



# CMX1 & CMX1-DL

## 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 inspetions.
- ▶ 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.

# DAKOTA CMX1 & CMX1-DL CORROSION THICKNESS

Top of the range and easy to use, the Dakota CMX Corrosion Thickness Gauges provide inspectors with all the features necessary to measure the material and coating thickness at the same time.

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/ $\mu$ 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 locations.

### 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 replaces CMX & CG100B

CMX1-DL replaces CMX DL & CG100BDL



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