



Manufacturers of Engineering and Production Test Equipment
An ISO 9001:2000 registered company

AN105 APPLICATION NOTE

Power Measurements with the 6250 Phase Angle Voltmeter

The XiTRON Technologies model 6250 Phase Angle Voltmeter is a very versatile piece of test equipment. Did you know that it can also be used for testing the power requirements of your unit under test, or for measuring impedance values? The procedure detailed below describes the steps necessary to add the power or impedance parameters to your 6250 display. This eliminates having to test phase and power in two, separate, time consuming steps.

Let us know what applications you are looking for, and we can tailor a test procedure to your unique requirements to save time and increase throughput.

6250 Test Setup for Power Measurement

<u>Test Procedure Parameters</u>	<u>6250 Equivalent Parameter Name</u>
1. <u>input frequency</u>	<u>Frequency</u>
2. <u>input voltage</u>	<u>True RMS V AC</u>
3. <u>input current</u>	<u>True RMS A AC</u>
4. <u>input power</u>	<u>Watts AB AC</u>
5. <u>impedance</u>	<u>Load Z</u>
6. <u>resistive component</u>	<u>Load r</u>
7. <u>reactive component</u>	<u>Load x</u>

The following is an overview of the keys that will be used to setup/change a desired displayed measurement parameter in a 6250.

The Display Select keys are used to select which display line is to be edited. The display is an up and down scrollable list of up to 50 parameters, and these are all user defined.

The up and down arrows are used to scroll the displayed parameter list from top to bottom of the configured displayed parameters.

When the list is scrolled to the end of the list, and a spot is available, a blank line is shown. This is the next available display line in the list of 50 spots. This is where you can add a new parameter to be displayed.

If you wish to have the new parameter at the top, or anywhere else in the already configured list, then you can select one of the configured displayed parameters and edit/change as desired to meet your specific test criteria.

Overview of keys

Display Select Keys

These keys are located to the right of the display. The topmost key is 1, second is 2, third is 3, and fourth is 4:

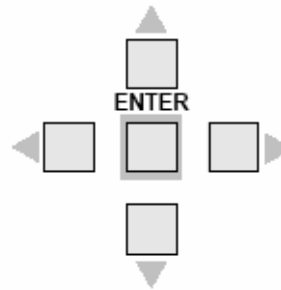
- Use the Display Select keys to bring up the configuration for each line of Results Data, including blank lines.
- Use to place the cursor in a display line.
- Use in combination with arrow keys, to scroll through options to edit a configuration menu item.
- Use the DISPLAY SELECT 1 key to page through the various parameter screens.



Enter Key

The ENTER key is located at the center of the arrow keys and is used to:

- Implement the action per the changes made in either a menu line or a menu.
- Enter updated data into the menu settings. Press it twice to action the configuration.
- Press the ENTER key once to remove the cursor. Press it twice to action the configuration.

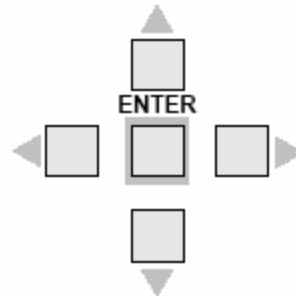


The Up and Down Arrow Keys

The ↑ and ↓ keys (up and down arrows) are used:

- To scroll the display Results Data lines, one line at a time;
- To scroll through menu selectable options at a cursor position;

When no cursor displays, use the ↑ and ↓ keys to scroll through various parameter menu details given in the last three configuration menu lines.



The Left and Right Arrow Keys

The ← and → keys (left and right arrows) are used:

- To move the cursor to a new selectable option within a menu line.

When no cursor displays, use the ← and → keys to scroll through various parameter menu details given in the last three configuration menu lines.



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To add a new display line, perform the following for each new parameter that is to be added.

1. Press the down arrow key ▼ until the screen no longer scrolls.
2. Press the Display select key # 4.

This will bring up the configuration screen for this particular display line.

Verify that the top line says parameter, if not you will need to press the Display Select 1 key until the top line reads parameter.

3. Press the Display Select 2 key, the cursor will be flashing on the parameter choice.
4. Press the Up or Down arrow key ▲ ▼ to scroll through the available parameters
5. Press the Right or Left Arrow key ► ◀ to move the cursor to select which input the signal is coming from (Ref A or Signal B) for this measured parameter, Press the Up or Down arrow key ▲ ▼ to scroll through the available inputs.
6. Press the Right or Left Arrow key ► ◀ to move the cursor to select the coupling for this signal, AC or DC or AC + DC. Press the Up or Down arrow key ▲ ▼ to scroll through the available choices.
7. Press the Enter Key once.
8. Press the Display Select # 4 key to enter in a desired display line filter (recommend 2 to 5 seconds), this will slow the update rate for only this display line. This does not affect measurement speed or results, this only smoothes out the update of the displayed information.
9. Press the Enter key twice to enter the newly configured display line.

Once all of the parameters have been added to the new test setup, it is suggested that the changes be saved into the desired storage location. If not, the changes will be lost at the next cycle of power. To store the changes, follow the procedure below.

➤ *To store a configuration in an already defined storage area:*

1. Press the **STORE** key.
2. Use the ▲ or ▼ keys to scroll through the numerically ordered list of defined Storage areas.

—Or—

Use the numeric keys to type the number of the desired storage area and press the **ENTER** key.

3. When the desired storage area number displays, press the corresponding **DISPLAY SELECT** key. You will get the message: **Settings Recalled from Memory** and the instrument will go to the Results Data display reflecting the recalled settings.



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➤ *To store a new configuration (presently displaying):*

Note: Review the already defined storage areas, to ensure your new storage area number does not already exist. Use the **↑** or **↓** keys to scroll

1. Press the **STORE** key.
2. Press the down arrow **↓** key to scroll the cursor to the lower most blank line.
3. Choose a number to represent the new storage area, use up to 5 digits,
4. Use the numeric **DATA ENTRY** keys, to type the number of the new storage area.
5. Press the **ENTER** key.

➤ *To recall a configuration:*

1. Press the **RECALL** key.
2. Use the **↑** or **↓** keys to scroll through the numerically ordered list of defined storage areas.
3. When the desired storage area number displays, press the corresponding **DISPLAY SELECT** key.

—Or—

Use the numeric keys to type the number of the desired storage area, then press the **ENTER** key to bring up the stored configuration on your instrument.