

Digi-Pas®

Innovation & Technology Driven™

PC SYNC PROFESSIONAL SOFTWARE

USER MANUAL



Model: DWL8500XY



REVISION 2.00

www.digipas.com

Note: Contents in this instruction manual is continuously updated, please check Digi-Pas website for latest version.

INTELLECTUAL PROPERTY

This manual contains propriety information, which is protected by copyrights. All rights are reserved. No part of this manual may be photocopied, reproduced, redistributed or translated to another language without prior written consent of JSB TECH Company.

The information in this manual was correct at the time of printing, stored in CD or uploaded in the Company website. However, JSB TECH will continue to improve products and reserves the rights to change specification and maintenance procedures at any time without prior notice.

The PC Sync software uses the National Instruments™ Measurement Studio* for certain user interface tools and measurement applications.

Digi-Pas® Products were manufactured under ISO9001 & ISO14001 standards, tested to comply by the followings certification bodies:



Digi-Pas®, the Digi-Pas® logo are registered trademarks of JSB TECH Pte Ltd. © 2018 DIGIPAS TECHNOLOGIES INC. All Rights Reserved.

*National Instrument™ logo is the trademarks of National Instruments Corporation. Microsoft is the registered trademarks of Microsoft Corporation.

TABLE OF CONTENT

CHAPTER 1: GENERAL OVERVIEW

- Interface Overview
- Software Features

CHAPTER 2: SYSTEM REQUIREMENTS

CHAPTER 3: GETTING STARTED

- Installation of DWL8500XY PC Sync
- Synchronization with USB
- Synchronization with Bluetooth

CHAPTER 4: FEATURES INTERFACE AND SETTING

- Single Angle Meter
- Dual Angle Meter
- Dual Axis Bull's Eye
- Single Angle Graph
- Dual Angle Graph
- VibroMeter
- 3D Surface Geometry Graph

CHAPTER 1: GENERAL OVERVIEW

Interface Overview



Sync Option	To select the synchronization mode (via USB or Bluetooth)
Communication Status	To show the communication status between PC, device and DigiPas® Security Dongle.
Communication LED	To indicate the device is connected to the software
Function Toolbar	Contains buttons with different functions.
Screen Display	To display the graphic user interface.

Software Features

	<p>Single Angle Meter</p> <p>This feature allows user to view single-axis angle/levelling measurement in numerical and graphical display i.e. arcsec and mm/M units concurrently on PC monitor via USB or wireless Bluetooth connectivity.</p>
	<p>Dual Angle Meter</p> <p>This feature allows user to view dual-axis angle/levelling measurement simultaneously in numerical and graphical in arcsec and mm/M units concurrently on PC monitor via USB or wireless Bluetooth connectivity.</p>
	<p>Smart Bull's Eye</p> <p>This feature allows user to view and record dual-axis angle/levelling measurement simultaneously in graphical "Bull's eye", line graphs, Numeric format on arcsec and mm/M units. User may define several parameters for data capturing. The numerical data can be saved in Excel format for further analysis.</p>

	<p>Single Angle Graph</p> <p>This feature allows user to view, track and record real-time single-axis angle/levelling measurement readings in numerical and graphical forms (i.e. arcsec and mm/M). User may define parameters for numerical data capturing.</p>
	<p>Dual Angle Graph</p> <p>This feature allows user to view, track and record real-time 2-axis angle measurement (i.e. a plane or set of coordinates) angle/levelling measurement readings in numerical and graphical forms (i.e. arcsec and mm/M). User may define parameters for numerical data capturing.</p>
	<p>VibroMeter</p> <p>This feature allows user to monitor low frequency vibration patterns in line graph. User may define several parameters for capturing vibration data. Vibration monitoring on precision machine/equipment/instrument and also their surrounding floor condition to identify vibration magnitude/pattern that affects accuracy performance influencing production yield, scraps reduction and sharp-quality image capturing.</p>
	<p>3D Surface Geometry Graph</p> <p>This feature allows user to perform 3D surface flatness geometry measurement, profiling and characterization. The 3D visual graph and its corresponding 3D numeric data can be saved and stored in Excel file for further analysis & record.</p>
	<p>Commission Report</p> <p>Numerical and graphical data can be collected and stored in PC in the form of Commissioning Report files especially useful for accountability purpose and references as historical records for each machine/equipment installation, setup and preventive maintenance requirements. Multiple machines characteristics for levelling and vibration conditions can be stored and used for comparison in next planned preventive maintenance activity.</p>
	<p>Help</p> <p>To open the Instruction Manual for the device and its Instruction manual.</p>
	<p>About</p> <p>This feature allows user to check the current PC Sync version and the firmware version of the device in sync.</p>

CHAPTER 2: SYSTEM REQUIREMENTS

Recommended System Configuration:

- * At least 1 GB of RAM
- * At least 100MB of free disk space available in your hard disk
- * Best view in 1024 × 768 screen resolution
- * DVD-ROM
- * USB Ports

Note: Software performance may vary depends on PC system configuration.

Recommended Operating System:

- * Windows XP with Service Pack 3
- * Windows Vista
- * Windows 7

Digi-Pas[®] PC Sync software can be configured in 32bit or 64 bit Microsoft Windows Operating Systems.

Required Third-Party Software:

- * Microsoft .Net Framework 3.5 for 32bit Windows Operating System
- * Microsoft .Net Framework 4.0 for 64bit Windows Operating System
- * Microsoft Excel 2007 or above
- * Acrobat Reader

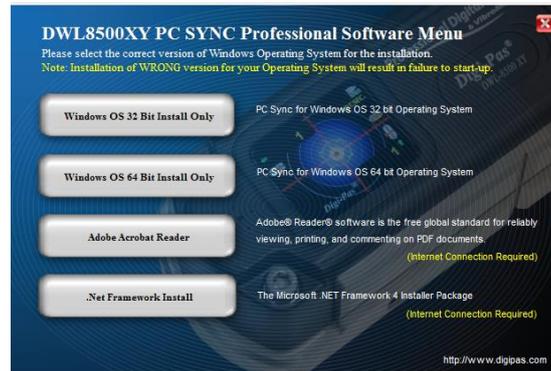
Note:

Certain function of the software requires internet connection to operate.

CHAPTER 3: GETTING STARTED

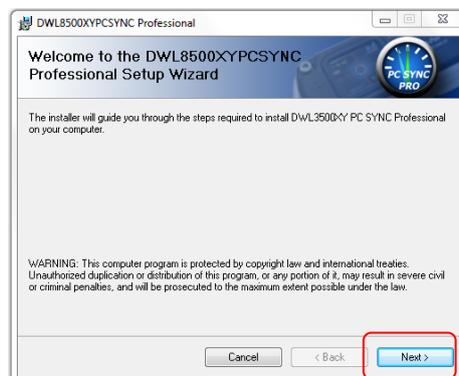
Installation of DWL8500XY PC Sync

1. Insert DWL8500XY PC Sync DVD into your DVD drive. The following screen pops up automatically. Select the Adobe Acrobat Reader or .Net Framework button when your computer does not have the software. It needs internet connection to complete the installation. Next, click the PC Sync installation button according to your Window Operating System (32bit or 64 bit).



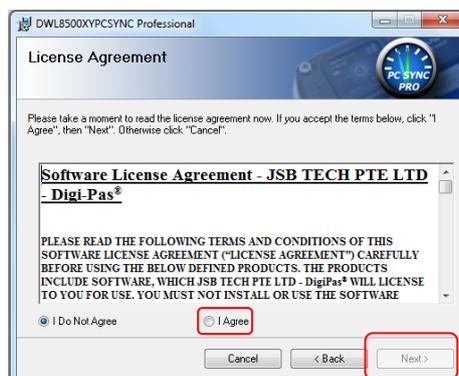
Installation Step 1

2. Welcome screen appears. Click " Next " to proceed the installation.



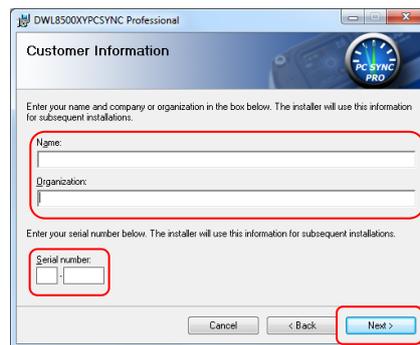
Installation Step 2

3. License Agreement screen appears. Click "I Agree" after reading through and accepting the agreement and then click " Next " to proceed the installation.



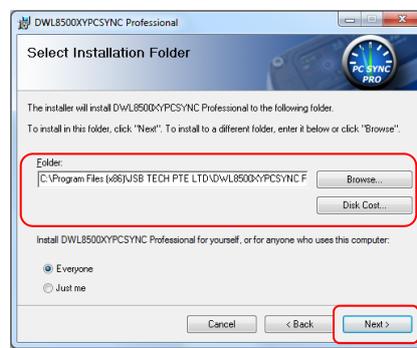
Installation Step 3

4. Customer Information screen appears. Enter your Name and Organization. Key in Device's **Serial Number** attached in the DVD box. Click "Next" to proceed the installation.



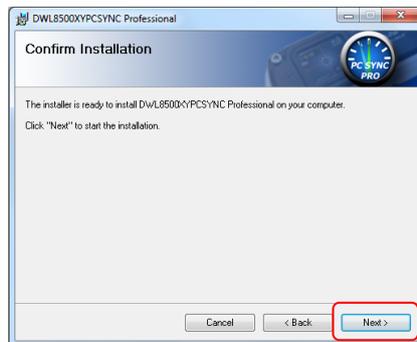
Installation Step 4

5. Installation folder screen appears. Use the installation folder as default unless you want to change the location. Click "Next" to proceed the installation.



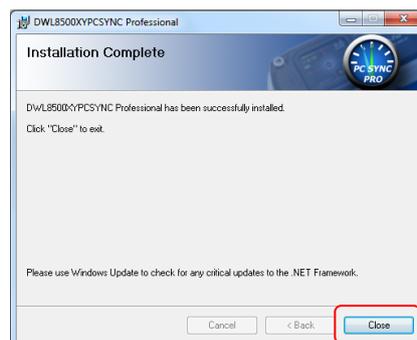
Installation Step 5

6. Confirm Installation screen appears. Click "Next" to proceed the installation.



Installation Step 6

7. Installation Complete screen appears. Click "Close" to complete the installation.



Installation Step 7

Synchronization by Using USB Connectivity

Check the DWL8500XY Bluetooth device synchronization mode. By default, device setting is set to **USB mode**. To check or change the mode setting:



1. Press "MODE" button and select "PC SYNC" icon to access the Synchronization Setting page.



2. Select USB icon then press "Mode" button to activate it.
Note: Status indicates the device is in USB or Bluetooth mode.



3. The device is required to turn OFF by pressing "ON/OFF" button and thereafter please turn ON the device again in order to activate the newly set **Synchronization mode**.

4. Double click the PC Sync icon on the desktop and connect DWL8500XY device with your computer via USB cable and insert the DigiPas® Security Dongle to the computer. Select the Sync Option with USB and click " SELECT" button. All function toolbar buttons are turned on and the status bar shows "Device Connected and DigiPas® Security Dongle is found". The DWL8500XY PC Sync is now ready for use.



Interface of DWL8500XY PC Sync when it is ready to use

Synchronization by Using Bluetooth Connectivity

First, check the DWL8500XY Bluetooth device synchronization mode. By default, device setting is set to **USB mode**. To check or change the mode setting:



1. Press "MODE" button and select "PC SYNC" icon to access the Synchronization Setting page.



2. Select Bluetooth icon then press "Mode" button to activate it.
Note: Status indicates the device is in USB or Bluetooth mode.



3. The device is required to turn OFF by pressing "ON/OFF" button and thereafter please turn ON the device again in order to activate the **Synchronization mode**.



4. Bluetooth logo appears on the device screen (at top-right corner). The device setting is now completed. User can proceed to synchronise the DWL8500XY device with the PC Sync software.

5. Activate your computer's Bluetooth and plug in the dongle to the USB port. Then, select the Sync Option with BLUETOOTH (i.e. located at top-right corner of your PC monitor) and click "SELECT" button.



6. "Discover Bluetooth Device" button is shown on PC monitor. Select the button to search for the DWL8500XYBluetooth device.



7. Bluetooth devices is shown at the drop down box. Select the device with the serial number indicated as shown on the drop down box and press "Connect to Bluetooth Device button" to establish the wireless connection.



8. When the connection is established successfully, all function toolbar buttons are turned on and the status bar shows "Device Connected and DigiPas® Security Dongle is found". The DWL8500XY PC Sync is now connected to the Device and ready for use.

CHAPTER 4: FEATURES INTERFACE AND SETTING



Single Angle Meter



Blinking indicates measurement is in progress

Unit Conversion:



Unit Conversion:
Untick the box to stop the conversion.

Features:



Alternate Zero

Alternate Zero:

Click the Alternate Zero button to start the feature. Reference angle appears and button blinks once activated.



Instructions for Absolute Level

Absolute Level:

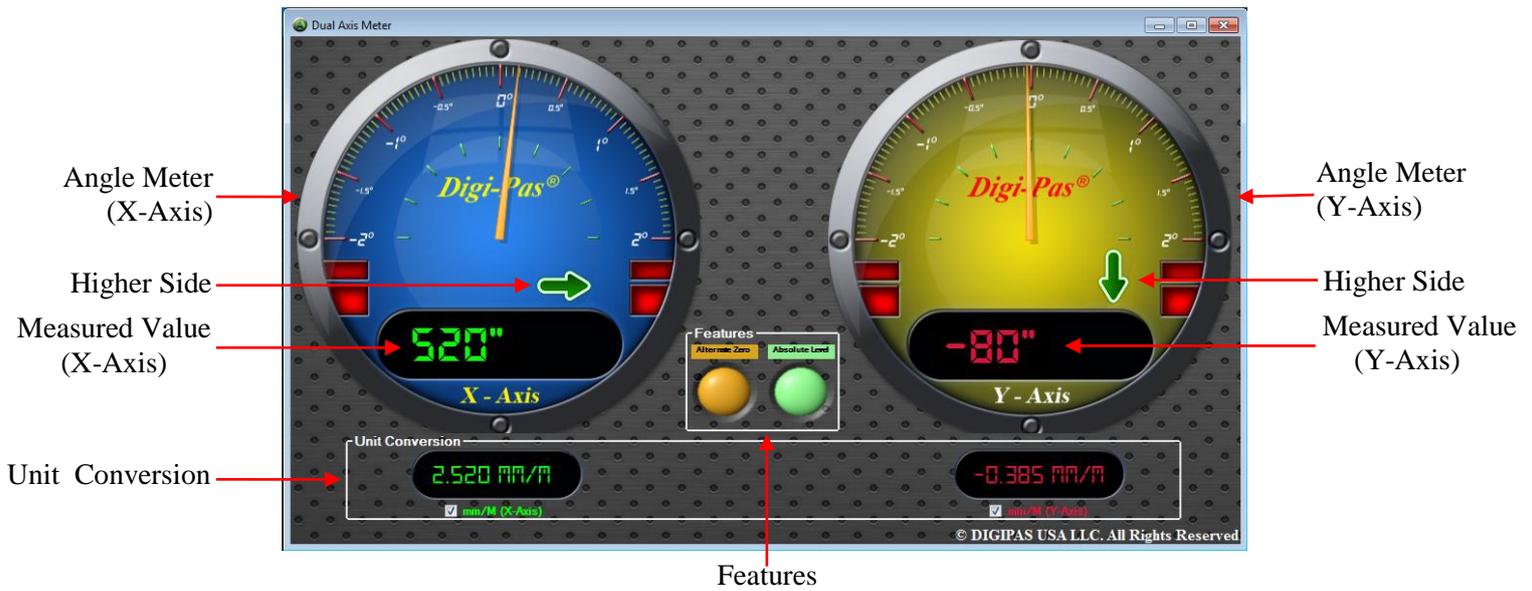
Click the Absolute Level button to start the feature. Follow the instructions shows on the screen. Absolute Level symbol appears and button blinks once activated.



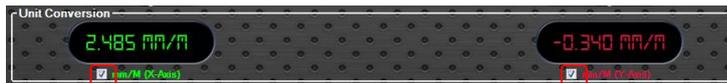
Absolute Level



Dual Angle Meter



Unit Conversion:



Unit Conversion:
Untick the box to stop the conversion.

Features:



Alternate Zero

Alternate Zero:

Click the Alternate Zero button to start the feature. Reference angle appears and button blinks once activated.



Instructions for Absolute Level

Absolute Level:

Click the Absolute Level button to start the feature. Follow the instructions shows on the screen. Absolute Level symbol appears and button blinks once activated.



Absolute Level



Smart Bull's Eyes

Measured Value (X-Axis) Measured Value (Y-Axis) Features Angle Graph

Higher Side

Measured Value:
X. : X-Axis
Y. : Y-Axis

Bubble Meter

Unit Conversion

Freeze or Unfreeze the measurement

Data Logging Control Panel

Recorded Data

© DIGIPAS USA LLC. All Rights Reserved

Unit Conversion:

Unit Conversion

UNIT: mm/M

X: 2.430 mm/M

Y: 0.040 mm/M

Click the unit conversion button to change to other units (arcsec, mm/M).

Data Logging Control Panel:

CONTROL PANEL

CAPTURE SAVE NUMBER OF SAMPLE/S: 1

CLEAR EXIT TIME DURATION PER CAPTURE: 1

STOP Select the unit

To start data logging, select the unit of time (second / millisecond). Next, select the number of samples and time duration per capture by pressing the up down arrow accordingly. Click CAPTURE button to initiate data logging. Click STOP button to halt data logging and click CLEAR button to erase or click SAVE button to store the data. EXIT button is used to quit the Smart Bull's Eyes window.



Single Angle Graph

Angle Graph

Recorded Data

Measured Value (X- Axis)

Features

Unit Conversion

Freeze or Unfreeze the measurement

Data Logging Control Panel

N- Samples	X-Axis Value	Date & Time
1	421"	2013.07.13 13:06:09.70PM
2	421"	2013.07.13 13:06:09.71PM
3	421"	2013.07.13 13:06:09.72PM
4	421"	2013.07.13 13:06:09.73PM
5	421"	2013.07.13 13:06:09.74PM
6	421"	2013.07.13 13:06:09.75PM

Data Logging Control Panel:

CONTROL PANEL

CAPTURE SAVE

CLEAR EXIT

STOP

NUMBER OF SAMPLE/S: 1

TIME DURATION PER CAPTURE: 1

Select the unit

To start data logging, select the unit of time (second / millisecond). Next, select the number of samples and time duration per capture by pressing the up down arrow accordingly. Click CAPTURE button to initiate data logging. Click STOP button to halt data logging and click CLEAR button to erase or click SAVE button to store the data. EXIT button is used to quit the Single Angle Graph window.

Features:

Measured Value (X- Axis): X: 0"

Features: Alternate Zero (Active), Absolute Level

Alternate Zero:

Click the Alternate Zero button to start the feature. Reference angle appears and button blinks once activated.

Measured Value (X- Axis): X: -21"

Features: Alternate Zero, Absolute Level (Active)

Absolute Level:

Click the Absolute Level button to start the feature. Follow the instructions shows on the screen. Absolute Level symbol appears and button blinks once activated.



Dual Angle Graph

Angle Graph

Recorded Data

Measured Value (X-Axis)

Measured Value (Y-Axis)

Features

Unit Conversion

Freeze or Unfreeze the measurement

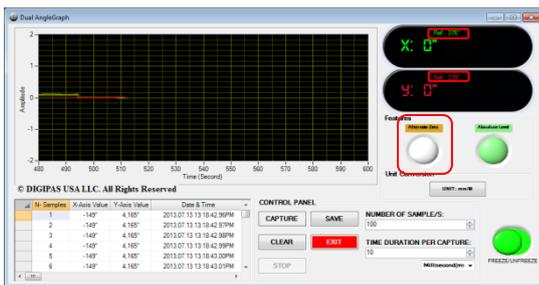
Data Logging Control Panel

Data Logging Control Panel:



To start data logging, select the unit of time (second / millisecond). Next, select the number of samples and time duration per capture by pressing the up down arrow accordingly. Click CAPTURE button to initiate data logging. Click STOP button to halt data logging and click CLEAR button to erase or click SAVE button to store the data. EXIT button is used to quit the Dual Angle Graph window.

Features:



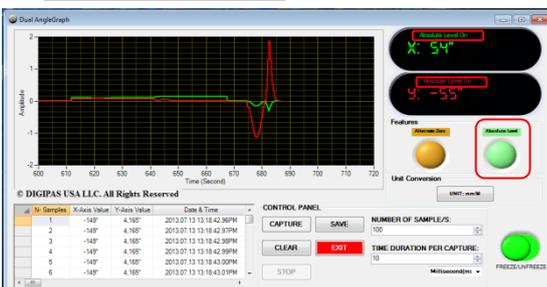
Alternate Zero:

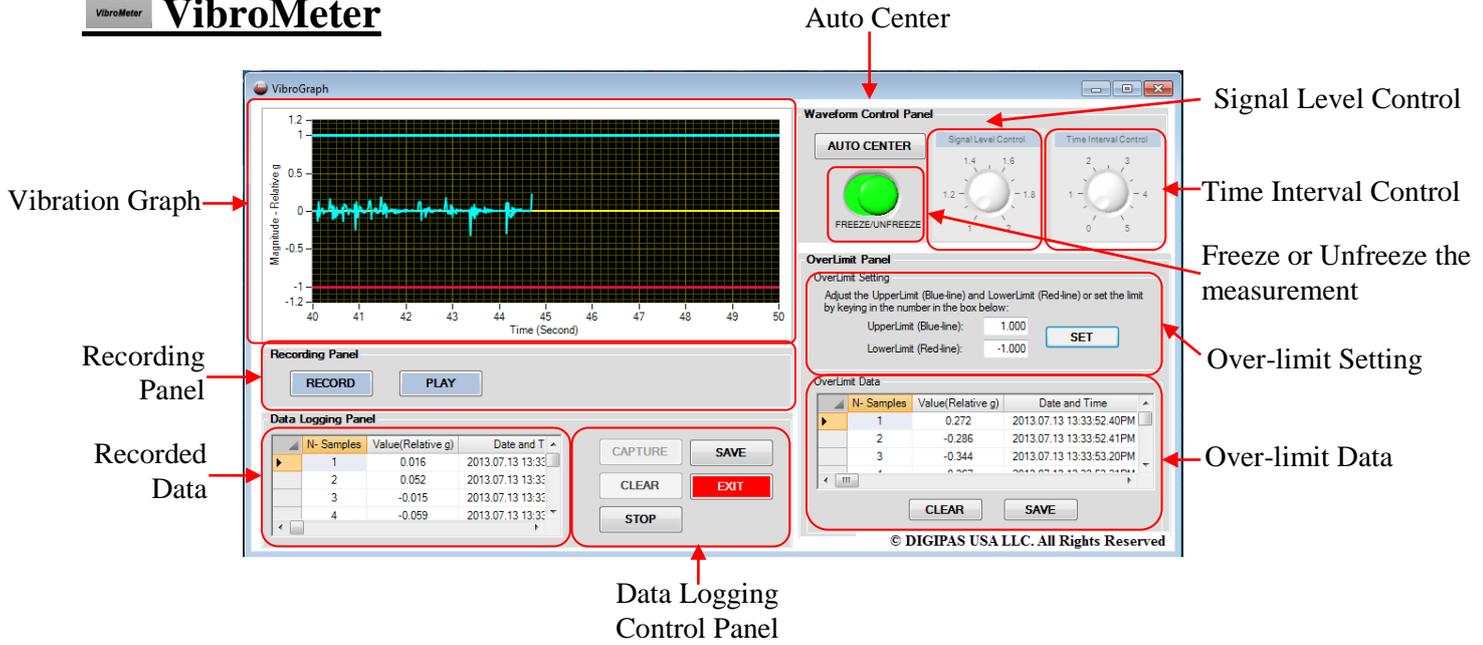
Click the Alternate Zero button to start the feature. Reference angle appears and button blinks once activated.



Absolute Level:

Click the Absolute Level button to start the feature. Follow the instructions shows on the screen. Absolute Level symbol appears and button blinks once activated.



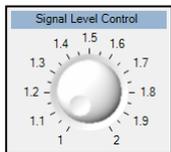


Time Interval Control



To adjust the time interval (Horizontal Scale) for the vibration graph.
 Scale 0: 10 seconds (default)
 Scale 5: 5 seconds

Signal Level Control



To amplify the measured magnitude of vibration.
 Scale 1: Original measured vibration value
 Scale 2: Double the measured vibration value

Auto Center

To auto adjust the vertical scale of the graph and set the zero relative gravity at the center of the graph.

Data Logging Control Panel:



To start data logging, select the unit of time (second / millisecond). Next, select the number of samples and time duration per capture by pressing the up down arrow accordingly. Click CAPTURE button to initiate data logging. Click STOP button to halt data logging and click CLEAR button to erase or click SAVE button to store the data. EXIT button is used to quit the VibroMeter window.



3D Surface Geometry Graph

Guidelines

1. Measure and insert the dimension of the surface to be plotted into "1. Surface Dimension".
2. Choose the number of grids to be divided automatically or manually from "2. Number of Grids". Draw the grid on the surface.
3. Place the device on the respective grid of the surface and press the respective button from "3. Measurement".
4. The measurements are completed. 3D surface geometry graph is displayed.

1. Surface Dimension

Enter the surface dimension:

Width (Y-Axis): 40 cm

Length (X-Axis): 40 cm

Enter

2. Number of Grids

Auto Division Manual Division

Reset Close

4. 3D Surface Geometry Graph

Measurements are done. 3D surface geometry graph is ready.

Save

Scale of Z-Axis

40 60 80 100

20

10

Z-Axis (mm)

10 6 2 0 -2 -6

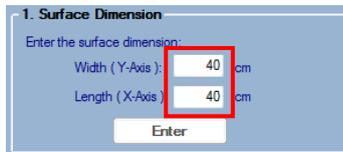
0 20 40 20 40 0

Y-Axis (cm) X-Axis (cm)

(20, 20, 2)

3D Surface Geometry Graph

Surface Dimension



Measure the dimension (width and length) of the surface. Insert the measured value into the column and click enter.

Number of Grids



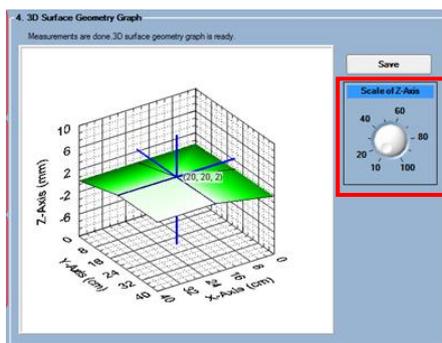
Choose the surface to be divided into small grids automatically or manually. Draw the grids on the surface.

Measurement



Put the device in dual axis mode. Place the device on the grid and press the respective button. Repeat this step until all the grid are measured.

3D Surface Geometry Graph



The 3D geometry graph is ready. Tune the knob to adjust the scale of Z-axis. Click save button to save the graph and numerical data into excel file.