



## OPERATING INSTRUCTIONS CABLE TENSION METER

### TENSITRON CABLE TENSION METERS

These instruments are designed to give the user a direct reading of applied tension to materials ranging in diameter up to 5/8" or .625" (approximately 16mm). For specific model Cable Meter questions please contact Tensitron.

Tensions on cables may vary substantially with differences in temperature, stretching or manufacture. For greater accuracy, it is recommended that several readings be taken at different locations on the material, and the readings averaged to compensate for varying cable thickness.

***NEVER TRY TO OPERATE THE INSTRUMENT BY ONLY APPLYING FORCE TO THE CENTER ROLLER. THIS INSTRUMENT IS DESIGNED TO MEASURE TENSION WHEN ALL THREE ROLLERS ARE ENGAGED TO THE MATERIAL. FAILURE TO ENGAGE ALL THREE ROLLERS WHEN IN USE CAN RESULT IN INSTRUMENT FAILURE.***

#### OPERATION:

1. Loosen bezel lock screw. Rotate dial to zero setting. Retighten bezel lock screw.
2. Check micrometer for correct calibration setting, and that the micrometer lock is engaged.
3. Engage/raise the outside rollers by moving the lever mechanism away from the stationary hand grip and parallel to the instrument body.



4. Insert the meter onto the material and engage by rotating the lever toward and parallel with the stationary hand grip. A diagram showing the correct positioning of your material through the three rollers is engraved on the face of the instrument directly above the micrometer adjustment.

5. Note reading of dial and remove instrument from the material.

### **CALIBRATION:**

1. To determine correct calibration, a sample of your material (minimum of 5 feet) is suspended from above and known weights are applied to the material to simulate tension.

2. Zero the dial by loosening the bezel lock screw and rotating the dial to zero. Retighten lock screw.

3. Loosen the micrometer lock by rotating the black, knurled ring counter-clockwise and adjust the micrometer out to read 1.000.

4. Hang a known weight to the suspended material. We suggest utilizing a load equivalent to the instrument's maximum dial reading to insure best full scale accuracy.

5. Slowly engage instrument onto your material with the suspended load. Note reading on dial. Remove instrument, adjust micrometer (clockwise to increase dial readings, counter-clockwise to decrease dial readings) and re-engage. Continue process until the dial reads the same as the applied weight.

**NOTE: ALL THREE ROLLERS MUST BE ENGAGED ONTO THE MATERIAL WHEN CALIBRATING.**

6. To insure that you have correctly adjusted the micrometer, re-check your readings at several different locations and average out the differences.

7. Hang different known weights to your material and check your dial reading with the same micrometer setting. Your dial should duplicate the suspended weight value. If not, go back and fine tune your setting.

8. Once you have determined the correct calibration setting, lock the micrometer lock ring by rotating the black, knurled ring clockwise.

9. Your instrument is now ready for use.

Separate calibration is necessary for each different thickness (or diameter) or stiffness (pertaining to rigidity) even though it may be the same material. Follow the calibration instructions making note of the micrometer readings for each material.

NOTE: Tensitron will calibrate to your material at no extra charge on the purchase of new instruments if a cable sample complete with looped and swaged ends is provided (complete finished harness should be approximately 5 feet long). Typical recalibration and repair costs in our NIST certified lab start at \$152.00

### ***If service is required, return to:***

**Tensitron, Inc.  
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