

DAKOTA ULTRASONICS

The CMX DL+ v2.0

A/B Scan Material & Coating Thickness Gauges



The Finest in Portable Inspection!

Highlights:

- ▶ Powered by a 100MHz DSP platform using FPGA technology.
- ▶ Display Options: Grayscale 1/8 VGA, or AMOLED color 1/4 VGA.
- ▶ Two Channels—Dual pulsers and receivers.
- ▶ Up to 250 Hz pulse repetition rate.
- ▶ Screen refresh: B&W 25 Hz, Color 60 Hz. Switchable A-Scan portrait & landscape views (color only).
- ▶ Adjustable gain: 110 dB range.
- ▶ Automatic gain control (AGC).
- ▶ Linear time dependent gain (TDG) with adjustable slope.
- ▶ Probes: Single, Dual, Delay line, Pencil.
- ▶ Memory: 4 gigabyte internal SD card.
- ▶ USB-C connectivity

SOUND SOLUTIONS

CMX DL+ 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 45.7mm). EL backlit (on/off/auto). 20 Hz screen refresh rate.

1/4 VGA AMOLED color display (320 x 240 pixels). Viewable area 1.7 x 2.27 in (43.2 x 57.6 mm). 60 Hz screen refresh rate.

Ultrasonic Specifications

Measurement Modes:

Coating Off: Pulse-Echo (P-E)

Coating On: Pulse-Echo Coating (PECT)

Temp Comp: Pulse-Echo Temperature Compensation (PETP)

Thru-Paint: Echo-Echo (E-E)

Thru-Paint Verify: Echo-Echo Verify (E-EV)

Coating Only: Coating (CT)

Pulser: Dual square wave pulsers.

Receiver: Dual receivers - manual or AGC gain control with 110dB range (limited). Adjustable damping (50-1500 ohms).

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

Power Source

Line Power: USB to PC or power outlet.

Batteries: Three AA cells.

Alkaline - grayscale 35 hrs, color 12 hrs.

Nicad - grayscale 10 hrs, color 5 hrs.

NI-MH - grayscale 35hrs, color 12 hrs.

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

Transducer

Transducer Types:

Dual / Single Element (1 to 20MHz). Contact, matching layer, delay line, and pencil configurations.

Locking quick disconnect "00" LEMO connectors.

Standard 4 foot cable.

Custom transducers & cables lengths available for special applications.

Measuring

Pulse-Echo Mode (P-E) - (Pit & Flaw Detection) measures from 0.025 in. to 100 ft. (0.63 mm to 30.48 M).

Pulse-Echo Coating Mode (PECT) - (Material, Coating, Pit & Flaw Detection); Material: 0.025 in. to 100 ft. (0.63 mm to 30.48 M). Coating: 0.001 to 0.100 in (0.01 to 2.54 mm).

Pulse-Echo Temp Comp Mode (PETP) - (Pit & Flaw Detection) Auto temperature compensation - measures from 0.025 in. to 100 ft. (0.63 mm to 30.48 M).

Echo-Echo Mode (E-E) - (Thru Paint & Coatings) measures from 0.100 to 6.0 in (2.54 to 152.4 mm). Range will vary +/- depending on the coating.

Echo-Echo Verify Mode (E-EV) - (Thru Paint & Coatings) measures from 0.100 to 1.0 in (2.54 to 102 mm). Range will vary +/- depending on the coating.

Coating Only Mode (CT) - (Coating Thickness) Measures from 0.0005 to 0.100 in (0.0127 to 2.54 mm). Range will vary +/- depending on the coating.

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

Velocity Range:

0.0122 to 0.7300 inches/ μ s
309.88 to 18542 meters/sec

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

Units: English & Metric

Display

Large Digits - Standard thickness view. Digit Height: 0.700 inches (17.78 millimeters). Color 0.565 in (14.35 mm).

A-Scan - Rectified +/- (flaw view), RF (full waveform view). Portrait & landscape views (color only).

Pulse Repetition Frequency - 250 Hz

A-Scan Refresh Rate - B&W 25 Hz, color 60 Hz.

B-Scan - Time based cross section view. Display speed variable (10 to 200 readings per second).

Scan Bar Thickness - Speed 10 Hz. Viewable in B-Scan and Large Digit views.

Repeatability Bar Graph - Bar graph indicates stability of reading.

Feature Status Bar - Indicates features currently active.

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.

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.

Warranty

2 year limited



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