



# ETM SERIES

## Limited Access Digital Tension Meter

**3 Tension Ranges (g or cN):** 0.5 – 100  
1 – 200  
1 – 500

- User selectable units; grams or centinewtons.
- New filament guide for easy acquisition of material.
- Adjustable damping for stable readings when tension fluctuates.
- Backlit LCD Display.
- Stores AVG, MIN, MAX and PEAK tension values which can be recalled in the display.

### DATALOGGING "X" MODELS ALSO FEATURE

- 0-2 VDC analog output for connection to a chart recorder or datalogger.
- RS-232 output for batch download or real-time data transfer to TensionInspect Software.
- FREE TensionInspect Software and RS-232 cable.

Check•Line® ETM Series Electronic Tension Meters accurately measure the running line tension of yarns, fibers and specialty filaments.

Three long, closely-spaced slender shafts with precision guide rollers or pins at their ends combine with the latest micro-processor technology to make this instrument top choice for all limited-access, tension measuring applications.

ETMB models feature miniature, high speed rollers for filament speeds up to 2000 m/min. ETMPB models features non-rotating, ceramic pins for speeds to 6000 m/min.

ETMX and ETMXP Datalogging Models store up to 4000 displayed tension values in memory and statistics (Last, AVG, MIN, MAX, MIN-PEAK, MAX-PEAK), which can be transmitted using the serial output port.

All models feature a reversible display for right or left-hand operation.



**DATALOGGING  
MODELS ALSO  
AVAILABLE**



**Precision guide rollers or ceramic pins mounted on long, thin shafts permit access when space is limited**

# Specifications

Bulletin N711

<b>Accuracy</b>	±1 % full scale ±1 digit or better (typical ±0.5 % full scale)	<b>Overload Protection</b>	200%
<b>Factory Calibration</b>		<b>Temperature Limits</b>	40–115° F (5–45° C)
<b>Material</b>	0.20 mm Ø Polyamid Monofilament	<b>Automatic Zero</b>	± 20% of range
<b>Minimum Access Space Required</b>	3/4" x 1" (20 x 26mm)	<b>Rel. Humidity Limit</b>	95%
<b>Guide Roller / Pin Material</b>	Rollers, chrome-plated steel, std: 2000 m/min Ceramic pins, optional: 6000 m/min	<b>Battery/Life</b>	9 volt, long-life lithium (included), non-rechargeable / Approx. 80 hrs. (Note: A standard 9V alkaline battery can be used as a backup, but with greatly reduced life.)
<b>Measuring Principle</b>	Strain-gauge bridge	<b>Low Battery Indicator</b>	LO BAT, or equivalent display
<b>Maximum Sensing-Roller Displacement</b>	0.5mm	<b>Weight</b>	14 oz. (400 g)
<b>Scanning Frequency</b>	100 / sec., except 40/sec. in PEAK mode	<b>Dimensions</b>	13" x 1-3/4" x 1" (330 x 45 x 25mm)
<b>Display Update</b>	0.5 sec. (2 times per second)	<b>DATALOGGING "X" MODELS FEATURE</b>	
<b>Thermal Drift</b>	0.25% full scale per degree C	<b>Output Signals</b> (analog)	0–2 VDC, proportional to tension
<b>Natural Frequency</b>	250 Hz	(digital)	RS232 (9600, 8 N 1)
<b>Over Range</b>	10% FS, without accuracy guarantee	<b>Memory</b>	Last, average, MAX, MIN, MAX-PEAK, MIN-PEAK

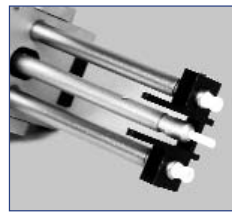
## Models Available

Model	Range*	Model With Pins	
ETMB-100	0.5–100	ETMPB-100	<b>Basic Models</b>
ETMB-200	1–200	ETMPB-200	
ETMB-500	1–500	ETMPB-500	
ETMX-100	0.5–100	ETMPX-100	<b>Datalogging Models</b>
ETMX-200	1–200	ETMPX-200	
ETMX-500	1–500	ETMPX-500	

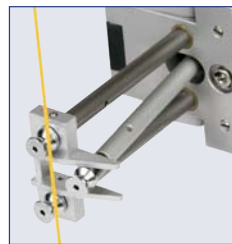
\*Units are grams or cN.

## Complete Kit

The ETM2 is supplied as a complete kit, including the gauge, 9 volt Lithium battery and operating manual, all in a foam-fitted carrying case.



ETMPB with non-rotating ceramic pins



Outer rollers tilt back for easy material acquisition

## Data Analysis Software



Tension Inspect Data Analysis Software (optional, part no. ETM2-SV1) is an easy-to-use program designed to display, record, graph and print data transferred from the Check-Line Digital Tension Meter.



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