DAKOTA ULTRASONICS

THE PVX

Ultrasonic Precision A-Scan Thickness Gauge

The physical size, weight, and display resolution are just a few of the benefits of the PVX

- 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.
- Adjustable resolution settings add to the PVX's flexibilty.
- 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.
- Visual and audible alarm with Hi and Lo limit settings for specific application tolerances.
- Auto Find feature locates the detection point(s) and adjusts the display settings to bring the waveform into view.
- PVX comes complete with our Windows® PC software for transferring data to and from a PC.
- 2 year limited warranty.

SOUND SOLUTIONS

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 140˚F (-10˚C to 60˚C)

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

Data Output:
Bi-directional RS232 serial port. Windows® PC interface software.

Display:
1/8in. VGA grayscale display (240 x 160 pixels). Viewable area 2.4in. x 1.8in. (62m. x 45.7mm). EL backlit (on/off/auto).

Ultrasonic Specifications

Measurement Modes:
Pulse-Echo (Precision—General purpose).
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 with ultra low power 8 bit digitizer.

Warranty

2 year limited

CE approved

Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells.

Typically operates for 150 hours on alkaline and 100 hours on NiCad (charger not included.)

Auto power off if idle 5 min.

Battery status meter.

Measuring

Range:

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

Echo-Echo Mode: Steel .006in.–.500in. (1mm–12.7mm).

Pulse-Echo Contact: Steel .040in.–10.0in. (1mm–254mm). Plastics from .010" (.254mm).

Echo-Echo Contact: Steel thru-paint .100in–3.0in. (2.54mm–76.2mm).

Resolution (selectable):
+/- .001 in. (0.01 mm)
+/- .0001 in. (0.001 mm)

Velocity Range:
.0492 to .5510 inches/µs
1250 to 9999 meters/sec

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 in. (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.

Data Logger (Internal)

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 interface-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.

Certification

Factory calibration traceable to national standards.

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Distributed by:

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