ET Series Hand-Held Digital Tension Meters

Features

- Colored, backlight TFT-display with 3 different displays modes: numeric, numeric with live bargraph, numeric with trend graph (time vs. tension)
- The display auto rotates in 90° steps for optimal viewing
- Automatic *Zero-Setting* in each measuring position using a special gravity sensor technique
- Selectable units of measurement: Grams, cN, N, and Lbs
- High data sampling rate to catch short duration peaks (1 kHz)
- Storage of MIN, MAX, last reading, average and standard deviation per measuring interval
- User-set MIN and MAX alarms with indication on TFT display if reading is out of limits
- Adjustable electronic damping for better reading when tension fluctuates
- 3 separate calibration material memory locations for custom calibrations
- User adjustment for fine tuning of the calibration if material differs from the used calibration material

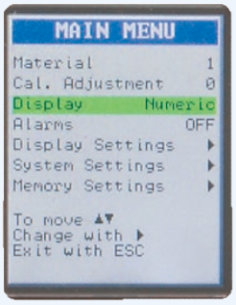
3 tension ranges from 0.5 – 100 grams up to max 2.0 – 500 grams

Check-Line® ET Series digital tension meters are designed for accurate measurement of tension on fine wires, yarns and fibers. Rollers or Ceramic Pins are mounted at the end of long "fingers" permitting the user to measure tension with limited access space or when several lines are closely spaced.

ETB/ETX models feature miniature high speed ball-bearing-mounted rollers for material speeds up to 2000 m/min

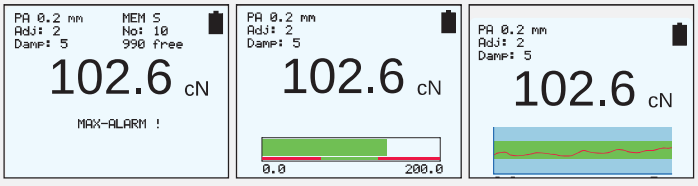
ETPB/ETPX models feature non-rotating ceramic pins for material speeds up to 6000 m/min

ETX/ETPX datalogging models feature built-in memory and USB output for data transfer to a PC.



User-friendly, TFT full-text display. Some functions can be password protected.

Large backlit LCD with 3 user-selected display modes



Numeric | Numeric, bar graph with set point markers | Numeric with X-Y Trend Graph

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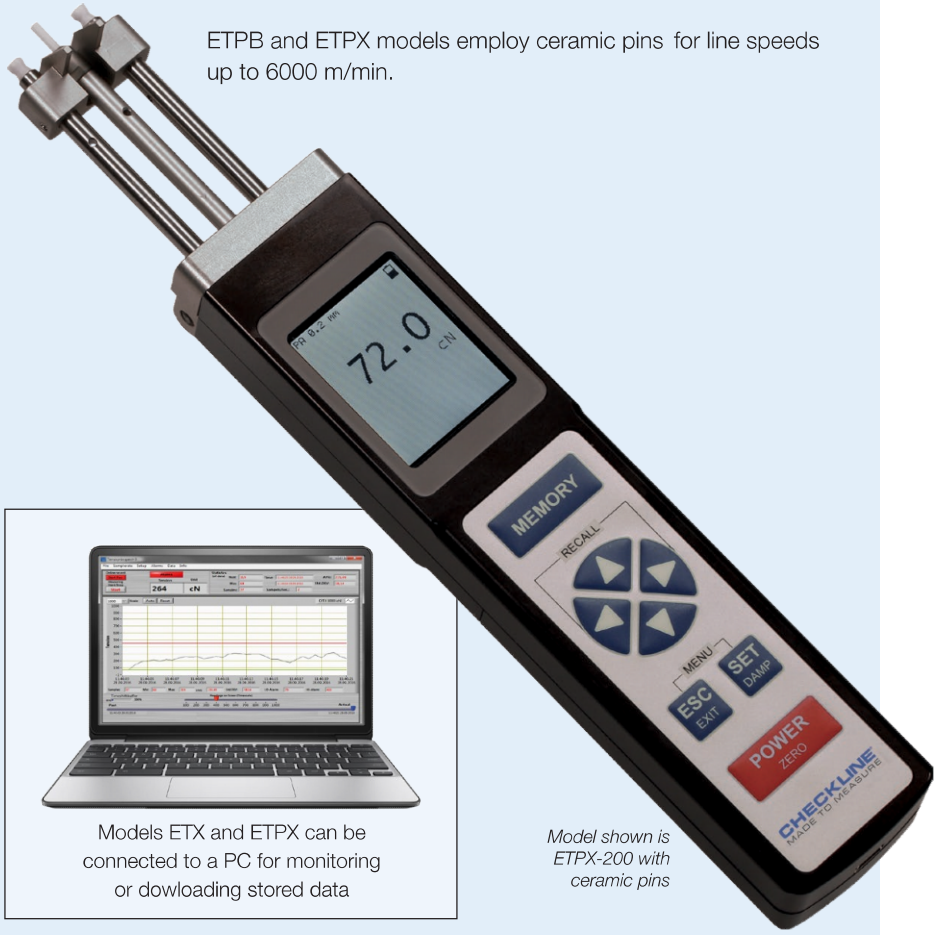
ETX models offer memory storage and USB output

ETX Additional Features

- USB-Output
- Memory for 60,000 readings
- 5 different memory modes
  - *Mode S:* Statistics only
  - *Mode H:* Storage of the X-Y Trend Graph for review after the end of a measuring interval
  - *Mode C:* Continuous logging at 2 samples/sec., maximum of 999 separate batches
  - *Mode F:* Same as Mode C with data sampling as high as 200 samples/sec.
  - *Mode D:* Storage of single value on demand, including calculation of statistics
- Includes Tension Inspect software for review of stored dta & realtime data storage

Depending on the measuring position, the color LCD display automatically rotates in 90° increments for optimal viewing.

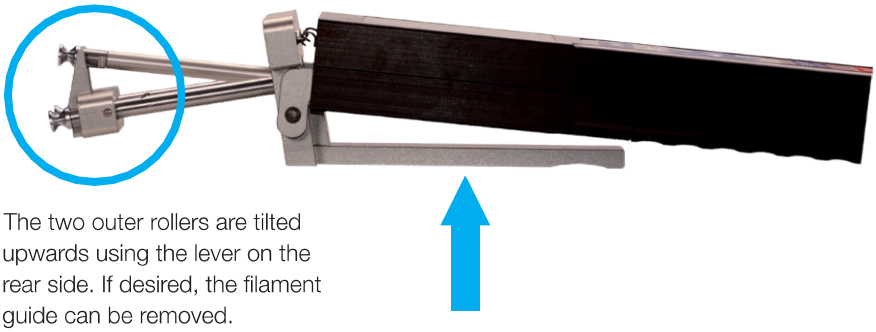
ETPB and ETPX models employ ceramic pins for line speeds up to 6000 m/min.



Models ETX and ETPX can be connected to a PC for monitoring or dowloading stored data

Model shown is ETPX-200 with ceramic pins

Filament guide provides easy material acquisition



The two outer rollers are tilted upwards using the lever on the rear side. If desired, the filament guide can be removed.

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ET Series Specifications – ETB, ETPB, ETX, ETPX

Calibration	According to factory procedure
Accuracy	±1% FS* ±1 Digit (typical ±0.5 % FS*)
Memory for material calibration	1 for factory calibration plus 3 for customized calibrations
Measuring units	Grams cN, N, and Lbs
Resolution	0.1 grams or cN
Overrange	Approx. 10%, full scale, without accuracy guarantee
Overload protection	200% FS*
Measuring principle	Strain gauge bridge
Measuring roller deflection	Max. 0.5 mm
Sampling rate	200 Hz: AVG, MIN, MAX
Display update rate	Approx. 2 times per second
LCD Display	Color-TFT 128 x 160
Display Modes	Numeric, Numeric with Bargraph, X-Y Trend Graph (time vs. tension)
Memory	MIN, MAX, PEAK, AVG and LAST
Damping	Adjustable electronic damping (averaging)

Cal. Adjustment	±10 steps in 1% increments
Auto power off	After approx. 3 minutes of non-use
Temperature coefficient	Gain: less than ± 0.01% FS* /°C
Temperature range	50 – 113 °F *(10 – 45 °C)*
Air humidity	85% RH, max.
Built-in Battery	Lithium Polymer
- Battery Life	20 hours continuous use (approx.)
- Recharging Time	3-1/2 hours (approx.)
- Battery Charger	100-240V AC, swappable plug adapters
- Plug Adapters	USA, Euro and UK
Housing material	Aluminium
Housing dimensions (L x W x H)	13" x 1-3/4" x 1" *(330 x 45 x 25mm)*
Weight, net /gross	Approx. 12 oz. *(310 g)* / 2.75 lbs *(1220 g)*

Additional specifications model ETX and ETPX:

Output signal	USB
Memory	60,000 values in up to 999 batches
Memory modes	5 memory modes with statistical evaluation and PEAK capture

* FS = Full Scale

Complete Kit

ET Series gauges are delivered as a complete kit including tension meter, built-in rechargeable battery and USB/AC adapter with country adapters (EU, US, UK, AUS/NZ) and operating instructions all supplied in a foam-fitted carrying case.

NIST-Traceable Calibration Certification is OPTIONAL.

Available Models

Type	Tension Range (g)	Measuring Head Width* (mm)	Factory Calibration** with running filament approx. 100 m/min
ETB-100	0.3 – 100.0	24	0.20 mm Ø
ETX-100	0.3 – 100.0	24	0.20 mm Ø
ETB-200	2.0 – 200.0	24	0.20 mm Ø
ETX-200	2.0 – 200.0	24	0.20 mm Ø
ETB-500	2.0 – 500.0	24	0.20 mm Ø
ETX-500	2.0 – 500.0	24	0.20 mm Ø
ETPB-100	0.3 – 100.0	22	0.20 mm Ø
ETPBX-100	0.3 – 100.0	22	0.20 mm Ø
ETPB-200	2.0 – 200.0	22	0.20 mm Ø
ETPBX-200	2.0 – 200.0	22	0.20 mm Ø
ETPB-500	2.0 – 500.0	22	0.20 mm Ø
ETPBX-500	2.0 – 500.0	22	0.20 mm Ø

Guide Rollers

V-grooved	Line Speeds v_{max}...m/min	Roller Material
ETB, ETX	2000	Hard-coated aluminium
ETPB, ETPX	6000	Aluminum - Ceramic

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Tension Inspect 3 Software (ETX and ETPX models only)

Tension Inspect 3 Software displays and stores measurement data on a PC. ETX models connect to a PC via USB output or the optional Wi-Fi module.

Features

- Tension data valus are stored with date/time
- Tools include “Zoom” and Y-axis scaling
- Data can be transferred in .CSV format
- Statistics are calculated for all stored data as well as for displayed data only
- Adjustable set-points with alarm log
- Timeshift function for subsequent detailed data viewing of the diagram
- Reloading and displaying of stored readings (PC file and memory of ETX or ETPX)
- Creating of a HTML report
- Download of values to Excel
- Printing of stored values using Excel functions

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