

CMX1-DL

Coating Thickness Gauge



Highlights:

- **Measurement modes:** Pulse-Echo, Pulse Echo w/Coating, Pulse-Echo w/Temperature Compensation, Echo-Echo, Echo-Echo Verify & Coating Only.
- **Automatic:** probe zero, probe recognition, and temperature compensation.
- **Stores up to 64 custom setups** for specific applications.
- **High Speed Scan** of up to 250 readings per second.
- **250 Pulse Repetition Rate (PRF)**
- **Adjustable gain (40 to 53dB)** vlow, low, med. hi, vhi
- **Time dependent Gain – (TDG)**
- **Automatic Gain Control – (AGC)**
- **Audible/visual alarm** with hi and lo limit settings.
- **Built-in differential mode** for QC inspections.
- **Time based B-Scan feature** for cross section material scans.
- **Data storage formats:** Alpha numeric grid and sequential w/auto identifier.
- **Windows PC software** included.

CMX1-DL CORROSION THICKNESS GAUGE



Dakota CMX1-DL is a high-performance ultrasonic thickness gauge designed for precise measurement of material and coating thickness. Engineered for reliability and ease of use, it offers multiple measurement modes, high-speed scanning, and advanced signal processing, making it ideal for corrosion monitoring, quality control, and inspection applications across various industries.

Industries: Aerospace, Automotive, Energy, Infrastructure, Mining, Oil & Gas, Pipelines, Railway.

SPECIFICATIONS

PHYSICAL

Size:

Width (2.5in/63.5mm)

Height (6.5 in/165mm)

Depth (1.24 in/31.5mm)

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: 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 SPECIFICATION

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).

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

POWER SOURCE

Line power: USB to PC or power outlet

Batteries: Three AA cells.

Alkaline - grayscale 35 hrs.

Nicad - grayscale 10 hrs.

NI-MH - grayscale 35hrs.

Power saving DIM, auto off 5 minutes.

Battery status icon.

TRANSDUCER

Transducer Types:

Dual Element (1 to 10MHz).

Locking quick disconnect "00" LEMO connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

MEASURING

Pulse-Echo Mode (P-E) - (Pit & Flaw Detection) measures from 0.025 to 48.0 inches (0.63 to 1219.2mm).

Pulse-Echo Coating Mode (PECT) - (Material, Coating, Pit & Flaw Detection); Material: 0.025 to 48.0 inches (0.63 to 1219.2mm). Coating: 0.001 to 0.100 inches (0.01 to 2.54mm).

Pulse-Echo Temp Comp Mode (PETP) - (Pit & Flaw Detection) Auto temperature compensation - measures from 0.025 to 48.0 inches (0.63 to 1219.2mm).

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

Echo-Echo Verify Mode (E-EV) - (Thru Paint & Coatings) measures from 0.100 to 1.0 inches (2.54 to 25.4mm). Range will vary +/- depending on the coating.

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

Resolution: +/- 0.001 inches (0.01mm)

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 (17.78mm).

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

Scan Bar Thickness - Speed 33Hz. 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 (CMX1-DL)

Log Formats: Grid (Alpha Numeric), or Sequential (Auto Identifier).

Capacity: 4 Gb internal memory.

Screen Capture: Bitmap graphic capture for quick documentation (.tif).

OBSTRUCT to indicate inaccessible location

CONNECTIONS

Output: Direct USB-C 1.1 PC connectivity

Transducer Connectors: Two LEMO 00 connectors.

CERTIFICATION

Factory calibration traceable to NIST & MILSTD- 45662A.

WARRANTY

2 year limited

REPLACEMENT

CMX1-DL replaces CMX DL & CG100BDL



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an Elcometer company

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