

Features

- 64mm x 36mm measuring head for measurements with limited access space
- Ball-bearing mounted, hardcoat anodized aluminum V-grooved rollers, for material speeds up to 900 m/min (2000 m/min with "K" option)
- Large, backlight LCD-display rotates in 90° steps for optimal viewing
- 3 different display modes: Numeric, Numeric with Bar Graph, Numeric with Tend Graph (tension vs time)
- Automatic Zero-Setting in each measuring position
- Material memory locations for custom calibrations: 4 (DTSE), 9 (DTXE)
- User-set Min and Max alarms with indication if reading is out of limits
- Hi-speed data sampling & recording of Min, Max, Hi-Peak, Lo-Peak, Average & Standard Deviation
- User-Selectable measurement units: cN, daN, g, kg, N, lb
- Rugged aluminium housing with rubberized handle provides a secure and comfortable grip
- Setup parameters can be password protected
- CE certified with 1-Year Warranty
- NIST-Traceable Calibration Certification optionally available

DTSE/DTXE

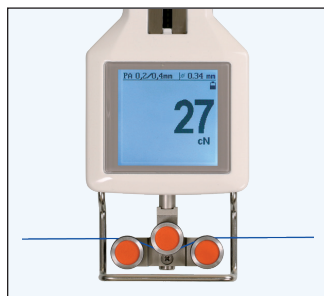
Limited Access Space

Hand-Held Digital Tension Meters

4 tension ranges available up to 2000 cN / 2 Kg Capacity

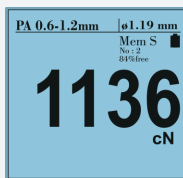
DTSE and DTXE tension meters feature a small measuring head with miniature rollers for applications with limited access space or where filaments run close together. They are ideal for uses on textiles (2000 tex, max) or wires up to 0.5mm diameter.

DTXE (datalogging) models include: memory storage for 60,000 data points and USB output with sample rates up to 1kHz. Tension Inspect Software which displays real-time readings on a pc or allows downloading of stored data is included. WiFi for wireless communication is available as an option.

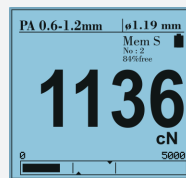


Depending on the measuring position the LCD display automatically rotates in 90° steps and locks in position.

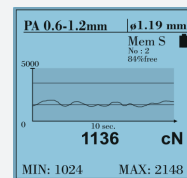
Large backlit Display with 3 user-selected display modes



Numeric



Numeric, Bar Graph
with set point markers



Numeric and
Trend Graph



Specifications

Accuracy

- **Factory Cal Mat'l** $\pm 1\%$ FS ± 1 -digit, from 5% to 100% Full scale
- **Other Materials** $\pm 3\%$ FS ± 1 -digit

Calibration Memory

- **DTSE** 1 for factory calibration plus 4 for customized calibrations
- **DTXE** 1 for factory calibration plus 10 for customized calibrations

Measuring units

Tension: cN, daN, g, kg, N, lb
Thickness: mm, inch

Overrange

Approx. 10% FS*, without accuracy guarantee

Overload protection

200% Full Scale

Measuring principle

Strain gauge bridge

Measuring frequency

Max. 1 kHz (1000 samples/sec.)

Measuring roller

0.2mm, maximum

Sampling rate

200Hz: AVG, MIN and MAX

Display update rate

Approx. 2 times per second

LCD Display

Color-TFT 128 x 160

Display modes (3)

Large Numeric, Numeric with bar graph, Numeric with trend graph (tension vs. time)

Memory

Min, Max, Hi-Peak, Lo-Peak, Average & Standard Deviation (per measuring interval)

Damping

User-adjustable electronic damping (averaging)

Cal. adjustment

± 10 steps in 1% increments

Auto power off

Approx. 3 minutes of non-use

Temperature coefficient

Gain: less than $\pm 0.01\%$ FS* /°C
Zero point less than $\pm 0.3\%$ FS* /°C

Temperature range

50 to 113°F (10 – 45 °C)

Air humidity

85% RH, max.

Built-in battery

Lithium Polymer

- **Battery Life** 20 hours continuous use (approx.)
- **Recharging Time** 3½ hours (approx.)
- **Battery Charge** 100-240V AC, swappable plug adapters
- **Plug Adapters** USA, Euro and UK

Housing material

Die-cast aluminium

Housing dimensions

10.45" x 3.09" x 1.81" (265 x 78.5 x 46mm)

Weight, net / gross

Up to DTSE-50K approx.
1.93 lbs (875g) / 3.42 lbs (1550g)

Additional specifications model DTXE

Output signal

USB

Memory

60,000 values at 255 measuring periods

Memory modes

5 memory modes with statistical evaluation

*Full scale



Tension Ranges

Model	Tension Range	Resolution	Measuring Head Width*	Applications Textile Industry e. g. Yarn Count	Factory Calibration Material**
DTSE-200 / DTXE-200	1 - 200.0 g or cN	0.1 g or cN	36mm	max. 200 tex	0.12 mm Ø (PA)
DTSE-500 / DTXE-500	1 - 500.0 g or cN	0.1 g or cN	36mm	max. 500 tex	0.20 mm Ø (PA)
DTSE-1000 / DTXE-1000	10 - 1000 g or cN	1 g or cN	36mm	max. 1000 tex	0.30 mm Ø (PA)
DTSE-2000 / DTXE-2000	20 - 2000 g or cN	1 g or cN	36mm	max. 2000 tex	0.50 mm Ø (PA)

* Width of bracket assembly. ** Suitable for 95 % of applications.

Roller Guides

Roller Width	Line Speeds *max...m/min	Roller Material*
Standard	900	Hard-coated aluminum
Code K	2000	Hard-coated aluminum

Complete Kit

DTSE models include tension meter in a foam-fitted carrying case, built-in rechargeable battery, AC-adaptor/Charger (with US and Euro plug adapters) and operating instruction manual.

DTXE models also include USB cable and Tension Inspect software.