



**B.N.C.TOOLING Co.,Ltd.**

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**SCHMIDT**  
control instruments

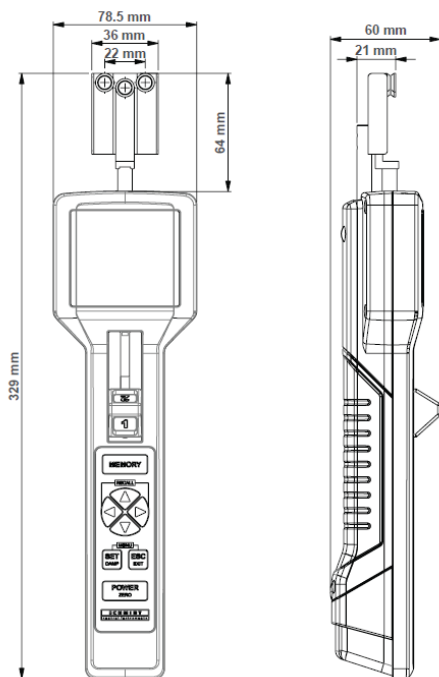
## Tension Meter

4 Tension ranges available  
from 1 - 200 cN up to 20 - 2000 cN

### ***Tension Meter DTSF***

#### Specifications

Calibration:	According SCHMIDT factory procedure
Accuracy:	For PA from 5 % up to 100 % FS*: ± 0.5 % FS* ± 1 digit remaining tension range and other calibration materials: ±3 % full scale and ±1 digit
Memory for material curves:	1 for SCHMIDT calibration plus 4 for customized calibrations
Measuring units:	Force (switchable): cN, daN, g, kg, N, lb
Thickness (switchable):	mm, inch
Overrange:	Approx. 10 % FS*, full scale, without accuracy guarantee
Overload protection:	100 % full scale
Measuring principle:	Strain gauge bridge
Signal processing:	Digital, 16 bit A/D converter
Measuring frequency:	Max. 1 kHz (1000 measurings/sec.), intern 8 kHz
Measuring roller deflection:	Max. 0.2 mm
Display:	Graph LCD
3 different displays:	Numeric, Numeric with graph (time-tension) X-Y-diagram
Display update rate:	Approx. 2 times per second
Memory:	MIN, MAX, PEAK, AVG and LAST
Damping:	Adjustable electronic damping (averaging)
Cal. Adjustment:	± 10 steps in 1 % increment
Thickness compensation:	Max. 2.5 mm (not available for all models)
Auto power off:	Approx. 3 minutes of non-use
Temperature coefficient:	Gain: less than ± 0.01 % FS* /°C
Zero point:	Less than ± 0.03 % FS* /°C
Temperature range:	10 – 45 °C
Air humidity:	85 % RH, max.
Power supply:	LiPo accumulator (approx. 40 h continuous use), charging time approx. 3 1/2 h, USB AC adapter 100 – 240 V AC with 4 adapters (EU/USA/UK/AUS-NZ)
Housing material:	Die-cast aluminium
Weight, net (gross):	Approx. 845 g / 1520 g



#### Dimensions



## Special Features

- Large, v-grooved guide rollers with 32 groove diameter, ball bearing mounted
- Large bending radius assures gentle handling of the material being measured
- Special guides on the bracket assembly permit easy material acquisition
- Calibration with Polyamide Monofilament (PA)
- Tension meter DTSF with large, backlight LCD-display
- 3 different display modes:
  - numeric
  - numeric with bargraph
  - numeric with graph (Time-Tension)
- The display rotates in 90° steps for better reading
- New, unique, force reduced material catching system
- Automatic „Zero-Setting“ in each measuring position using a special sensor technique
- 4 Material memory locations for customer made calibrations
- Calibration adjustment for fine tuning of the calibration if material differs from the used calibration material
- Programmable MIN- and MAX alarms: indication in the display, if reading is out of limits
- High speed data sampling (internal 8 kHz) and recording of MIN-, MAX-, last reading, PEAKS, average and standard deviation
- Selectable units of measurement: cN, daN, g, kg, N, lb
- Menu set-up in English or German language
- Flexible menu set-up to meet operators demand
- Some functions can be password protected

## 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
- Rubberized handle provides a secure hold in the operators' hand
- Tension meter with rugged aluminium housing
- LiPo accumulator (approx. 40 hours continuous operation) with AC adapter
- CE certified, interference resistant against static electrifications
- Certificate of Compliance with the order 2.1 according EN 10204 is included
- Optionally available: Inspection Certificate 3.1 according EN 10204 with calibration report

## Available Models

Model	Measuring Range	Resolution	Measuring Head Width*	SCHMIDT Calibration Material PA**
<b>DTSF-200</b>	1 – 200.0 cN	0.1 cN	140 mm	0.12 mm Ø
<b>DTSF-500</b>	1 – 500.0 cN	0.1 cN	140 mm	0.20 mm Ø
<b>DTSF-1000</b>	10 – 1000 cN	1 cN	140 mm	0.30 mm Ø
<b>DTSF-2000</b>	20 – 1000 cN	1 cN	140 mm	0.50 mm Ø