

DAKOTA ULTRASONICS



The PVX

Precision A-Scan Thickness Gauge

Highlights:

- ▶ Adjustable square wave pulser provides the flexibility necessary for both high resolution and penetration requirements.
- ▶ Selectable viewing options provide the user with additional flexibility during operation: (RF waveform, +/- Rectified waveform, and Large Digits with Scan Bar).
- ▶ Time based B-Scan feature displays a cross section of the test material. Displays the profile of the opposite surface of the material.
- ▶ Ability to use a variety of single element transducers for specific applications: Standard Delay Line (acrylic and graphite tips for metals and thin plastics), Pencil Delay Line (tough access areas on thin materials), and Contact transducers (variety of applications).
- ▶ Hardware AGC gain control for multiple echo and thru-paint measurement.
- ▶ Multiple calibration options: One-Point, Two-Point, or selection from a Material List.
- ▶ 16 factory setups and 48 user-defined setups. User-defined setups can be edited for custom applications.
- ▶ PVX is equipped with an alpha-numeric data logger to provide increased versatility for those custom reporting needs.
- ▶ The High Speed Scan feature speeds up the inspection process by taking 32 measurements per second. Remove transducer from the test material and display the minimum measurement scanned.
- ▶ Adjustable resolution settings add to the PVX's flexibility.
- ▶ PVX comes complete with our Windows® PC software for transferring data to and from a PC.
- ▶ Auto Find feature locates the detection point(s) and adjusts the display settings to bring the waveform into view.
- ▶ Visual and audible alarm with Hi and Lo limit settings for specific application tolerances.
- ▶ Multiple language support.
- ▶ 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:
Bi-directional RS232 serial 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 45.7mm). EL backlit (on/off/ auto). 25 Hz screen refresh rate.

Ultrasonic Specifications

Measurement Modes:

Pulse-Echo - (General Purpose - uncoated materials).

Interface-Echo - (Precision - thick materials).

Echo-Echo - (Precision—Thin materials & thru-paint).

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

Receiver:
Manual or AGC gain control with 40dB range, depending on mode selected.

Timing:
40 MHz ultra low power 10 bit digitizer.

Warranty

2 year limited.

Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells.
Typically operates for 35 hours on alkaline and 10 hours on NiCad (charger not included).

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).

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

Pulse-Echo Contact:

Steel .040–10.0 inch (1–254mm); Plastics from .010" (.254mm).

Echo-Echo Contact:

Steel thru-paint .100–3.0 inches (2.54–76.2mm).

Resolution (selectable):

+- .001 inch (0.01 mm).
+- .0001 inch (0.001 mm).

Velocity Range:

.0492 to .3936 inches/μs.
1250 to 9999 meters/second.

One and Two Point calibration option, or selection of basic material types.

Units:

English & Metric

Display

Display Views:

A-Scan - Rectified +/- (half wave view) RF (full waveform view).

B-Scan - Time based cross section view.
Display speed of 15 secs per screen.

Large Digits - Standard thickness view.
Digit Height: 0.400 inch (10mm).

Scan Bar Thickness - 6 readings per second; Viewable in B-Scan and Large Digit views.

Repeatability Bar Graph - Bar graph indicates stability of reading.

Memory

12,000 readings and waveforms (alpha numeric storage).

OBSTRUCT to indicate inaccessible locations.

Memory:

16 megabit non-volatile ram.

Transducer

Transducer Types:

Single Element (1 to 20 MHz).

Locking quick disconnect "00" LEMO connector.

Standard 4 foot cable.

Custom transducers and cable lengths available.

Features

Setups:

16 factory and 48 custom user-defined setups.

Gates:

Single gate in contact mode; Single gate with holdoff in inter-face-echo, echo-echo, and plastics mode; Adjustable threshold. Multiple Measurement Modes: Selectable modes for use with a variety of applications.

Alarm Mode:

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

Fast Scan Mode:

Takes 32 readings per second and displays the minimum reading found when the transducer is removed. Display continuously updates while scanning.

Connections

Output: RS232 serial interface. PC software & USB converter cable included.

Transducer Connectors: Two LEMO 00 connectors.

Certification

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



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