

DAKOTA ULTRASONICS

The **PVX** v2.0

Precision A-Scan Thickness Gauge

Highlights:

- ▶ Powered by a 100MHz DSP platform using FPGA technology.
- ▶ Adjustable 200 volt pulser: 100, 150 & 200 volts.
- ▶ Up to 250 Hz pulse repetition rate (PRF).
- ▶ Variable pulse width (spike, thin & wide).
- ▶ 110dB gain range. Manual and Automatic (AGC), depending on measure mode selected.
- ▶ Time dependent gain (TDG), with variable start and slope.
- ▶ Impedance damping options (35, 50, 75, 300, 600 & 1500).
- ▶ Display Options: Grayscale 1/8 VGA, or AMOLED color 1/4 VGA.
- ▶ Screen refresh: B&W 25 Hz, color 60Hz.
- ▶ Transducers: Single, Delay Line & Pencil options.
- ▶ Memory: 4 GB internal SD card.
- ▶ USB-C connectivity.
- ▶ 2 year limited warranty.



PVX SPECIFICATIONS

Physical

Size:

Width (2.5in/63.5 mm)
Height (6.5 in/165 mm)
Depth (1.24 in/31.5 mm)

Weight:

13.5 ounces (with batteries).

Keyboard:

Membrane switch pad with twelve tactile keys.

Operating Temperature:

14 to 140F (-10C to 60C)

Case:

Extruded aluminum body with nickel-plated aluminum end caps (gasket sealed).

Data Output:

USB-C port. Windows® PC interface software.

Display (Two Options):

1/8in VGA grayscale display (240 x 160 pixels); viewable area 2.4 x 1.8in (62 x 5.7mm); EL backlit (on/off/auto invert).

1/4 VGA AMOLED color display (320x240 pixels). Viewable area 1.7 x 2.27 in (43.2 x 57.6 mm). 60 Hz screen refresh rate.

Ultrasonic Specifications

Measurement Modes:

Pulse-Echo (P-E): Contact transducers.

Echo-Echo (E-E): Contact transducers.

Echo-Echo Verify (E-EV): Contact transducers.

Interface-Echo (I-E): Delay Line & Pencil transducers.

Interface-Echo-Echo (I-E-E): Delay Line & Pencil transducers.

Pulser:

Square wave pulser with adjustable pulse width (spike, thin, wide).

Receiver:

Manual or AGC gain control with 110dB range, varies with mode selected. Adjustable damping (35, 50, 75, 300, 600 & 1500 ohms).

Timing:

Precision TCXO timing with single shot 100 MHz 8 bit ultra low power digitizer.

Power Source

Line Power: USB-C to PC or power outlet.

Batteries: Three AA cells.

Alkaline - b&w 35 hrs, color 12 hrs.

Nicad - b&w 10 hrs, color 5 hrs.

NI-MH - b&w 35hrs, color 12 hrs.

Power saving DIM (color), auto power off if idle 5 minutes. Battery status icon.

Measuring

Range:

Interface-Echo Mode: Steel .050–1.0 inch (1.27–25.4mm); Plastics from .005 inch (.127mm).

Interface-Echo-Echo Mode: Steel .006–.500 inch (.152–12.7mm).

Pulse-Echo Contact:

Steel .040 in. – 30.0 ft. (1mm – 9.14 M).

Echo-Echo Contact:

Steel .100–3.0 ft. (2.54–91.44 cm).

Echo-Echo Verify Contact:

Steel .100–6.0 in. (2.54–152.4 mm).

Resolution (selectable):

+/- .001 inch (0.01 mm).

+/- .0001 inch (0.001 mm).

Velocity Range:

0.0122 to 0.7300 inches/μs

309.88 to 18542 meters/sec.

Single and Two point calibration option, or selection of basic material types.

Units:

English & Metric

Display

Display Views:

A-Scan: Rectified +/- (flaw view) RF (full waveform view). Refresh rate at 25 Hz (b&w), 60 Hz (color). Portrait & Landscape views (color only).

B-Scan: Time based cross section view.

Display speed variable (10 to 200 readings per second).

Large Digits: Standard thickness view; Digit Height: 0.400 in (10 mm), color 0.565 in (14.35 mm).

Scan Bar: Speed 10 to 33 Hz. Viewable in B-Scan and Large Digit views.

Bar Graph: Measurement stability.

Memory

Log Formats: Grid (Alpha Numeric), or Sequential (Auto Identifier).

Capacity: 4 Gb internal SD card.

Screen Capture: Bitmap graphic capture for quick documentation (.tif).

OBSTRUCT to indicate inaccessible locations.

Transducer

Transducer Types:

Single Contact, Delay Line & Pencil (1 to 25MHz).

Locking quick disconnect LEMO "00" connector.

Standard 4 foot cable, custom transducers and cable lengths available.

Features

Setups:

64 custom user-defined setups.

Gates:

3 adjustable gates, depending on measure mode selected.

Alarm Mode:

Set Hi and Lo tolerances with audible beeper and visual LEDs.

Scan Mode:

Takes 250 readings per second and displays the minimum reading found when the transducer is removed.

Connections

Output: Direct USB-C 1.1 PC connectivity.

Transducer Connector: LEMO 00

Certification

Factory calibration traceable to NIST & MIL-STD-45662A.

Warranty

2 year limited.



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