

The image shows the components of the Dakota NDT MultiMax Bolt Tension Monitor. Two black rectangular sensor units are shown, one with 'Dakota NDT' printed on its side. They are connected to various cables and connectors, including a large black cable with multiple pins and a smaller cable with a green connector. The components are resting on a perforated metal surface.

MultiMax

Bolt Tension Monitor

HIGHLIGHTS:

- ▶ Connect multiple MultiMax together.
- ▶ Compatible MultiUI interface software to setup your MultiMax.
- ▶ Glue on transducers eliminate transducer placement errors or movement once stuck.
- ▶ Real-time temperature monitoring and compensation.
- ▶ Automatic zeroing, gating & display configuration.
- ▶ Measurements can be auto stored from six times a minute to once per month.
- ▶ Measurement range of 1 in to 50 ft (25.4mm to 15.2 M)
- ▶ 2 year limited warranty.

DAKOTA MULTIMAX BOLT TENSION MONITOR

SPECIFICATIONS

PHYSICAL

Weight:
13.5 ounces (with batteries).

Size:
Width (3 in / 76.2 mm)
Height (6.5 in / 165 mm)
Depth (1.5 in / 38.1 mm)

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

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

Keyboard:
None. PC controlled software
display platform.

Environmental:
Meets IP65 requirements.

CONNECTIONS

USB: Direct USB-C 1.1 PC
connectivity. Windows interface
software.

Temperature Sensor: 5 pin Lemo 1.

Transducer Connectors: 4 Lemo 00.

MEMORY

Log Format: Fixed grid format.

Capacity: 4GB internal SD memory.

DISPLAY VIEW

A-Scan: RF waveform, with large
digital numeric display.

FEATURES

Data Sampling: Measurements can be
auto stored from six times a minute to
once per month.

Data Archive: Automatic and manual
archive options to proprietary format
(.sm2), and comma separated (.csv).

Auto Set: Automates the detection,
scope, and display setting process for
each individual bolt.

TRANSDUCERS

Transducer Types:
Single element - 1MHz to 10 MHz
frequencies, and 1/8" to 1" diameters.

Glue-On:
Available for permanent installation and
remote monitoring.

Connectors:
Potted/Integral, Microdot, Lemo 00, or
BNC options.

Custom Transducers:
Available for special applications.

Temperature Probe:
Automatic temperature compensation.

ELECTRONICS

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

Pulsar Type: Square Wave.

Pulsar Voltage: Selectable 100, 150
and 200 volts.

Pulsar Width: Selectable options
Spike, Thin, and Wide. 80 to 400 ns.

Damping: 100 ohms.

Frequency Band: Broadband 1.8 - 19
MHz (-3dB) filter.

Horizontal Linearity: +/- 0.4% FSW.

Vertical Linearity: +/- 1% FSH.

Amplifier Linearity: +/- 1 dB.

Delay: 0 - 999.9 in (25,400 mm) at
steel velocity.

Measurement Gate: Single gate with
adjustable threshold and polarity.

4 Channel MUX: Multiplexed switching
between channels. Multiple Modules
can be stacked to increase the number
of overall channels monitored, using
the MultiUI PC software.

POWER SOURCE

Line Power: USB to PC or AC adaptor.

MEASURING

Units: English (in), Metric (mm), or
Time (µs). Fahrenheit or Centigrade.

Velocity: 0.0492 to .5510 in/µs
(1250-13995 m/s).

Measurement Modes: Pulse-Echo
(P-E).

Measurement Range: 1 in to 50 ft
(25.4mm to 15.2 M), dependent on
material type and consistency.

Detection: Zero Crossing.

Resolution: +/- 0.00001 in
(0.0001mm).

Calibration: Automatic or Fixed, Single
or Two-Point zero calibration options.

Quantities:

Time - Nanoseconds.

Elongation - Change in length (inches/
millimeters).

Load - Force load applied (pounds KIP,
or megapascals MPa).

Stress - Force for unit area stress
applied (inches per inch or millimeters
per millimeter).

%Strain - Ratio of elongation to
effective length.

Bolt Materials: Select types from a
preset list, or enter custom values.

Repeatability Bar Graph: Bar graph
indicates stability of measurement.

CERTIFICATION

Factory calibration traceable to NIST &
MILSTD-45662A.

WARRANTY

2 year limited



MADE IN THE USA

Dakota NDT
an Elcometer company