DAKOTA ULTRASONICS

PT GLOBAL SOLUTION TECHNOLOGY ASEANA
www.gsolutiontechnology.com

The Best of Both Worlds...

The DFX-7 Series

Flaw Detector & Thickness Gauge

Flaw Detector:

- Sizing Toolkits: DAC, AWS, TCG, DGS.
- Exceptional visibility in sunlight (AMOLED) color VGA display (320x240 pixels).
- P.R.F. - 8 Hz to 2 kHz, adjustable.
- Screen Refresh Rate: 60 Hz.
- Detection: Z-Cross, Flank & Peak.

Thickness Gauge:

- Automatic: probe zero, probe recognition, and Temperature compensation.
- Measurement: Variety of modes to address a number of applications.
- Large data storage with multiple formats: Alpha numeric grid and sequential w/auto identifier.
- Up to 12 hours of battery life using 3 AA cells.

Other:

- PC & OSX reporting software.

SOUND SOLUTIONS

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DFX-7 SERIES SPECIFICATIONS

General

Size: 2.5W x 6.5H x 1.24D in (63.5 x 165 x 1.5mm).

Weight: 14 ounces (.397kgs), with batteries.

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

Display: 1/4 VGA AMOLED color display (320 x 240 pixels). Viewable area 1.7 x 2.27 in (43.2 x 57.6 mm). 16 color pallete, multiple color options, and variable brightness.

Screen Refresh Rate: 60Hz.

Display Views: Flaw Detector: Full wave, +/- Rectified, or RF. Thickness Gauge: Digits, +/- Rectified, RF, or B-Scan.

Resolution (selectable): +/- 0.001 in (0.01 mm) or +/- 0.0001 in (0.001mm).

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

Measurement Gates: Two independent gates (Flaw), and three gates (thickness). Start & width adjustable over full range. Amplitude 5-95%, 1% steps. Positive or negative triggering for each gate with audible and visual alarms.

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

Environmental: Meets IP65 requirements.

Calibration

Automatic Calibration: Longitudinal (straight), or Shear (angle).

Probe Types: Single Contact, Dual, Delay, and Angle .

Units: English (in), Metric (mm).

Velocity: 0.0100 to .6300 in/µs (256–16,000 m/s).

Test Range: 0.007 in (.178mm) to 1200 in (30,480mm) maximum at steel velocity. Continuously variable.

Zero Offset (Probe Zero): 0–999.999 µs.

Material Velocity Table: Contains longitudinal and shear velocities for a variety of material types.

Pulser

Pulser Type: Two adjustable square wave pulsers and receivers.

P.R.F.: 8 to 2000Hz in selectable steps (8, 16, 32, 66, 125, 250, 333, 1000, 2000Hz).

Pulser Voltage: 100-200 volt peak amplitude, rise/fall time < 10ns into 50ohm.

Pulse Width: 40 to 400 ns. Selectable step options 40, 80 & 400 ns (labeled spike, thin & wide).

Receiver

Gain: 0 to 110dB with 0.2dB resolution. Manual and AGC control.

Damping: 50, 75, 100, 300, 600, & 1500 ohms.

Frequency Bands: DFX-7 & 7+: Broadband 1.8 - 19 MHz (-3dB). DFX-7+: Three narrow bands at 2MHz, 5MHz, 10MHz.

Horizontal Linearity: +/- 0.4% FSW.

Vertical Linearity: +/- 1% FSH.

Amplifier Linearity: +/- 1 dB.

Amplitude Measurement: 0 to 100% FSH, with 1% resolution.

Delay: 0 - 999in (25,375mm) at steel velocity.

Flaw Detector Features

TRIG: Trigonometric display of beam path, depth, surface distance, and curved surface correction. Used with angle beam transducers.

DAC: Up to 8 points may be entered and used to digitally draw a DAC curve. Reference -2, -6, -10, (-6/-12), (-6/-14), (-2/-6/-10) dB. Amplitude displayed in %DAC, dB, or %FSH.

AWS: Automatic defect sizing in accordance with AWS D1.1 structural welding code.

AVG/DGS: Automatic defect sizing using probe data. Stores up to 64 custom setups.

TCG: Time corrected gain. 50 dB dynamic range, 20 dB per microsecond, up to 8 points for curve definition.

Measurement Mode: Pulse-Echo (P-E) range 0.025 in to 100 ft. (0.63mm to 3048 cm).

Auto-Cal: Provides automatic calibration with two reference points.

Detection Modes: Zero Crossing, Flank and Peak.

Display Freeze: Hold current waveform on screen.

Peak Memory: Captures peak signal amplitude.

Skip Bar: Displays skip legs in the waveform area.

Thickness Gauge Features

Measurement Modes (Dual & Single Element):

Pulse-Echo Mode (P-E) - (Pit & Flaw Detection) range 0.025 to 96 in (0.63mm to 244 cm). ***Single Contact*** - 0.040 in to 100 ft. (1 mm to 3048 cm).

Pulse-Echo Coating Mode (PECT) - (Material, Coating, Pit & Flaw Detection): Material: 0.025 in to 96 in (0.63mm to 244 cm). Coating: 0.001 to 0.100 inches (0.01 to 2.54 millimeters).

Pulse-Echo Temp Comp Mode (PETP) - (Pit & Flaw Detection) Auto temperature compensation -range 0.025 in to 96 in (0.63 mm to 244 cm).

Echo-Echo Mode (E-E) - (Thru Paint & Coatings) range 0.050 to 4.0 inches (1.27 to 102 millimeters). ***Single Delay Line*** - 0.007 to 1.00 in (.178 to 25.4 mm). ***Single Contact*** - 0.040 in to 10 ft. (1 mm to 305 cm). Will vary based on coating.

Echo-Echo Verify (E-EV) - (Thru Paint & Coatings) range 0.050 to 1.0 inches (1.27 to 25.4 millimeters). Will vary based on coating.

Coating Only Mode (CT) - (Coating Thickness) range 0.0005 to 0.100 inches (0.0127 to 2.54 millimeters). Range will vary +/- depending on the coating.

One and two point calibration option for material & coating, or selection of basic material types.

Auto probe zero, recognition and temperature compensation.

High speed scan up to 50 readings per second.

Audible alarm with hi/lo limits.

Built-in differential mode for QC inspections.

Linear time dependent gain (TDG) with adjustable slope (dB per microsecond).

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).

Custom Setups: 64 user configurations.

Power Source

Battery: Three 1.5V alkaline, 1.2V AA Nicad cells, 1.2V AA NI-MH, or other other equivalent power source. Battery life (continuous use): Alkaline (12 hrs), Nicad (5hrs), and NI-MH (12hrs), with default settings.

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

Connections

Output: Direct USB-C 1.1 PC connectivity.

Transducer Connectors: Two LEMO 00 connectors.

Certification

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

Flaw Detector: EN12668-1 compliant.

Warranty

2 year limited

CE approved

MADE IN THE USA

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