



Ultrasonic Corrosion Thickness Gauge - CMX2-DL

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Reliable Dual-Mode Thickness Gauge for Coated and Uncoated Surfaces

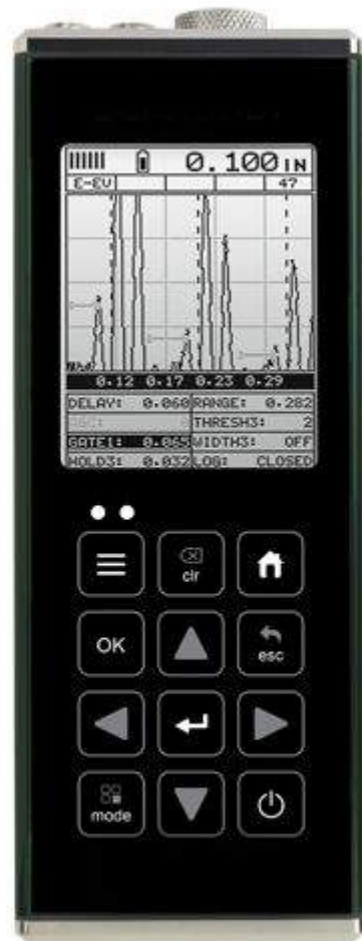
The CMX2-DL Ultrasonic Corrosion Thickness Gauge is a versatile inspection tool engineered to provide accurate measurements of both material and coating thickness—without requiring coating removal. This dual-mode gauge combines Pulse-Echo and Echo-Echo capabilities to deliver fast, precise readings in both coated and uncoated applications.

Built for field use, the CMX2-DL features a rugged design, intuitive interface, and data logging functionality, making it a dependable solution for corrosion monitoring and structural assessments across critical industries.

APPLICATIONS

The CMX2-DL ultrasonic corrosion thickness gauge is ideal for:

- Aerospace - Inspecting aircraft skin, fuselage panels, and support structures
- Oil & Gas - Monitoring corrosion on pipelines, tanks, and offshore equipment
- Energy & Utilities - Measuring wall thickness in boilers, heat exchangers, and pressure vessels
- Infrastructure - Assessing bridges, tanks, and structural steel for material loss
- Automotive & Railway - Verifying coating integrity and underlying material thickness
- Mining and Heavy Equipment - Detecting surface wear and subsurface corrosion



FEATURES

Ultrasonic Corrosion Thickness Gauge - CMX2-DL Features

- 100MHz DSP platform with FPGA technology
- Dual-channel design with two pulsers and receivers
- Pulse repetition rate up to 250Hz
- Screen refresh: 25Hz (B&W), 60Hz (Color)
- Switchable A-Scan views (portrait & landscape, color only)
- Adjustable gain: 110dB range
- Automatic Gain Control (AGC)
- Linear Time-Dependent Gain (TDG) with adjustable slope
- Compatible with Single, Dual, Delay Line, and Pencil probes
- 4GB internal memory
- USB-C connectivity

TECHNICAL SPECIFICATIONS

Ultrasonic Corrosion Thickness Gauge - CMX2-DL Technical 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 switch pad with twelve tactile-feedback keys.
Data Output:	USB-C port. Windows PC interface software.

PHYSICAL

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

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 100MHz 8 bit ultra low power digitizer.

PHYSICAL

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

Replacement Models:

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).

PHYSICAL

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/ μ s (309.88 to 18542 m/sec)
Calibration:	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	
Calibration:	Factory calibration traceable to NIST & MIL-STD-45662A.
WARRANTY	
Warranty Period:	2 year limited.



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Toll-Free: 1.877.884.TEST (8378) | Fax: 954.697.8211
E-mail: info@qualitest-inc.com
Address: 8201 Peters Rd., #1000,
Plantation, FL 33324, USA.

Qualitest Canada & International

Tel: +1.905.944.9825 | Fax: +1.905.944.0304
E-mail: sales@qualitest-inc.com
Address: 70 East Beaver Creek Rd., #9, Richmond Hill,
Ontario L4B 3B2, Canada.

Qualitest Latin America (Mexico and LATAM Region)

E-mail: ventas@qualitest-inc.com

Qualitest KSA (Regional Office)

Tel: +966 11 500 6659
Address: Level 7, 3.09, District 3, King Abdullah
Financial District, Riyadh, Saudi Arabia

Qualitest Singapore (ASIA PACIFIC Regional Office)

Tel: +65 6393 5480 | E-mail: singapore@qualitest-inc.com
Address: 50 Raffles Place, Singapore Land Tower,
Level 46, Singapore, 048623.

Qualitest Indonesia (Representative Office)

Tel: +62 21 2985 9522 | Fax: +62 21 2985 9889
E-mail: indonesia@qualitest-inc.com
Address: One Pacific Place Level 11, Jl. Jend. Sudirman,
Kav. 52-53, SCBD Area, Jakarta 12190, Indonesia.

Qualitest FZE (Regional GCC/ME Office)

Tel: +971 4 8819252 | Fax: +971 4 8819262
Email: gcc@qualitest-inc.com
Address: Jafza One, BB 1610, Jebel Ali Free Zone,
PO Box 261440, Dubai, UAE.

Qualitest India

E-mail: india@qualitest-inc.com
Address: 15th Floor, Dev Corpora, Pokhran Road No.1,
Eastern Express Highway, Thane, Maharashtra,
Mumbai, 400601, India

