AEMC® INSTRUMENTS
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Model OX 5042 & OX 5042B Handscope Instructions for General Electrical Measurements

First-Time Setup

1. Turn the instrument **ON**.
2. Press **Memory Mode**  .
3. Use the left/right buttons to highlight the **.cfg icon**  .
4. Use the up/down buttons to select the **Load File icon**  and press **Enter**  .
5. Press the left arrow button twice to **select files** and the up/down buttons to highlight **default.cfg**.
6. Press Enter, then Right Arrow, and then Enter again to load the **default configuration**.
7. Press **Meter Mode**  then press **Channel B**  .
8. Press the **right navigation** button  until the Multiplier field is highlighted. By default this is set to **x1**.
9. Press the **down navigation** button  until the  setting is highlighted.
10. Press **Enter**  to save the setting.
11. Press  to highlight the **Units** field. Press  to highlight the **A** setting.
12. Press  to **save** the setting. The main menu now appears as follows:

13. Press **Memory Mode**  .
14. Use the left/right buttons to highlight the **.cfg icon**  .
15. Use the up/down buttons to highlight the **Save Mode**  and press **Enter**  .
16. Use the up button to highlight the **Save File icon**  and press **Enter**  .

This completes the First Time Setup.

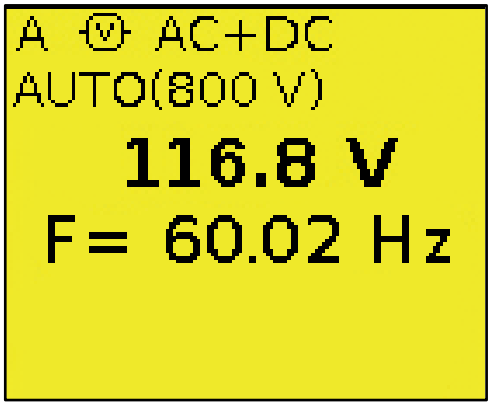
AC Voltage Measurement

1. Attach the BNC adapter (shown on right) to the **Channel A** input.
2. Attach the 10 ft black and red leads to the adapter.
3. Select the alligator or pencil tip probes and attach them to the leads as needed.
4. Attach the test leads to the measurement point. Turn the instrument **ON**.
5. Press **Meter Mode**  then press **Channel A**  . The bottom display should appear as follows:

NOTE: If this menu screen is not displayed, press the **Channel A** button  again.

6. Verify that **AUTO** is **ON** in the menu at the bottom of the display. If **AUTO** is not **ON**, see **Loading a Saved Configuration** at the end of this document.

7. The voltage measurement appears on the screen (see the example below):



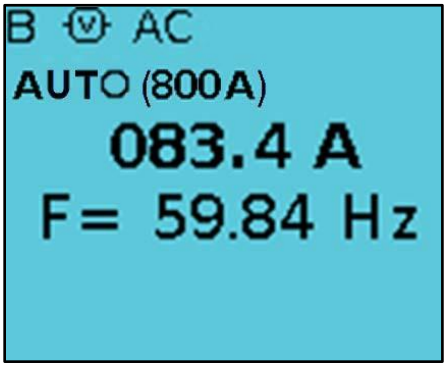
8. Read the voltage and record: _____

AC Current Measurement

1. Select the current probe based on the current to be measured:
   - MN251T (if in your kit) for measuring from (1 to 200) A
   - MN379T (if in your kit) for measuring from (0.05 to 120) A
   - MiniFlex® sensor for measuring (10 to 3000) A.
2. Attach the current probe to the **Channel B** input.
3. Clip the current probe around the conductor to be measured.
4. Turn the instrument **ON**.
7. Press **Meter Mode**  then press **Channel B**  **.**
8. The bottom display should appear as follows:

NOTE: If this menu screen is not displayed, press the **B Channel** button again.

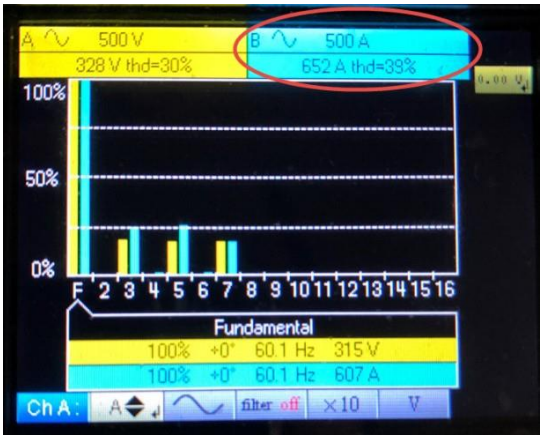
9. Verify that **AUTO** is **ON** and **X1000** is in the menu at the bottom of the display. If **AUTO** is not **ON**, see **Loading a saved configuration** at the end of this document.
10. The current measurement appears on the **Channel B** display (see the example below):



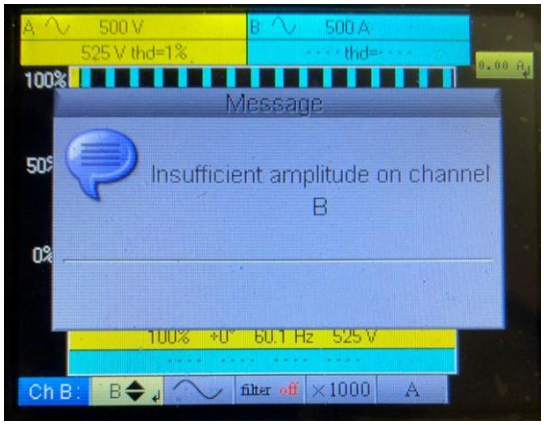
11. Read the current and record: _____

AC Voltage and Current Harmonics

1. Press **Harmonics Mode**  . Connect the voltage leads and attached the current probe. Press **Auto Set**  .
2. The Voltage and Current THD (Total Harmonics Distortion) percentages appear on the top of the display (see the example below):



Typical Display



Error Message (see note below)

Record the Voltage THD percentage: _____ %

Record the Current THD percentage: _____ %

NOTE: If either channel is not connected, an **insufficient amplitude** error message, as shown above, appears. If pressing **Auto Set**  does not eliminate the error, quickly press twice the **channel** button for the channel causing the error. This turns **OFF** that channel, removes the error message, and displays the THD of the active channel. The channel that is OFF is grayed out. To re-activate **a channel that is turned OFF**, press its channel button one more time.

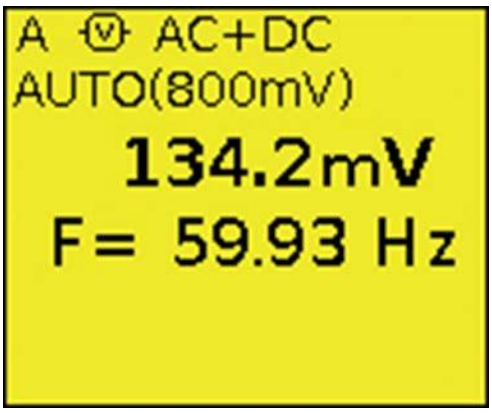
Millivolt Drop Current Harmonics

1. Press **Meter Mode**  and then press **Channel A**  .
2. Verify the following menu appears.

NOTE: If this menu screen is not displayed, press the **Channel A** button  again.

Verify that **AUTO** is **ON** in the menu at the bottom of the display. If **AUTO** is not **ON**, see **Loading a Saved Configuration** at the end of this document.

3. Move the test leads to each measurement point, and record each millivolt drop:



_____ _____ _____

_____ _____ _____

_____ _____ _____

If applicable, record the completed measurements in your report software.

Three most IMPORTANT things to remember:

1) Make sure you are in **AUTO** for Meter mode.

2) Turn Channels **OFF** when they are not being used.

3) Scale factor must be set **correctly** for **each** mode.

Loading a Saved Configuration

1. Press **Memory Mode**  .
2. Use the left/right buttons to highlight the **.cfg icon** 

.
3. Use the up/down buttons to select the **Load File icon**  and press **Enter**  .
4. Press the left arrow button twice to **select files** and the up/down buttons to highlight **setup_00.cfg**.
5. Press Enter, then right arrow, and then Enter again to load the **saved configuration**.

Saving a Configuration

1. Press **Memory Mode**  .
2. Use the left/right buttons to highlight the **.cfg icon** 

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3. Use the up/down buttons to highlight the **Save Mode**  and press **Enter**  .
4. Use the up button to highlight the **Save File icon**  and press **Enter**  .