Foreword

This manual presents installation and handling of CP Tools.
Besides this manual, the manual for CP Programmer is also available.
Foreword
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1 Introduction

CP Tools is a program package for Microsoft Windows for transferring data files and system programs between the personal computer and the terminal. The program works under Windows NT, Windows 2000 and Windows XP.

The package contains the following programs.

- CP Tools File Transfer - Program for transferring trend curves, alarm list and recipe data between the terminal and a personal computer.
- CP Tools System Loader - Program for loading a system program (OS) to the terminals.
- CP Tools Connect - Program for handling modem settings for modem connection between a personal computer and a terminal and also program for handling Passthrough mode communication between a personal computer and a controller via the terminal.
- CP Tools FTP Client - Program for transferring trend curves, alarm lists, recipe data, html files, Java applets and bitmaps between a personal computer and a terminal via FTP (File Transfer Protocol).
2 Installation

CP Tools is supplied on a CD. Place the CD in the CD-ROM reader to automatically start the setup of the programs. If the setup does not start automatically, select RUN from the Start menu and type D:\setup.exe (assuming that D: represents your CD drive). Follow the instructions to install CP Tools.

The setup will create icons to the CP Tools programs in the CP500 soft group. You will find the CP Tools programs by clicking on Start/Programs/CP500 soft/CP Tools. The manual can be read directly from the CD by clicking on Manuals.

2.1 Connecting the terminal to a PC

Use the cable recommended in the driver manual for the selected controller when connecting the controller to the terminal.

Note:
Turn the power off during the connecting procedure.
3 File Transfer

The program CP Tools File Transfer is used for transferring recipes, alarm lists and trend files between the terminal and a personal computer.

Select Start/Programs/CP500 soft/CP Tools/File Transfer to start CP Tools File Transfer.

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Note: The terminal must be running and connected to the PC.

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When the program starts the following window is displayed.

Select File/Save Settings to save the currently selected drive and subdirectory as the default setting for PC Files.
3.1 Transfer files from the terminal

The files in the terminal, trend, recipe files and alarm groups, are displayed in the Terminal Files window. You can transfer a separate file or all files in a directory (folder). Select the file or directory and click on the Rec button to transfer the files to the PC.

Refresh
The Refresh button is used to update the windows Terminal Files and PC Files.

Make directory
In the Recipe directory it is possible to create new directories. Select the Recipe directory and click on the button MkDir. Enter the name of the new directory in the dialog (maximum 8 characters) and click OK.

Select directories/files
Select all directories and files by marking the uppermost directory; the directory named as the terminal. If you mark the directory Recipe, Trend or Alarm you select all files in the marked directory. You can also select separate files.

Click on the + and - characters to open or close a directories.

Files in the terminal can be deleted using the Delete button.
3.2 Transfer files to the terminal

The files in the PC are displayed in the PC Files window. Only recipe files can be transferred to the terminal. Click on the files in the PC Files window to select one or more files. Select the Recipe directory in the Terminals Files window. Then click on Send to transfer all marked files to the terminal. The Delete Files button is used to delete selected files in the PC Files window.

Note:
Only recipe files can be transferred from the PC to the terminal.

3.3 Edit recipes

The function Edit Recipe is used to edit and create recipe files. Select the recipes file in the PC Files window and click on Edit Recipe.

Menu commands

- **New Recipe**: Clears all fields and starts a new recipe.
- **Open Recipe**: Opens an existing recipe.
- **Save Recipe**: Saves the recipe to disk.
- **Open Template**: Opens an existing template.
- **Save Template**: Saves the template text to a template file.
- **Exit**: Closes the edit dialog.
- **Help**: Displays the help file.

Note:
The setting File/Save Extended Format is not used.

Functions

- **Delete Row**: Deletes a row in the recipe.
- **Insert Row**: Inserts a new row in the recipe.
- **Exit**: Closes the edit dialog.
**Editing recipes**

A comment text for the recipe can be entered in the first column. This text can be saved to a file (template file) to be displayed automatically when the recipe is edited. The recipe template file is saved as a separate file, and cannot be transferred to the terminal. Values in the recipe can also be changed.

<table>
<thead>
<tr>
<th>Device</th>
<th>Value</th>
<th>Format</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>D02</td>
<td>1</td>
<td>String</td>
<td>1</td>
</tr>
<tr>
<td>D9</td>
<td>58</td>
<td>Signed 16 bit</td>
<td>1</td>
</tr>
<tr>
<td>D10</td>
<td>45</td>
<td>Signed 16 bit</td>
<td>1</td>
</tr>
<tr>
<td>D11</td>
<td>152</td>
<td>Signed 16 bit</td>
<td>1</td>
</tr>
<tr>
<td>M0</td>
<td>1</td>
<td>Digital Signal</td>
<td>1</td>
</tr>
<tr>
<td>END</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The **Device** column contains the controller device that holds the data. The **Value** column shows the actual data. The **Format** column is a specification of how the data is presented on the terminal display. The **Length** is a specification of the data length.

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**Note:**

Only the length for the string type can be edited. Other fields are either automatically updated or are fixed.

Right-click in column **Format** to enter a new data type.
3.4 Communication settings

Select Options/Comm Settings in CP Tools File Transfer. Select New to define the communication settings such as port, baud rate, data bits, stop bits, parity and phone number for communication via a modem. The communication settings must correspond to the settings made in the terminal project.

![Edit Phone Number dialog box](image)

**Name**
Enter a name of your choice (a description for the settings).

**Phone Number**
Enter the phone number for the modem to call (only if you are using a modem).

**Modem String**
This parameter cannot be stated in CP Tools File Transfer; only in CP Tools Connect.

**TimeOut**
Timeout for the communication. The value is stated in milliseconds.

**Port**
Select communication port for the PC.

**Baud**
Select baud rate.

**Parity**
Select parity.

**Bits**
The number of data bits. Select 8 bits.

**StopBits**
Select number of stop bits.
Field separator
Select field separator type; tab, semicolon or comma. When using CP Tools File Transfer the following file types can be generated:

*.txt format (tab separated values) if tab separator is selected,
*.skv format (semicolon separated values) if semicolon separator is selected and
*.csv format (comma-separated values) if comma separator is selected.

All terminals, the programming tool and CP Tools can handle tab, semicolon or comma separators (delimiter).

When using FTP transfer, the terminal will generate the txt/skv/csv files.
3.5 Start the program via the command line

CP Tools File Transfer can be started from the command line. This makes it possible to start the program from another application.

The following commands can be entered on the command line:

```
Filetran /R /W /D /RS /WS /DS /fFilename /All /Trend /Recipe /Alarm /C,x
```

**Use one of the following commands:**

- `/R` Receive file from the terminal
- `/W` Send file from the PC to the terminal
- `/D` Delete file in the terminal
- `/RS` Receive file from the terminal and stop the program when completed
- `/WS` Send file from the PC to the terminal and stop the program when completed.
- `/DS` Delete file in the terminal and stop the program when completed.

**Use one of the following commands:**

- `/fFilename` File name is the name of the (recipe) file to be sent to the terminal. For `/R` and `/RS` the file name is used without extension. For `/W` and `/WS` the file name must include the file extension (e.g. file.skv).
- `/All` Receive all files from the terminal.
- `/Trend` Receive all trend files from the terminal.
- `/Recipe` Receive all recipe files from the terminal.
- `/Alarm` Receive all alarms from the terminal
- `/C,x` x represents location in the phone book.

**Example:**

Typing `Filetran /R /Alarm /C,3` gets all alarm files from the terminal using phone book entry no. 3.
4 System Loader

This program is used to transfer a system program (operating system) to the terminal. Select Start/Programs/CP Tools/System Loader to start CP Tools System Loader.

When the program is started, the following window is displayed.

In the Files window the system program file (extension .bin) to transfer to the flash memory in the terminal is selected. Select File/Save Settings to save the currently selected drive and subdirectory as the default setting in the Files window.

The Status window shows the communication settings, the file name of the file to be transferred, the size of the program and the elapsed transfer time. The parameter Terminal shows current version of the system program in the terminal (after connecting) and the parameter Sends shows the version of the system program that is about to be transferred to the terminal.

The communication settings are stated under Options/Comm Settings. See section 4.1 Communication settings.

Select Send to start the transfer.
4.1 Communication settings

The PC

Under Options/Comm Settings transfer parameters are set.

![Settings Window]

Port
Select communication port for the PC.

Baud
Select baud rate.

TimeOut
Time out for the communication. The value is stated in milliseconds.

Using modem
Check Using modem if you are using a modem connection. Use with the latest terminal version and a transfer speed higher than 9 600 baud.

The terminal

If the transfer does not start, the terminal must manually be set in sysload mode. For further information see the manual for the terminal.

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**Note:**
The PC must be connected to a serial port on the terminal, serial or via a modem.

Start loading

When the terminal and the PC are connected and the transfer parameters are set correctly the system program can be loaded to the terminal.

Select Send.

The status parameters for the transfer are displayed in the status window.
5 Connect

The program CP Tools Connect is used to establish modem communication between a PC and a terminal with a connected controller, and also to activate/deactivate Passthrough mode communication with the controller connected to the terminal. Transparent/Passthrough mode supports only one controller at the time.

Select Start/Programs/CP Tools/Connect to start CP Tools Connect.

When the program is started, the following window is displayed.
5.1 Phone Connections

Click Edit in the Phone Connections square to define connections. The following dialog is displayed.

**Name**
Enter a name of your choice (a description for the settings).

**Phone Number**
Enter the phone number for the modem to call. Leave blank if no modem is used.

**Modem String**
State ATM codes (initiation string for the modem). The following string can be used for CP Tools File Transfer and CP Tools System Loader; otherwise see the manual for the modem.

`AT &C1 &D1 Q0 E0 &K3 S0=0 &W`

**TimeOut**
Time out for the communication. The value is stated in milliseconds.

**Port**
Select communication port for the personal computer.

**Baud**
Select baud rate.

**Parity**
Select parity.

**Bits**
Select number of data bits.

**StopBits**
Select number of stop bits.
5.2 Modem handling

The program opens up a serial connection via the modem (opens up the modem connection via the serial port). Other applications can then communicate with the terminal via the serial port.

Select phone connection in the Phone Connections square and click Connect in the Modem square to make a connection. Click Hang up to disconnect.

5.3 Passthrough mode handling

With CP Tools Connect is it possible to set the terminal to run in Passthrough mode. In Passthrough mode, the programming tool (for the connected controller system on a PC) can communicate with the controller system via the terminal.

The Passthrough mode function is common with the Transparent mode function, and supports, as Transparent mode, only one controller system, i.e. Passthrough mode can only be used at one of the terminal's communication ports.

For further information about Passthrough and Transparent mode, see the manual for the terminals.

When Passthrough mode is activated and the PC is communicating with the controller via the terminal, the communication between the terminal and the connected controller system will stop. The terminal is locked for the operator when Passthrough mode communication is in progress. Only the text “Passthrough” is shown on the terminal display.

The functions CP Tools and Transparent/Passthrough mode must be configured in the programming tool for the terminals. The functions must be connected to the same communication port on the terminal.

State a timeout value, Autostop timeout (s). If no communication occurs within the timeout, the terminal will leave Passthrough mode and turn to RUN-mode. If Autostop timeout is set to 0, Passthrough mode must be switched off manually (using CP Tools Connect).

- Select the controller for the PC to communicate with, Driver 1 or Driver 2.
- Start Passthrough mode by clicking Start.
- Shut down Passthrough mode communication (Passthrough mode in the terminal) and return to RUN mode by clicking on Stop.

Passthrough mode can be used both for a serial and or an Ethernet communication (needs COM/IP).
5.4 When to use CP Tools Connect for Passthrough mode

Passthrough mode can be used in two different ways:

The terminal will automatically start Passthrough mode communication when the PC starts to communicate with the port on the terminal that is associated with the Passthrough mode function if the terminal (the project in the terminal) is configured for Passthrough mode communication. In this case it is not necessary to use CP Tools Connect to start/activate Passthrough mode in the terminal. But CP Tools Connect can be used to stop/deactivate the Passthrough mode in the terminal. The terminal will then return to RUN mode.

The other case is when the terminal (the project in the terminal) is configured for Transparent mode communication together with support for Transparent mode in the driver. CP Tools Connect can then be used to start and stop Passthrough mode communication instead of Transparent mode.
6 FTP Client

CP Tools FTP Client is used to transfer recipes, trend files, alarm lists, html files, Java applets and bitmaps between the terminal and a PC via FTP (File Transfer Protocol). Select Start/Programs/CP Tools/FTP Client to start CP Tools FTP Client.

Note:
The terminal must be running, configured as an FTP server and connected to the PC.

When the software is started a connection has to be defined. This is made under Options/Comm Settings according to section 6.4 Communication settings.

When CP Tools FTP Client is started, the following window is displayed.

The program will show the terminal’s directory when clicking the Connect button.

Select File/Save Settings to save the currently selected drive and subdirectory as the default setting in the PC Files window.
6.1 Transfer files from the terminal

The files in the terminal are displayed in the Terminal Files window. A separate file or all files in a directory (folder) can be transferred. Select the file or directory and click on the Rec button to transfer the files to the PC.

Refresh
The Refresh button is used to update the windows Terminal Files and PC Files.

Delete files/directories in the terminal

Only files in the Recipe and HTML directories can be deleted (and files in the IMAGES directory for CP555). Select a file and click Delete. If you select a directory and click Delete, all files in that directory will be deleted. Only empty directories in the HTML directory can be deleted.

Make directory

In the HTML and RECIPE directories it is possible to create new subdirectories. Select the directory where the new subdirectory is to be created. When clicking the MkDir button, a dialog is shown. Enter the name (maximum 8 characters) for the new directory and click OK.

6.2 Transfer files to the terminal

The files are displayed in the PC Files window. Only files in the RECIPE and HTML directories (and the IMAGES directory for CP555) can be transferred to the terminal. Click on one or several files in the PC Files window to select them, and select a destination directory in the Terminals Files window. Then click Send to transfer all selected files to the terminal. The Delete Files button is used to delete selected files in the PC Files window.
6.3 Edit recipes

The function Edit Recipe is used to edit and create recipe files. Select the recipes file in the PC Files window and press Edit Recipe.

Menu commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Recipe</td>
<td>Clears all fields and starts a new recipe.</td>
</tr>
<tr>
<td>Open Recipe</td>
<td>Opens an existing recipe.</td>
</tr>
<tr>
<td>Save Recipe</td>
<td>Saves the recipe to disk.</td>
</tr>
<tr>
<td>Open Template</td>
<td>Opens an existing template.</td>
</tr>
<tr>
<td>Save Template</td>
<td>Saves the template text to a template file.</td>
</tr>
<tr>
<td>Exit</td>
<td>Closes the edit dialog.</td>
</tr>
<tr>
<td>Help</td>
<td>Displays the help file.</td>
</tr>
</tbody>
</table>

Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete Row</td>
<td>Deletes a row in the recipe.</td>
</tr>
<tr>
<td>Insert Row</td>
<td>Inserts a new row in the recipe.</td>
</tr>
<tr>
<td>Exit</td>
<td>Closes the edit dialog.</td>
</tr>
</tbody>
</table>

The recipe files must be saved in an internal format suitable for the terminal when using FTP transfer, see the manual for the terminals.

Note:
The setting File/Save Extended Format is not used.
Editing recipes

A comment text for the recipe can be entered in the first column. This text can be saved to a file (template file) to be displayed automatically when the recipe is edited.

The Device column contains the controller device that holds the data.

The Value column shows the actual data.

The Format column is a specification of how the data is presented on the terminal display.

Length is a specification of the data length.

Note:
Only the length for the string type can be edited. Other fields are either automatically updated or are fixed.

Right-click in column Format to enter a new data type.
6.4 Communication settings

Select Options/Comm Settings in CP Tools FTP Client to make communication settings such as name, URL/IP address, user name, password, proxy, binary and passive FTP syntax.

Click the New button to add a new connection.

Click the Edit button to change the settings for the selected connection. The following window is then displayed.

**Name**
Enter a name of your choice (a description for the settings).

**URL/IP-address**
Enter the URL or IP address for the terminal.

**User Name**
Enter the user name for the account on the FTP server.

**Password**
Enter the password for the account on the FTP server.
Proxy (No Cern)
Enter the name of the proxy server, if it is used.

Type - Binary/Ascii
Select binary (default setting) or ASCII transfer.

Passive FTP Syntax
Check Passive syntax if passive syntax is to be used. The box is checked by default.

Field separator (Recipe Editor)
Only for the recipe editor (see below). Make sure that this setting corresponds to the setting the terminal project.

Select field separator type; tab, semicolon or comma. When using CP Tools FTP transfer the terminal can generate the following file types:

*.txt format (tab separated values) if tab separator is selected,
*.skv format (semicolon separated values) if semicolon separator is selected and
*.csv format (comma-separated values) if comma separator is selected.

All terminals, the programming tool and CP Tools can handle tab, semicolon or comma separators (delimiter).

When using CP Tools File Transfer, the CP Tools File Transfer will generate the txt/skv/csv files.
FTP Client