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Web: https://www.abqindustrial.net **E-mail:** info@abqindustrial.net



Dakota NDT
an Elcometer company

CMX2-DL & CMX3-DL

Thickness Gauge

HIGHLIGHTS:

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

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ABQINDUSTRIAL
PRECISION. RELIABILITY. QUALITY.

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DAKOTA CMX2-DL & CMX3-DL THICKNESS GAUGE

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

Weight: 13.5 ounces (with batteries).

Size:
Width (2.5 in / 63.5 mm)
Height (6.5 in / 165 mm)
Depth (1.24 in / 31.5 mm)

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

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

Keypad: Membrane swich pad with twelve tactile-feedback keys.

Data Output: USB-C port. Windows PC interface software.

Display (Two Options):
CMX2-DL: 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). 25Hz screen refresh rate.
CMX3-DL: 1/4 VGA AMOLED color display (320 x 240 pixels).
Viewable area 1.7 x 2.27in (43.2 x 57.6mm). 60Hz screen refresh rate.

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.

POWER SOURCE

Batteries: Three AA cells

Alkaline - Grayscale 35 hours. Color 12 hours.

Nicad - Grayscale 10 hours. Color 5 hours.

NI-MH - Grayscale 35 hours. Color 12 hours.

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

Line power: USB-C connected to PC or power outlet

CE UKCA

MADE IN THE USA

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.

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

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

DISPLAY

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

A-Scan - Rectified +/- (flaw view), RF (full waveform view). Portrait & landscape views (CMX3-DL only).

Pulse Repetition Frequency - 250Hz

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

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

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

Capacity: 4Gb internal memory.

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

OBSTRUCT to indicate inaccessible locations.

REPLACEMENT

CMX2-DL replaces CMXDL+ & CG100ABDL

CMX3-DL replaces CMXDL+ Color & CG100ABDL+

MEASURING

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

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

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

Echo-Echo Mode (E-E): (Thru Paint & Coatings) measures from 0.100 to 6.0in (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 1.0in (2.54 to 102mm). Range will vary +/- depending on the coating.

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

Resolution: +/- 0.001 in (0.01mm). +/- 0.0001 in (0.001mm)
Velocity Range:
0.0122 to 0.7300 in/µs
(309.88 to 18542 m/sec)

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

Units: English & Metric

CONNECTIONS

Output: Direct USB-C 1.1 PC connectivity.
Transducer Connectors: Two LEMO 00 connectors.

CERTIFICATION

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

WARRANTY

2 year limited.

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