
Chapter 14

Monitor Magnitude and Phase

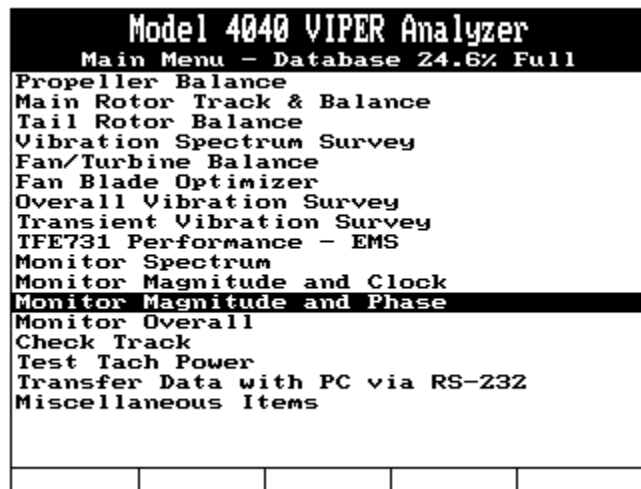
(Revision 1, Aug 2007)

“Monitor Magnitude and Phase” is an analyzer function that is accessed from the analyzer’s Main Menu banner screen. A description of this function follows, along with the information required to complete the menu screens within the function, and the steps necessary to perform the function.

The “Monitor Magnitude and Phase” function provides for rapid acquisition of a phase angle and amplitude reading without defining and saving a setup. This function allows for no storage of readings for future review.

To use the “Monitor Magnitude and Phase” function, do the following:

1. From the Main Menu banner screen, select “Monitor Magnitude and Phase.” The “Monitor Magnitude and Phase” banner screen appears as shown in the figure below.



2. Use the [⇒] key to toggle between the selections in the “Tach Channel” field. Toggle between selections using the [⇒] keys to select the tachometer-input channel to be monitored.

3. Move down to the “Tach Type” field by using the [↓] key. Use the [⇒] key to select the tachometer type you are using for the once-per-revolution input into the analyzer.

Model 4040 VIPER Analyzer
Monitor Magnitude and Phase

Tach Channel: 1
Tach Type: Optical
Vibration: IPS
Modifier: Peak

Input Description

A
None
None
None

Full Scale Vibration: 1.00
Sensor: 991D-1

4. Use the [↓] key to move to the “Vibration” field. The “Vibration” field determines the engineering units in which the amplitude, or “Y” axis, of the spectra will be displayed. Consult the appropriate equipment maintenance manual for specific requirements of a vibration survey or for analysis guidelines. Use the [←] or [→] keys to scroll through the selections in this field. The available selections are: IPS (Inches Per Second), mm/sec (millimeters per second), cm/sec (centimeters per second), Mils (1/1000th of an inch), Microns (1/1000000th of a meter), M/S/S (millimeters per second squared), C/S/S (centimeters per second squared), and G’s (equivalent gravities).
5. Use the [↓] key to move to the “Modifier” field. Use the [←] or [→] keys to toggle through the available selections in the field which are: Peak, Pk-Pk (Peak to Peak), Avg. (Average), and RMS (Root Mean Square). Consult the appropriate equipment maintenance manual for specific requirements of a vibration survey or for analysis guidelines.
6. Use the [↓] key to move to the “Input” field. Use the [⇒] key to toggle between the selections in the “Input” field to select the output of “Input” field. The available selections are: “A,” “B,” “C,” “D,” “A+B,” and “A-B.”
7. Use the [↓] key to move down to the “Description” field. Enter a name from the keypad in the description field. (Refer to Chapter 3, “Using the VIPER” if you are unfamiliar with using the keypad.) The description field is optional.
8. Use the [↓] key to move to the “Full Scale Vibration” field. The “Full Scale Vibration” field is a toggle selection field. Use the [←] or [→] keys to toggle through the available selections for the field. The available selections are: 0.01, 0.02, 0.05, 0.10, 0.20, 0.50, 1.00, 2.00, 5.00, 10.0, 20.0, 50.0, 60.0, 70.0, 80.0, 90.0, 100, 110, 120, 130, 140, 150, 200, 500, 1000, 2000 and 5000. This scale refers to the number of engineering units of vibration amplitude specified in the Vibration field in step 4 above. The full scale indicates the maximum *vibration* amplitude you expect to acquire or the maximum amplitude of interest. Choose the amplitude that will adequately display the full

amplitude of any specified limits as a minimum. If you do not expect amplitudes in excess of what would normally be experienced for the equipment application, set this field as low as possible while still allowing sufficient space to display the maximum limitations as stated above.

NOTE

Amplitudes encountered above the setting in this field may cause the analyzer to overload. It is best to set the Full Scale Vibration higher than needed as opposed to lower than needed so the overload does not cause a fatal error. You can recover from the overload by pressing the [Main Menu] key and starting the process again from the beginning. However, avoiding an overload will save you time in the process.

9. Use the [↓] key to move down to the “Sensor” field. Select a sensor type by using the [⇒] key to toggle between selections.
10. Once all fields are filled press the [ENTER] key to begin acquiring vibration data. See Chapter 20, “Reading Spectrum and Scales” for a detailed explanation of the information contained on the acquisition screen.
11. When finished acquiring vibration data, press the [ENTER] key to stop.