

# Dakota BT Benchtop Bolt Tension Monitor (BT2)

Can be used in accordance with: NIST & MIL-STD-45662A



All the great features of the Dakota BT1-DL Bolt Tension Monitor, with some added benefits in terms of features, hardware, speed, and length. Dakota BT2-DL Ultrasonic Bolt Tension Monitor accurately measures fasteners up to 30 meters in length and sports our very best effort to date in terms of overall performance.

## Product Features

Model	BT2-DL
<b>Display Mode</b>	
Material thickness digits display	■
A-Scan	Rectified +/- (half wave view), or RF (full waveform view)
Measurement Range	PE - 25.4 - 25,400mm, EE, EEV
Resolution	+/- 0.0001mm
<b>Measurement Rate</b>	
Manual	8 readings per second
Velocity Calibration Range	1250 - 13,995m/s
Temperature Compensation	■
Limit Alarm Mode	■
Memory and Data Logging	4GB internal memory Sequential and grid batching Bitmap graphic capture and capture viewer
Calibration Options	Automatic, fixed, single and two-point
Transducer Probe Type	Single element
Transducer Frequency Range	1 - 10MHz
Display	Blanview sunlight readable QVGA TFT color display (320 x 240 pixels) Viewable area 115.2 x 86.4 mm, or 144.78 mm diagonal
Units (Selectable)	mm
LED Backlight	On / Off / Auto
Repeatability / Stability Indicator	■
Low Battery Indicator	■
Battery Save Mode	Auto
Transducer Connector Type	Microdot, Lemo and BNC
USB-C Interface	■
Temperature Sensor	■
Screen Refresh Rate	60Hz
Timing	Precision TCXO timing with single shot 100 MHz 8 bit ultra-low power digitizer

Pulser Type	Spike, Square Wave & Tone Burst. Pulser Voltage: 100 – 400v Selectable step options Spike, Thin, Wide, HV Spike, HV Thin, HV Wide, TB .5MHz, TB 1MHz, TB 2MHz, TB 5MHz, TB 10 MHz. Spike 40 ns, Square Wave 80 to 400 ns, Tone Burst 50 ns to 1 microsecond
Damping	50, 75, 100, 300, 600, & 1500ohms
Frequency Band	Broadband 1.8 - 19 MHz (-3dB) filter
Horizontal Linearity	+/- 0.4% FSW
Vertical Linearity	+/- 1% FSH
Amplifier Linearity	+/- 1 dB
Amplitude Measurement	0 to 100% FSH, with 1% resolution
Delay	25,400 mm at steel velocity
Measurement Gate	Three independent gates depending on measurement mode selected, with audible and visual alarms. Amplitude 5-95%, 1% steps
Setups	64 custom user defined setups; factory setups can also be edited by the user
Auto Set	Automates the detection, scope, and display setting process for each individual bolt
Alarm Limits	Adjustable Hi/Low tolerances with visual LED's and audible beeper
Field Calibration	Vector or Regression correction curve for increased accuracy using Load & Stress
Alarm Limits Bar	Hi & Lo alarm limits for displaying an acceptable tolerance range
Detections	Zero Crossing
Time	Nanoseconds
Elongation	Change in length (mm)
Load	Force load applied (megapascals MPa)
Stress	Force for unit area stress applied (millimeters per millimeter)
%Strain	Ratio of elongation to effective length
Bolt Materials	Select types from a preset or custom list
Glue-On	Available for short bolts with minimal/short elongations to eliminate transducer placement errors

## Technical Specifications

Part Number	Description	Certificate
Z-197-0001	Dakota BT2-DL Benchtop Bolt Tension Monitor (Max II)	●
Operating Temperature	-10 to 60°C	
Power Supply	Lithium-Ion Pack (supplied) or 6 x AA batteries	
Battery Life	18hrs, Alkaline: 12 hrs, Nicad: 5 hrs, NI-MH: 12 hrs	
Gauge Weight	2.04kg - including batteries	
Gauge Dimensions	216 x 165 x 70mm	

## Packing List

Dakota BT2-DL Benchtop Bolt Tension Monitor
Lithium Pack
Couplant
USB Type A to Type B Transfer Cable, 10' Lemo 00 to Microdot Transducer Cable
PC Utility Software (download from website)
Operation Manual, Carrying Case & Certification

## Part Numbers

Dakota BT2-DL Benchtop Bolt Tension Monitor (Max II)
Part Number: Z-197-0001

