

Fluke 433/434 Unbalance Measurement & Reporting

PowerCET Operational Skills QuickRef #6

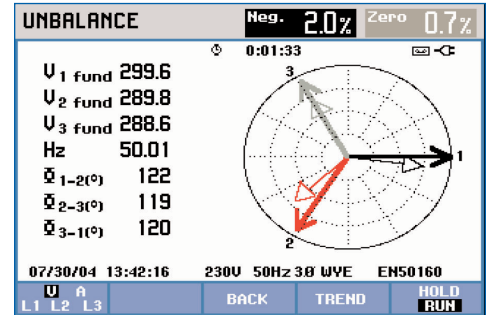
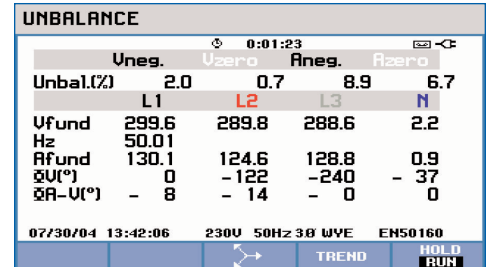
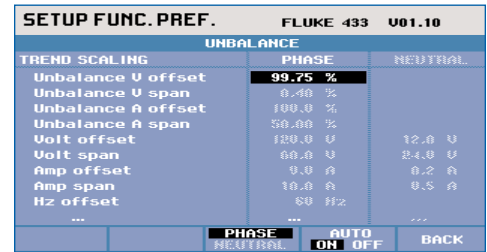
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V.051005

Instrument Setup

Unbalance displays phase relations between voltages & currents at the fundamental frequency (60 or 50 Hz). Unbalance mode offers a measurement table, a related Trend display, and a Phasor display.

- Connect instrument voltage & current probes to circuit to be monitored
- Power On and press the **SETUP** key.
- Press **FUNCTION PREF. (F3)**. Arrow down to **Unbalance** and press the **ENTER** key. Check that **AUTO (F4)** is turned on. Then press **BACK (F5)** twice.
- Press the **MENU** key, arrow key down to **Unbalance** and press the **ENTER** key.
- The table screen shows: negative voltage unbalance %, zero sequence voltage unbalance % (in 4-wire systems), negative current unbalance %, zero sequence current unbalance % (in 4-wire systems), fundamental phase voltage, frequency, fundamental phase current, angle between phase-neutral voltages relative to the reference phase A/L1 and angles between voltage and current for each phase. The number of readings depends on the selected wiring configuration.
- Pressing **F3** shows the phasor display. This Shows the phase relation between voltages and currents in a vector diagram. Rotation is clockwise with **Phase A (L1)** at the 3:00 position.



Starting/Stopping/Saving Unbalance Trend Recording

- Press **TREND (F4)**.
- (**F1**) switches volts/amperes/freq/phase 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 Unbalance Trends

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

- Connect the 433/434 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 an Unbalance dataset, paste graphs into Microsoft Word:

- From the **File** menu, open the dataset containing the Unbalance trend plots you captured on the 433/434
- 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

