Digi-Pas®
A division of VENTURA Group of Companies

2–Axis
Ultra Precision Digital Level

Model : DWL–8500XY

Professional Digital Level & VibroMeter

Digi-Pas®
DWL-8500 XY

® U.S. Patent No.: US D692,328 S

**Accuracy
1 arcsec. or 5μm/M**

Digi-Pas®DWL-8500XY is a **2-Axis Ultra Precision Digital Level** with built-in Vibrometer, having resolution and **accuracy of 1 arcsec (5μm/M) and wide measuring range of 14400 arcsec** for ultra-precision levelling, angle, surface flatness and vibration measurements. It is capable of real-time wireless Bluetooth measuring & data logging when used with PC Sync Software/ Mobile Sync App.

This instrument is exceptionally engineered to greatly simplifying the task of professionals in installation, set-up and maintenance of very large-sized CNC machine, surface geometry profiling, analysis, characterization of precision machine, test/measuring instruments and alignment-sensitive equipment.

ANGLE · VIBRO · ALT. ZERO · Abs LEVEL · 3D Geometry Profile Graph · BLUETOOTH · TEMPERATURE COMPENSATED

Innovation & Technology Driven ™

CE FC RoHS ISO 14001:2004 ISO 9001:2008

2–Axis Ultra Precision Digital Level

Instrument Overview

- 2–Axis colour graphic simultaneous display of leveling reading & surface geometry profile measurements

- Accuracy of 1 arcsec (≤ 5μm/M)

- Built–in Vibrometer for real–time vibration measurement

- Real–time digital & analogue display

- Wireless Bluetooth/USB connectivity for remote data logging & analysis

- 3–points contact base for stable surface–to–surface contact to prevent "rocking"

Instrument Features

3D SURFACE GEOMETRY PROFILE GRAPH
Enable user to perform 3D surface flatness geometry measurement in 3–Dimentional visual graph when in synchronization with PC using Professional PC Sync software.

ANGLE METER
Real–time colour graphic display for single/dual–axis digital & analogue angle measurements, data acquisition & logging on device LCD screen or PC monitor.

VIBRO METER
Real–time colour graphic display for vibration measurement and data logging on device screen or PC monitor.

ALTERNATE ZERO SETTING
Enable user to measure relative angles at a common plane with respect to a reference angle set to zero.

ABSOLUTE LEVEL SETTING
Enables user to perform absolute symmetry readings for both "front" & "reverse" (180 degrees) positions of any measurement angle to determine zero datum with reference to center of gravity.

WIRELESS SYNC
Bluetooth wireless sync to computer/tablet/smartphone for remote measurement, data acquisition, logging & analysis.

TEMPERATURE COMPENSATED
The instrument/device is temperature compensated for the entire specified operating temperature range.

Technical Specification – DWL–8500XY

Measurement Range (Single Axis Mode)	0.0 to 14400 arcsec (0.0000° to ± 4.0000°)
Measurement Range (Dual Axis Mode)	0.0 to 7200 arcsec (0.0000° to ± 2.0000°)
Resolution	1 arcsec (≤ 5μm/M)
Accuracy	± 1 arcsec. at 0 ~ 1080 arcsec; ± 3 arcsec. at other angles.
Repeatability	1 arcsec (≤ 5μm/M)
Measurement Speed	≤ 5 Sec.
Vibrometer (Relative g)	2.0
Display	Colour TFT LCD
Power Supply	4 x AAA 1.5V Batteries / USB Power source
Material	PC ABS / Cast Iron / Titanium
Connectivity	Bluetooth Industrial Class 1 (≤ 30 metres) & USB 2.0 Cable (≤ 5 metres)
PC SYNC Software	Professional Edition (included)
Operating Temperature	+10°C to +40°C (Calibrated for the entire temperature range)
Storage Temperature	–20°C to +60°C
Dimension (mm)	188 x 62 x 37
Nett Weight (Approximate)	1150 gram

Note : Product specification and appearance are subjected to change for improvement without prior notice.

Accreditation

DWL–8500XY instrument accuracy is verified by accredited 3rd party independent calibration & test bodies and National Metrology Centre traceable to SI standard and NIST, JIS, UKAS & DIN under CIPM MRA.

Advantages of 2–Axis Ultra Precision Digital Level

SPEED, PRECISION & EFFECTIVENESS

Precision levelling, angle measurement/alignment and surface flatness profiling tasks essentially involve **2–dimensional planes** rather than single–axis. Thus, 2–axis simultaneous display of surface plane angles readings are required to effectively guide engineers in adjusting precision object/machine to a targeted position accurately and speedily.
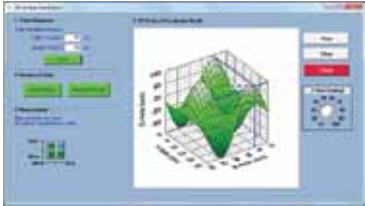
Digi–Pas® pioneered world's–first 2–axis simultaneous angles display instrument (U.S. patented) embedded with vibrometer which offers superior performance. It empowers engineers in **eradicating constraints** associated with using traditional single–axis 'bubble' or digital levels that require them to conduct those time–consuming tasks 'one axis at a time' with tedious trial–and–error iterations.
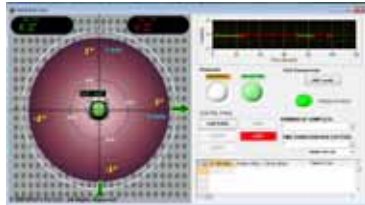
Professional PC Sync Software

Digi–Pas® Professional PC Sync is a 'plug & play' user–friendly interface software (embedded with National Instrument software) specifically designed for **ultra–precision application** to enable **remote real–time measurement**, **user–definable data acquisition & logging** through **wireless Bluetooth connectivity/USB cable** with DWL–8500XY 2–Axis Ultra Precision Digital Level.

PC Sync Software Features

3D Surface Flatness Graph

- Enable 3D surface flatness geometry measurement, profiling and characterization
- 3D visual graph and numeric data can be saved in Excel file

SMART 2D BUBBLE™

- Simultaneous graphical bull's eye (with auto range feature) and numeric display of 2–axis angle/levelling measurement
- Clear indication of a plane surface's elevation point simplifies 2D alignment tasks

Single–Axis & Dual–Axis Angle Graphs

- Line graph display and numerical readings for single–axis or dual–axis angle/levelling measurement
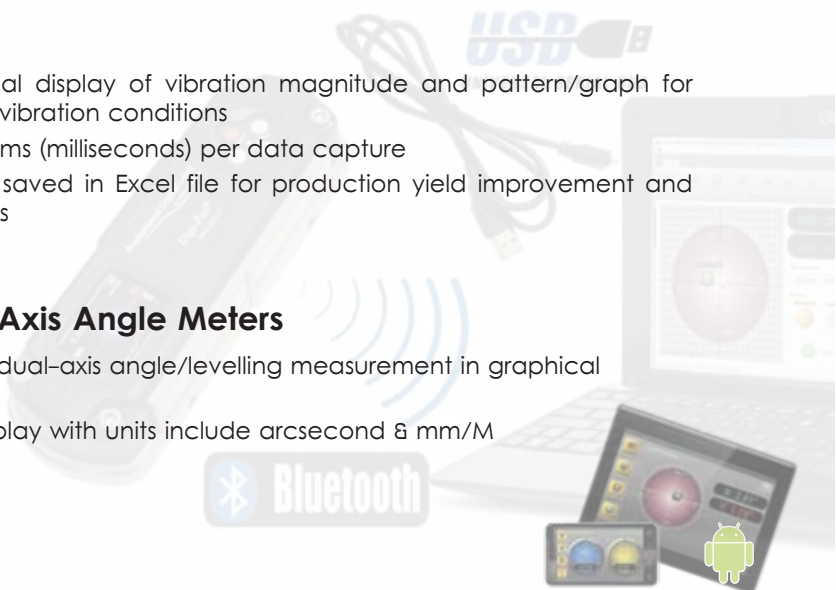- Enables recording of machine's levelling status changes over a period of time

VibroMeter Graph

- Numerical and graphical display of vibration magnitude and pattern/graph for effective assessment of vibration conditions
- Fast sampling rate at 10ms (milliseconds) per data capture
- Vibration data can be saved in Excel file for production yield improvement and scraps reduction analysis

Single–Axis & Dual–Axis Angle Meters

- Real–time single–axis or dual–axis angle/levelling measurement in graphical and numerical display
- Large, easy–to–read display with units include arcsecond & mm/M

Digi-Pas®
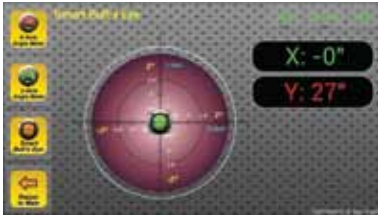*A division of VENTURA Group of Companies*

Professional Mobile Sync Apps

The user-friendly **Digi-Pas® Level Mobile Sync Apps** can be easily installed in smartphone or tablet to fully utilize the **remote wireless Bluetooth mobile connectivity** to the Digi-Pas® DWL-8500XY 2-axis Ultra Precision Digital Level, providing amazing user experience of **'one-man-operation'** for machine installers to perform remote 2-axis simultaneous levelling & alignment task conveniently and speedily.
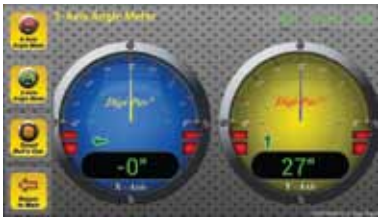
Android Apps Features

SMART 2D BUBBLE™

This feature enables user to view 2-axis angle/levelling measurement simultaneously in graphical bull's eye (with auto range feature) and numeric formats in arcsec & mm/M units.

Quality and productive works can be achieved by completely eliminating the hassles of levelling one-axis-at-a-time (trial-and-error) experienced when using conventional single-axis levels.

Single-Axis & Dual-Axis Angle Meters

This feature enables user to view single-axis or dual-axis angle/levelling measurement in numerical and graphical display i.e. arcsecond & mm/M units.

Features comparison

Features	Pc Sync Pro Edition	Mobile Sync Pro Edition	Mobile Sync Free Edition
3D Surface Flatness Graph	✔		
SMART 2D BUBBLE™	✔	✔	
Single-Axis Angle Meter	✔	✔	✔
Dual-Axis Angle Meter	✔	✔	
Single-Axis Angle Graph	✔		
Dual-Axis Angle Graph	✔		
Vibrometer Graph	✔		
USB Connectivity	✔		
Bluetooth Connectivity	✔	✔	✔

PC System Requirements

User's PC is recommended the following items to be installed for using the PC Sync Software:

- Microsoft framework 3.5 for 32bit Windows OS or
- Microsoft framework 4.0 for 64bit Windows OS
- Windows XP service pack 3 / Windows Vista / Windows 7

The following item are required:

- At least 1 GB Ram
- At least 100MB free disk space on hard drive
- Microsoft Excel 2007 and above
- USB 2.0 Port
- Bluetooth adapter (For Bluetooth Connection)

Supported Android Versions

- Android 2.2 Froyo
- Android 2.3 Ginger Bread
- Android 3.0 Honeycomb
- Android 4.0 Ice Cream Sandwich
- Android 4.1 Jelly Bean

Scan the QR code to download the apps

Applications :

Biomedical & Pharmaceutical

CNC Machine Alignment

CMM Levelling (Metrology)

Research Laboratory

Semiconductor Production Machines

Aerospace & Defence

Railway & Transportation System

www.digipas.com

Digi-Pas® **2 Years Warranty**

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JCL-2-03999-99-002