



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

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**SCHMIDT**  
control instruments

## Tension Meter



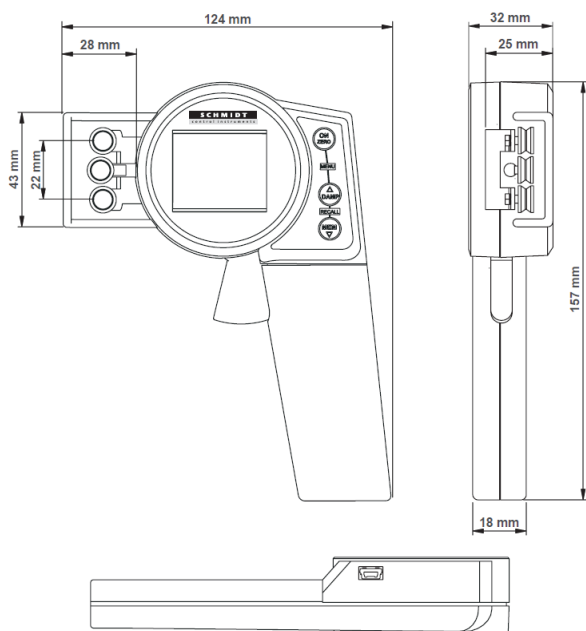
3 Tension ranges available  
from 0.5 - 50 cN up to 1.0 - 200.0 cN

### ***Tension Meter ZEF***

#### Specifications

Calibration:	According to SCHMIDT factory procedure
Accuracy:	±1 % full scale ±1 digit or better typical ±0.5 % full scale
Measuring Units:	cN, g, N or lb, switchable
Overrange:	Approx. 10 % full scale, without accuracy guarantee
Overload protection:	200 % full scale
Measuring principle:	Strain gauge bridge
Measuring roller deflection:	Max. 0.5 mm
Signal processing:	Digital
Damping:	Adjustable electronic damping, averaging
Sampling rate internal:	Approx. 1 kHz
Sampling rate:	250 Hz (250 readings/sec)
Display:	Colour-TFT 128 x 160
3 different displays:	Numeric Numeric with live bargraph Numeric with graph (time-tension)
Display update rate:	2 times per second
Memory:	Last, AVG, MIN, MAX, STD Dev
Auto power off:	After 3 minutes of non-use
Temperature range:	10 – 45 °C
Air humidity:	85 % RH, max.
Power supply:	LiPo accumulator (approx. 25 h continuous use, charging time approx. 3.5 h), USB AC adapter 100...240 V AC with 4 adapters (EU/USA/UK/AUS-NZ)
Housing material:	Plastic (POM)
Weight, net (gross):	Approx. 200 g (approx. 600 g)

#### Dimensions



- Economical electronic tension meter for measuring low tensions of fibres, threads and fine wires
- Hand-held device with slim filament guide and small guide rollers groove Ø 7.4 mm for limited access spaces
- Handy, light weight tension meter with digital display for precision measurements



## Special Features

- Tension meter ZEF with easy to read LCD display
- Coloured, backlight TFT display with 3 different display modes
  - numeric
  - numeric with live bargraph
  - numeric with graph (time-tension)
- The display rotates in 90° steps for better reading
- Automatic “Zero-Setting” in each measuring position using a special sensor technique
- Selectable units of measurement: cN, g, N and lb
- Very high data sampling rate (internal 1 kHz)
- Storage of MIN, MAX, last reading, average and standard deviation per measuring interval
- User-set MIN and MAX alarms with indication of TFT display if reading is out of limits
- Adjustable electronic damping for better reading when tension fluctuates
- 3 separate calibration material memory locations for custom calibrations
- Menu set-up in English, German, Spanish, Portuguese and French language
- Slim filament guide with small guide rollers – ideal for limited access space
- Simple, trouble free operation
- Filament guide and unique roller shifting mechanism ensure easy acquisition of the running material
- Light weight hand-held unit

## Standard Features

- Everything in operator's view:
  - the guide rollers
  - the measuring material
  - the readings
- Ball-bearing mounted, V-grooved guide rollers
- Tension meter with high-strength plastic housing
- LiPo accumulator (approx. 25 hours continuous operation) with AC adapter
- CE approved (tested for electromagnetic compatibility)
- 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**
<b>ZEF-50</b>	0.5 – 50.0 cN	0.1 cN	43 mm	PA: 0.12 mm Ø
<b>ZEF-100</b>	0.5 – 100.0 cN	0.1 cN	43 mm	PA: 0.12 mm Ø
<b>ZEF-200</b>	1.0 – 200.0 cN	0.1 cN	43 mm	PA: 0.12 mm Ø