

MMX Multi-Mode Thickness Gauges

Two Words:

Versatility & Convenience

The MMX Series has arrived! These gauges are the answer to both versatility and convenience in every way! The MMX series defines versatility by combining features like: Fast Scan, Alarm (audible/visual), and data logging, along with multi-mode for reading through and eliminating the thickness of painted or coated materials. The MMX demonstrates convenience by making all these features available to the user with just the touch of a button.

Conveniently toggle between pulse-echo mode (detect flaws & pits), and echo-echo mode (eliminate paint & coating thickness), to cover all your inspection requirements. No need to remove or allow for errors due to paint and coatings. The MMX gauges use a highly damped dual element style transducer for both modes, eliminating the need to switch between transducer types.

The MMX gauges are packaged in an all aluminum sealed case, making them rugged and resistant to the working environment—Dakota's trademark.

5 Year Limited Warranty

THE MMX SERIES

DAKOTA ULTRASONICS' has succeeded in adding the final touches to the rugged MX line with the new multi-mode MMX series. The MMX-6 and MMX-6DL have not only been combined with all the durability and features of the MX series gauges, but have also been equipped with the ability to measure through painted or coated materials and eliminate the thickness of the paint or coating. Our 5 year limited warranty indicates how we feel about the reliability and durability of the new **MMX Series**.

APPLICATIONS: Corrosion & Pitting • Tube & Pipe • Tanks • Boilers • Glass • Variety of Applications

Physical

Weight:

10 ounces (with batteries).

Size:

2.5 W x 4.5 H x 1.24 D inches
(63.5 W x 114.3 H x 31.5 D mm).

Operating Temperature:

-20P to 120PF (-30P to 50PC).

Case:

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

Keypad

Sealed membrane that is resistant to both water and petroleum products.

Nine tactile-feedback keys.

Transducer

Dual-element (transmit and receive).

1 to 10 MHz frequency range.

Special high-damped transducers available for Through Paint & Coating measurements.

Locking quick disconnect LEMO connectors.

4 foot cable.

Custom transducers available for special applications.



Power Source

Two 1.5V alkaline or 1.2V NiCad AA cells.

Typically operates for 200 hours on alkaline and 130 hours on NiCad.

Display flashes when battery is low. Unit turns off automatically when battery is too low to operate reliably.

Display

Multi-function 4.5 digit liquid crystal display with 0.500 inch numerals, backlit for use in poor light conditions.

Backlight is selectable on/off/auto (illuminates only when taking a measurement).

Measurements displayed in inches, inches/microsecond, millimeters, and meters/second.

Bar graph indicates stability of reading.

Internal Data Logger (MMX-6DL only)

Automatic numeric Data Logging system 1 to 1000 readings.

OBST indicates no reading.

Certification

Factory calibration traceable to national standards.

Warranty

5 year limited.

Measuring

Range:

Pulse-Echo Mode (Pit & Flaw Detection) measures from 0.025 to 19.999 inches (0.63 to 500 millimeters).

Echo-Echo Mode (Through Paint & Coatings) measures from 0.1 to 1 inch (2.54 to 25.4 millimeters). Extended range modification available on request: .2 to 4 inch (5 to 100 mm).

Switch to select English or Metric units.

Resolution:

0.001 inch (0.01 millimeter)

Velocity Range:

0.0492 to .3937 in./μs.
(1250 to 10,000 meters/second)

Built in:

Stainless steel reference disk for probe zeroing.

Four readings per second for single point measurements or 16 per second in **Scan Mode**—captures the minimum thickness.

Single and two point calibration option included.

Features

Multi-Mode:

Toggle between Pit & Flaw Detection (Pulse Echo Mode), and Through Paint & Coatings (Echo-Echo Mode) with the single press of a button.

Alarm Mode:

Enter a minimum acceptable thickness value. If measurement falls below minimum, red LED will illuminate and sound beeper. If measurement is above minimum value, green LED will illuminate.

Data Output:

RS232 output sends data to a serial printer, a computer or other external storage device.

A S O N A T E S T P L C G R O U P C O M P A N Y

Distributed by:

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MMX-7 Multi-Mode Thickness Gauge with B-Scan

- ▶ The physical size, weight, and display resolution are just a few of the benefits of the **MMX-7**.
- ▶ The time-based B-Scan feature displays a cross section of the opposite surface allowing inspectors to see the back surface contour.
- ▶ Use the Multi-Mode feature to measure through and eliminate paint and coatings. Built-in automatic gain control.
- ▶ Selectable low, medium, and high gain settings offer the inspector the additional punch power for materials that are hard to penetrate.
- ▶ The variety of calibration options is just one more example of the **MMX-7's** versatility.
- ▶ Store up to 64 custom setups. Factory setups are included for common applications.
- ▶ **MMX-7** is equipped with an alpha-numeric data logger to provide increased versatility for those custom reporting requirements.
- ▶ The built-in transducer types offer increased linearity between transducers.
- ▶ The high speed scan feature speeds up the inspection process by making 32 measurements per second. Remove transducer from the test material and display the minimum measurement scanned.
- ▶ Use the visual alarm to set Hi and Lo limits for applications requiring specific tolerances.
- ▶ **MMX-7** also comes complete with our Windows® PC software for transferring data to and from a PC, viewing B-Scans, set-ups, and general requirements.
- ▶ Multiple language support
- ▶ 2 year limited warranty

MMX-7 SPECIFICATIONS

Physical

Size:

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

Weight:

13.5 ounces (with batteries)

Keyboard:

Membrane switch with twelve tactile keys.

Operating Temperature:

-14° to 140°F (-10° to 60°C)

Case:

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

Data Output:

Bi-directional RS232 serial port; Windows® PC interface software.

Display:

1/8 inch VGA grayscale display (240 x 160 pixels); Viewable area 2.4 x 1.8 inch (62 x 45.7 mm) EL backlit (on/off/auto invert)

Ultrasonic Specifications

Measurement Modes:

Pulse-Echo (flaws, pits)
Echo-Echo (thru-paint)

Pulser:

Square wave pulser

Receiver:

Selectable low, medium, or high gain in pulse-echo mode, or AGC gain control in echo-echo mode.

Timing:

20 MHz with ultra low power 8 bit digitizer.

Warranty

2 year limited

Certification

Factory calibration traceable to national standards.

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 minutes.

Battery status icon.

Measuring

Range:

Pulse-Echo Mode:

(Pit & Flaw Detection) measures from 0.025 to 9.999 inches (0.63 to 254 mm).

Echo-Echo Mode: (Thru Paint & Coatings) measures from 0.050 to 4.0 inches (1.27 to 102 mm); Range will vary +/- depending on the thickness of coating.

Resolution: +/- .001 inches (0.01 mm)

Velocity Range:

.0492 to .3936 inches/ms
1250 to 9999 meters/sec

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

Units: English & Metric

Display

Display Views:

Large Digits Standard thickness view; Digit Height: 0.400 inch (10mm).

B-Scan Cross sectional view; Display speed of 15 secs 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.

Data Logger (Internal)

12,000 readings and B-scans (alpha numeric storage).

Memory:

16 megabit non-volatile ram

Transducer

Transducer Types:

Dual Element (1 to 10 MHz).

Locking quick disconnect "00" LEMO connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

Features:

Setups:

64 custom user-definable setups; Factory setups available for common applications.

Selectable Transducers:

Selectable transducer types with built-in dual path error correction for improved linearity.

Alarm Mode:

Set Hi and Lo tolerances with audible beeper and visual LEDs.

Fast-Scan Mode:

Takes 32 readings per second and displays the minimum reading found when the transducer is removed; Display continuously updates while scanning.

