



# 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



Your Complete Source for  
Testing Equipment Since 1969!

[www.BergEng.com](http://www.BergEng.com)  
Berg Engineering & Sales Company, Inc.

1-847-577-3980  
Info@BergEng.com