

# DTMB



## Special Features

- + Microprocessor controlled for highest accuracy
- + Measuring frequency: 62 measurements/second
- + Selectable update rates (0.5, 1, 2 or 4 seconds) to provide steady readings when tensions fluctuate (electronic damping)
- + The display shows averaged values calculated during the update interval t1
- + Recall of measured MIN, MAX and PEAK values
- + Field adjustment function for fine tuning of the calibration
- + Zero adjustment feature permits use of the tension meter in various measuring positions, maintaining highest accuracy
- + Built-in material thickness compensator improves accuracy for changing diameters on Models -500 cN and higher ranges
- + Built-in mounting holes permit fixed installation for online use
- + Calibration to customer supplied material is available (up to two different material calibrations)

## Standard Features

- Everything in operator's view:
  - the guide rollers
  - the measured material
  - the readings
- Filament guide and roller shifting mechanism ensure easy acquisition of the running material
- Ball-bearing mounted, V-grooved guide rollers
- Rugged aluminium housing
- Battery operated (AC adapter for continuous operation available)
- Specific Test Report with calibration report optionally available

## Available Models

| Model                        | Tension Ranges cN | Measuring Head Width* mm | SCHMIDT Calibration Material** (PA) | Textile Industry Applications e.g. yarn count | Wire Industry Applications e.g. soft-annealed copper wire | MTC*** |
|------------------------------|-------------------|--------------------------|-------------------------------------|-----------------------------------------------|-----------------------------------------------------------|--------|
| <b>DTMB-200 (code 183L)</b>  | 0.1-200.0         | 65                       | 0.12mm Ø                            | max. 200 tex                                  | max. 0.15 mm Ø                                            |        |
| <b>DTMB-500 (code 183R)</b>  | 0.1-500.0         | 65                       | 0.12 + 0.20 mm Ø                    | 20-500 tex                                    | 0.05 - 0.25 mm Ø                                          | x      |
| <b>DTMB-1000 (code 183T)</b> | 50-1000           | 65                       | 0.20 + 0.40 mm Ø                    | 10-1000 tex                                   | 0.10 - 0.40 mm Ø                                          | x      |
| <b>DTMB-2000 (code 183N)</b> | 200-2000          | 65                       | 0.40 + 0.70 mm Ø                    | 300-2000 tex                                  | 0.30 - 0.60 mm Ø                                          | x      |
| <b>DTMB-2500 (code 183S)</b> | 250-2500          | 116                      | 0.40 + 0.70 mm Ø                    | 400-2500 tex                                  | 0.30 - 0.60 mm Ø                                          | x      |
| <b>DTMB-5000</b>             | 500-5000          | 116                      | 0.60 + 1.20 mm Ø                    | 800-5000 tex                                  | 0.40 - 1.00 mm Ø                                          | x      |
| <b>DTMB-10K</b>              | 1.00 - 10.00 daN  | 116                      | 0.80 + 1.40 mm Ø                    | 1500-10000 tex                                | 0.70 - 1.20 mm Ø                                          | x      |
| <b>DTMB-20K-L</b>            | 2.00 - 20.00 daN  | 216                      | 1.20 + 1.80 mm Ø                    | 2500-20000 tex                                | 1.00 - 1.70 mm Ø                                          | x      |
| <b>DTMB-50K-L</b>            | 5.00 - 50.00 daN  | 216                      | Steelrope 1.5 mm Ø (7 x 7 x 0.2)    | 6000-50000 tex                                | 1.40 - 2.00 mm Ø                                          |        |

Other measuring head widths are available on request.

Other units of measure are available in g or kg and oz or lb.

\*Depending on model, either width of filament guide or outer distance between outside guide rollers.

\*\*Suitable for 95% of applications - PA = Polyamid-Monofilament

\*\*\*MTC = Material Thickness Compensator Other measuring head widths available on request.

## Guide Rollers

|                  | Line Speed<br>m/min...max | Roller Material                                                                |
|------------------|---------------------------|--------------------------------------------------------------------------------|
| <b>V-grooved</b> |                           |                                                                                |
| <b>Standard</b>  | 2000                      | Hardcoated aluminium (R10003)                                                  |
| <b>Code ASY</b>  | 1000                      | Hardcoated aluminium , asymmetrical groove<br>- Gauge without filament guide - |
| <b>Code B</b>    | 1000                      | Tempered steel for tire cord                                                   |
| <b>Code CE</b>   | 1000                      | Ceramic                                                                        |
| <b>Code H</b>    | 5000                      | Plasma-coated aluminium                                                        |
| <b>Code K</b>    | 3500                      | Hardcoated aluminium                                                           |
| <b>Code ST</b>   | 1000                      | Hardened steel                                                                 |
| <b>Code T</b>    | 1000                      | Plastic (POM) black                                                            |
| <b>Code W</b>    | 1000                      | Nickel-plated steel                                                            |
| <b>U-grooved</b> |                           |                                                                                |
| <b>Code U</b>    | 2000                      | Hardcoated aluminium (Radius R3)                                               |

## Optional Accessories



### Code L

#### Special Lever

Facilitates acquisition of the running material when measuring high tensions. Reduces force necessary to extend outer rollers: Recommended for tension ranges of 10 daN and higher.  
**(Standard for Models DTMB-20K-L and DTMB-50K-L)**

## Additional Equipment

|            |                                |
|------------|--------------------------------|
| DTM-AC-115 | AC adapter 6 V DC for 115 V AC |
| DTM-AC-230 | AC adapter 6 V DC for 230 V AC |

## Specifications

|                                     |                                                                                                                                                 |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accuracy:</b>                    | for 10% to 90% of range:<br>± 0.5% full scale and ± 1 digit<br>remaining range and other calibration material:<br>± 3% full scale and ± 1 digit |
| <b>Overrange:</b>                   | Approx. 15% full scale, without accuracy guarantee                                                                                              |
| <b>Overload protection:</b>         | 100% of tension range                                                                                                                           |
| <b>Measuring principle:</b>         | Strain gauge bridge                                                                                                                             |
| <b>Measuring roller deflection:</b> | 0.2 mm max.                                                                                                                                     |
| <b>Signal processing:</b>           | Digital                                                                                                                                         |
| <b>Measuring frequency:</b>         | 62 measurements/sec                                                                                                                             |
| <b>Converter:</b>                   | 12 bit A/D                                                                                                                                      |
| <b>Temperature coefficient:</b>     | Gain: less than ± 0.01% full scale/°C<br>Zero point: less than ± 0.3% full scale/°C                                                             |
| <b>Display:</b>                     | 4-digit LCD, 12 mm high                                                                                                                         |
| <b>Display update rate:</b>         | 0.5, 1, 2 or 4 seconds selectable                                                                                                               |
| <b>Memory:</b>                      | Last, MIN, MAX, PEAK values                                                                                                                     |
| <b>Field adjustment:</b>            | ± 7 steps in 1.5% increments                                                                                                                    |
| <b>Temperature range:</b>           | 10 - 45°C                                                                                                                                       |
| <b>Air humidity:</b>                | 85% RH, max.                                                                                                                                    |
| <b>Power supply:</b>                | 4 size AA batteries 1.5 V<br>(about 20 hours of continuous use)                                                                                 |
| <b>Auto power off:</b>              | After 2 minutes of non-use                                                                                                                      |
| <b>Housing material:</b>            | Die-cast aluminium                                                                                                                              |
| <b>Housing dimensions:</b>          | 235 x 76 x 45 mm (L x W x H)                                                                                                                    |
| <b>Weight, net (gross):</b>         | Up to DTMB-10K approx. 680 g (1500 g)<br>DTMB-20K-L and higher approx. 1000 g (2200 g)                                                          |

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