

ELECTRONIC TENSIONMETER

**** Code 195A_BCDEFG ****

Electronic tension meter for applications in textile and wire industry. Versatile applicable hand-held unit.

Application in textile industry up to max. 60.000 tex Application in wire industry copper wire 0.05 up to 3.0 Ø mm and other materials.

12 Tension ranges available from 0.2 - 200 cN up to 0.6 - 60 daN.

Tension meter with many functions as turnable display, thickness compensation and possibility of custom made 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.

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.

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.

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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).



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.

Note: Tension meter 1833C_DE offers additional features, like interface, statistical evaluation on PC and a large internal memory.

Available Models

MESDAN code	Model	Tension Range	Resolution	Measuring Head Width*	Applications Textile Industry e.g Yarn Count	Material-Thickness Compensator
		cN	cN	mm	tex (max)	
195A	DTS-200	0.2 – 200.0 cN	0.1 cN	66 mm	max. 200 tex	
195B	DTS-500	0.5 – 500.0 cN	0.1 cN	66 mm	max. 500 tex	X
195C	DTS-1000	10 – 1000 cN	1 cN	66 mm	max. 1000 tex	X
195D	DTS-2000	20 – 2000 cN	1 cN	66 mm	max. 2000 tex	X
195E	DTS-2500	25 – 2500 cN	1 cN	116 mm	max. 2500 tex	X
195G	DTS-4000	40 – 4000 cN	1 cN	66 mm	max. 4000 tex	X
195F	DTS-5000	50 – 5000 cN	1 cN	116 mm	max. 5000 tex	X
		daN	daN	mm	tex (max)	
	DTS-10K	0.1 – 10.00 daN	0.01 daN	116 mm	max. 10000 tex	X
	DTS-20K	0.2 – 20.00 daN	0.01 daN	166 mm	max. 20000 tex	X
	DTS-30K	0.3 – 30.00 daN	0.01 daN	216 mm	max. 30000 tex	X
	DTS-50K	0.5 – 50.00 daN	0.01 daN	216 mm	max. 50000 tex	

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	DTS-60K-V1	0.6 – 60.00 daN	0.01 daN	280 mm	max. 60000 tex	
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Guide rollers

Order-Code	Line Speed v_{max} ... m/min	Roller Material
Standard	2000	Hard-coated aluminium
Code K	3500	Hard-coated aluminium
Code H	5000	Plasma-coated aluminium
Code T	1000	Plastik (POM) black
Code W	1000	Nickel-plated steel
Code ST	1000	Hardened steel
Code B	1000	Tempered steel
Code CE2	1000	Aluminium ceramic-coated
Code ASY	1000	Hard-coated aluminium, asymmetrical groove (not for model DTS-200)
Code ASYB	1000	Tempered steel (for tire code), asymmetrical groove (not for model DTS-200)
Code V1	1000	Hard-coated aluminium (only for model DTS-60K-V1)
Code U	2000	Hard-coated aluminium, radius R3 (not for model DTS-200)

Standard accessories



Mains Adapter

Recharger with 3 adapters (EU/USA/UK) for worldwide use, 100 – 240 V AC

Delivery includes



Tension meter with carrying case, accumulator and AC adapter with country adapters (EU, US, UK), USB cable, Software Tension Inspect 3, Certificate of compliance with the order 2.1 according EN 10204 free of charge, operating instruction in german or english (as requested).

Optional accessories



Calibration Report (Optional)

Inspection Certificate 3.1 according DIN EN 10204 including a calibration report is optional available, code 286 CC2.

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Specifications

Calibration:	According Company 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 Company 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-diagramm
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 $\pm 0.01 \% \text{ FS}^* / ^\circ\text{C}$
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 AC adapter 100 – 240 V AC, adapter (EU, USA, UK)
Housing material:	Die-cast aluminium
Housing dimensions:	78,5 (L) x 60 (W) x 307 (H) mm
Weight, net (gross):	Up to DTS-50K approx. 875 g / 1550 g DTS-60K-V1 approx. 1040 g / 2700 g
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