TempLabRemote

Installation and user manual

For precision temperature gauges

TEMP12 / TEMP14 / TEMP14 PLATIN

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Content

Note

For stability reasons, the TempLab measurement program was spun off in two different parts of the program. These parts of the program consist of the TempLabServer and the TempLabClient program. The TempLabServer is used as a standalone program to communicate with the TEMP12 or TEMP14 hardware and alike is the server program for the remote measurement over the network. The TempLabClient is the user or Management interface for the measurement program.

Installation for TEMP12 Hardware

Important note: Please install first the required hardware drivers as described below, before the actual TEMP12 hardware is installed!

Installation TEMP12 Drivers

Insert the CD-ROM labeled "NI-DAQ driver CD 1" into your CD ROM drive. Should be turned on on your PC CD-ROM-auto start feature Microsoft Windows ® automatically starts the installation of the required national instruments software. Should be the Windows ® auto start function disabled run please following steps from the Microsoft Windows ® Start menu:
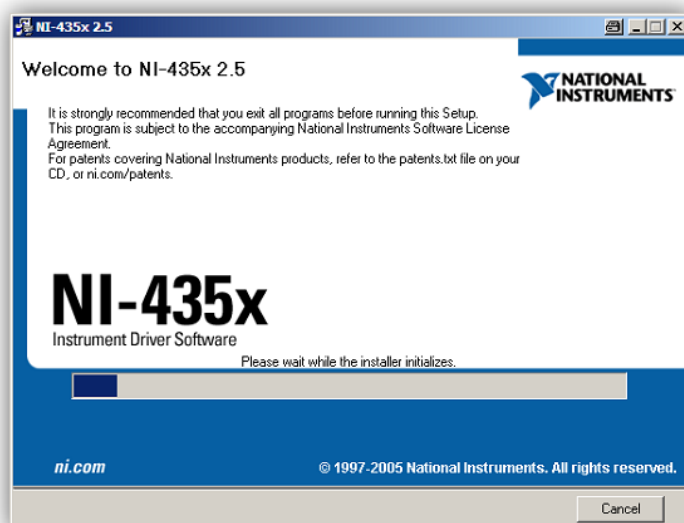
Start > Run

Enter following command in the following window and confirm this with the **Enter** key or the [OK] button. (Figure 1)
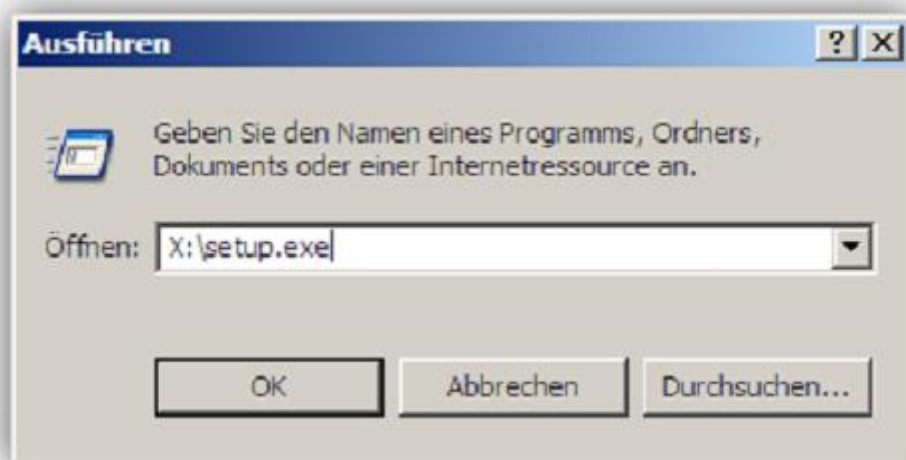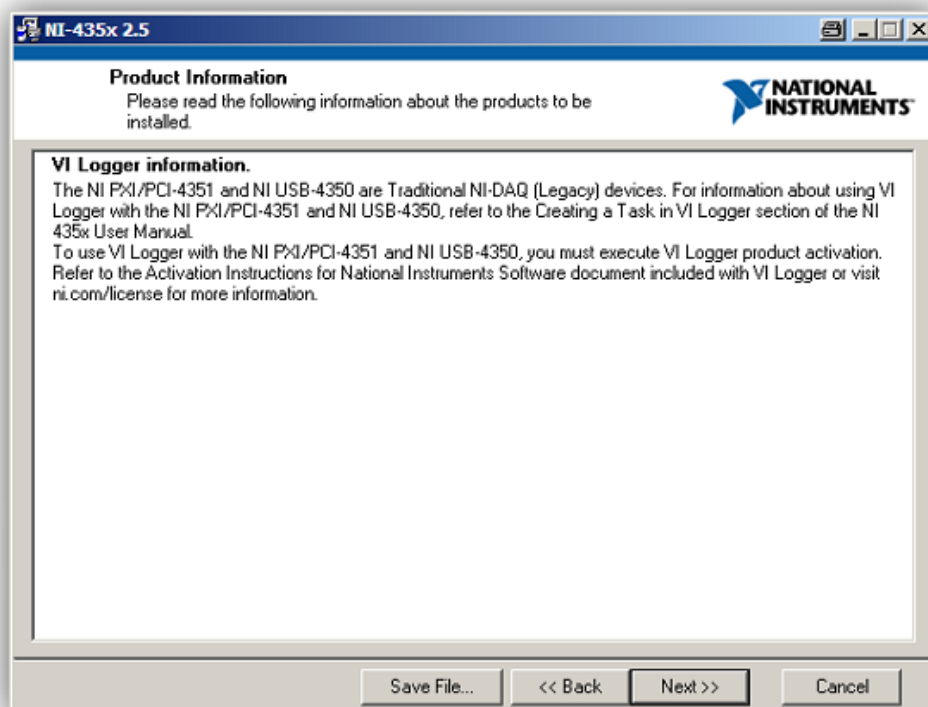

(Figure 1)

The following dialog appears, and initializes the Setup programs for the national instruments driver support. (Figure2)
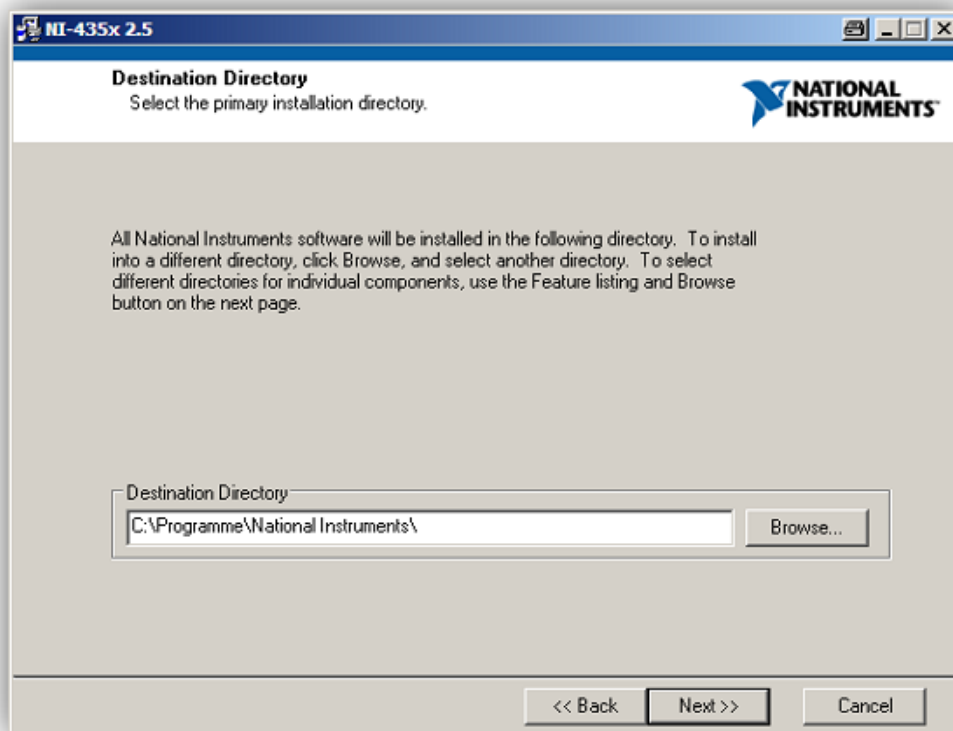

(Figure 2)

Confirm the subsequent dialogues with the "Next" button. (Fig. 3, Fig. 4)
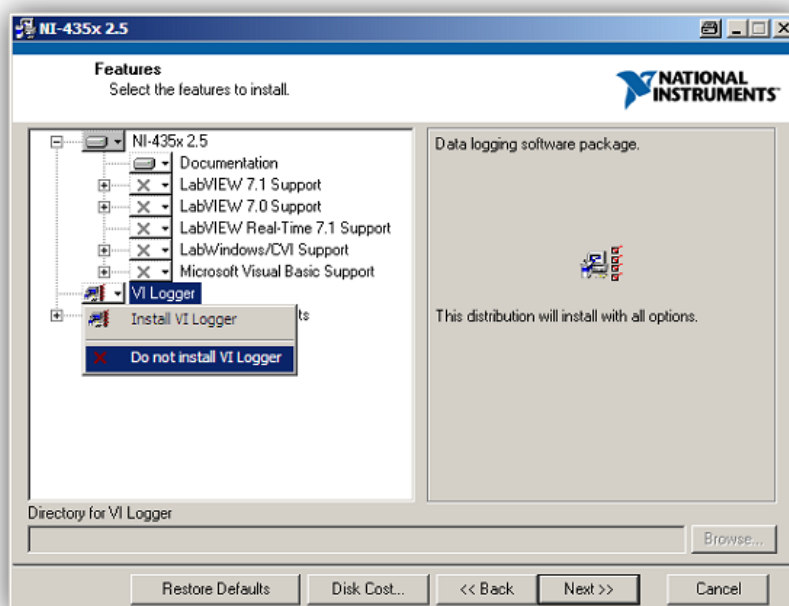

(Figure 3)

(Figure 4)

The following dialog shows the required choice of software. Here **disable** the software component "Do not install VI Logger" for VI Logger. (Fig. 5)

(Figure 5)

In the two subsequent dialogs, confirm the license conditions for the national instruments software with "I accept the license agreement(s)" and confirm this by clicking on the "Next" button. (Fig. 6)

(Figure 6)

Now, the Setup program performs the installation of the necessary driver components. During the installation prompts you which to insert CD-ROM No. 2 in your CD-ROM drive. After the driver installation, your system must be restarted.
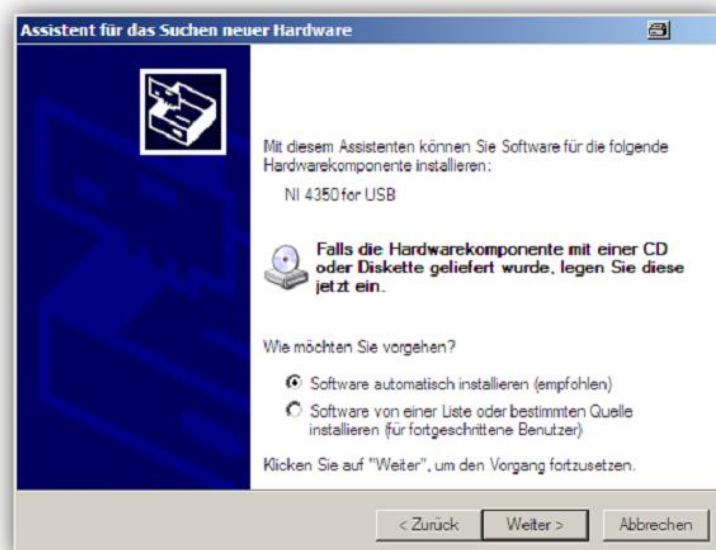
Installation TEMP12 USB/TEMP12 PCI – Hardware

To install of the TEMP12-PCI hardware, please turn off your computer and disconnect the power supply. Open the housing of your computer as described in your computer manual. Find a free PCI slot and insert the TEMP12-PCI - hardware in this slot. Attach the card, so that one slip can be excluded. Close your case and restore the power supply to your computer. During the installation of the TEMP12 USB device must not turn off your computer. The USB device can be connected in the ongoing operation. After installation or after restarting the PC appears the following dialog, which shows a new hardware component found by Windows ®. "No not this time" select in this dialog and confirm this dialog using the button "Next". (Fig. 7)

(Figure 7)

In the following dialog, please select "Install the software automatically" and confirm this by clicking on the button "Next". (Fig. 8)

(Figure 8)

The installation of the TEMP12 unit is performed.

Installation of TEMP14/TEMP14-PLATIN-Hardware

For TEMP14 hardware, no driver installation is necessary. Simply connect the TEMP14 USB device to a free USB port on your computer or notebook.

Installation of TempLabRemote-Software

Important note: you must have version 4.0 of the Microsoft .NET Framework to use the TempLabRemote software! If the Microsoft .NET Framework is not installed, you can install it via the software CD.   Run the file "dotNetFx40_Full_x86_x6.exe "4 on the CD-ROM.
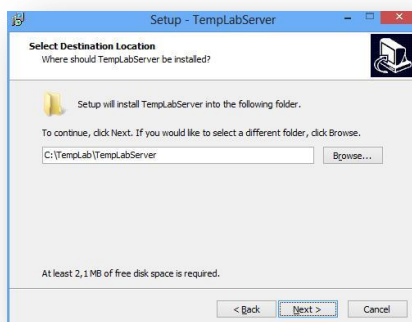
Installation TempLabServer

On the TempLabRemote-CD-ROM, start the file "Setup_TempLabServer_1.0.0.14.exe".

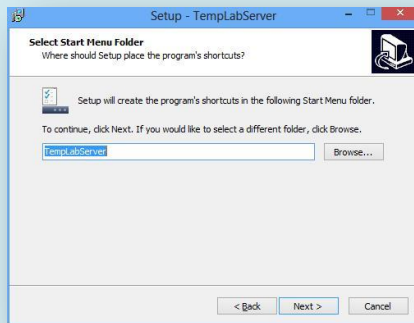The following dialogs guide you through the installation of the TempLabServer.
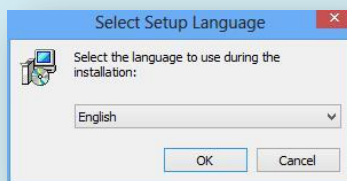
Select the language
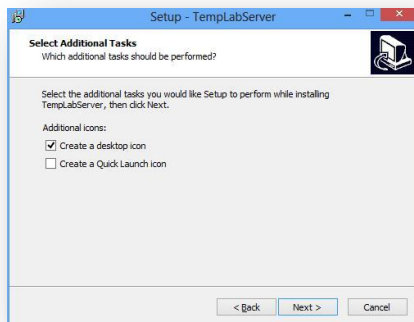Aviable languages are German and English

Select the directory where you will install the software.

For users with a Windows7/Windows8 operating system select a path like "C:\Templab\TempLabServer\".
These operating systems, denies write access to the default program directory!
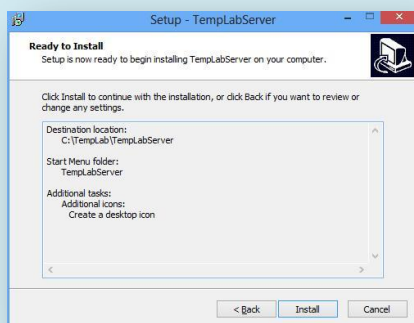
Please install the TempLabServer on an local directory and not on an network drive!
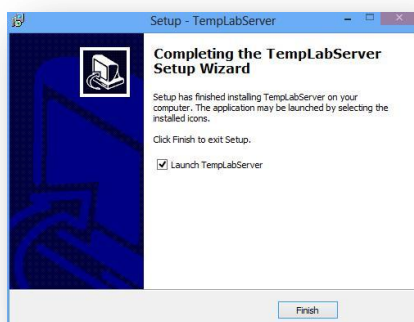
Select the folder for the Windows start menu.

Choose the icon creation on desktop or quick launch.

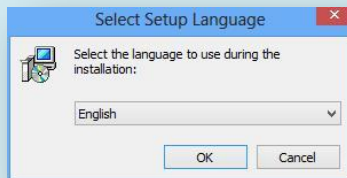Here can you check the settings for the TempLabServer application.

On finished installation you can check the checkbox "Launch TempLabServer"

Installation of TempLabClient

On the TempLabRemote-CD-ROM, start the file "Setup_TempLabClient_1.0.0.14.exe".

The following dialogs guide you through the installation of the TempLabClient.

Select the language for the software installation.
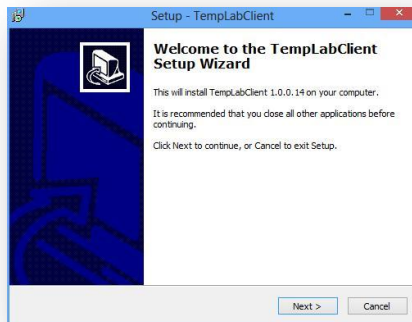
Start the setup with the "Next" button.
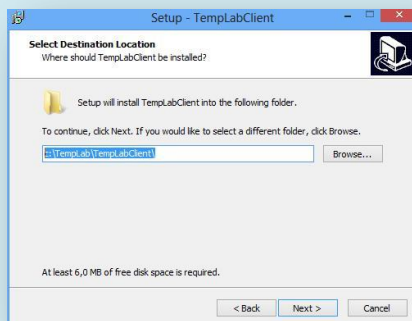
Select the directory where you will install the software.

For users with a Windows7/Windows8 operating system select a path like "C:\Templab\TempLabClient\".
These operating systems, denies write access to the default program directory!

Select the program group for Windows start menu.

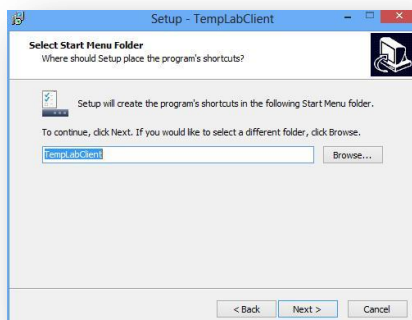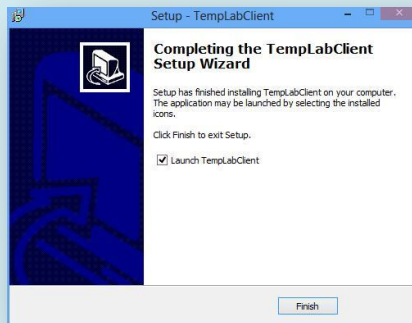Finish the installation and select if you want to startup the client software. In this case you should start the TempLabServer software at first.

First start of the TempLabServer software

Important note: the TempLabServer software is always required if you want to record measured values from the TEMP12/TEMP14. The TempLabServer can be operated while in 2 different modes. For demonstration purposes, the TempLabServer also as a generator for random values can use are. The TempLabServer requires the hardware of the TEMP12/TEMP14 always on the same computer where the program is running! (Fig. 9/10)
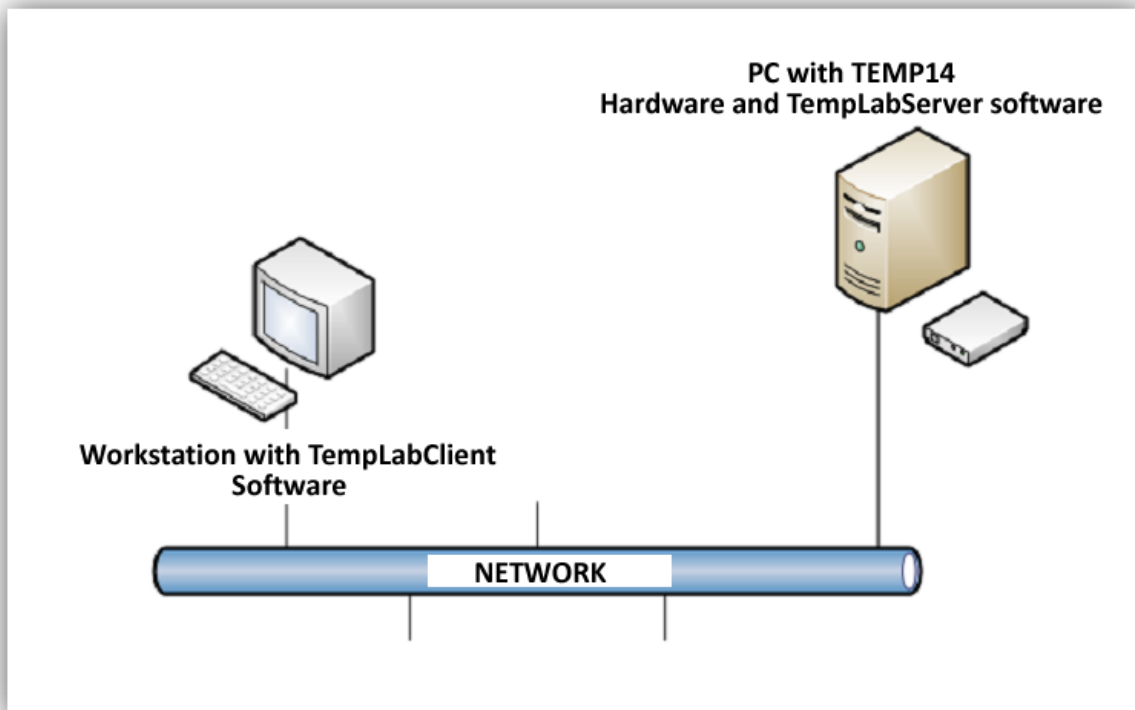
(Figure 9)

Figure9 shows a possible structure. On the PC where run the program TempLabServer and the TEMP12/TEMP14 hardware is installed by the workstation or laptop on the network/Internet accessed on the measurements of the TempLabServers or its settings are changed.

Workstation or Laptop with TEMP12/TEMP14 and the TempLabServer and TemplabClient software installed
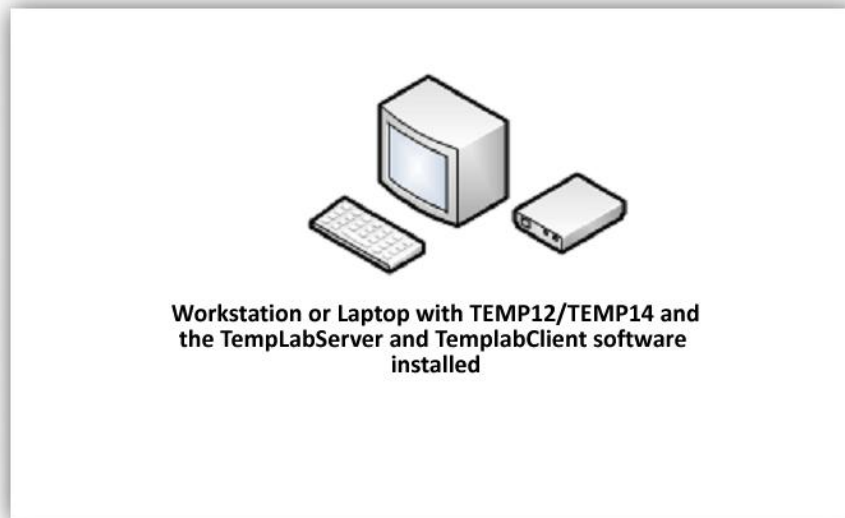
(Figure 10)

Figure 10 shows a normal measuring station. Here, too, the software "TempLabServer" is required to record measured values.

First start of TempLabServer

You can start the TempLabServer about the Windows ® Start menu, or if you have created a desktop icon on the desktop. When you first start the TempLabServer you receive following screen indicating the firewall of Windows. You should confirm this dialog using the button "Allow access". If an other firewall than the Windows default firewall installed on your computer please admit the program TempLabServer with the TCP port 8000 through your firewall.(Fig. 11)

(Figure 11)

After you have applied the settings on your firewall TempLabServer reports with the following screen. (Fig. 12)
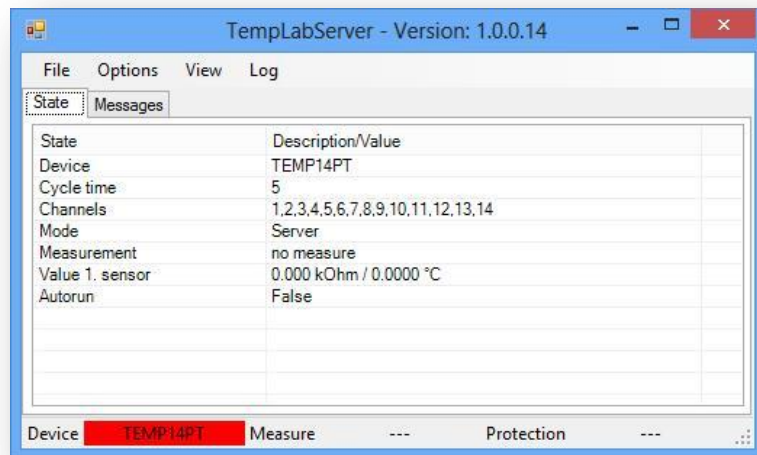
(Figure 12)

The program interface shows the status of TempLabServer and the Device connected to it.
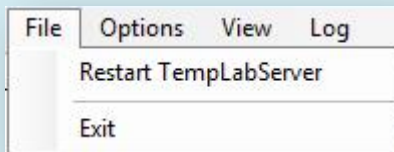
Status informations on TempLabServer

| Name	Information	Description
Device	DEMO TEMP12 TEMP14 TEMP14PT	Displays the current connected/selected device for the TempLabServer
Cycle Time		Displays the cycle rate in seconds
Channels	1 to 16	Display the activated channels for measurement
Mode	Server / Logger	Shows what the TempLabServer mode is selected. The server mode is switched on measured values only for the TempLabClient-program provided and not recorded. The Logger mode is enabled are the measured values for the TempLabClient program available and at the same time stored as a file in the TempLabServer for later evaluations.
Measurement		Displays the status of a measurement
Value 1. Sensor	Temperature/Resistance	Displays the temperature and resistance value of the first sensor
Autorun	True/False	Displays the Auto Run value for startup

Menu commands

Restart TempLabServer starts the Application new
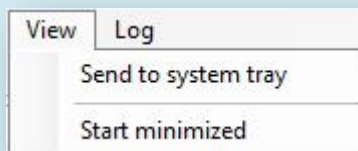
Exit closes the TempLabServer application, values are stored if the Server is in logger mode.
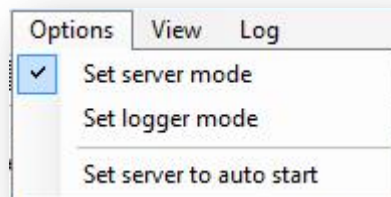
**Set server mode** – sets the software for normal providing values for TempLabClient

Set logger mode – TempLabServer acts as a data logger without the TempLabClient

Set server to auto start – Starts the Server on each start of Windows

Send to system tray – Sends the application in the system tray of windows

Star minimized – Sets the application on each start to the system tray
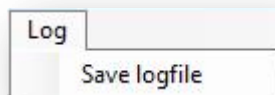
Save log file – Save the current log file for maintenance or error reporting
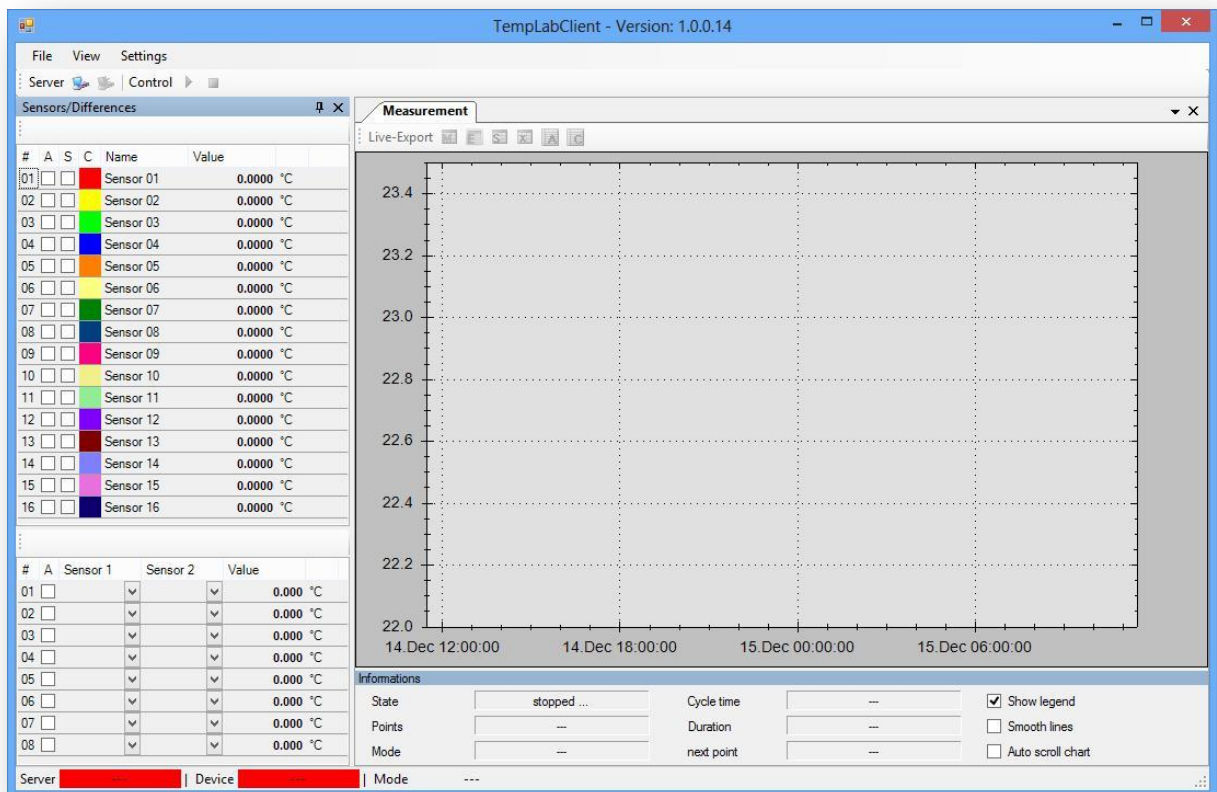
Configuration of the TempLabServer

Start now please the TempLabServer, if this still is not running. For configuration of TempLabServer, read the section "Configuration - TempLab" in the field "First start the TempLabClient software.

First start of TempLabClient software

Start of TempLabClient

You can the TempLabClient start either over the Microsoft ® Startup menu or if you create a desktop icon directly from your desktop.   After starting the program, following interface appears:

User interface TempLabClient

Note: If you use TempLabServer and TempLabClient on the same workstation, you can skip the next step.

For the initial configuration of the program, please call the menu **settings > program settings** on as shown in the next picture. (Fig. 13)
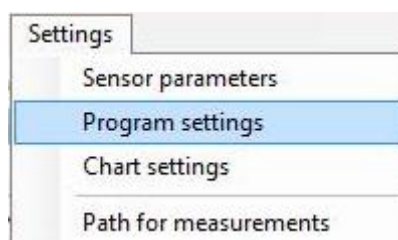

(Figure 13)

The following window appears:

(Figure 14)

Important note: Please make now no other settings, as the name or the IP address of your computer, because a connection to the server, all the settings in the TempLabClient be replaced by the current settings of the TempLabServer! When running the TempLabServer on the same computer you leave the settings to "localhost". The TempLabServer on a computer should be installed in your network, please enter "Server" name, or the IP address of the computer in the input box, which contains the TempLabServer program! Should be available on your network there is no DNS server or any other way to resolve domain name please specify the IP address.

Example: The computer with the TempLabServer has the IP: 192.168.0.25, so please enter this address in the input field "Server". Now please save the settings with the button "Save" at the bottom of the screen.
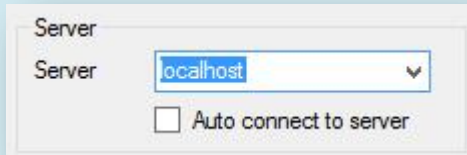
The settings window closes. Select the following icon in the menu bar to check the settings:
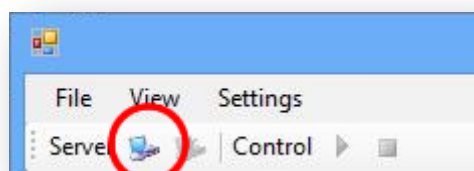
The connection to the server should not be made for any reason you receive an error message that the target machine actively refused the connection. In this case, please check the previously made settings! The connection to the server is made please continue as described in the following chapter with the configuration.

Overview of settings from TempLabClient

Descriptions of program settings

Under this setting item, they have the ability to specify address of the server the server name (if there is DNS resolution on your network) or the IP address, running the program TempLabServer. Should the TempLabServer program on the same computer running please leave the name "localhost" in this field.

Select your instrument here. DEMO and TEMP14 require no device ID. If only a TEMP12 is installed device or any other national instruments hardware on your computer choose the 1.

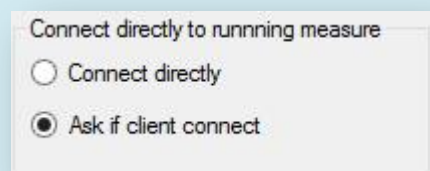**IMPORTANT: For measurements with PT10000 Sensors choose TEMP14PT!**

Here you can set the borders of the chart. The limits are activated if you check the "Border active". The measurement diagram displays the boundaries using a dashed line to give you an overview that are all measured values in the desired range. With the "C" button you choose a Color for the borders.

Here, you enter the seconds, with which a measurement is recorded. Local sampling time is always 2 seconds over the sampling period of the server because the communication over the network. The sampling time of the server be low this is adjusted automatically to the server and in the client program!

Here you have the opportunity to determine whether the TempLabClient program automatically turns on when connecting to the server on the ongoing measurement and record readings. The point of "Ask" is selected will appear a dialog with which you can determine whether they want to switch to the measurement.
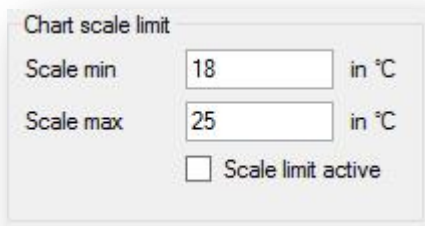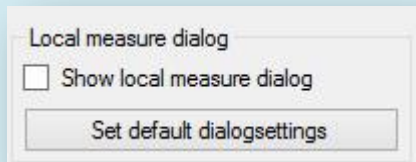
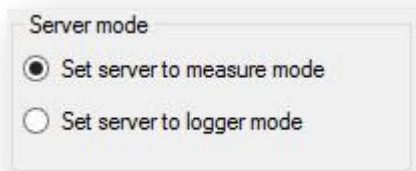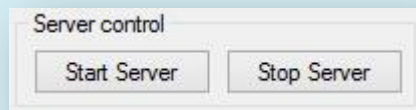|	
Chart scale limit Scale min `18` in °C Scale max `25` in °C ☐ Scale limit active	Here you can specify the scale of the chart. The measured values outside of the scale should be these are not represented.
Local measure dialog ☐ Show local measure dialog Set default dialogsettings	After each measurement, a dialog with details about the measurements will be displayed. In this dialog on end of each measure you can make a detailed description for the measurement.
Server mode ◉ Set server to measure mode ○ Set server to logger mode	Here, you can determine in which mode the server is running. The normal measurement mode is selected, the server logs no readings. Readings are acquired by the client program. Is the Logger mode set, the server takes measurements and stores them for the client. This values can be read later with the TempLabClient.
Server control Start Server Stop Server	Here you have the possibility to start and stop the TempLabServer if the AutoRun function in TempLabServer is activated.
Digits Show `4`	Whit this setting you can set the digits they shown in the temperature display.
ATTENTION!!!	**Please don´t forgot to SAVE the settings with the button save on bottom of the screen! Make changes in settings, when TempLabServer is connected to the client!**

Overview of the sensor settings

NOTE: Please make only changes when the TempLabClient application is connected to the TempLabServer!
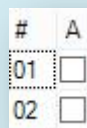
The sensor settings are can reached over the menu Settings > Sensor parameters.

For each sensor, which was purchased from us, there are files with the calibration parameters. These files are located in the folder "Sensorparamters" on the CD-ROM. In most cases, we will configure the software already with the correct parameters so that it is not necessary a pluck creating this data itself.

(Overview over the sensor settings, Figure 15)

Sensor settings

	With this setting you can activate the sonsor on each channel for measurement.
	These fields can be edited. The sensors are displayed with the names in the graph and in the temperature display.

Parameter A 0.001 0.001	Calibration parameters for the Steinhart and Hart equation determined through calibration (Parameter A)
Parameter B 0.00025 0.00025	Calibration parameters for the Steinhart and Hart equation determined through calibration (Parameter B)
Parameter C 1E-07 1E-07	Calibration parameters for the Steinhart and Hart equation determined through calibration (Parameter C)
Correct 0 0	In this field you can set the temperature value determined through re-calibration. The value is added as a temperature offset to the measure value.
Color 255, 0, 0 255, 255, 0	In this setting you can change the color of the chart lines in the graph for each sensor.
Load Load	With the "Load" button you can import a parameter file from our calibration.
PT10000-R0 0 0	This field must contain the resistance value for the sensor (only PT10000 sensors). This value is determined through calibration of sensor on 0 degrees.
ATTENTION!!!	**Please don´t forgot to SAVE the settings with the button "SAVE" on bottom of the screen! Make changes in settings, when TempLabServer is connected to the client! Otherwise the values will be overwritten from the TempLabServer!**

Settings for Chat and Display

The settings for the diagrams are reached via the menu "Settings" > "chart settings", as shown in the following image:
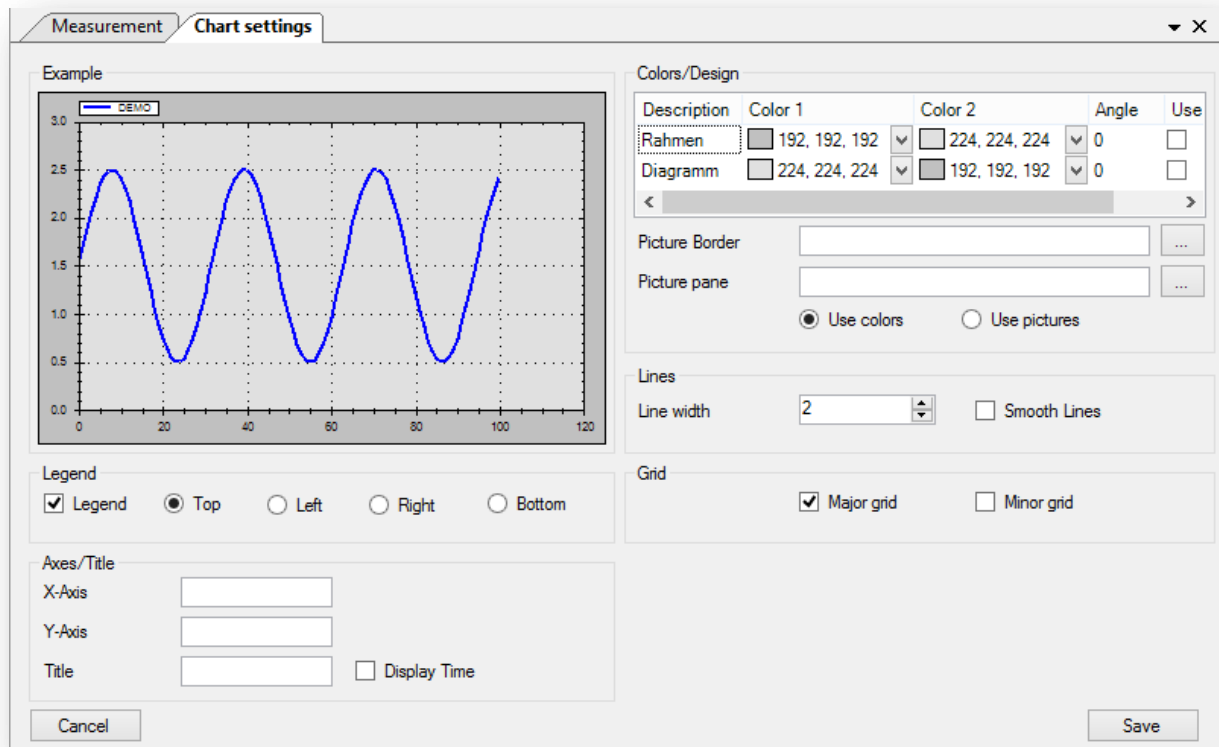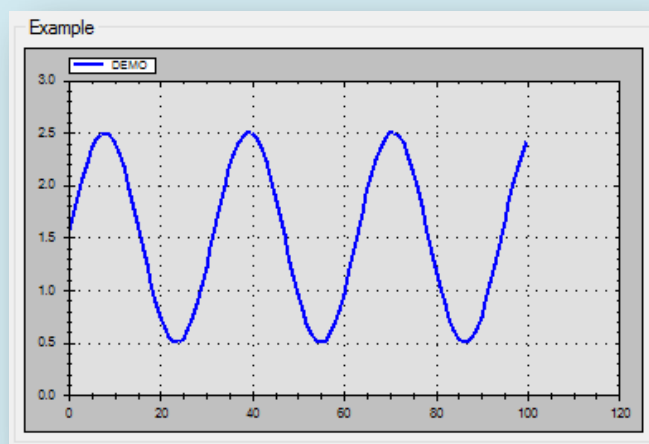

Chart settings

Overview chart settings

The sample diagram displays your settings as a preview. The legend, the colors and line widths are shown here.

Legend

Legend ☑ Legend ● Top ○ Left ○ Right ○ Bottom

Here, you can determine if and where the legend is displayed. The legend label displays the sensor name and the corresponding color in the diagram.

Axes/Title

X-Axis

Y-Axis

Title ☐ Display Time

Here, you can change the individual axes. X axis: Time y axis: temperature heading: measurement by setting a hook "Show time" which shows start and end time of the measurements in the chart.

Colors/Design

Description	Color 1	Color 2	Angle	Use
Rahmen	192, 192, 192	224, 224, 224	0	☐
Diagramm	224, 224, 224	192, 192, 192	0	☐

Picture Border ...

Picture pane ...

● Use colors ○ Use pictures

Here, the color settings for the chart are set. Different colors/gradients, or wallpaper images can be selected for the chart area and the frame.

Lines

Line width 2 ☐ Smooth Lines

With this setting you can determine the line width of each axis and the smoothing/rounding.

Grid

☑ Major grid ☐ Minor grid

This setting displays the major and the minor grid in the chart.

Load local measurements

Local measurements can you reach via the menu "View > local measurements". This will be display and export values you choose. Local measurements are measurements that are recorded from the TempLabClient program, or with the TempLabClient were loaded from the server. As indication you get following screen. (Fig. 17)
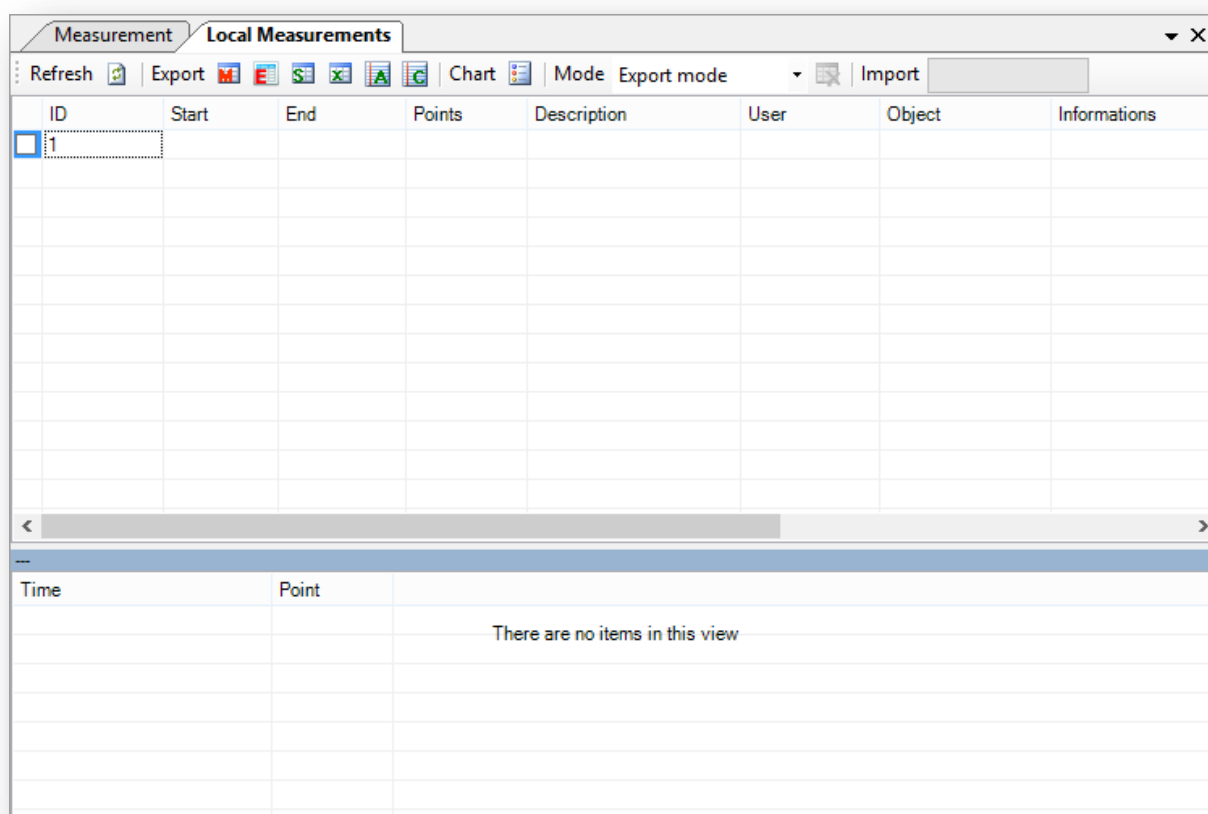
(Figure 17)

Description of the toolbar in the window "Local measurements"
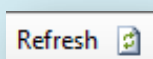
|	
Refresh ⟳	Here you can freshen up manually view of the measurements i.e. should you import new measurements of the server have you can refresh the view here.

Data export can export measurements to other formats. To do this, select the desired measuring range by exposing a hook in the measurement series overview. Export formats are described further in the next chapter of this manual.

Here, you can display a selected series of measurement as a diagram in the TempLabClient.
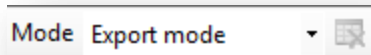
Here it can be chosen between the following two modes. Export mode and delete mode. A series of measurements can be selected in the export mode. Measurements should be deleted please select the erase mode and mark the measurement series which are intended for deletion. Clicking on the button "Delete" (behind choosing modes), you delete the selected measurements after a security query irrevocably from your computer.
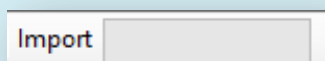
The import indicator is just a status indicator and shows you the progress in reading of measured values.

Export formats

Metrys export format specific export format to Microsoft ® Excel for this export format that Microsoft ® Excel is installed on your computer it is necessary!

Eumetron export format specific export format to Microsoft ® Excel for this export format that Microsoft ® Excel is installed on your computer it is necessary!

SMS export format specific export format as CSV-file with header information

|	
	Values are stored in ASCII format
	Values are stored as comma-separated-values. CSV export format.

Loading values from TempLabServer (Logger mode)

Over the menu option "View > Measurements from the server" received an excess addiction of the measurements that were recorded by the TempLabServer in Logger mode. Here you have the possibility to import multiple measurements in the TempLabClient program or delete. (Fig. 18)

Important note: measurements that were recorded over several days from the TempLabServer be applied always, no matter when the measurement was started at 0: 00 as new measurement file. A merge of the data file is not supported at the moment!
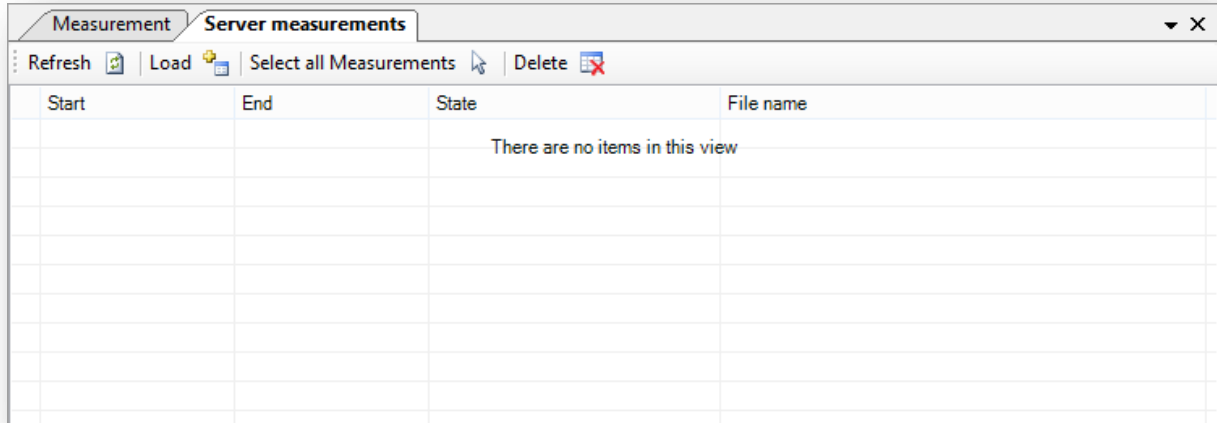
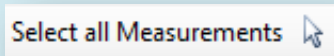(Figure 18)

Toolbar overview – server measurements

Refresh	**Refresh:** Here can the measurements from the server to be newly read.
Load	**Load:** Here the marked series of measurements in the TempLabClient program are imported.
Select all Measurements	**Select all Measurements:** Here, all measurements that are created on the TempLabServer are marked for import or delete operation.
Delete	**Delete:** Here, all marked measurements after a security query will be deleted.

INFORMATIONS

MANUAL TempLabRemote
Date: 12/16/2012
Copyright: JENAer Meßtechnik GmbH, Carl-Zeiss-Promenade 10, 07745 Jena, Germany

If you have any questions, suggestions or requests, please send an email to the above address.