Tension Meter

Model   *ETX*
ETPX
DTX
DTMX
KXE
MST
TS-232
MZ-232
MZ-USB
MZ-422
FS-232
FS-USB
FS-422
FSR-422
FS-WLAN
SCD-1
SC-PM

CHECKLINE®
MADE TO MEASURE

Edition   *02.0.D*

»Tension Inspect 3«
Instruction Manual

Contents

1 The »Tension Inspect 3« program

## 1.1 System requirements

Computer: PC
Operating system: Windows 7 and higher (32/64 Bit)
Hard disk space: Approx. 200 MB
Installation: CD-ROM drive

1.2 Installing »Tension Inspect 3«

To be able to restore the original files in case problems occur after the installation, you should make a backup of your hard disk contents before you start installing. In no event will Hans Schmidt & Co GmbH be held liable for any data loss or damage.

1. Insert the CD-ROM with the »Tension Inspect 3« program into the CD-ROM drive.
2. Start the installation process by double-clicking the application file.
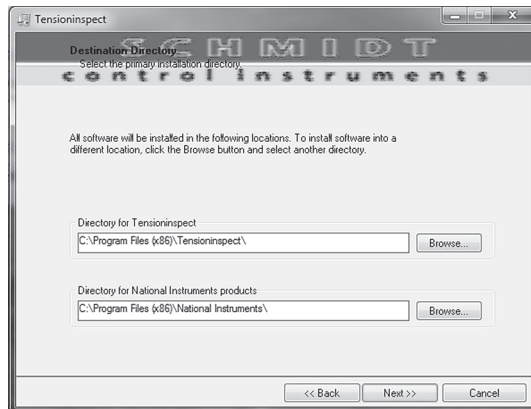
3. Follow the instructions on the screen, to install the software »Tension Inspect 3« and the corresponding USB driver.
4. At the end, click the "Finish" button, to finish the installation process.

1.3 Using »Tension Inspect 3«
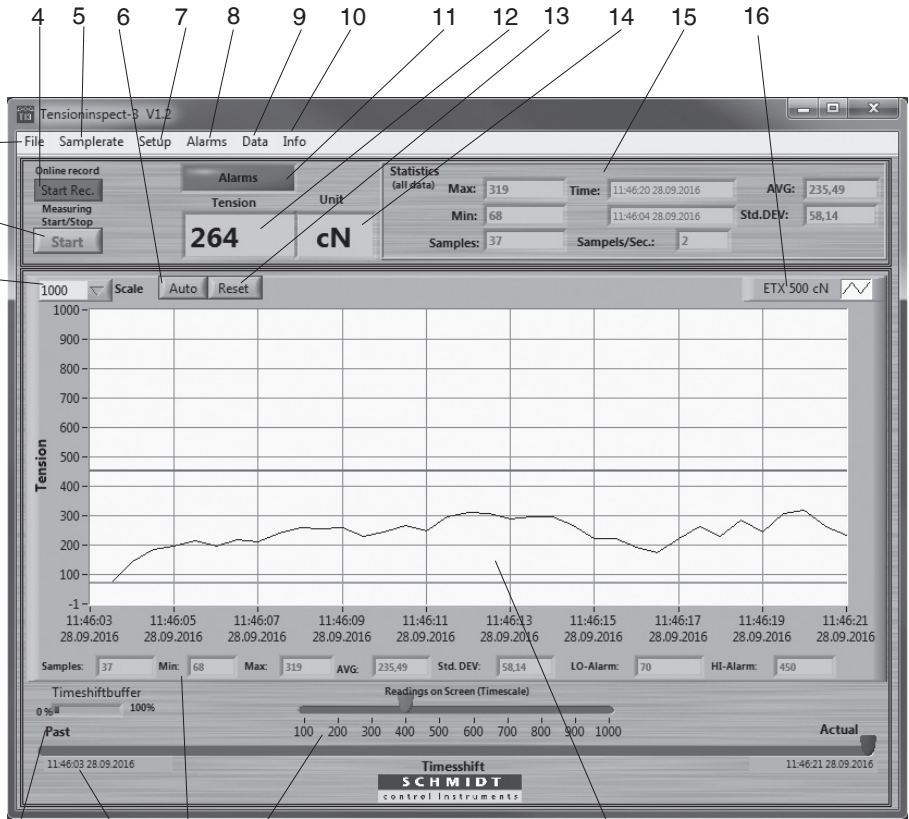
- Double-click the »Tension Inspect 3« icon to start the program. The program window opens.

1	Menu file	Save as CSV	Chapter 1.3.6
	Menu file	Load CSV	Chapter 1.3.6
	Menu file	Exit	Close »Tension Inspect 3«
2	Button	Start/Stop	Chapter 1.3.2
3	Choice box	Scale	Chapter 1.3.4
4	Button	Start Rec.	Chapter 1.3.8
5	Menu samplerate	Samplerate	Select the sampling rate
6	Button	Auto	Chapter 1.3.4
7	Menu setup	Setup	Chapter 1.3.1
8	Menu alarms	Enable Alarms	Chapter 1.3.3
	Menu alarms	Show Alarms	Chapter 1.3.3
	Menu alarms	Clear Alarms	Chapter 1.3.3
9	Menu data	Clear Data	Clear all measuring values
	Menu data	Create HTML-Report	Chapter 1.3.5
	Menu data	Export Screen to Excel	Chapter 1.3.5
	Menu data	Memory Review	Chapter 1.3.7

4

1.3 Using »Tension Inspect 3« (cont.)

10	Menu	info	Information about »Tension Inspect 3«
11	Display	Alarms	Change to red, if the reading exceed or underrun the setpoint durring a measuring
12	Display	Tension	Current reading
13	Button	Reset	Chapter 1.3.4
14	Display	Unit	Unit of measure of the readings
15	Display	Statistics	Display of statistical values of the measurement
16	Display	Model	Display the connected unit
17	Display	Timeshift Buffer	Chapter 1.3.4
18	Display	Timeshift	Chapter 1.3.4
19	Display	Statistics Diagram	Display the statistical values, shown currently at the graph.
20	Display	Readings on Screen	Chapter 1.3.4
21	Display	Tension	Readings as graph, as well as the Hi/Lo Set-points (only when activated)

1.3.1 Basic settings

Requirements:
- The required measuring unit is connected to the PC.
- The measuring unit is switched on

To edit the settings:
- Click on the menu SETUP to open the dialog box.
  You can now either keep the default values preset in the input boxes or customize them for your specific requirements.
  The figure below shows the factory-preset defaults for a tension meter model ETX-500.

Enter text for the header describing the stored data

For testing the connection between the PC and the connected tension meter

Select the tension meter model

Transfer speed of the serial interface

Enter the COM Port (1-4) to which the tension meter is connected

Activates recording of the values which exceed or underrun the Hi/Lo set-points

Determine the file for saving data of online recording

Select the tension range

Select the unit of measure.

Select the sample rate

Damping

Changing the background colour to black

TENSION INSPECT setup

Description

Instrument
ETX

Serial Speed
19200

Communication port
COM4

Selected model
ETX

Test Connection
Test

Timeshift Buffer
1000

Set lower values on slow Computers or low Ram

Graphcolor
White on Black

Enable Alarm

LO-Alarm
70

HI-Alarm
450

Data directory
D:\online recording

Save and Exit

Exit

Range
500

Unit
cN

Samplerate
50 / Sec

Maximum depends on connected instrument !

Integration
Damping

Select the max. number of readings, displayed at the graph

Enter the Hi/Lo set-points

1.3.2 Start and stop the tension value display
Requirements:
- Click on Clear data in the menu Datat.
  All readings shown in the Tension display, if any, are cleared.

Start:
- Click the Start button to activate the display of tension values.
  The button shows Stop.
Tension value display:

Tension display	Current graph, as well as high set-point (red) and low set-point, if activated in the menu Alarms or Setup
Tension display	Current digital value
Statistics display	Continuously updated statistics
Statistics Diagram display	Continuously updated statistics, of readings, shown in the graph

Stop:
- Click now the Stop button.
The display of the tension values stops.
The button shows Start.

1.3.3 Hi/Lo set-points

»Tension Inspect 3« has a comparison function. Thereby the displayed value will be compared with the preset set-points. During exceeding or underrunning a set-point, the background of the display Tension change to red. The background of the display No Alarms change the colour permanently to red and shows now Alarms after exceeding or underrunning a setpoint for one time.

Enable Alarms   Activates recording of the values which exceed or underrun the Hi/Lo set-points

Show Alarms   By clicking Show Alarm at the menu Alarms the window „Alarm events" will be opend.
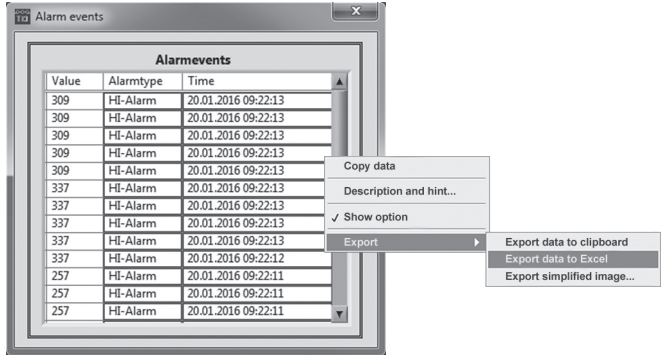
By opening the context menu in the window „Alarm events" the values exceeding or underrunning the set-points can be exported to excel by using the menu items „Export" and „Export data to excel".

Clear Alarms   By clicking Clear Alarms in the menu Alarms all values in the window „Alarm events" will be cleared.

1.3.4 Graph adjustments

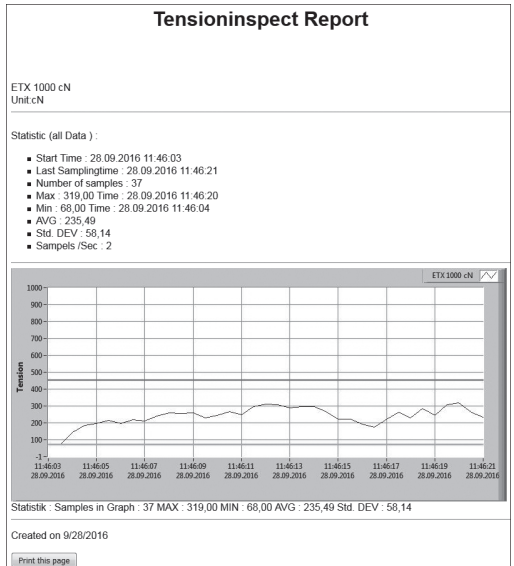|	
Scale	The maximal tension value of the diagram can be adjusted (Y-axis, starts at zero).
Auto	Automatic scaling of the Y-axis depending to the measured tension values.
Reset	Change of scaling from mode Auto to Scale
Readings on Screen (Timescale)	To set the number of readings to be shown in the diagram (X-axis). The scroll bar turns to red, if more readings are selected for the diagram than measured.
Timeshift Buffer	Indicates in % the fill level of the memory. The maximal numbers of readings will be set in the Setup.
Timeshift	To select the timeframe of a series of measurements, that should be displayed in the diagram. Is the setup Value of Readings on Screen bigger or equal to the recorded readings, the scroll bar cannot be moved.

1.3.5 Print and data transfer

Print:
- Click Creat HTML-Report in the menu Data to open the print preview.
- Click the Print this Page button to open the printer setup box.

The print-out includes the statistical data of the series of measurements, the current displayed graph and the statistical values of the graph.

Tensioninspect Report

ETX 1000 cN
Unit:cN

Statistic (all Data) :

- Start Time : 28.09.2016 11:46:03
- Last Samplingtime : 28.09.2016 11:46:21
- Number of samples : 37
- Max : 319,00 Time : 28.09.2016 11:46:20
- Min : 68,00 Time : 28.09.2016 11:46:04
- AVG : 235,49
- Std. DEV : 58,14
- Sampels /Sec : 2

Statistik : Samples in Graph : 37 MAX : 319,00 MIN : 68,00 AVG : 235,49 Std. DEV : 58,14

Created on 9/28/2016

[Print this page]

Data transfer:
- Clicking Export Screen to Excel in the menu Data copy the readings, which are displayed at the graph to an excel file (reading, date, time).
  With the infixed readings, a graph can be created in the Excel file.

1.3.6 Save and load the readings

Save:
- The statistical data, as well as the single readings of a measuring can be saved after the measuring ends as CSV file, by clicking Save as CSV in the menu File.

Load:
- Click Load CSV in the menu File and open the required file.
  The statistical data of the saved measuring, the graph and the statistical data of the graph are displayed in »Tension Inspect 3«

> **i** It is possible to add readings to an existing file. In this case open the file and start a new series of measurements. The new readings will be added in the diagram. After this store the complete CSV file again. If any readings are in the internal memory before opening the existing file, the internal memory will be overwritten.
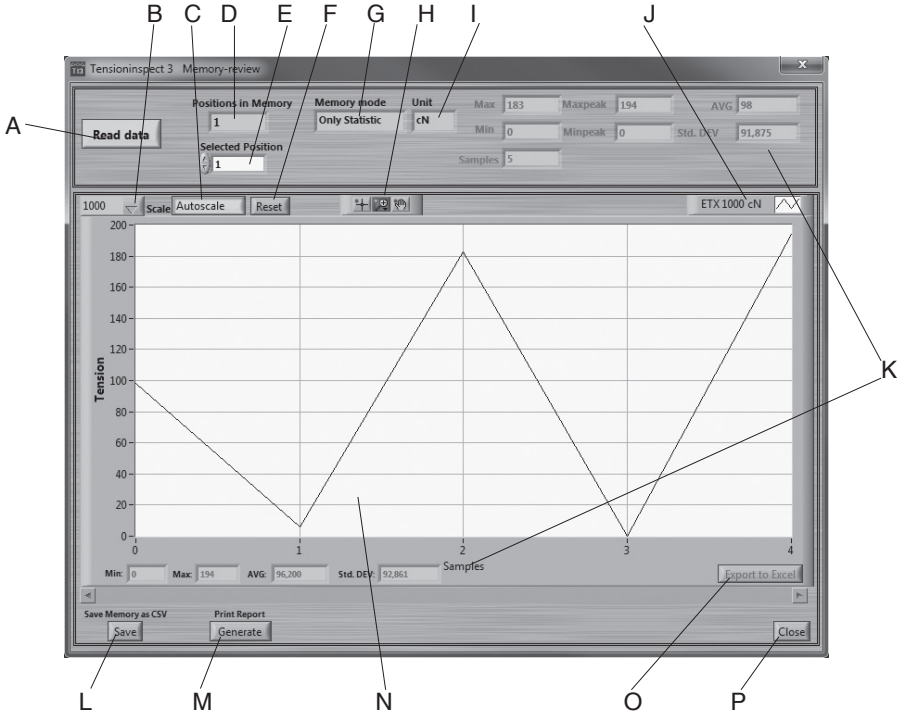
1.3.7 Memory review

(available only for ETX, ETPX and DTX)

With the »Tension Inspect 3« program you can download all the tension data stored in the memory of the connected tension meter.

Start the download

- Click Memory Review in the menu Data.

  The Memory Review window opens.

A	Button	Read Data	Chapter 1.3.7.1
B	Choice box	Scale	Chapter 1.3.7.2
C	Button	Autoscale	Chapter 1.3.7.2
D	Display	Position in Memory	Number of saved series of measurement
E	Choice box	Selected Position	Selected series of measurement
F	Button	Reset	Chapter 1.3.7.2
G	Display	Memory Mode	Used memory mode during the measuring
H	Button	Zoom	Chapter 1.3.7.2
I	Display	Unit	measuring unit of the readings
J	Display	Type of Device	Display the connected unit
K	Display	Statistics	Statistical data of the displayed series of measurement
L	Button	Save	Chapter 1.3.7.4
M	Button	Generate	Chapter 1.3.7.3
N	Display	Tension	Readings as graph
O	Button	Export to Excel	Chapter 1.3.7.3
P	Button	Close	Close Memory Review

1.3.7.1 Download the tension data from the ETX, ETPX and DTX to the PC
Requirements:
- Tension meter connected to the PC.
- Tension meter switched on.

To download the tension data:
- Click the Read Data button.
  The tension data stored in the tension meter are read into the PC.

Tension value display:
Display Tension   Graph of the displayed series of measuremnts
Display Statistics   Statistical data of the displayed series of measurements

1.3.7.2 Graph adjustments
Scale   Manual scaling of the Y-axis which starts at „zero". This feature can be
              activated by pressing Reset.
Autoscale   Automatic scaling of the Y-axis depending to the displayed readings of
              the diagram.
Reset   Activates the scaling, which is set in the pop-up Scale.
Zoom   A big number of zoom features can be selected to enlarge a selected
              frame of the diagram.

i | **The button Zoom and Reset work only if Autoscale is not activated.**

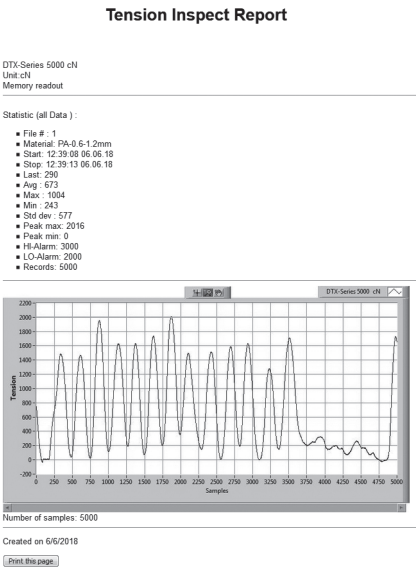**1.3.7.3 Print and data transfer**
Print:
- Click the Generate button to
  open the print review.
- Click the Print this Page button
  to open the printer setup box.

The print-out includes the statistical
data of the series of measurements
and the current displayed graph.

Data transfer:
- The Export Screen to Excel
  button copies the readings of the
  desired series of measuremetns to
  an excel file (reading, date, time).
  With the infixed readings, a graph
  can be created in the Excel file.

Tension Inspect Report

DTX-Series 5000 cN
Unit:cN
Memory readout

Statistic (all Data) :

- File # : 1
- Material: PA-0.6-1.2mm
- Start: 12:39:08 06.06.18
- Stop: 12:39:13 06.06.18
- Last: 290
- Avg : 673
- Max : 1004
- Min : 243
- Std dev : 577
- Peak max: 2016
- Peak min: 0
- HI-Alarm: 3000
- LO-Alarm: 2000
- Records: 5000

Number of samples: 5000

Created on 6/6/2018

Print this page

1.3.7.4 Save the readings
Save:
- With the button Save stored values (statistics and series of measurements) of the connected tension meter can be downloaded and stored as CSV file. The individual series of measurement can be selected.

**Readings which have be downladed and be stored
as CSV file cannot be related to »Tension Inspect 3«**

1.3.8 Online recording
- Click first the button Start/Stop and afterwards Start/Stop Rec. to start the continuously data recording. The recorded data is now saved as CSV file. If the file reaches a size of 10 MB, a new CSV file will be generated automatically for further data aquisition and saving.
- By clicking the button Start/Stop the continuously data aquisition is paused. Clicking Start/Stop again will continue the recording. The data will be saved in the last CSV file.
- By clicking the button Start/Stop Rec. the continuously data aquisition is finished. After clicking Start/Stop Rec. again the recorded data will be saved in a new CSV file.
- The location for saving the files can be determined in the menu Setup.

2 Correspondence
Should you have any questions regarding the program or operating instructions, or their use, please indicate above all the software version number.

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Tension Meter

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Tachometer

Speed- and Lengthmeter

Electronic Lengthmeter

Stroboscope

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Thickness Gauge

Yarn Package Durometer and Shore Durometer

Sample Cutter

Balance

Moisture Meter

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