

NDT

NDT INTERNATIONAL, INC.

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The new **CMX** series of Ultrasonic Thickness Gauges combines the ability to measure wall thickness with or without coatings with the simultaneous measurement of the coating itself. Adjustable gain, temperature compensation, time-based B-scan and data storage compliment the advanced features of this instrument.

MEASUREMENT MODES:

- Coating on: Pulse-Echo Coating (PECT)
- Coating off: Pulse-Echo (P-E)
- Temp Comp: Pulse-Echo Temperature compensated (PETP)
- Thru-Paint: Echo-Echo (E-E)
- Coating Only: Coating (CT)

BASIC FEATURES (model CMX):

- Auto Probe Recognition
- Auto Probe Zero
- Auto Temperature Compensation
- Adjustable Gain - (v-low, low, med, high, v-high)
- Time based B-Scan (cross section view)
- High Speed Scan
- High/Low Alarm - dynamic update of both
- Differential Mode
- Transducer Linearity Selector
- Material Chart
- 64 Custom Setup Capability
- 1/8 VGA Grayscale LCD display



The model **CMX-DL** adds Massive Data Storage:

16,000 readings with B-Scans & gauge settings for stored reading (with Graphics On)

210,000+ measurement readings - including material, coating, min & max thicknesses for all readings (with Graphics Off)

The model **CMX-DL+** includes the above features plus +/- rectified waveform (flaw view) and RF waveform A-Scan views and the Echo-Echo Verify (E-EV) Measurement Mode.
Available with 1/4 VGA AMOLED color display, 125 Hz refresh rate



CE approved

CMX and CMX-DL

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 12 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: 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).

Ultrasonic Specifications

Measurement Modes:
Coating Off: Pulse-Echo (P-E)
Coating On: Pulse-Echo Coating (PECT)
Temp Comp: Pulse-Echo Temperature Comp (PETP)
Thru-Paint: Echo-Echo (E-E)
Coating Only: Coating (CT)
Pulser: Dual square wave pulsers
Receiver: Dual receivers - manual or AGC gain control with 110dB range (limited)
Timing: Precision 25 MHz TCXO with single shot
100 MHz 8 bit ultra low power 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

Range:
Pulse-Echo Mode (P-E) - (Pit & Flaw Detection) measures from 0.025 to 19.999 inches (0.63 to 508 mm)
Pulse-Echo Coating Mode (PECT) - (Material, Coating, Pit & Flaw Detection):
Material: 0.025 to 19.999 inches (0.63 to 508 mm)
Coating: 0.001 to 0.100 inches (0.01 to 2.54 mm)
Pulse-Echo Temp Comp Mode (PETP) - (Pit & Flaw Detection) Auto temperature compensation -measures from 0.025 to 19.999 inches (0.63 to 508 mm)
Echo-Echo Mode (E-E) - (Thru Paint & Coatings) measures from 0.100 to 4.0 inches (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 inches (0.0127 to 2.54 mm)
Range will vary +/- depending on the coating

Resolution: +/- 0.001 inches (0.01 mm)
Velocity Range: 0.0492 to 0.5510 in/ms1250 to 13995 meters/second
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 mm)
B-Scan: Time based cross section view. Display speed of 15 seconds per screen
Scan Bar Thickness: 6 readings per second
Viewable in B-Scan and Large Digit views
Repeatability Bar Graph: Bar graph indicates stability of reading
Feature Status Bar: Indicates currently active features

Data Logger (CMX-DL)

Log Formats: Grid (alpha numeric)
Sequential (auto identifier)
Cell contents:
Graphics On - 16,000 readings, B-Scan image, & gauge settings for every reading.
Graphics Off - 210,000 readings (coating, material, Min & max)
OBSTRUCT displayed to indicate inaccessible location
Memory - 32 megabit non-volatile ram

Transducer

Transducer Types: Dual Element (1 to 10 MHz)
Locking quick disconnect "00" LEMO connectors
Standard 4 foot cable, side or top exiting
Custom transducers and cable lengths available for special applications

Certification

Factory calibration traceable to national standards

Warranty

2 year limited

Manufactured by

DAKOTA ULTRASONICS

1500 Green Hills Road, #107
Scotts Valley, CA 95066

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CMX-DL+

Physical

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Height (6.5 in/165 mm)
Depth (1.24 in/31.5 mm)
Weight: 13.5 ounces (with batteries)
Keyboard: Membrane switch pad with 12 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: 2 Options
•1/8 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
•1/4 VGA AMOLED color display (320 x 240 pixels)
Viewable area 1.74 x 2.27in (43.2 x 57.6mm)
125 Hz screen refresh rate

Ultrasonic Specifications

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Coating On: Pulse-Echo Coating (PECT)
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Thru-Paint: Echo-Echo (E-E)
Thru-Paint Verify: Echo-Echo Verify (E-EV)
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Echo-Echo Verify (E-EV) - (Thru Paint & Coatings) measures from 0.050 to 1.0 inches (1.27 to 102 mm) Will vary based on coating
Coating Only Mode (CT) - (Coating Thickness) Measures from 0.0005 to 0.100 inches (0.0127 to 2.54 mm). Range will vary +/- depending on the coating

Resolution: +/- 0.001 inches (0.01 mm)
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RF (full waveform view)
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