

Fluke 433/434 Flicker Measurement & Reporting

PowerCET Operational Skills QuickRef #5

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Instrument Setup

Flicker quantifies the luminance fluctuation of lamps caused by supply voltage variations. The measurement meets EN61000-4-15 and is optimized to lamps powered by 120 V / 60 Hz or 230 V / 60 Hz. The Analyzer converts duration and magnitude of voltage variations into an 'annoyance factor' caused by the resulting flicker noticeable in lamps.

- Connect instrument voltage & current probes to circuit to be monitored
- Power On and press the **SETUP** key.
- Arrow down to **Limits** and press the **ENTER** key. Press **F3** to edit the limits on the current setup. Arrow key down to **Flicker** and Press the **ENTER** key. Use the right / left arrow keys to choose **120v Lamp** or **230V Lamp** as appropriate Then press **OK (F5)** and then **BACK (F5)**
- If you changed the setup limits, consider **saving** the setup (**F2**)
- Press the **MENU** key, arrow key down to **Flicker** and press the **ENTER** key
- After 10 seconds, flicker measurement begins. **Pst(1min)** displays 1 minute later, **Pst** after 10 minutes and **Pit** after 2 hours. The related D-parameters **Dc**, **Dmax**, and **TD** (acc. to EN61000-3-3) are also displayed
- Pressing **F3** displays maximum D values

Starting/Stopping/Saving Flicker Trend Recording

- Press **TREND (F4)**.
- A voltage or current (**F1**) Trend screen displays. Recording continues until memory fills, unless stopped manually

Ending a Trend recording (manually) and Saving Data:

- Press the **HOLD/RUN** key (**F5**) to halt recording
- Press the **MEMORY** key. Press **SAVE (F3)**
- Use the arrow keys to name the file (a "dataset") and press **OK (F5)** You must save the dataset, or it will be lost when you leave the trend screen!

Flukeview: Importing Dataset, Printing Flicker Trends

Here you import your monitoring data into your PC and plot trends

- Connect the 434 to your PC and start Flukeview. It should automatically contact the instrument in preparation for data transfer
- Press the **SCOPE** key on the instrument and then **HOLD (F5)**
- Select **Display dataset** from the Instrument menu and then select your data from the datasets on the instrument and click **Start**.
- When the dataset is loaded, select **Save As** from the File menu. Give it a descriptive name and save as a Flukeview (.fvf) file

Plot trends from a Flicker dataset, paste graphs into Microsoft Word:

- From the **File** menu, open the dataset containing the harmonics trend plots you captured on the 434
- In the window that opens, click on **View** to display the data in the 434 simulator window
- From the **Instrument** menu, select **Display Trend**. Select which trends to plot and click **Start**
- Select a trend window. Zoom in/out and drag the cursors to data points
- Select **Copy Graphics** from the **Edit** menu. **Paste** the trend into your **Word** file at the appropriate spot. Repeat with other trends as needed
- In FlukeView, you can **Save** these trend plots with the dataset, or alone as data files (.csv, .txt) for use with Excel or another graphing program

