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# tensioLINK<sup>®</sup> USB Converter





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## Introduction

The tensioLINK-USB converter is used to connect sensors and devices with serial *tensioLINK* interface to a PC. These sensors and devices then can be configured, and readings can be uploaded or taken online.

Sensors and devices with an 8-pin plug type M12 (e. g. TS1) can be connected to the converter directly.

The USB port provides the power supply.

The interface is controlled with the Windows software *tensioVIEW*. Software, instructions and driver are available on the supplied CD.

### Which sensors and devices can be connected?

Sensors and device with tensioLINK interface are (status August 2005):

- TS1
- T8-2005
- SIS (extended version with 8-pin plug)
- Infield7b with firmware 2.1 or higher
- VS-2005 vacuum station

Note: Older T8 Tensiometers (with serial number below 1999) do not have a tensioLINK interface and cannot be connected!

### What are the requirements?

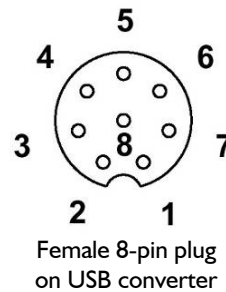
- Windows PC with USB port (500 mA)
- Microsoft Windows 98 or higher
- Microsoft .NET framework 1.1 (available on supplied CD)

Note: tensioLINK is not compatible to Windows 95 and Windows NT4.0 as these do not support USB!

## Plug configuration

Standard:

Signal	Wire color	PIN
+9V/100mA	white	1
GND	brown	2
nc	green	3
nc	yellow	4
nc	grey	5
RS485-A	pink	6
RS485-B	blue	7
nc	red	8



To connect several sensors and devices at the same time distributor boxes are available as accessory.

If the current consumption of all connected sensors and devices exceeds the capability of the USB port the sensors and devices have to be supplied by an external power supply. The GND of the external power supply must be connected to GND of the USB converter.

As standard not more than 5 sensors and devices should be supplied by the USB converter at the same time.

Devices like the Infield7b or the VS-2005 have the capability to read tensioLINK sensors themselves. These devices are equipped with a female 8-pin plug. Connect them to the USB converter with the supplied "host cable" (male to male plug).

With the host cable it is possible to get linked to the tensioLINK bus directly on any free port of a distribution box. Thus, sensor communication is possible without separating them from the bus and the power supply.

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# Installation

## 1.1 *Installation of the USB converter*

Note: with Windows 2000/XP you need local administration rights for installation. Please contact your administrator for assistance.

Note: depending on the language of your Windows version the displayed messages might somehow be different.

1. Insert the supplied CD and connect the tensioLINK USB-converter to a suitable USB port.

The message that a new hardware is available should be displayed on your desktop (Windows 2000/XP).

2. The hardware assistance will ask „Search for software on this PC or establish a connection to the Windows Update webpage for searching for the software?“ or a similar message.

→ Select "NO, not this time"

then

→ "Continue >"

3. In the next window select:

→ "Install software automatically (recommended)"

→ "Continue >"

The software should be installed now.

4. If a warning message like : "... the hardware has not passed the Windows Logo Test ..." or a similar message appears, select:

→ Continue installation

The driver for the USB converter should now be installed successfully.

## ***1.2 Installation of tensioVIEW***

Start the file \tensioVIEW\setup.exe on the CD.

Follow the instructions of the installation assistance.

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## Technical specifications USB converter

Sensor power supply:	9 VDC/100mA
Tolerance:	$\pm 1$ V
Short circuit steadiness:	2 minutes
Galvanic isolation:	1 kV

Note: tensioLINK sensors require a power supply in the range of 6V to 20 VDC.

For the maximum number of sensors and devices that can be connected at the same time consider the maximum power consumption of each device, not the average consumption!

### Serial sensor interface:

RS485 – 2 wire. Automatic switching TX-RX.

ESD protection: 15 kV (Human Body Model)

Galvanic isolation: 1 kV

### USB interface:

USB 1.1 und 2.0 compatible. Only for USB ports with 500 mA maximum output current.

### EMC:

The USB converter is tested and fulfills the European CE standard for electromagnetic interference resistance and emittance.



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