is stored in an individual logged reading.

Note

If your meter supports the display of two readings at once, and both are being displayed, then both readings may be logged, depending on the settings you have selected.

When you start logging, the meter readings are monitored by *FlukeView Forms* and are classified by event type. The two event types you will see most often are:

- *Input events* are logged when the input reading changes beyond the user-defined input event settings. You define, in settings, which readings are similar enough to constitute an input event.

Input events are described as either *stable* or *unstable*. Stable input events contain readings that fall inside the user-defined settings. Unstable input events contain readings that fall outside the user-defined settings. See Figure 2.

- *Interval events* are logged when the user-defined logging interval is up. Interval events can be thought of as a series of readings divided into sections by time. See Figure 2.

Input events are useful for detecting anomalies in a group of data, when monitoring a process or when troubleshooting a problem. Interval events are useful if the values you record are fairly stable in nature and your main purpose is documentation for record keeping.

If the values you record are fairly stable, but monitoring variance from the norm is critical, recording both interval events and input events can be a valuable troubleshooting tool. The interval events serve as routine documentation, while the input events record any significant changes that occur during the intervals.

By default, *FlukeView Forms* logs both input and interval events. You can view either or both on the form. If you decide to record only input events or only interval events, you lose this flexibility, but you reduce the number of readings you take and save disk space on your PC.

Note

*See the **FlukeView Forms Technical Notes** for a more comprehensive description of how event logging is performed and how to effectively use it for your purposes.*

Setting Up Your Logging Session

From the **Meter** menu, open the **Logging** window.

From the **Logging** window, set up your logging session by selecting the **Setup** radio button. You can then customize the default logging setup to collect your data.

Example Log

Example Log lets you view the effects of changing the logging settings. It shows how an example input is compressed into events with the current logging settings. After you change the logging settings and click **Apply**, the **Example Log** graph updates to reflect your changes.

Select **Change Example** if you want to change the example input data to approximate the inputs you are expecting to measure.

Changing the Logging Interval

To change the logging interval, open the **Logging** window, select the **Setup** view and make changes in the **Interval** section. Changing the logging interval:

- Does not usually significantly change a graph of the data. A very small interval (10 seconds or less) rarely provides more significant data, especially if input event data is also being recorded.
- Does directly impact the number of records stored (smaller interval means more records are recorded).
- Does **not** change the number of times that *FlukeView Forms* requests readings from the meter. This is an internal value based on the type of meter and the PC's CPU speed and current performance.

Changing the Input Event Settings

Changing the input event settings allows you to specify what changes in the input are significant enough to begin a new input event.

To change event settings, open the **Logging** window, select **Setup** view and make changes in the **Event** section.

With **Relative Threshold** selected, you specify a percentage change in the readings that begins a new event. Relative thresholds work well when signal noise (insignificant changes in the input signal) is proportional to the expected signal value.

With **Fixed Threshold** selected, you specify a fixed-value change in the readings (in the units of measure that the meter is using) that begins a new event. Fixed thresholds work well when you want to capture a significant unit change in the input you are measuring.

If the meter supports internal event logging, you can choose to have the meter perform the input event detection. When the meter is performing the input event detection, the input change detection is noticeably faster.

Note

If your meter supports the display of two readings at once, and both are being displayed, you need to select whether the input event thresholds are applied to the primary or secondary display.

Viewing the Status of a Logging Session

Once logging starts, from the **Logging** window, select the **Status** view to watch the current logging session as it occurs. It shows number of events logged and current high, low and average values for the event in progress. The active form updates when an event closes.

Single-Reading Copy to Form

You can capture a single display reading from your meter and copy it to a form for printing or saving. This is useful when you only need the reading that appears on the meter for your records.

To capture a single reading from your meter, the meter must be connected to the PC. You may copy more than one reading to the form, but the readings must be copied one at a time.

The most common way to perform a single-reading copy to form is to use the virtual meter window. Open the virtual meter by clicking the **Meter** button at the top right-hand portion of the toolbar.

The drop-down list in the top left corner of the virtual meter window gives you several options for viewing data.

- The **Primary/Secondary Readings** option gives you a small screen that reflects the meter display.
- The **Meter Display** option simply gives you a larger-screen view of this data. Both views allow you to use single-reading copy to form.

To perform a single-reading copy to form:

1. Make sure the meter is connected to the PC. Check the meter-connection icon on the lower-right corner of the *FlukeView Forms* screen or the display on the virtual meter.
2. Open the virtual meter by clicking the **Meter** button at the top right-hand side of the toolbar.
3. Set the virtual meter view to either **Primary/Secondary Readings** or **Meter Display**.
4. When the virtual meter displays a reading you want to copy, click on **Copy Into Form**.

The reading appears at the bottom of any display reading table on the form, or in a testpoint reading form item.

Using Forms

The form is the primary element of *FlukeView Forms* documenting software. Each online form contains form items, which display meter data or user-entered data.

Once you have transferred data from the meter to the active form, you can enhance the presentation of data in a number of ways.

Manually Adding User Data

Most form templates have form items designed for information that is manually entered by the user. If you place your cursor in a field and the symbol **I** appears, that is a user data field. You can enter comments and additional data in these fields.

To retain user data when adding a new set of meter data:

1. Press the **Clear** button.
2. Choose **Meter data only** from the **Clear Form** dialog box.
3. Get the new meter data.

Formatting Data on an Existing Form

You can change the way data appears on an existing form by altering the graphs and tables.

To alter graphs or tables, place your cursor inside the graph or table and right-click. A menu of options for that form item appears.

For instance, when looking at a graph, you can zoom in or out and print or save various views of the graph to suit your needs. This lets you highlight relevant data.

Printing a Form

To print a form:

1. On the **File** menu, select **Print**. You can also use the **Print** button.
2. Sometimes, there is more meter data than the tables on the form can display. Select **Print tables at end of print job** to print all meter data in tabular form immediately after the form is printed.
3. Change printer, print range, or copy settings.
4. Click **OK**.

Saving a Form

Saving a form stores all data and formatting on the active form so that you can view the form at a later time. If you do not save the form, all the data on the form is lost when you transfer new data from your meter, change the form template, or exit *FlukeView Forms*.

To save a form, from the menu, select **File**, then **Save**. You can also use the **Save** button. **Save** is disabled if there is no new data to save.

Saved forms are identified by the form template and the date and time they were first saved. You can also enter a 30-character remark to help identify the form. The remark is displayed after the date and time in the **Saved forms** list at the top of your screen. See “Finding and Opening Saved Forms” in this manual for more information.

Finding and Opening Saved Forms

If you save a form, you can access that form again at a later time.

Opening a Saved Form

To open a form that you have saved previously:

1. Open *FlukeView Forms*.
2. In the **Select a form** drop-down list, select the template in which you saved the form.
3. In the **Saved forms** drop-down list, browse to the form and click to open.

It is important that you select the template in which your data was originally saved. The **Saved forms** drop-down list only displays those forms that were saved in the selected form template. If you do not remember the template in which you saved the form, search for it using the menu. From the menu, select **File**, then **Open Saved Form**. You can also use the **Find** button to locate the saved form.

Managing the Database

FlukeView Forms stores all meter data and forms in *FlukeView Forms* databases.

You can change the active database in *FlukeView Forms* and create new databases in *FlukeView Forms Designer*.

You should create new databases as your database grows larger. Storing all the data you collect into a single, large database can lead to poor performance. Instead, store your data in several smaller *FlukeView Forms* databases, with similar data stored together.

Opening Databases

To open a different database:

1. Open *FlukeView Forms*.
2. On the **File** menu, select **Open Database**.
3. Browse to the drive and folder containing the database.
4. Select the database you want to open and click **OK**.

By default, *FlukeView Forms* databases have the file name extension `.fdb`.

Backup Procedures

To back up the database:

1. Open *FlukeView Forms Designer* to a blank form.
2. On the menu, select **File**, then **Open Database**.
3. Select the database to back up and click **OK**.
4. On the menu, select **Advanced**, then **Database Maintenance**.
5. Select **Backup** and follow the on-screen instructions.

Troubleshooting

For other troubleshooting issues and up-to-date information, see the FAQ and technical notes at www.fluke.com.

Setting the Comm Port

To change the communications port:

1. On the **Tools** menu, select **Options**. The **Options** dialog box appears.
2. Click the **Communications** tab.
3. In the **Port** drop-down list, select the communications port you would like to use.
4. Click **OK**.

Testing the Cable Connection

To test the meter connection:

1. On the **Tools** menu, select **Options**. The **Options** dialog box appears.
2. Click the **Communications** tab.
3. Press the **Test** button on the right-hand side to test the cable connection.