

## BG80 Bolt Tension Monitors

### Features

- Range of display & measurement options including: Elongation, Load, Stress, and %Strain, RF, Rectified, Large Digits with Limits Bar
- BG80TDL features temperature compensation to counteract measurement irregularity caused by temperature change
- Data storage capability: 8,000 readings and waveforms
- Auto Set feature automatically optimizes detection and adjusts display
- Hi/Lo Alarm tolerance limits work in conjunction with the data port



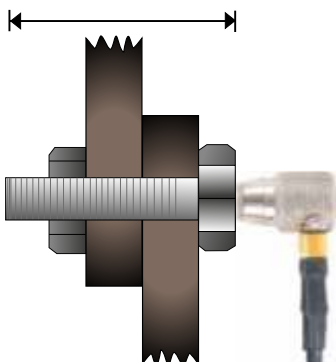
When nuts and bolts are fastened together under load the action of tightening the nut increases the force applied to the bolt causing elongation.

The BG80 range of bolt tension monitors accurately measures this elongation allowing the gauges to accurately measure time (nanoseconds), elongation, load, stress, and %strain of the bolt.

The Elcometer CG80 bolt tension monitor is available in two models: BG80DL and BG80TDL.

By using ultrasonics, bolt tension monitors are not affected by temperature, friction or resistance factors affecting the accuracy of standard torque measurement techniques - giving the BG80 range accuracy within 0.0001mm (0.00001 inch).

Using the gauge's RS232 interface together with the optional shut off accessory the gauge can be programmed to automatically stop the tightening process when the appropriate load has been applied.



### How does it work?

As a fastener is tightened it stretches (elongates) in length.

Manual torque wrenches measure the force applied when tightening a fastener, the accuracy can be affected by temperature, friction and resistance.

As BG80 & BG80TDL ultrasonically measures the change in length accurately determining the applied load of a fastener as it is tightened, they are not affected by these factors.

# BG80 Bolt Tension Monitors

Model & Part Number	BG80DL	BG80TDL
Display Mode: Material thickness digits display	●	●
Measurement Mode <sup>1</sup>	PE & PE with Gate	PE & PE with Gate
Measurement Rate: Manual:	4 readings per second	4 readings per second
Measuring Range <sup>2</sup>	25.4 - 2440mm (1 - 96 inches)	25.4 - 2440mm (1 - 96 inches)
Measurement Accuracy <sup>2</sup>	± 1% or ±0.1mm whichever is the greater	± 1% or ±0.1mm whichever is the greater
Measurement Resolution	0.0001mm (0.00001 inches)	0.0001mm (0.00001 inches)
Velocity Calibration Range	1250 - 10,000m/s 0.0492 - 0.3937in/μs	1250 - 10,000m/s 0.0492 - 0.3937in/μs
Limit Alarm Mode	●	●
Data logging	8,000 readings	8,000 readings
Calibration Options	fixed, single & 2 point	fixed, single & 2 point
Transducer Probe Type	single element	single element
Transducer Frequency Range	1 - 10MHz	1 - 10MHz
Display	1/8 VGA	1/8 VGA
Units (selectable)	mm or inches	mm or inches
LED Backlight	on / off / auto	on / off / auto
Repeatability / Stability Indicator	●	●
Battery Type	3 x AA alkaline	3 x AA alkaline
Battery Life (approximate)	150 hours	150 hours
Low Battery Indicator	●	●
Battery Save Mode	auto	auto
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Size (w x h x d)	63.5 x 165 x 31.5mm 2.5 x 6.5 x 1.24 inches	63.5 x 165 x 31.5mm 2.5 x 6.5 x 1.24 inches
Weight (including batteries)	383g (13.5oz)	383g (13.5oz)
Aluminium case design with gasket sealed end caps, waterproof membrane keypad	●	●
Transducer Connector Type	LEMO	LEMO
RS232 Interface	●	●
Packing List	Elcometer NDT BG80DL gauge, couplant, carry case, user manual, test certificate, 3 x AA batteries, DakView software, RS232/DB9 & USB/DB9 transfer cable	Elcometer NDT BG80TDL gauge, couplant, carry case, user manual, test certificate, 3 x AA batteries, DakView software, RS232/DB9 & USB/DB9 transfer cable

<sup>1</sup> PE: Pulse-Echo Mode

<sup>2</sup> Measuring range & accuracy depends on material, surface conditions and the transducer selected