

PVX : Ultrasonic Precision Thickness Gauge

PVX Precision Thickness

Description

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 BScan 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 flexibility.

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 area 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 alphanumeric data logger to provide increased versatility for those custom reporting needs.

The high speed scan feature speeds up the inspection process by making 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 features 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



Specification

Physical

Weight: 13.5 ounces (with batteries).

Size: 2.5 W x 6.5 H x 1.24 D inches
63.5 W x 165 H x 31.5 D mm

Operating Temperature: 14° to 140°F (10° to 60°C).

Case: Extruded aluminum body / nickel plated aluminum end caps

Resistant to impact and environmentally sealed.

Keypad: Membrane switch with twelve tactile keys

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

Data Output: Bidirectional RS232 serial port. Windows® PC interface software.

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

Ultrasonic Specification

Measurement Modes: PulseEcho (Precision General purpose).

InterfaceEcho (Precision Thick materials).

Display

Display Views:

AScan AScan Rectified +/- (half wave view) RF (full waveform view)

BScan 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 6 readings per second. Viewable in BScan and Large Digit views.

Repeatability Bar Graph Bar graph indicates stability of reading.

Data Logger Internal

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EchoEcho (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.

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 icon.

Measuring

InterfaceEcho Mode: Steel 0.05 1.0 in (1.27mm 25.4mm). Plastics from .005in. (127mm).

EchoEcho Mode: Steel .006in .500in (.15mm 12.7mm).

PulseEcho Contact: Steel .040in 10.0in (1mm 254mm). Plastics from .010in (.254mm)

EchoEcho Mode (EE): Thru Paint & Coatings measures from 0.100 to 4.0 inches (2.54 to 102 millimeters). Range will vary +/- depending on the coating.

EchoEcho Mode (EEV): Thru Paint & Coatings measures from 0.050 to 1.0 inches (1.27 to 25.4 millimeters). Will vary based on coating.

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

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

Velocity Range: .0492 to .3936 in./ms 1250 to 9999 meters/sec

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

Units: English & Metric

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

OBSTRUCT to indicate inaccessible locations.

Transducer

Transducer Types: Single Element (1 to 20 MHz).

Locking quick disconnect "00" LEMO connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

Features

16 factory and 48 userdefined setups.

Gates: Single gate in pulseecho mode. Single gate with holdoff in interfaceecho, echoecho, 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.

FastScan Mode: Takes 32 readings per second and displays the minimum reading found when the transducer is removed.

Certification

Factory calibration: traceable to national standards.

Warranty

2 year limited