Instruction Manual

VISAM Touchpanel

VTP-TC31 / VTP-TC51

A product of the

VBASE - HMI/SCADA – family

Dokument: **HB_VTPTC_31_51_v1.0e**

Version: 1.0, English

VISAM
Industrie IT

VISAM GMBH

Irlicher Straße 20
D-56567 Neuwied

Tel.: +49 (0) 2631 941288 – 0
Fax: +49 (0) 2631 941288 – 9

E-Mail: info@visam.de
Internet: http://www.visam.de

Technical Support
Tel.: +49 (0) 2631 941288 – 40

E-Mail: support@visam.de

We have taken all possible measures to ensure the correctness and completeness of this documentation. Despite all care, errors cannot be avoided and we would appreciate any information or ideas at any time.

We point out that the in the document used software and hardware terms as well as the trademarks of their respective companies are generally subject to trademark protection, trademark or patent protection.

Table Of Content

VISAM
▪▪▪▪▪▪▪▪▪▪Industrie IT

1 Important Explanation

To ensure the user a fast installation and startup of the described devices it is essential to carefully read and note the following instructions and hints.

1.1 Legal Bases

1.1.1 Copyright

This document including all images therein is copyrighted. Any use of this document that infringes the copyright provision is not permitted. Reproduction, translation into other languages as well as electronic and photo-technical archiving and alteration requires the written approval of VISAM GmbH, D-56567 Neuwied. Violations will be prosecuted with damage claims.
The VISAM GmbH reserves changes that serve the technical improvement.
All rights in the event of grant of a patent or utility model protection are reserved to VISAM GmbH. Foreign products are always named without referring to patent rights. The existence of such rights cannot be excluded.

1.1.2 Personnel Qualification

The construction of the following instruction and the usage of the VBASE-product family require basic knowledge about the used windows operating system and the used remote systems. (e.g. SPS)!

The in this document described product use is directed exclusively to professionals or trained personnel, who are also familiar with the valid standards.
The VISAM GmbH offers at request inexpensive training for the use of the here described products.

1.1.3 Intended Use

The systems are delivered from factory with the specific use case and with a dedicated hardware and software configuration. Alterations are only allowed in the context of the in the documentation featured possibilities. All other changes to the hardware or software and the non-conforming use of the systems nullify the liability of VISAM GmbH.

1.1.4 License Agreement

The usage of all in this documentation described programs and program parts are subject to the VBASE license agreement.

VISAM
Industrie IT

1.2   Range of validity

This document provides a general description, in conjunction with certain hardware and/or software. Note the latest and detailed descriptions accompanying the products!

1.3   Used symbols

⚠️	**Note** Information that should be noted to ensure a faultless and effective operation.
→	**Hint** Tips and hints for the efficient use of the system respectively system optimization.
⚡	**ESD** Warning of damage to the systems /components by electrostatic discharge. Precautions should be taken when handling electrostatically sensitive components.

2 Introduction

2.1 Regarding this document

This manual is intended to clarify the use of the VISAM TouchPanel devices („VTP"). In this document the device specific setting and possibilities are described.
The handling of the on this device installed VBASE HMI/SCADA software is described in a separate description.

2.2 The Article- and Model number

At this point a brief commentary on the article and model numbers of these VTP series is given.
The model number is rather general and serves as a rough identification of the VTP. The model number provides information about the operation system, the display size and the built-in version of the VTP.
The article number however contains even more information. In the following figure, the part of the article number is further explained.
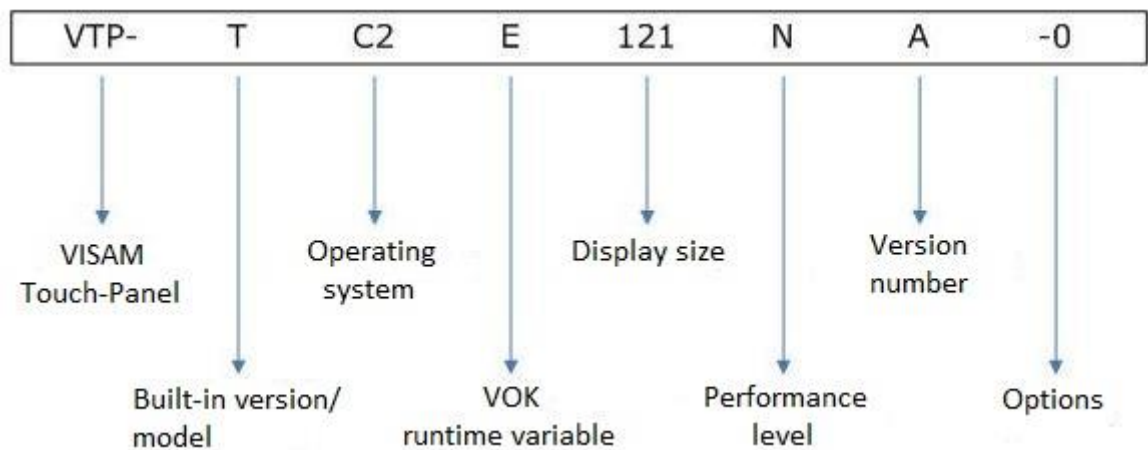

Figure 1 The information of the article number

VISAM
∎ ∎ ∎ ∎ ∎ ∎ ∎ ∎ ∎ Industrie IT

3   Specification

3.1   System data

VTP-TC31 / TC51
Processor (CPU): TI Cortex-A8 AM3517 600 MHz
Ram: DDR2 256MB on board
Data memory: 512MB on board microSD card, 1 x SD Card slot, 1Mbit FRAM for Data-Backup
LAN: Intel 10/100 Base-T Ethernetcontroller, IEEE 802.3
Watchdog Timer: Programmable as 250ms, 500ms, 1second

3.2   Interfaces

VTP-TC31
Serial Interface: 1 x RS232/RS-485 with auto data flow
Network (LAN): 1 x RJ-45 Ethernet
USB: 1 x USB 2.0 („Host")

VTP-TC51
Serial Interface: 2 x RS232 (COM1,2), 1 x RS 422/485 (COM3) with auto data flow
Network (LAN): 1 x RJ-45 Ethernet
USB: 1 x USB 2.0 („Host"), 1 x USB 2.0 („Client")

3.3   LCD Display

VTP-TC31
Display Type: QVGA TFT LED LCD
Size: 3,5"
Maximum Resolution: 320 x 240 Pixel
Brightness: 450 cd/m²
Contrast Ratio: 300:1
Viewing Angle (H/V): 160/140°
MTBF (Backlight): 30000 hours

VTP-TC51
Display Type: QVGA TFT LED LCD
Size: 5,7"
Maximum Resolution: 320 x 240 Pixel
Brightness: 800 cd/m²
Contrast Ratio: 800:1
Viewing Angle (H/V): 160/140°
MTBF (Backlight): 50000 hours

All
Maximum amount of colors : 64.000
Pixel size: 0.3075 x 0,3075 mm
Backlight: LED

3.4   Touchscreen

Type: Resistive
Controller: RS-232 Interface
Translucent: ~ 80%
Lifespan: 1 Million touches (onto a single point)

3.5   Power Supply

Supply Voltage: 18 ~ 32 VDC
Electricity demand (maximum): 8W/12W (at 24VDC)

3.6   Integrated Software

Operating system: Microsoft Windows CE6.0
HMI/SCADA: VBASE runtime environment
The integrated software is embedded software that may be only operated on the delivered hardware system!

3.7   Interface Arrangement

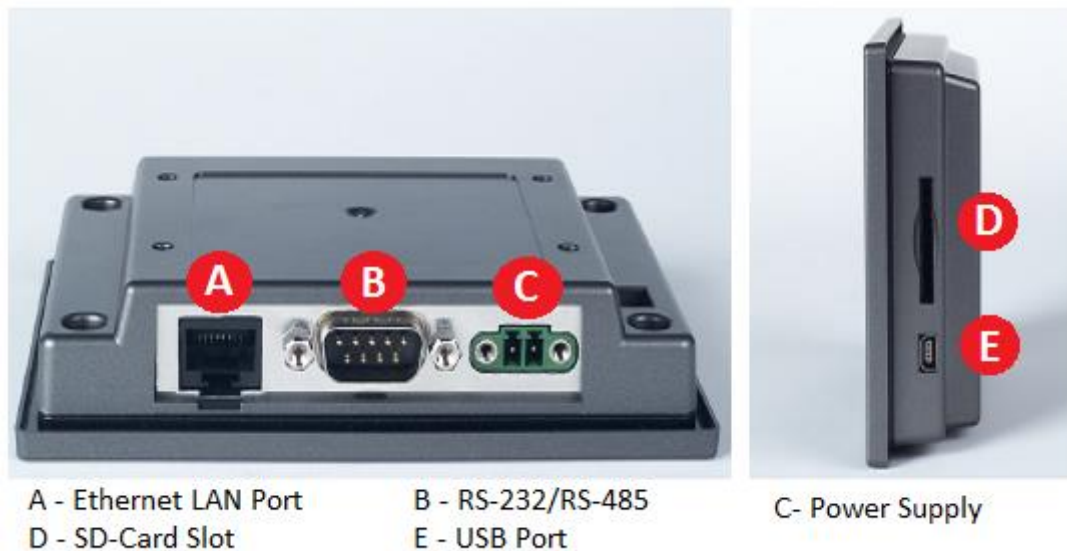The arrangements of the interfaces are depicted in the following figure:

A - Ethernet LAN Port
D - SD-Card Slot

B - RS-232/RS-485
E - USB Port

C- Power Supply

Figure 2 Interface Arrangement VTP-TC31
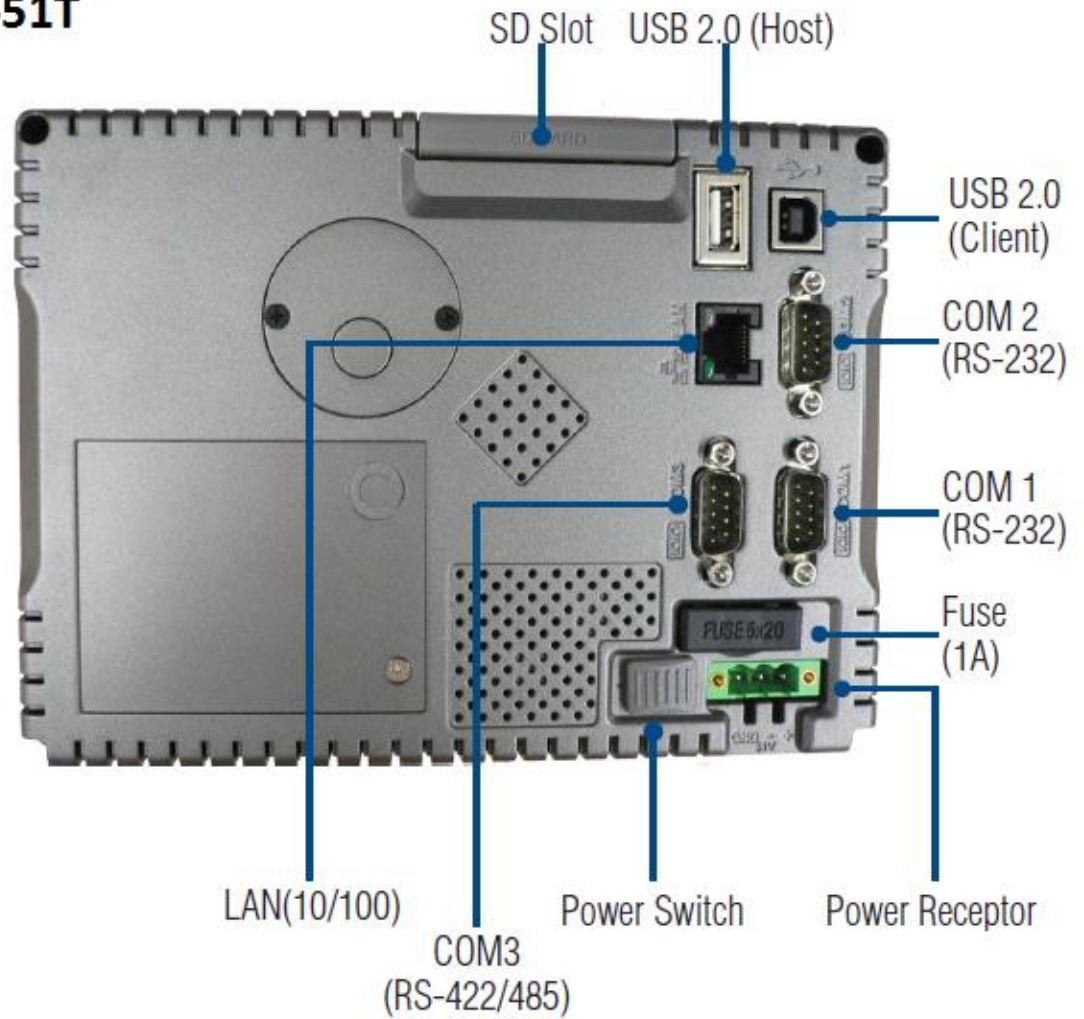
Figure 3 Interface Arrangement VTP-TC 51

3.8 Connection assignment

3.8.1 Power Supply
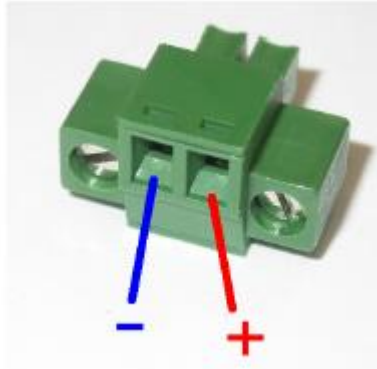
Figure 4 Plug Power Supply
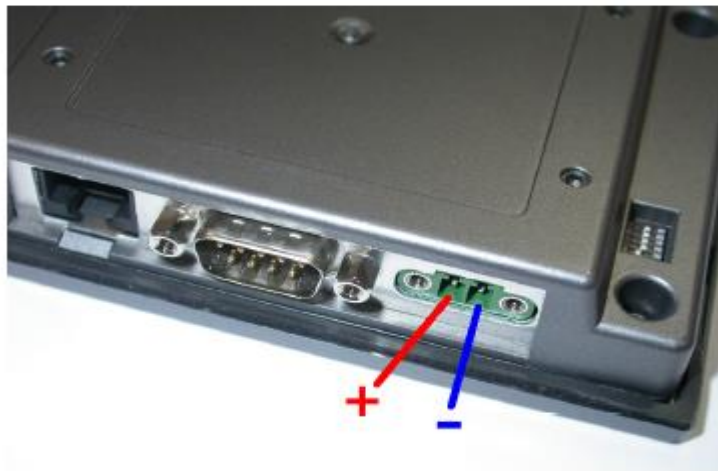
Figure 5 Socket Power Supply

3.9 Power Switch

At VTP-TC31 nonexistent. VTP-TC51 see figure 3

3.10 Environmental Conditions

Environmental Temperature (while operating): 0 ~ 50°C
Storage Temperature: -20 ~ 60°C
Humidity: 10 ~ 95% relative humidity (non-condensing)
Vibration Resistance: 1 grms (in average and while operating)

3.11 Safety

Safety front side: IP65 / NEMA 4
CE, BSMI, UL certificated
FCC Class A

VISAM
▪▪▪▪▪▪▪▪▪▪▪*Industrie IT*

4 Software-Settings

4.1 Setup / Changing of the network (IP)-address

To change the network-address of the device, follow these instructions:
Open the windows start-menu << Settings. Select the point "Network and Dial-Up Connections".
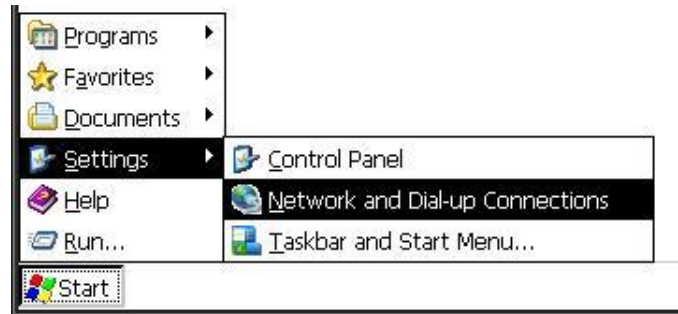
Figure 6 Windows Start-Menu

Figure 7 Connection

Here open the property of the network card by a double click on its name, here „IAG81681".

Figure 8 Ethernet-Setup

In the now opened property-window insert the desired network „IP-address", „Subnet Mask", and if needed the „Default Gateway". In the second tab „Name Servers" the IP-address of the „DNS-Server" and the „WINS-Server" can be inserted. Confirm the input by clicking on „OK" (top right). Close the window „Network and Dial-Up Connections".

> ⚠️ Save your settings by saving the „Registry" as described in the following section!

4.2   Save changes to settings permanently

If you make changes in the area of the operating system (e.g. network- or display-settings) please note that after each change, the registry file „Registry" must be saved. **If not, all changes are lost at the shutdown respectively restart of the device!**

The tool for the permanent saving of the registry "Registry Saver" can be found in the Start-Menu >>"Programs" >> "Tools".
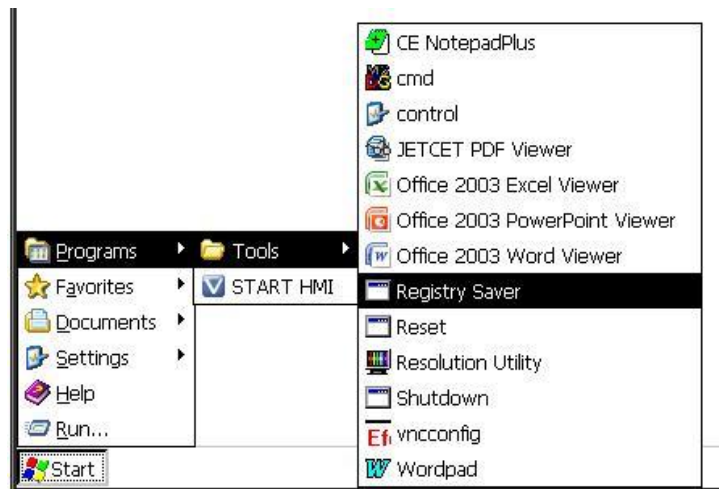

Figure 9 Registry Saver

After saving the registry a confirmation is shown by the program.

Figure 10 Confirmation about the saving of the registry

VISAM
■ ■ ■ ■ ■ ■ ■ ■ ■ *Industrie IT*

4.3   Automatic Startup of the HMI-Application

The VBASE-HMI-runtime environment (VOK) starts automatic after starting and booting of the device.
Was the HMI-Application and as such the runtime environment shutdown, it can be restarted with the help of the icon "START HMI" respectively by selecting it from the Start-Menu > "Programs" without having to restart the whole device.

The runtime environment with all accessories is located (ex-factory) in the directory:
"\HardDisk\VOK\"

4.4   FTP-Server, Data Transmission

The device features an integrated FTP-server which enables a simple data transfer with the device.
Please note that the FTP-Server is configured ex-factory in a way that after inputting username and password, full access to the device is granted.
To restrict the accesses respectively to secure the device against unauthorized usage, the on the device installed VTP-Tool (see section 4.10) can be used.

The default settings ex-factory are:
IP-Address: Default = DHCP (the device tries to retrieve an IP-address from the DHCP-server).
User: admin
Password: visam
FTP-Directory: /Harddisk/

The FTP-Server is also used by the VBASE-Editor for the transmission of projects and the setup of the device (see Help-system of the editor).

4.5 **Touchscreen Calibration**

It is possible to recalibrate the Touchscreen controller of the VTP from time to time. A recalibration is needed if the mouse cursor is not displayed at the touch point, but at a different position.

To calibrate select from the Start-Menu: „Settings" >> Control Panel and then the program „Stylus".

A window with two tabs opens.
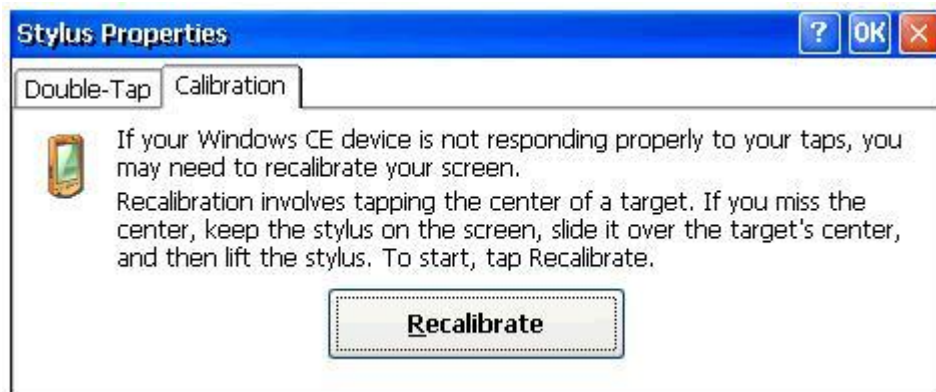

Figure 11 Touchscreen Calibration

Double-Tap – setting up the double-click speed
Calibration – to recalibrate the touchscreen

Follow the instructions on the screen and touch the corresponding calibration points successively on the touchscreen.

Save your settings by saving the „Registry" as described in the section „Save Changes to settings permanently"!

VISAM
∎∎∎∎∎∎∎∎∎∎ *Industrie IT*

4.6   Remote control of the device via network

To remote control the device for a comfortable setup and maintenance, the application „VNC-Server" is available. Ex-factory the license-free tool "Efon VNC" is installed on the device.

On the PC-system from which you want to connect to the panel, a compatible VNC-Viewer (e.g. UltraVNC) must be installed and a network connection must be established

Ex-factory the VNC-Server is provided with a default-password („visam"). At the connection establishment the password will be queried.

Figure 12 VNC-Connection Establishment Remote Control

After the successful connection establishment the surface of the device can be used in a window (the VNC-Viewer) on the PC-system.
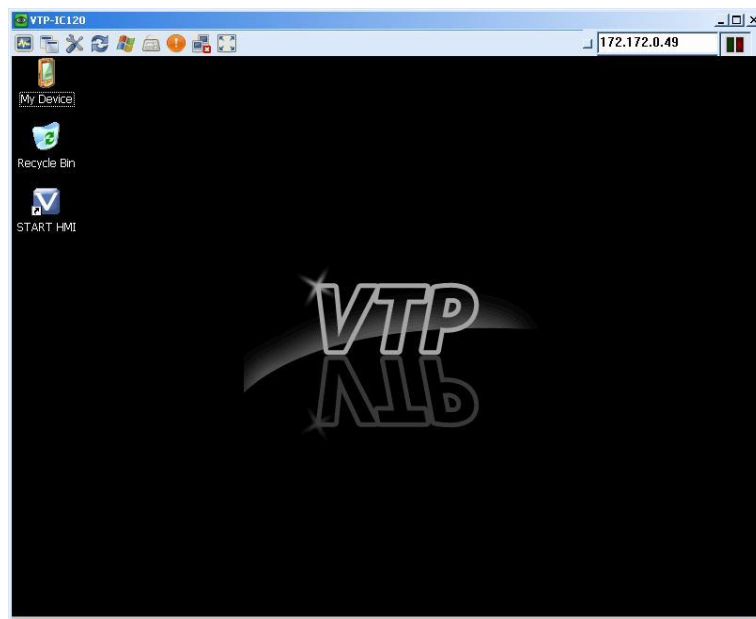

Figure 13 Remote-Desktop

Within this window the VTP (depending on the settings of the VNC-connection) can be remotely controlled with the mouse and the keyboard.

The password and additional settings for the VNC-Server respectively the VNC-Connection can be changed according to your needs with the help of the program „vncconfig". The VNC-Server is configured ex-factory that you don't need to make any changes. The program "vncconfig" can be found in the Start-Menu >> „Programs" >> "Tools".
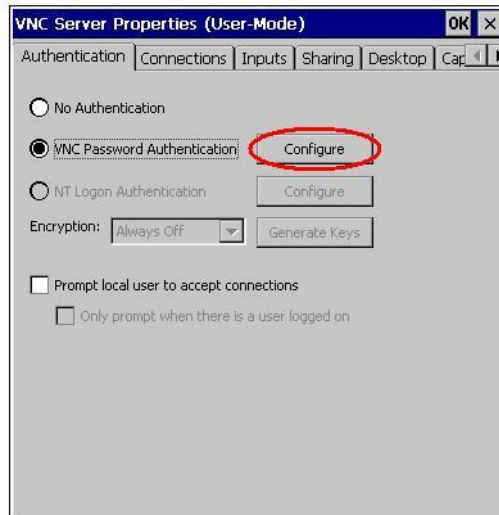
Figure 14 VNC-Server Settings

The password of the VNC-Connection can be changed by clicking the button „Configure" (see Figure 12).

Save your settings by saving the „Registry" as described in the section „Save Changes to settings permanently"!

4.7 Connect network share

A VTP can be connected to a PC-system respectively a server in a network to directly transmit data to these (e.g. Journaling).

To connect the VTP with a shared drive or directory on a to the network connected system, proceed as follows:
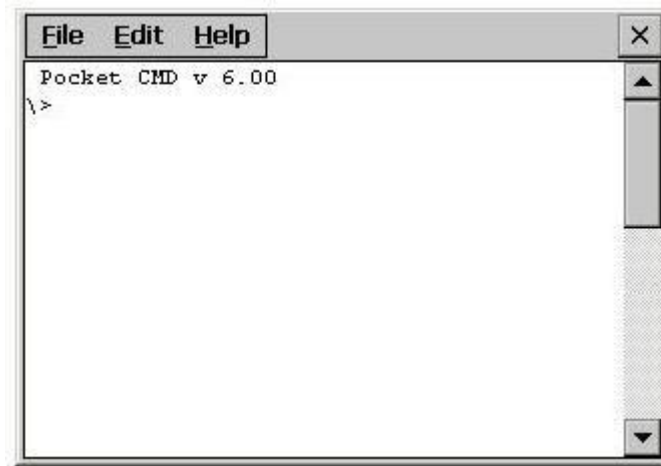
Select in the Start-Menu >> „Programs" >> „cmd".

Figure 15 Prompt

Enter here the following commands:

"**net use share-name \\servername\share /user:<user> /password:<password>**"

„share-name" – represents individual used name for the share.

„\\servername\share" – describes the share on a distant device.

„<user>" – represents the name of the user, who has the authorization to use the share.

„<password>" – Represents the password which is used for the user that has the authorization to use the share.

After the successful input the share can be found "My Device" >> "Network" >> "share-name".

⚠️ Save your settings by saving the „Registry" as described in the section „Save Changes to settings permanently"!

4.8   Buzzer Settings

The VTP-TC31/51 Panel Computers feature a buzzer setting under Windows CE. This function extends the Touchscreen operation by an additional acoustic component by adding a beep-sound at any touch on the Touchscreen. To de- or activate this function follow "Start" -> "Settings" -> "Control Panel" -> "Volume & Sounds".

Here additional settings regarding the acoustic feedback can be adjusted e.g. the volume or when a beep-sound should be played.

4.9   Additional Settings in Windows CE

The installed operating system allows a series of additional settings which will not be considered in this description.

> Always save your settings by saving the „Registry" as described in the section „Save Changes to settings permanently"!

4.10   Tools

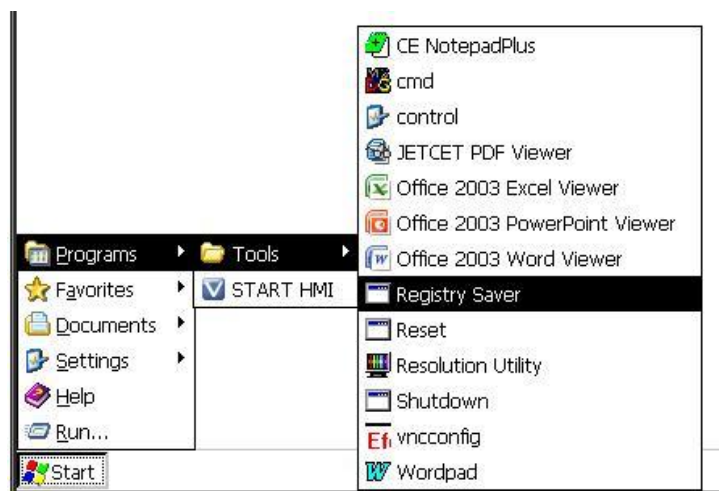In the menu „programs"–„Tools" some helpful programs can be found:

Figure 16 Tools in the menu „Tools"

4.10.1   The Tool CE NotpadPlus

„CE NotepadPlus" is a simple text editor for Windows CE.

4.10.2   The Tool cmd

„cmd" provides the prompt of the operating system Windows.

4.10.3   The Tool control

„control" opens the settings-directory of the operating system Windows CE.

4.10.4   The Tool JETCET PDF Viewer

„JETCET PDF Viewer" is as simple program to read PDF-files.

4.10.5   The Tool Office 2003 Excel Viewer

„Office 2003 Excel Viewer" is a program for the viewing of XLS- and XLT-files (Microsoft Excel).

4.10.6 The Tool Office 2003 PowerPoint Viewer

„Office 2003 PowerPoint Viewer" is a program for the viewing of PPT- and PPS-files (Microsoft PowerPoint).

4.10.7 The Tool Office 2003 Word Viewer

„Office 2003 Word Viewer" is a program for the viewing of RTF- and DOC-files (Microsoft Word).

4.10.8 The Tool Registry Saver

„Registry Saver" saves the registry (see chapter 4.2).

4.10.9 The Tool Reset

„reset" executes a restart (warm start) of the system.

4.10.10 The Tool Resolution Utility

„Resolution Utility" is a program with which the resolution of the monitor can be adjusted.

4.10.11 The Tool Shutdown

Was previously used in older versions and is now no longer needed, as the devices can only be reset.

4.10.12 The Tool vncconfig

„vncconfig" opens the configuration of the VNC-Server (see also chapter 4.6).

4.10.13 The Tool Wordpad

„Wordpad" is the Microsoft Text Editor for Windows CE.

4.11 VTP Tool

4.11.1 General

With the „VTP Tool" a tool is provided that can adjust a series of system-settings on your VTP.

In the following chapters the possibilities of these programs are described.

⚠ Always save your settings by saving the „Registry" as described in the section „Save Changes to settings permanently"!

To open the program double-click the symbol „My Device" on the desktop of the VTP. In the now open window double-click on the symbol "HardDisk". In the next view the program "VTP Tool" can be found and opened by double-clicking. After starting the program the following surface appears:
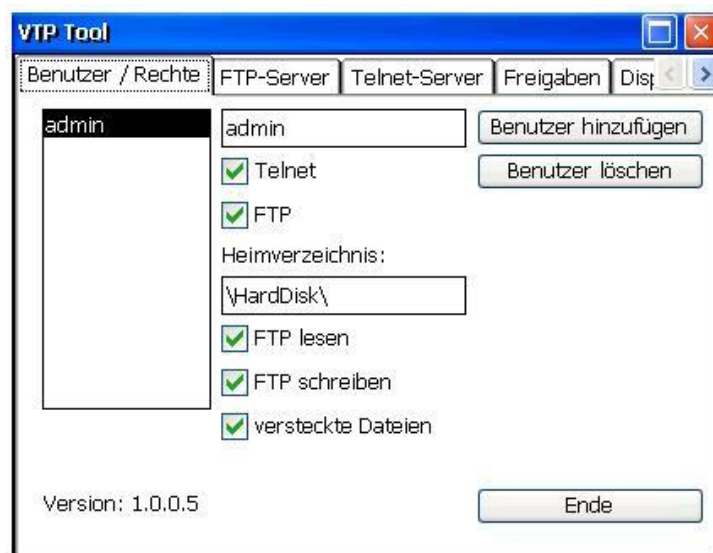

Figure 17 VTP Tool Start Picture

In the top area of the program window five tabs are lined up, which contain the different setting options.
By clicking the corresponding tab the view changes accordingly.
As in the figure 17 depicted the last tab cannot be completely displayed. But the tabs can be moved by clicking the small arrows in the top right.

Requirements for the functionality of the VBASE-runtime environment:
The following settings should not be changed at all. They are part requirements for the VBASE-project transmission from and to the VBASE-runtime environment (VOK).
Firstly, the FTP-Server must be activated that a VBASE-project (files) from the VBASE-Editor can be transmitted to the VTP or vice versa. On the other hand the Telnet-Server must be activated. This is necessary so that the VBASE runtime environment can be stopped by the VBASE-Editor for example before transmitting a VBASE project and subsequently be restarted.

VISAM
▪▪▪▪▪▪▪▪▪▪ *Industrie IT*

At the delivery of the VTP the FTP-Server and the Telnet-Server are both activated with all options. The FTP-Server has also a default directory specified. This is the directory which is accessed by default when connecting via a FTP-Connection (even anonymous, if this option is checked). This directory must contain the folder "VOK". Both connection types can be specified, if they can be processed password-protected or anonymous. If you decide to password-protect the connections (the option „Use user login" must be activated) ensure that the corresponding user has the required authorizations. In this case it is advised to deactivate the option for the anonymous access to the FTP-Server.

4.11.2 User / Authorizations

This tab features the user administration for your VTP. Here you have the possibility to create new user, change user authorizations or to delete user. To change the password of an user, create the user another time but enter another password. The settings for the user remain. The user „admin" is already created at delivery. The password for the user „admin" is „visam". So the user „admin" is already shown in the list (see figure 17).

Add user:
To add a new user click on the button „Add User". Another window opens up in which the new user-name and the corresponding password can be entered. (see figure 18). Note that the user password will be displayed in clear text.
As soon as you click in one of the input fields a small window with a desktop-keyboard appears - the „Input Panel". With the help of this keyboard you can directly process the inputs on the VTP if you do not remotely control the device.
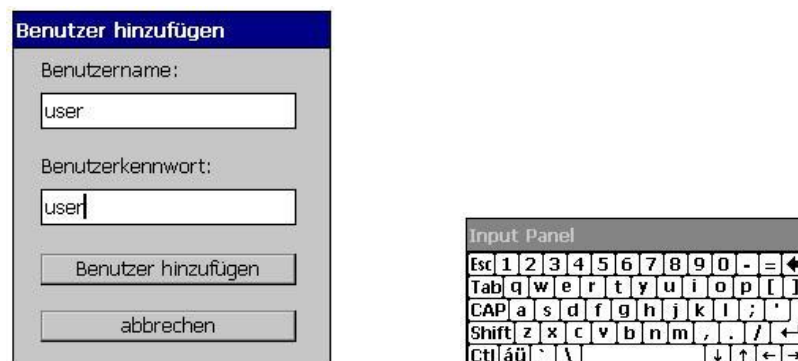

Figure 18 VTP Tool - creation of a new user and the „Input Panel"

Confirm your inputs by clicking on the button "Add User". The window will be closed and the new user will be inserted in the first place of the list (see figure 19). Additionally the home directory ("\Harddisk\") will be inserted automatically. This directory is the default directory on the VTP on which the user has access via the FTP-connection. At this point the access can be restricted to another directory.

Change of user authorizations:
To change the authorizations of a user the corresponding user must be selected by double-click from the entry of the list. The selected user is then displayed with a black frame (see red highlight in figure 19). Now the authorizations of this user can be changed. It can be determined if this user has access to the VTP via FTP- or Telnet-connection. The setting of these authorizations respectively their functionality require the activation of the Telnet- respectively the FTP-server on

the VTP (see chapter 4.10.3 and 4.10.4). If the user was granted access via FTP-connection, the input field „Home directory" must be edited to the directory to which the user should have access to. The default-home directory („\Hardisk\") is automatically inserted when creating a new user. This entry can be changed according to your needs. By clicking into the input field the „Input Panel" will be shown, to directly allow inputs on the VTP.

Additionally the access authorizations of the FTP-connection of the user can be restricted. Thereby the option "FTP read" means a read-access to the home directory. The option "FTP write" allows the user to write files into the home-directory and to change or delete existing files. If the option "hidden files" is checked, the user can see all hidden system-files in this directory and is able to change and/or delete them.
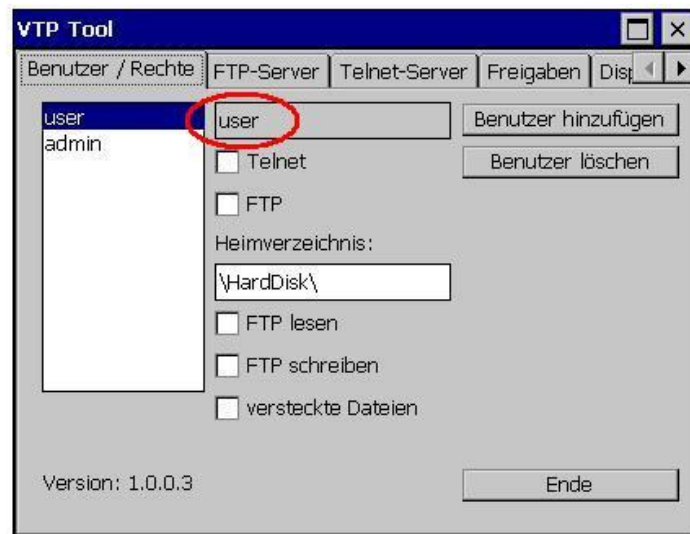

Figure 19 VTP Tool – change of user authorizations

Delete user:

To delete a user the corresponding user must be selected with a double-click from the entry in the list. The selected user will then be displayed with a black frame (see red highlight in figure 19). Now click on the button "Delete user". The corresponding user will be deleted from the list.

4.11.3 FTP-Server

Figure 20 VTP Tool FTP-Server settings

In this tab the „global" settings for the FTP-server can be determined. The first option activates – if checked – the FTP-server on this VTP. This and the fourth option are prerequisites that user, which were granted FTP-access, can properly use these authorization.

The second option allows an anonymous user to establish a FTP-connection to the below stated default-directory. Neither a user name nor a password must be specified.

The third option allows an anonymous user to write files into the default-directory.

The fourth option allows besides an anonymous FTP-connection to the default-directory also the FTP-connection to the home-directory with a corresponding user login.

The entry in the input field „Default-directory" determines the directory to which an anonymous user has access to.
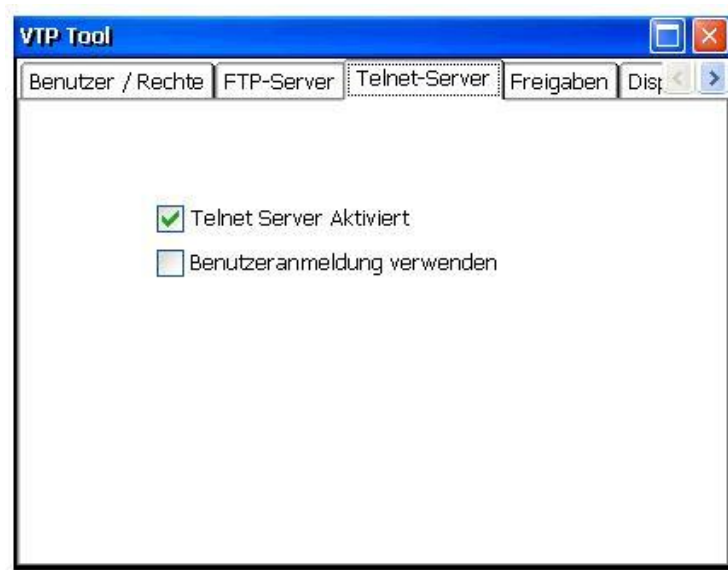
4.11.4 Telnet-Server

Figure 21 VTP Tool Telnet-Server settings

In this tab the „global" settings for the Telnet-server can be edited. The first options - if checked – activates the Telnet-server on this VTP. This option allows the Telnet-access to the VTP without specifying any user information. This function is required to start or stop the VBASE-runtime environment (VOK) via the VBASE-editor
The second option restricts the access to the VTP via Telnet to the users, that have the corresponding authorization for the Telnet-access. If this option is checked, a user login is required for the Telnet-access.

4.11.5 Display Settings

This function is not available for this product type (VTP-IC-31/51) within the application „VTP Tool". But you have the possibility to shut down the monitor after a given (adjustable) time with the tool "BacklightController".

VISAM
∎∎∎∎∎∎∎∎∎*Industrie IT*

5   Appendix

5.1   Fuse

These VTP are protected against electrical damage by a fuse.
Specification of the Fuse: 250VAC, 5A
Size: 6,1 x 2,59 x 2,59 mm

 The fuse is triggered if a voltage > 29VDC is applied.

5.2   Change fuse

To change the fuse of VTP-TC 51 open the fuse cover (right next to the power switch).
A change of the fuse of VTP-TC 31 is not possible without opening the case of the device.

5.3 PIN assignment of the serial interface

5.3.1 Serial Interface RS-232/485 (COM1, COM2)

Pin No.	Description
Pin 1	DCD
Pin 2	Rx
Pin 3	Tx
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	RI
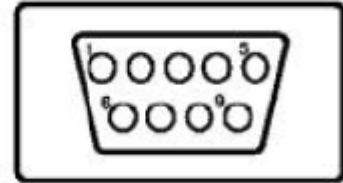
Figure 22 RS-232 (COM1 / COM2)

Pin No.	Description
Pin 1	No Connection
Pin 2	DATA +
Pin 3	DATA -
Pin 4	No Connection
Pin 5	GND
Pin 6	No Connection
Pin 7	No Connection
Pin 8	No Connection
Pin 9	No Connection
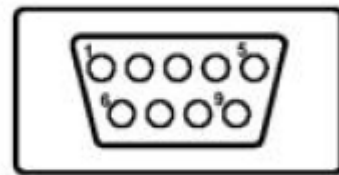
Figure 23 RS-485 (COM3)

VISAM
······· *Industrie IT*

5.4   Dimension and weight

5.4.1   Weight

Weight: 0,25 kg / 0,8 kg

5.4.2   Dimension / Cut out

VTP-TC31
Dimension: 120,79 x 85,5 x 26,5 mm (width x height x depth)
Cut out: 115 x 79,5 mm
Maximum thickness for panel mounting: < 6mm

VTP-TC51
Dimension: 195 x 148 x 44,4 mm (width x height x depth)
Cut out: 189 x 142 mm
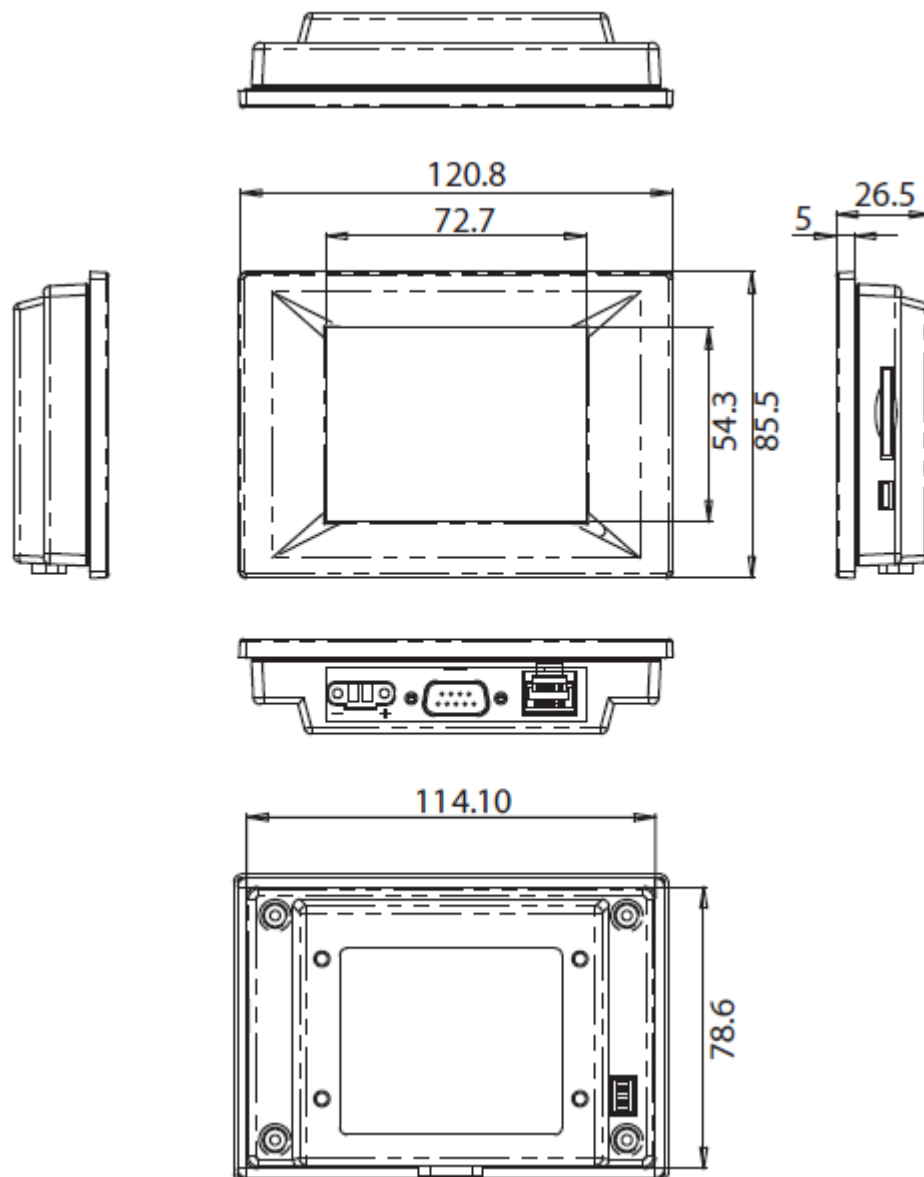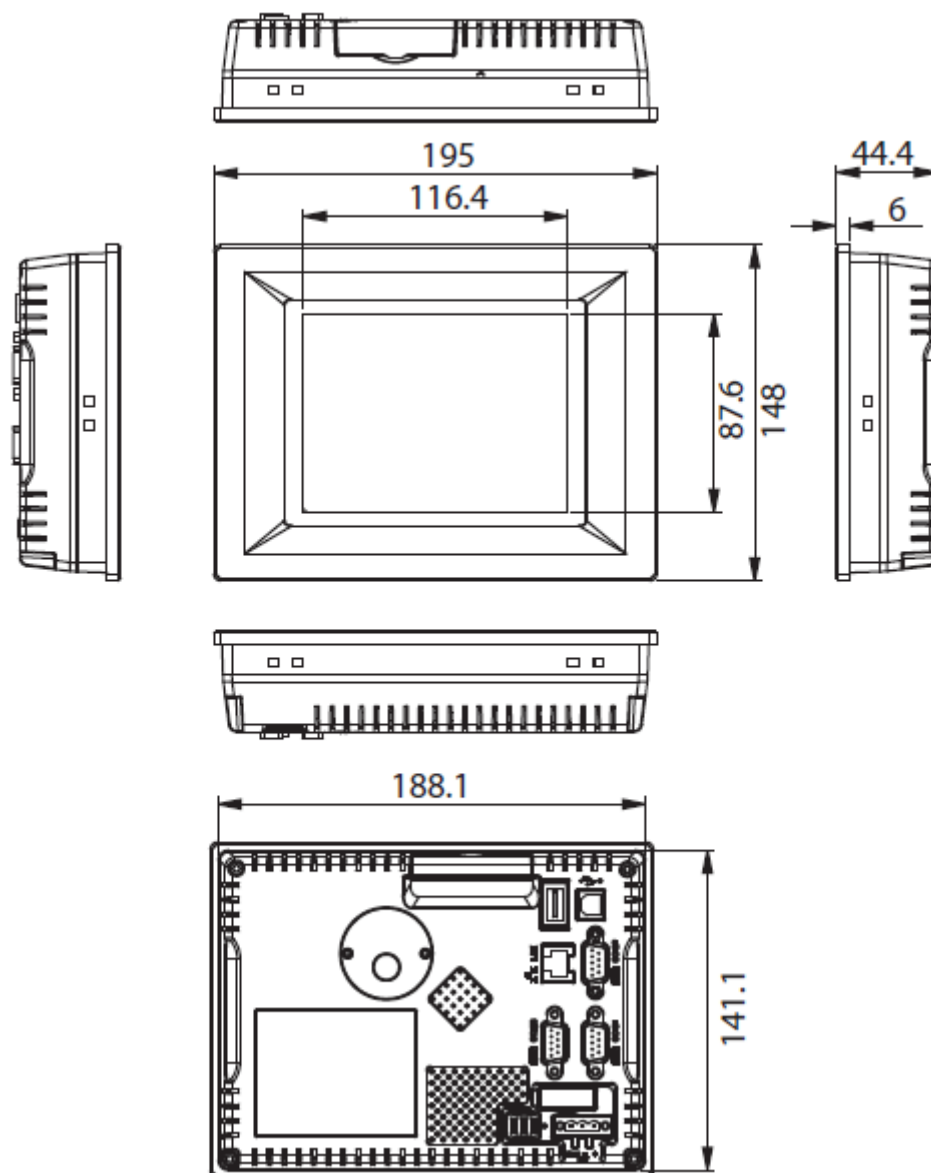**Maximum thickness for panel mounting:** < 6mm

Figure 24 Panel mounting

Figure 25 Cut out VTP-TC31

Figure 26 Cut out VTP-TC51

5.5 Illustration directory

VISAM
∎ ∎ ∎ ∎ ∎ ∎ ∎ ∎ ∎ *Industrie IT*