







## Operating Manual for *ThermoView* PC Software

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## 1 System Requirements

The **ThermoView** software requires a PC or a notebook with a LAN interface and an operating system from the Microsoft® Windows® series. According to current knowledge, all versions are supported. The software has been exclusively developed and tested using Windows® XP® SP3.

Note: Some of the names and terms used here are legally protected.  
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Minimum system requirements/recommendation

- 233 / 500 MHz processor speed
- 64 / 256 MB memory (RAM)
- 100 / 1000 MB free hard-drive memory

The installation is approx. 10 MB. Beyond this, further hard-drive capacity for data recording and saving oven programs is necessary.

## 2 Extent of Functions

- Administration of up to 8 regulating units
- Online data recording
- Import of oven data (USB data carrier)
- Batch administration
- Program administration (read, load, save and create)
- Runtime calculation of the running program
- Print function (standard system printer)
- Export function (**CSV** format)
- Error/alarm protocol
- Data mirrored on a second drive

## 3 Installation

By double clicking on the **exe**-file, the setup routine is started which collects the information needed for the installation and then installs the **ThermoView** application on the PC.

Depending on the number of available hard-drives, the software files are found in the following standard folders:

Program files: C:\Programme\ThermoView  
All other files: D:\ThermoView  
or C:\ThermoView (for a drive)

It is recommended that the computer is restarted after installation.



## 4 Integration of a *Thermo-Star* Control System

Prerequisites:

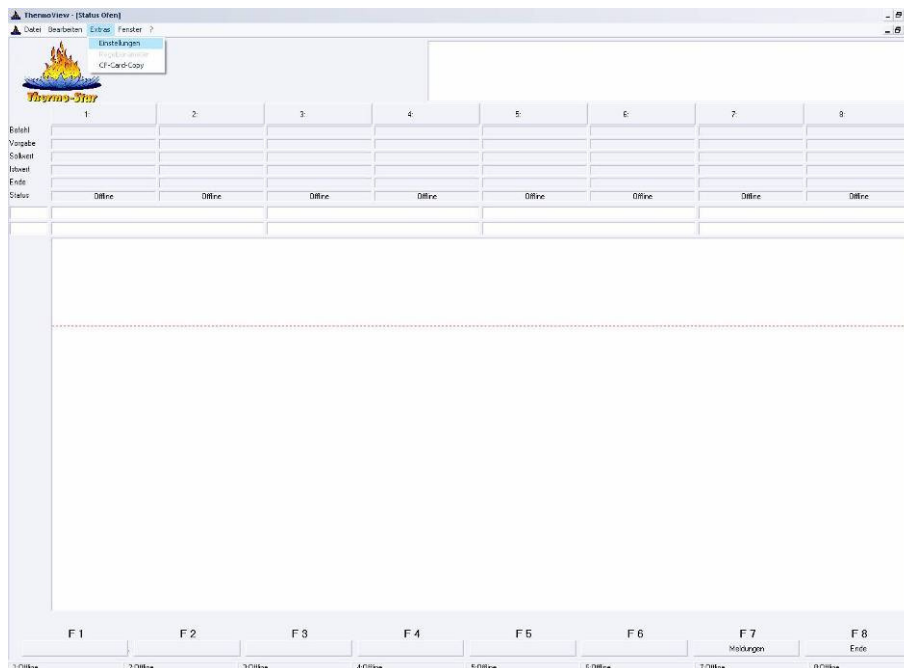
- ✓ The software is already installed.
- ✓ The control system IP address is known and/or adapted.
- ✓ The computer IP address is correctly set.
- ✓ The oven is connected with the computer through the LAN interface.

You can test whether all necessary preparations have been successful by using the command line of the PC operating system with the following command:

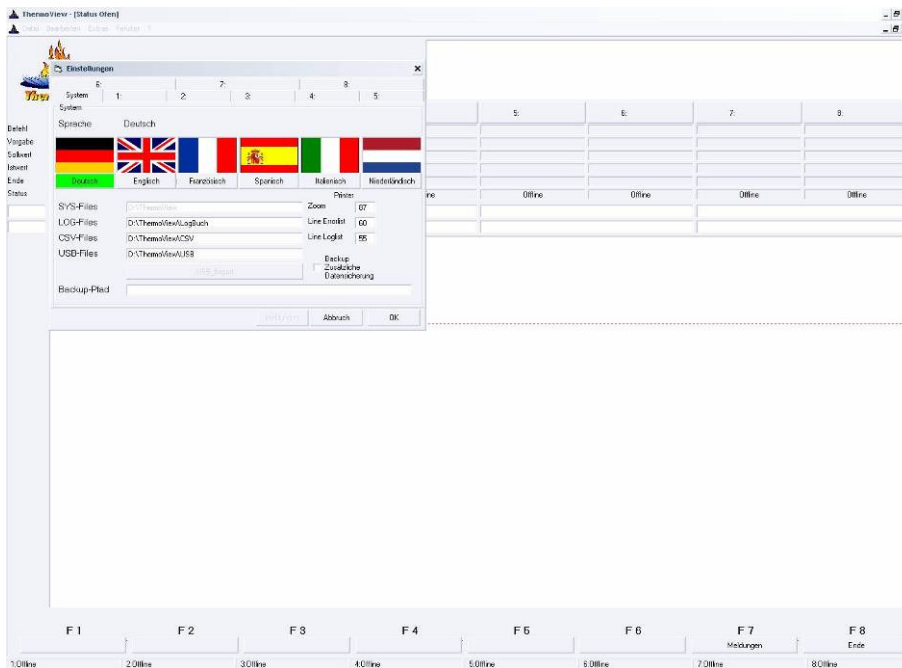
```
ping xxx.xxx.xxx.xxx
```

The letters "x" are placeholders for the IP address of the control system.

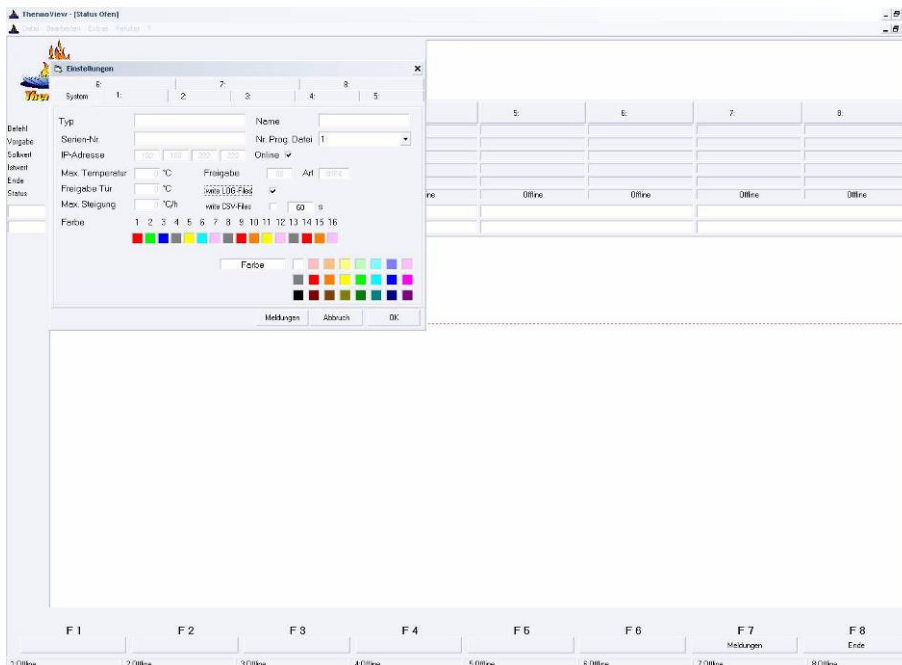
Now open the software in order to integrate one or more control systems in the software.



After starting the software, please go to **Extras** in the menu bar and then to **settings**.



In the popup window, select the tab with the required channel number (1-8) that you want to use.



Now enter the IP address of the control system in the **IP address** field and tick the **online** box (the IP address cannot be changed with the function activated). Press on OK, close the software and restart it.

After restarting, the software shows the connected control systems after a brief connection phase. The integration is now completed.



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## 5 General Operation

### 5.1 Data Recording

There are two possibilities for data recording with different aims.

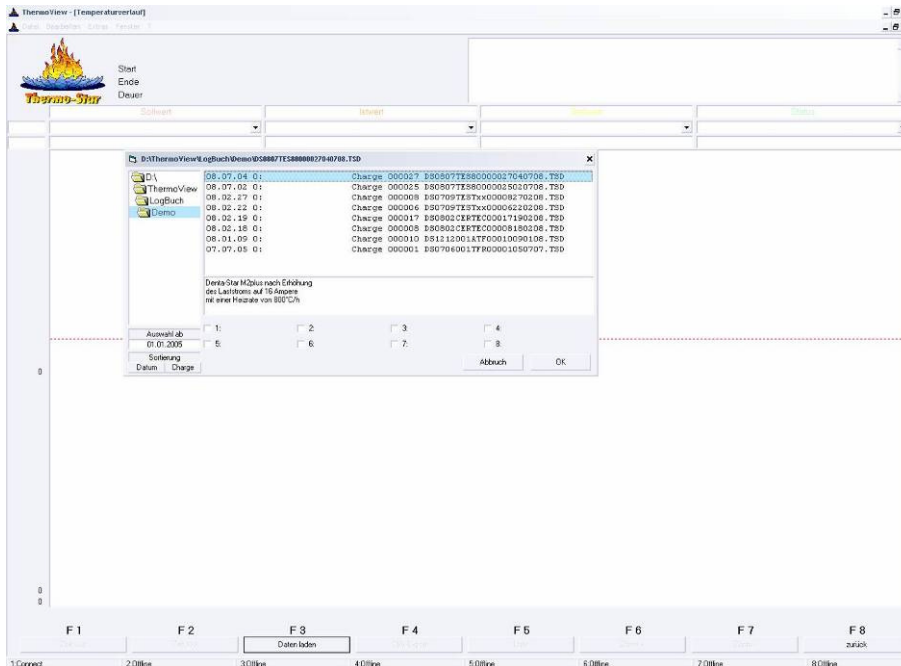
1. The control system data is frequently viewed and the batch data is regularly printed out. The requirement for this is the uninterrupted link between the **ThermoView** software and the connected control systems.  
Activate the **write LOG-Files** function in the **ThermoView** settings for all required channels. The software now automatically records all data.  
In the case of a PC error or a malfunction in the network, the data in the control system is temporarily saved for approx. 30 minutes.  
Before expiry of the period, **ThermoView** collects the data and saves it as usual. The data is irretrievably lost after expiry of this period.  
The 2nd type of recording is also available to prevent the loss of data.
  
2. The records are not required at all times but must be available when required. In this case, use of the **write LOG-Files** function is not recommended. The PC and the **ThermoView** software do not have to run permanently. Proceed as follows:  
Insert a standard USB stick (max. 4GB) into the USB port of the control system. The system automatically writes all process data on the data carrier. The contents of the data carrier should be copied / burned onto a secure medium at least once per year. Delete the contents of the data carrier after this process and reconnect it to the USB port on the system.  
**Warning:** No data recording is available during this process period.  
In order to be able to use the data, proceed as described in chapter 5.2 if required.

### 5.2 Data Import (USB)

Process data produced by a control system on a USB data carrier must be copied in the **D:\ThermoView\USB** index. If **ThermoView** identifies this type of data, the **USB\_Import** button is activated in the software **settings**. The import process is started by pressing this button. After expiry of this process, the imported data is available in the same format as used by the software for online protocols. The imported data can now be handled in the same ways as the data in a standard record (refer to chapter 5.3).



### 5.3 Using the Batch Data



All recorded / imported data can be called up at any time. Please select the **temperature curve** entry in the menu to **process** and, in a new window, click on **load data** (F3).

In the index on the left, select the folder for the year of the required file. There are also other filter functions available in addition to selection of the year. For example, you can limit the selection to one or more control systems using the 8 tick boxes (if none of the boxes are ticked, all of the files are listed) or some of the records can be hidden by entering the data and sorting the results between the date and batch. In addition, a freely editable information box is displayed for each batch. Open the required file with a double click or with the combination of a single click (highlight) and pressing the **OK** button.

### 5.4 View / Process Batch Data

In the following, you will find a list of the possibilities this page offers:

- **Create or process additional information**  
*Double click on one of the information lines on the top right.*
- **Zoom function**  
*Use the function button with the corresponding name.*
- **List print function**  
*Use the function button with the corresponding name.*
- **Export function (CSV)**  
*Use the function button with the corresponding name.*
- **Print function**  
*Select file in the menu and enter **print** (printer name).*

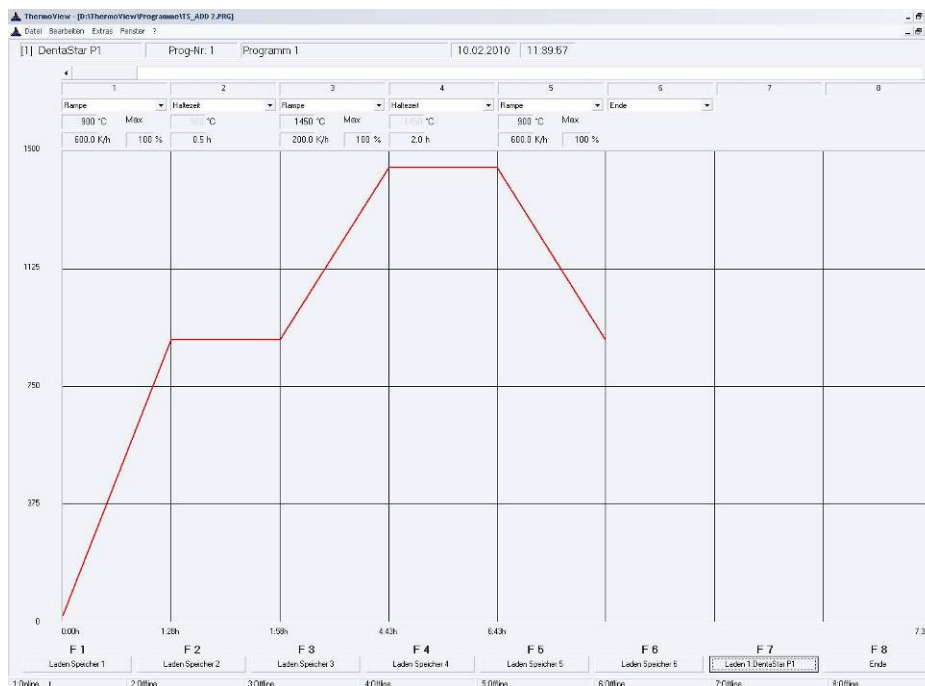


## 5.5 Create / Process Oven Program

The PC software has an editor which you can use to help you create programs, save them on the hard drive and load them into the program memory of the control systems. Of course, existing programs in the systems can also be read out.

In order to open the editor, click on **programs** in the **file** menu.

Select the control system for which you want to create or process a program in the pop-up window. If a program does not yet exist or if a new program should be set up, allocate a program number for the system selection on the right next to the field, press the **enter** button and then click on **open**.



The selected program is now opened for processing. In the editor, listed at the top horizontally from left to right, you will see the system number, the program number, the program name (can be edited) as well as the date and time of the last process. The 20 segments (steps) of the program are found beneath.

Select the required segment function using the respective pull-down fields. Depending on the segment function, the necessary information (target value, increase or hold time) is requested for the segment beneath the field.

Double click in one of the fields (the content is highlighted) and write the required value in the field. Proceed in this way until all necessary segments and fields have been adapted and the program has been fully entered. Terminate the program with another segment and the end function.

Once the first change has been made to the opened program, the **save** (F7) button appears on the right of the bottom edge of the screen. Click on this button to save the changed program to the hard drive. After saving, all of the other buttons are activated and display the names **load memory 1** to **load memory 6**.

These buttons copy the opened program into the corresponding program memory of the selected control system (displayed on the top left).





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## 6 Tips and Useful Information

**Tip 1:** *If you operate several of the same type of control systems with the same extent of functions, these can be programmed with the program data of a single oven.*

*Example:* **Denta-Star M2plus** on channel 1 of the software  
You have owned this equipment for a longer period of time and already created and saved several programs.  
You now want to integrate a **Denta-Star M2plus** or a **Denta-Star P1plus** on channel 2 of the software and use the same programs. To integrate the oven, simply enter the channel of which you want to use the program files in the **No. Prog. File** field.

**Tip 2:** *If you operate several control systems, you can change the displayed names of the individual channels on the settings page of the software in order to increase differentiation or to adapt an existing name allocation (your equipment).*

**Tip 3:** *In order to use the print function, a printer has to be installed on the PC. This does not have to be a "physical" printer. There are now several (free of charge) little tools on the internet (e.g. PDF Creator<sup>®</sup>) which, when installed, install a printer driver on the PC which produces PDF documents from almost any application using the normal print function.*

**Tip 4:** *If you use primary software for quality assurance or for process monitoring, you have the possibility of allowing a temporary text document to be created which contains all process data by activating the **write CSV-Files** function (on the settings page under the **write LOG-Files** function).*

**Tip 5:** *If the control systems and the PC with the **ThermoView** software are found in a networked environment with access to the internet, your network administrator can set up so-called remote access to this PC. This allows you to call up the status of your ovens from anywhere in the world from the comfort of your own sofa. The only requirement is access to the internet.*

**Tip 6:** *There are two cursors available in the views where measurement values are displayed as a curve (or curves).  
The horizontal cursor can be positioned using the right mouse button and, on both edges, provides the sum of measurement values at this position.  
The vertical cursor is placed using the left mouse button and provides the date, time and the actual measurement values at this point in time.*