



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

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SCHMIDT
control instruments

Tension Meter

12 Tension ranges available
from 1 - 200 cN up to 0.6 - 60 daN

Tension Meter DTS

Specifications

Calibration:	According SCHMIDT factory procedure
Accuracy:	For PA from 5 % up to 100 % FS*:
	$\pm 0.5 \% \text{ FS}^* \pm 1 \text{ digit}$
	remaining tension range and other calibration materials:
	$\pm 3 \% \text{ full scale and } \pm 1 \text{ digit}$
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:	$\pm 10 \text{ steps in } 1 \% \text{ increment}$
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 $\pm 0.01 \% \text{ FS}^* / ^\circ\text{C}$
Zero point:	Less than $\pm 0.03 \% \text{ FS}^* / ^\circ\text{C}$
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,

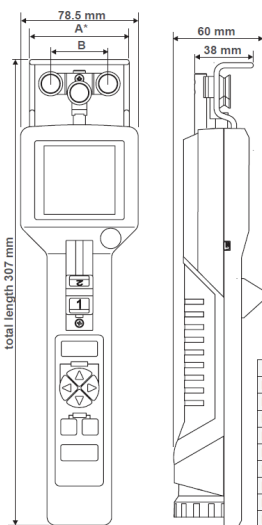
USB AC adapter 100 – 240 V AC with 4 adapters (EU/USA/UK/AUS-NZ)

Housing material: Die-cast aluminium

Housing dimensions: See Dimensions

Weight, net (gross): Up to DTS-50K approx. 875 g / 1550 g

DTS-60K-V1 approx. 1040 g / 2700 g



*The measuring head width is depending on the width of filament guide and outer distance between outside guide rollers respectively

Dimensions

Model	Model	A	B
DTS-200	DTX-200	66 mm	38 mm
DTS-500	DTX-500		
DTS-1000	DTX-1000		
DTS-2000	DTX-2000		
DTS-2500	DTX-2500	116 mm	100 mm
DTS-4000	DTX-4000	66 mm	38 mm
DTS-5000	DTX-5000	116 mm	100 mm
DTS-10K	DTX-10K	116 mm	100 mm
DTS-20K	DTX-20K	166 mm	150 mm
DTS-30K	DTX-30K	216 mm	200 mm
DTS-50K	DTX-50K	216 mm	200 mm
DTS-60K-V1	DTX-60K-V1	280 mm	250 mm

- Mechanical tension meter for measuring warp threads on stagnant weaving machines
- Hand-held instrument for determinating the tension of a single warp thread or several threads
- Tension meter with large reference frame for easy placing on the yarn



Special Features

- Tension meter DTS 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
- Thickness compensation: to reach highest accuracy the diameter of the material to be measured can be set with a wheel and will be displayed in the screen (not available for all models)
- Stellrad für die Materialdicke
- 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
- Ball-bearing mounted, V-grooved guide rollers
- 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

Dimensions

Model	Measuring Range	Resolution	Measuring Head Width*	Applications Textile Industry e. g. Yarn Count	Applications Wire Industrie e. g. soft-annealed copper wire	SCHMIDT Calibration Material PA**	Material Thickness Compensation
DTS-200	1 – 200.0 cN	0.1 cN	66 mm	max. 200 tex	max. 0.15 mm Ø	0.12 mm Ø	
DTS-500	1 – 500.0 cN	0.1 cN	66 mm	max. 500 tex	0.05 – 0.25 mm Ø	0.12 + 0.20 mm Ø	X
DTS-1000	10 – 1000 cN	1 cN	66 mm	max. 1000 tex	0.10 – 0.40 mm Ø	0.20 + 0.40 mm Ø	X
DTS-2000	20 – 2000 cN	1 cN	66 mm	max. 2000 tex	0.30 – 0.60 mm Ø	0.40 + 0.70 mm Ø	X
DTS-2500	25 – 2500 cN	1 cN	116 mm	max. 2500 tex	0.30 – 0.70 mm Ø	0.40 + 0.70 mm Ø	X
DTS-4000	40 – 4000 cN	1 cN	66 mm	max. 4000 tex	0.35 – 0.90 mm Ø	0.50 + 0.90 mm Ø	X
DTS-5000	50 – 5000 cN	1 cN	116 mm	max. 5000 tex	0.40 – 1.00 mm Ø	0.60 + 1.20 mm Ø	X
DTS-10K	0.1 – 10.00 daN	0.01 daN	116 mm	max. 10000 tex	0.70 – 1.40 mm Ø	0.80 + 1.40 mm Ø	X
DTS-20K	0.2 – 20.00 daN	0.01 daN	166 mm	max. 20000 tex	1.00 – 2.00 mm Ø	1.20 + 1.80 mm Ø	X
DTS-30K	0.3 – 30.00 daN	0.01 daN	216 mm	max. 30000 tex	1.20 – 2.50 mm Ø	1.40 + 2.20 mm Ø	X
DTS-50K	0.5 – 50.00 daN	0.01 daN	216 mm	max. 50000 tex	1.40 – 3.00 mm Ø	steel rope 1.5 mm Ø (7 x 7 x 0.2)	
DTS-60K-V1	0.6 – 60.00 daN	0.01 daN	280 mm	max. 60000 tex	1.80 – 3.50 mm Ø	steel rope 2.0 mm Ø (7 x 7 x 0.3)	