Description

A torque calibration system that provides a combined package for testing torque wrench and torque screwdriver levels between 4 In Lbs and 600 Ft Lbs. The VT-600 features a mechanical loading bench that works with precision transducers and a display monitor base unit that captures torque measurements with a user-friendly interface.

The base unit features a large LCD graphical display that connects to the transducers on the loading system. It features versatile data acquisition capabilities including measurement storage, retrieval, statistical analysis and automatic downloading to an external printer/computer. The VT-600 system provides readings with an accuracy of ± 0.25 % of indicated value.

Items In VT-600 Torque Calibration System - Package

VT-BU ....Base unit with digital monitor.

TE-TRQ-LB600 ....Manual torque loader (600 ft. lb.)

TE-TRQ-TTC12 ....¾ " drive, 60-600 ft. lb. transducer with socket.

TE-TRQ-TTC400.................................4-in-1 transducer kit (Multiple transducer).

    1/4 " ext. drive, 4-50 in. lb.

    3/8 " ext. drive, 30-400 in. lb.

    3/8 " ext. drive, 80-1000 in. lb.

    1/2 " ext. drive, 20-250 ft. lb.

Adaptors/Brackets Included.............1/4 " internal adaptor.

    1/4 "–3/8 " internal adaptor.

    3/8 " internal adaptor.

    1/2 " internal adaptor.

    Right angle mounting bracket.

    4-in-1 transducer adaptor kit.

    Quick release pin (x2).

    Bracket assembly.

    Standoff fixture.

Features

- Complete package solution for torque wrench calibration to 600 ft-lb
- 4 in 1 tranducer 4–50 in-lb (min) to 20–250 ft-lb (max)
- 600 ft-lb transducer
- Mechanical loader with mounting brackets for transducers (600 ft-lb unit)
- Base unit that connects to transducers and PC
- Large LCD graphical display
- Five built-in languages
- Date and time stamp
- Dual RS-232 ports, analog output
- Automatic downloading
- Accuracy is ± 0.25 % of indicated value, CW & CCW, from 10 % to 100 % of full scale
- EasyCal software compatible

EasyCal Calibration Software

The VT-600 communicates with Time Electronics EasyCal software to automate the calibration process. This provides increased speed of calibration and consistency of results. Produce traceable calibration certificates and test reports for quality standards with additional uncertainty information for ISO 17025 conformance.

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VT-600 Torque Calibration System - Base Unit VT-BU Specifications

System accuracy .... ±0.25 % of reading @ 25 °C with VT-600 base unit and transducer calibrated together.

(Note: Transducers calibrated independent of the base provide a system accuracy of ±0.5 % of reading @25 °C)

Temperature drift .... +0.03 %/°C (+0.017 %/°F).

Display .... 5.5 " x 1.5 " backlighted LCD display, 240 x 64 dot matrix., 0.67 " torque digits character height.

Display capacity .... 16 bit A/D, 5 digits ±32,000 counts. Sample rate, 2000 sample/sec., display rate 5 updates/sec.

Language select .... English, German, French and Spanish.

Bar graph .... Zero to transducer full-scale. Resolution, 10 major divisions, 100 minor divisions.

Units of measure .... Ft. lb., in. lb., in. oz., Nm, dNm, cNm, mkg, cmkg.

Measurement modes .... Track, Peak Hold, First Peak, Power Tool.

Keypad .... Sealed membrane keypad with audible feedback featuring "Soft key" user interface.

Features .... Zerotare; Mode, Units and Language select; High and Low limits setup; Auto Store, Clear and Send select; Clock adjust; Calibration; and RS-232 programming.

Data storage/recall .... 3,000 measurements (with date and time stamp).

Statistical analysis .... Max, Min, Range, Mean, Sigma N, Sigma, Cp, Cpk, %Error, Go, Nogo, Printout Histogram.

Serial output ports .... Printer, RS-232 True, 300-19.2 k Baud, 8 data bit, 1 stop bit, no parity, (default 9600 Baud). Optional Computer COM port, as above, (default 19.2 k Baud).

Analog output .... +(CW), -(CCW) 1.8 V at transducer full range. Linearity ±1 % of reading, ±100 mV zero offset.

Loader control relays .... Two, normally open, from rated 12 VDC@1/2 A close contact at 110 % CW or CCW of torque transducer range, and release at 105 % (open contact).

Power requirements .... 100-230 VAC, 50-60 HZ, 50 W, automatic voltage selection. Fused at 3.15 A.

Environmental .... Operating Temperature: 10 to 32 °C, (50 to 90 °F). Storage Temperature: -20-50 °C, (-2 to 122 °F). Temperature Drift: +0.011 %/°C, (0.006 %/°F). Humidity: up to 85 % non-condensing.

Weight .... 3.8 kg (8.4 lbs). Total System weight including transducers and loader: 35 kg (77 lbs).

Dimensions (base unit only) .... W 280 x H 114 x D 330 mm (W 11 x H 4.5 x D 13.0 ") including handle/bail.

VT-600 Torque Calibration System - TE-TRQ-LB600 Loading Bench Specifications

Input torque (hand crank) .... 6 ft. lb. maximum.

Output torque .... 600 ft. lb. maximum. 30° Rotation.

Dimensions .... W 1220 mm (48.1 "), with deflection beam fully extended. H 660 mm (26 "), with base unit fitted to bracket. D 736 mm (29 "), from crank handle open and base unit fitted to bracket.

Weight .... 30 kg (65 lbs).

Torque Transducer Options

Included transducers

TE-TRQ-TTC400 .... Transducer, 4-in-1, 4–50 in-lb (min.) to 20–250 ft-lb (max.), 1/4, 3/8 and 1/2 " drives.

TE-TRQ-TTC12 .... Transducer, 60-600 ft-lb, 3/4 " Drive.

Optional Transducers

TE-TRQ-TTC4 .... Transducer, 5-50 in-oz, 1/4 " Drive.

TE-TRQ-TTC5 .... Transducer, 15–200 in-oz, 1/4 " Drive.

TE-TRQ-TTC6 .... Transducer, 4-50 in-lb, 1/4 " Drive.

TE-TRQ-TTC65 .... Transducer, 15-150 in-lb, 1/4 " Drive.

TE-TRQ-TTC7 .... Transducer, 30-400 in-lb, 3/8 " Drive.

TE-TRQ-TTC8 .... Transducer, 80-1000 in-lb, 3/8 " Drive.

TE-TRQ-TTC10 .... Transducer, 10-125 ft-lb, 1/2 " Drive.

TE-TRQ-TTC11 .... Transducer, 20-250 ft-lb, 1/2 " Drive.

TE-TRQ-TTC13 .... Transducer, 100-1000 ft-lb, 1 " Drive (requires higher range loading bench).

TE-TRQ-TTC14 .... Transducer, 200-2000 ft-lb, 1 " Drive (requires higher range loading bench).

Loading Bench Options

Included Loading Bench

TE-TRQ-LB600 .... Manual Torque Loader (600 ft. lb.).

Optional Loading Benches

TE-TRQ-LB250F .... Manual Torque Loading Bench (250 ft-lb / 339 Nm).

TE-TRQ-LB750F .... Manual Torque Loading Bench (750 ft-lb / 1017 Nm).

TE-TRQ-LB2000F .... Manual Torque Loading Bench (2000 ft-lb / 2711 Nm).

Ordering Information

VT-600 .... **Torque Caibrator System with Transducers and Loading Bench**

TL15 .... Framework Bench (W 1500 x D 800 x H 855 mm) suitable for positioning VT-600 in a lab

ECFLA .... EasyCal Calibration Software (for additional options see separate datasheet)

Transducer Options .... See above for available models

Due to continuous development Time Electronics reserves the right to change specifications without prior notice.