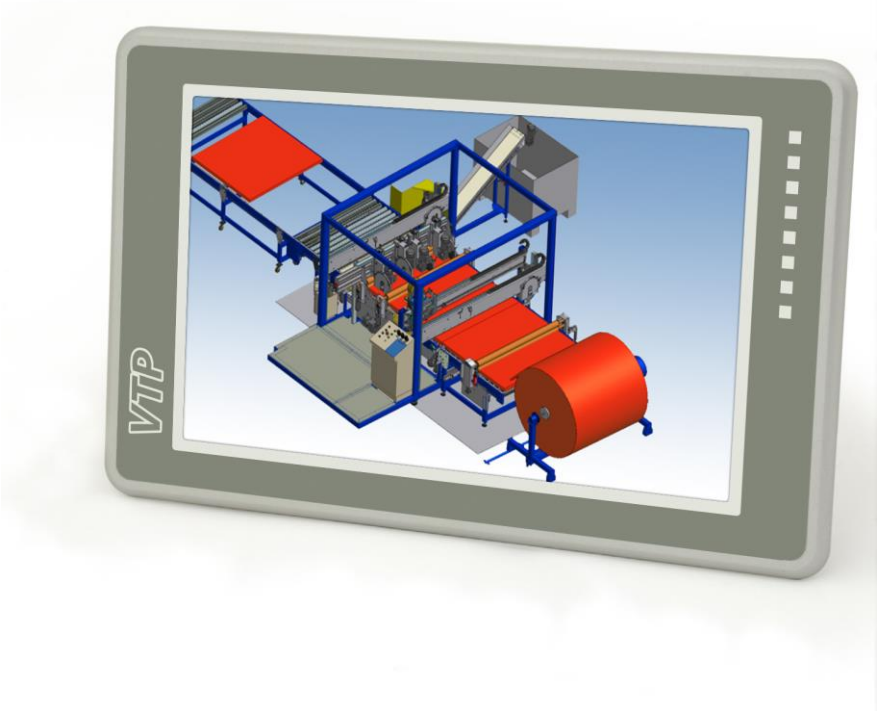
Instruction Manual

VISAM Touchpanel



VTP-IC57 / VTP-IC70

VTP-UC57 / VTP-UC70

A product of the

VBASE – HMI/SCADA – family

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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

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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

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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.

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.

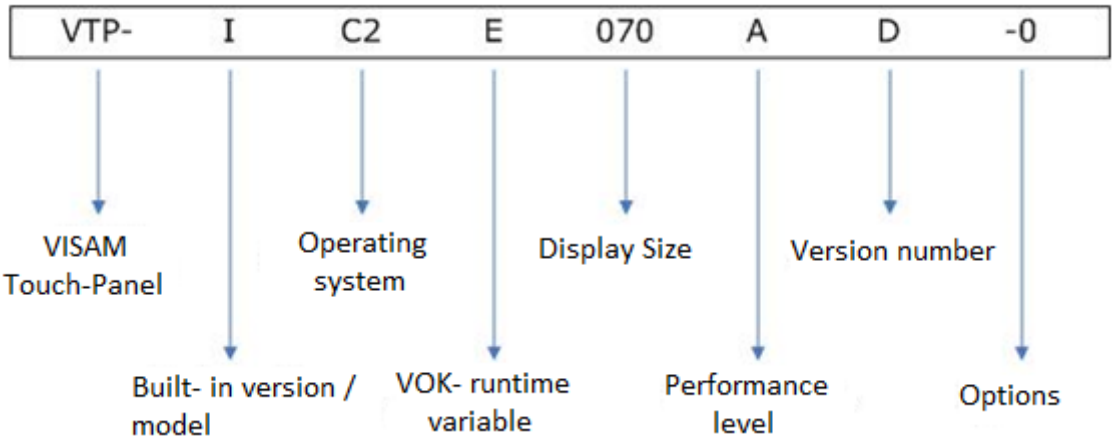

Figure 1 The information of the article number

3 Specification

3.1 System data

Processor (CPU): Freescale ARM1136JF-S™ i.MX35
Graphic (VGA): CPU integrated
Ram: 128MB DDR SDRAM (integrated)
Data memory: 256MB (NAND-Flash)
LAN: 10/100 Base-T Ethernet-Controller
Memory module slot: 4 bit MMC/SDIO/SD/SDHC up to 4 GB

3.2 Interfaces

Serial Interface: 2 x RS232 (COM1, COM2), 1 x RS485 (COM3)
Network (LAN): 1x 10/100 Mbit/s Ethernet (RJ45)
USB 2.0: 1x 12 Mbit/s Full-Speed "Host" (Type A), 1x 480 Mbit/s High-Speed OTG (Type Micro-AB), max. Output 500 mA

3.3 LCD Display

VTP-IC57 / UC57
Display Type: VGA TFT LCD
Size: 5,7"
Maximum Resolution: 640 x 480 Pixel
Maximum amount of colors: 65.536
Active Surface (width x height) : 115,2 x 86,4 mm
Viewing Angle (H/V): 140°/100°
Brightness: 400 cd/m²
Backlight (Type): LED
MTBF (Backlight): 20.000 hours

VTP-IC70 / UC70
Display Type: WVGA TFT LCD
Size: 7,0"
Maximum Resolution: 800 x 480 Pixel
Maximum amount of colors: 65.536
Active Surface (width x height): 152,4 x 91,44 mm
Viewing Angle (H/V): 140°/120°
Brightness: 400 cd/m²
Backlight (Type): LED
MTBF (Backlight): 30.000 hours

3.4 Touchscreen

Typ: 4-wire analog-resistive
Translucent: ~ 70%
Lifespan: 1 million touches (with the finger)

3.5 Power Supply

Supply Voltage: 12 / 24 VDC / PoE
Electricity demanf (maximum): typical: 310 mA at 12VDC)

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:

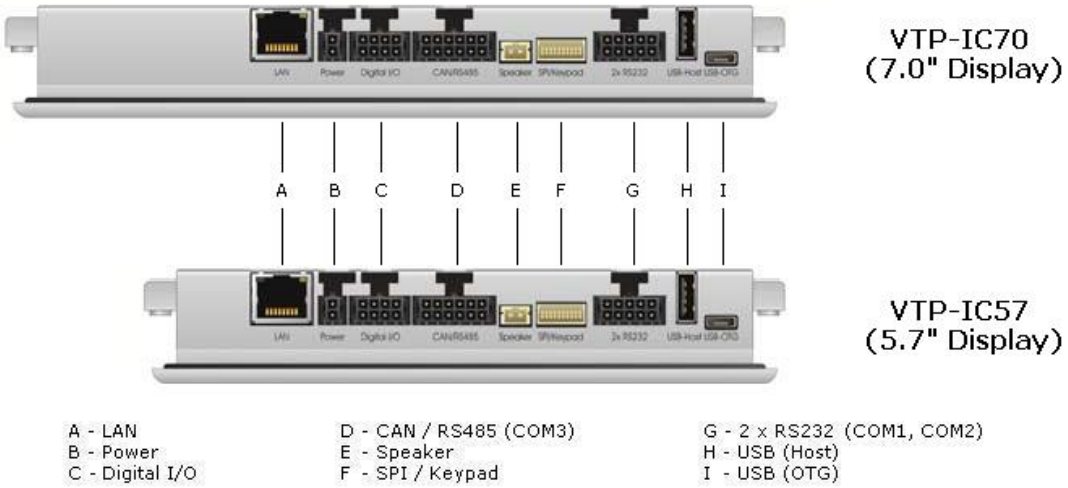

Figure 2 Interface Arrangement of devices since version number D

3.8 Connection assignment

3.8.1 Power Supply

PIN No.	Description	
Pin 1	GND	Ground
Pin 2	Vcc_In	Input voltage (12/24V)

Figure 3 Plug Power Supply

Required material: **Plug:** Molex_43025-0200 Micro-Fit 2p,
Crimp contact: Molex 43030-0007

3.9 Power Switch

These devices do not have power switches.

3.10 Environmental Conditions

Environmental Temperature (while operating): 0 ~ +60°C
Storage Temperature: -20 ~ +70°C
Humidity: 95% relative (non-condensing)

3.11 Safety

Safety front side: IP65
Safety back side: IP20
Chemical resistance (front film): Alcohol, ethanol, dilute acid, diluted alkalis, esters, hydrocarbons, ketones, commercially available household cleaners.

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".

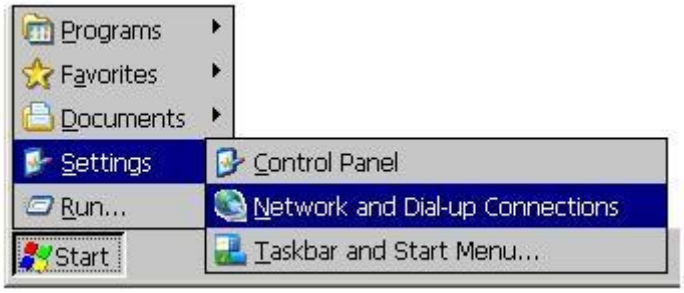

Figure 4 Windows Start-Menu

Figure 5 Connection settings

Here open the property of the network card by a double click on its name, here „FEC1".

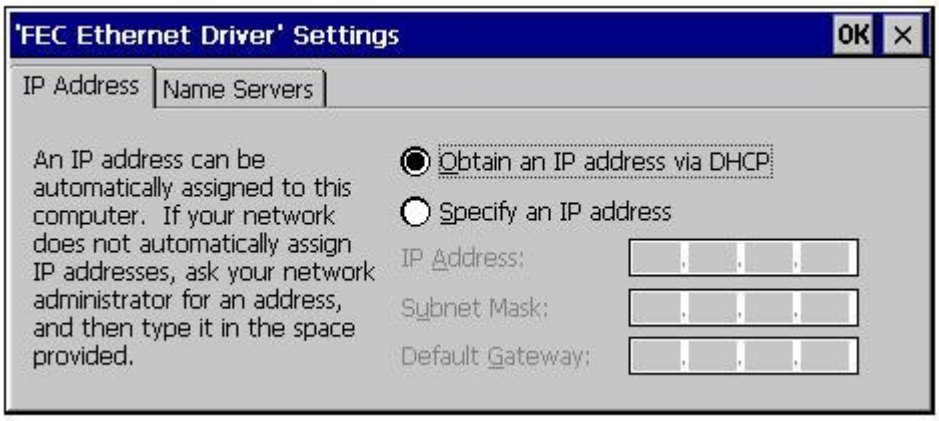

Figure 6 Ethernet-settings

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".

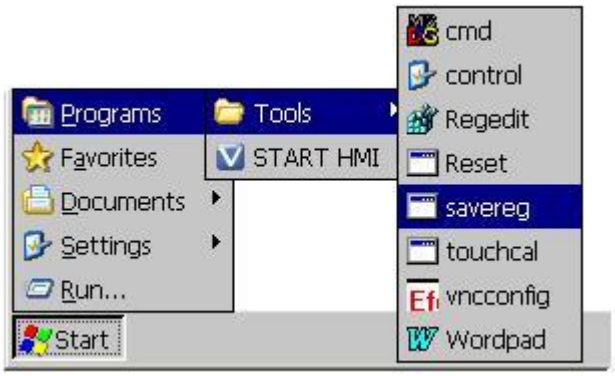

Figure 7 Save registry „savereg"

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

Figure 8 Safety query „savereg"

Confirm this query with „OK" to save all current changes permanetly.

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.

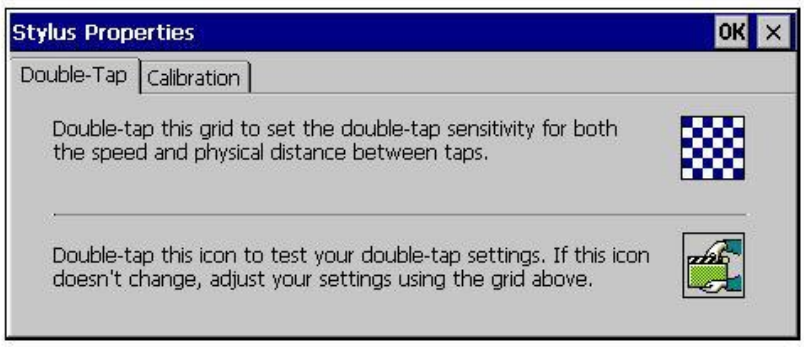

Figure 9 TouchScreen Calibration

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"!

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 10 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.

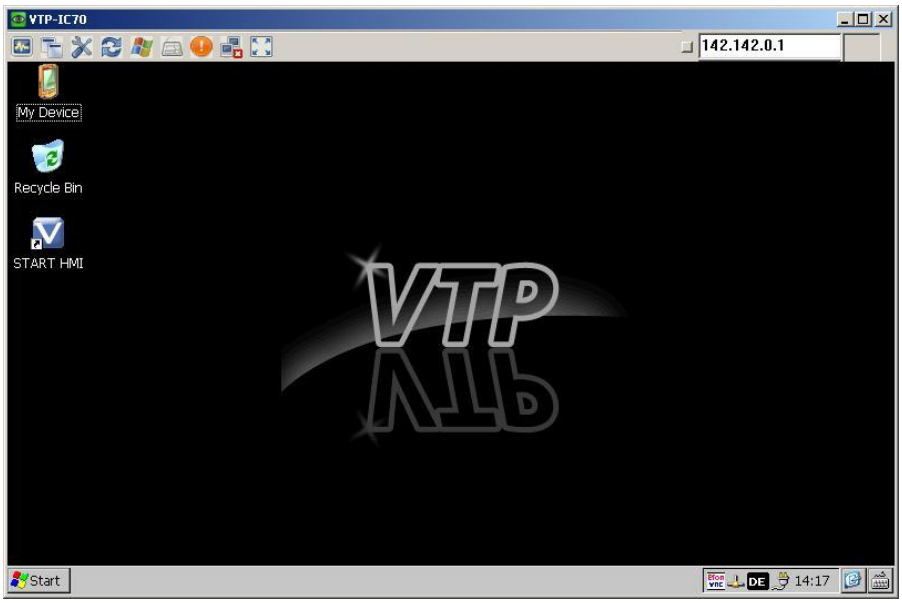

Figure 11 Remote-Desktop

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".

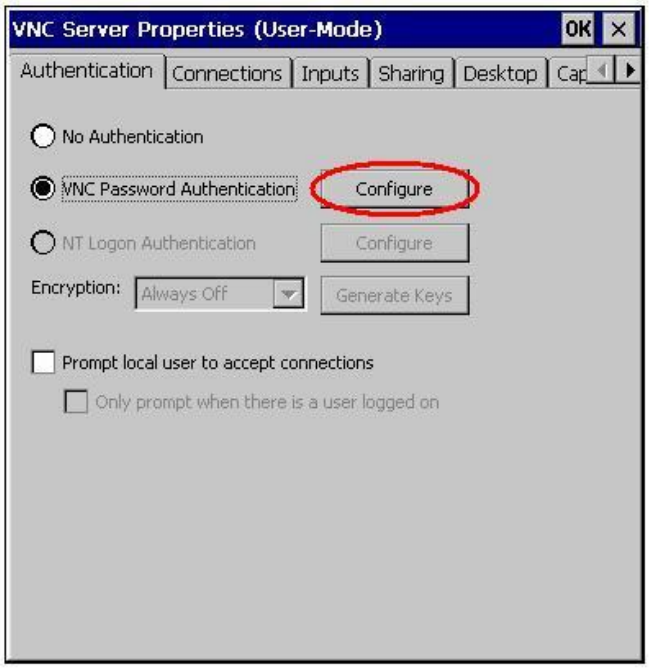

Figure 12 VNC-Server Settings

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".

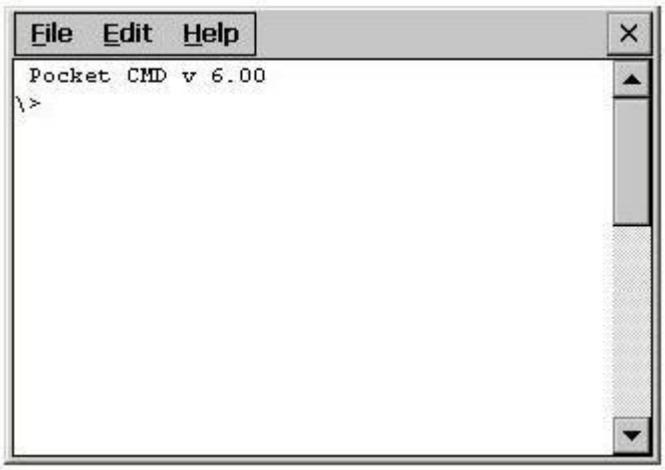

Figure 13 Prompt

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 at "My Device" >> "Network" >> "share-name".

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

4.8 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"!

4.9 Tools

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

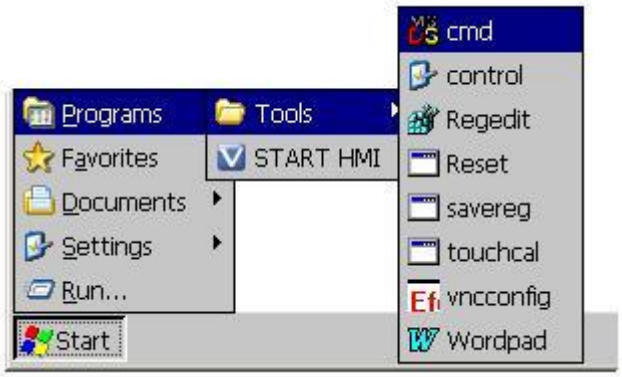

Figure 14 Tools in the menu „Tools"

4.9.1 The Tool cmd

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

4.9.2 The Tool control

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

4.9.3 The Tool Regedit

„Regedit" opens the registry-editor.

Modifying the registry can cause irreversible damage to the operating system and is done at your own risk!

4.9.4 The Tool Reset

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

4.9.5 The Tool Savereg

„Savereg" saves the registry (see chapter 4.2).

4.9.6 The Tool touchcal

„touchcal"features the calibration of the Touchscreen (see chapter 4.5). The invocation of the program directly opens the calibration window.

4.9.7 The Tool vncconfig

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

4.9.8 The Tool Wordpad

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

4.10 VTP Tool

4.10.1 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:

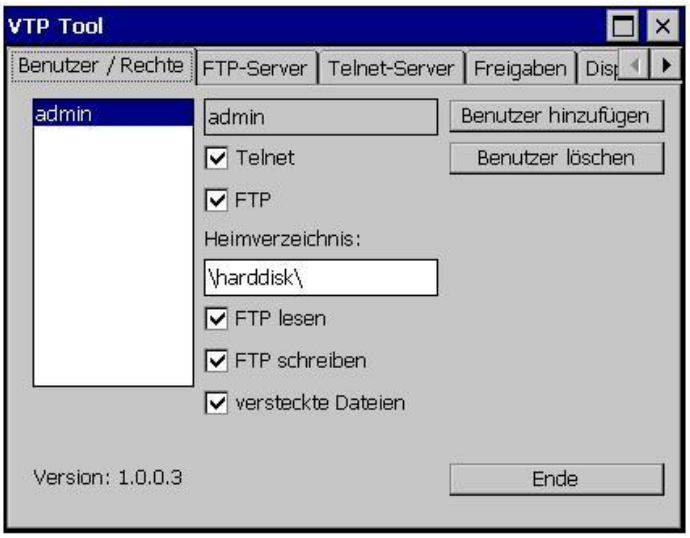

Figure 15 VTP Tool Start Picture

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 figure 15 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 neccessary so that the VBASE runtime environment can be stopped by the VBASE-Editor for example before transmitting a VBASE project and subsequently be restarted.
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 set to password-protected or anonymous login. 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.

4.10.2 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 16).

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 16). 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.

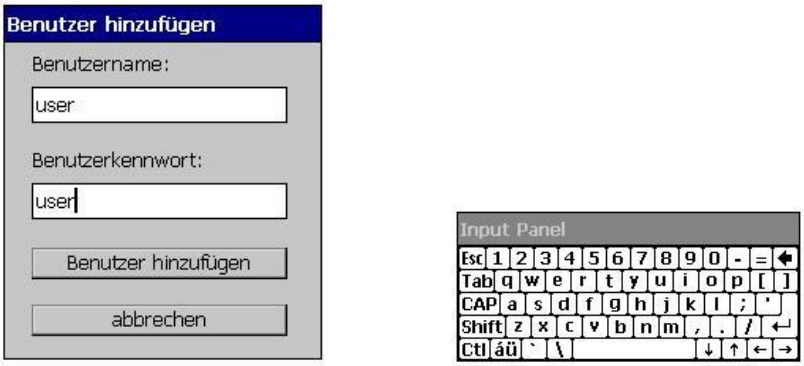

Figure 16 VTP Tool – creation of a new user and the „Input Panel"

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 17). 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 17). 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.

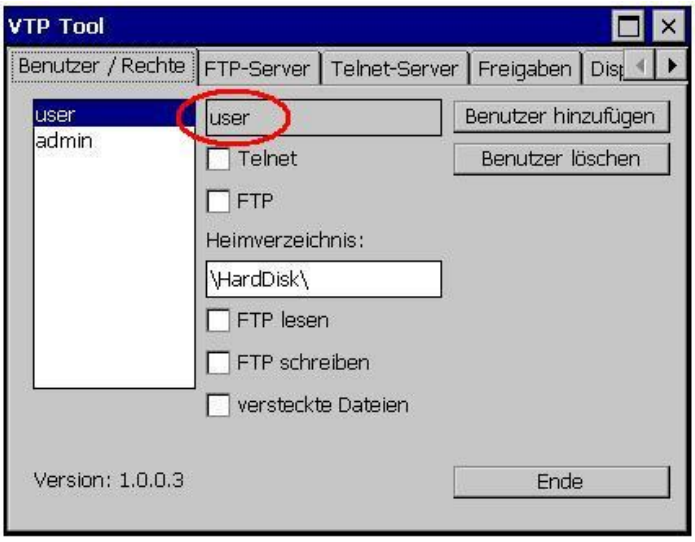

Figure 17 VTP Tool – change of user authorizations

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 17). Now click on the button "Delete user". The corresponding user will be deleted from the list.

4.10.3 FTP-Server

Figure 18 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.

4.10.4 Telnet-Server

Figure 19 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.

4.10.5 Shares

In this tab the network-shares for the different directories, which can be found in „My Device", can be setup. The only thing needed is to enter a share-name into the input-field behind the directory that should be shared. When clicking into the corresponding input-field, the "Input Panel" shows up to be able to perform inputs directly from VTP.
Afterwards confirm your input by clicking the button "Add".
To remove a share simply click on the button "Remove" adjacent to the according share and the entry will be removed.

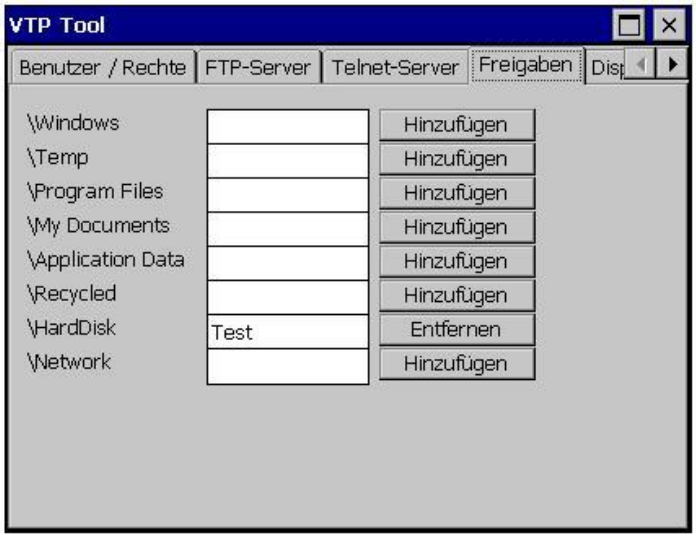

Figure 20 VTP Tool Shares

4.10.6 Display Settings

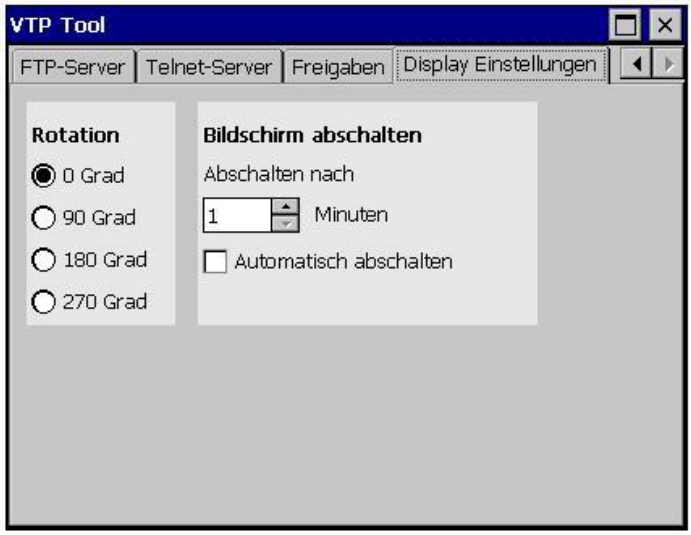

Figure 21 VTP Tool Display Settings

In the tab „Display Settings" you have the possibility to rotate the screen by 90°-steps. It is also possible to setup a screen saver. Just determine the desired time in minutes after which the screen should be turned off. Afterwards check the box "automatic turn-off". Execute the program „savereg". Then restart the VTP to commit the settings to the register.

5 Appendix

5.1 Internal Battery

These VTP-IC-models contain an internal battery. The lifespan of the battery normally exceeds more than 10 years.
Specification of the battery: CMOS, Typ: CR2032

Opening the device should be done by qualified personnel only. Improper handling can cause irreparable damage!

5.2 Battery Change

To change the internal battery the device must be disassembled and the back device case must be removed.

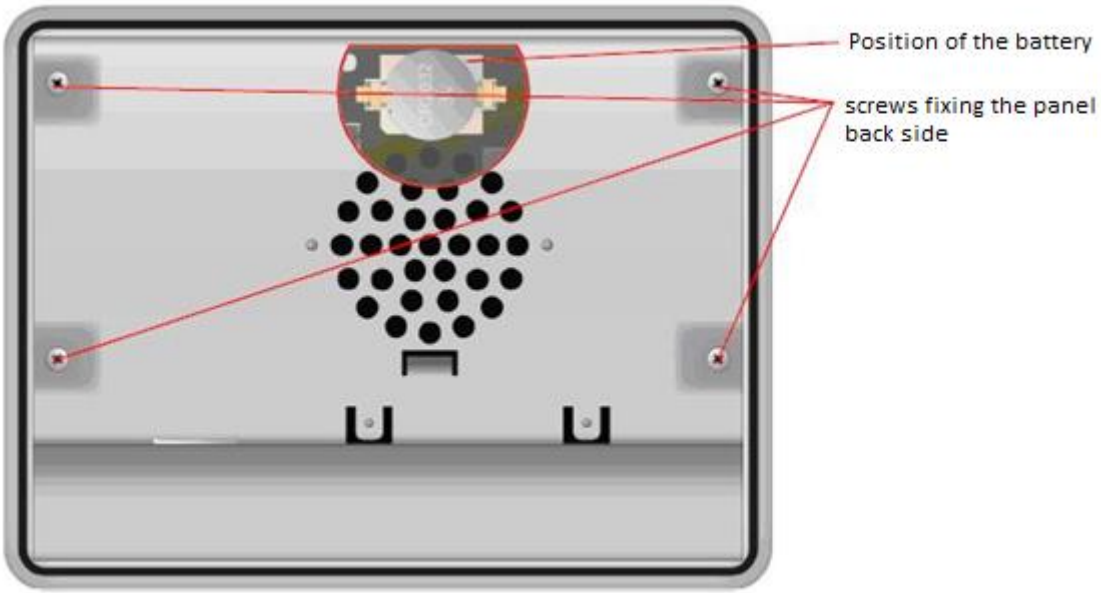

Figure 22 Battery-Position

5.3 PIN-allignment of the serial interface

5.3.1 Serial Interface RS-232 (COM1 – COM2)

PIN No.	Description	
Pin 1	GND	Ground
Pin 2	RS232_TXD1	Port 1: Transmit data (Output)
Pin 3	RS232_RXD1	Port 1: Receice data (Input)
Pin 4	RS232_RTS1	Port 1: Request-to-send (Output)
Pin 5	RS232_CTS1	Port 1: Clear-to-send (Input)
Pin 6	GND	Ground
Pin 7	RS232_TXD2	Port 2: Transmit data (Output)
Pin 8	RS232_RXD2	Port 2: Receice data (Input)
Pin 9	RS232_RTS2	Port 2: Request-to-send (Output)
Pin 10	RS232_CTS2	Port 2: Clear-to-send (Input)

Figure 23 2x RS-232

Required material: **Plug:** Molex_43025-1000 Micro-Fit 10p,
Crimp contact: Molex 43030-0007

5.3.2 Serial Interface RS-485 (COM3) / CAN

PIN No.	Description	
Pin 1	GND_CAN_RS485	Ground for CAN and RS485
Pin 2	CAN1_TERM	To enable CAN1-Termination: bridge with CAN1_H
Pin 3	CAN1_H	CAN bus 1 high
Pin 4	CAN1_L	CAN bus 1 low
Pin 5	CAN1_TERM	To enable CAN1-Termination: bridge with CAN1_L
Pin 6	RS485_TERM	To enable RS485-Termination: bridge with RS485_A
Pin 7	GND_CAN_RS485	Ground for CAN and RS485
Pin 8	n. a.	
Pin 9	RS485_Y	TX+
Pin 10	RS485_Z	TX-
Pin 11	RS485_A	RX+ (To enable Half-Duplex: bridge with RS485_Y)
Pin 12	RS485_B	RX- (To enable Half-Duplex: bridge with RS485_Z)

Figure 24 RS-485 / CAN

Required material: **Plug:** Molex_43025-1200 Micro-Fit 12p,
Crimp contact: Molex 43030-0007

5.4 Dimension and weight

5.4.1 Weight

Weight VTP-IC57: 500g
Weight VTP-IC70: 570g

VTP-UC57: 500g
VTP-UC70: 570g

5.4.2 Dimension /Cut out

VTP-IC57

Dimension: 165,5 x 120,0 x 29,5 mm (width x height x depth)
Cut out: 153,5 x 108,2 mm
Maximum thickness for panel mounting: < 10mm

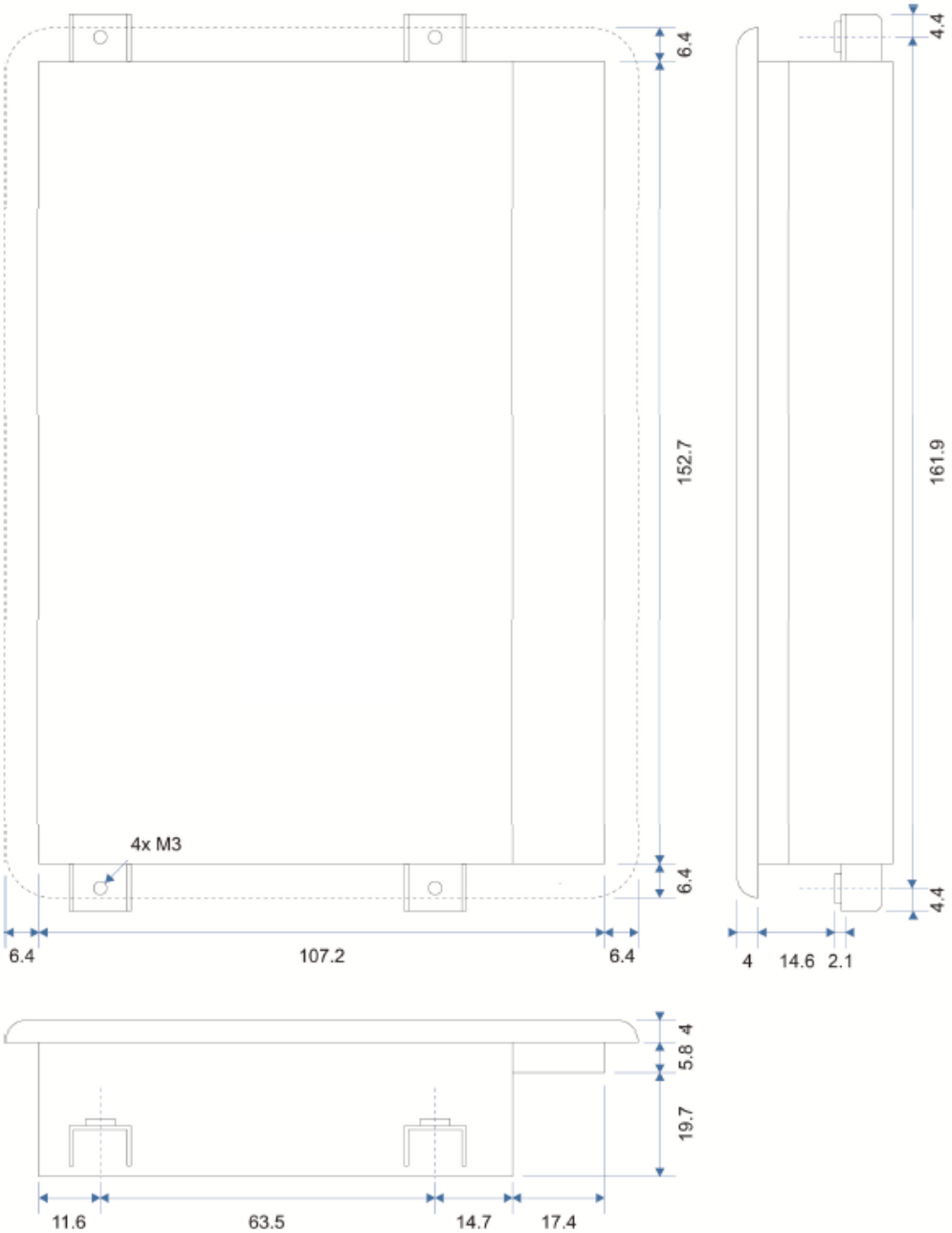

Figure 25 Dimension / Cut out VTP-IC57

VTP-UC57

Dimension: 155,0 x 98,4 x 29,25 mm (width x height x depth)

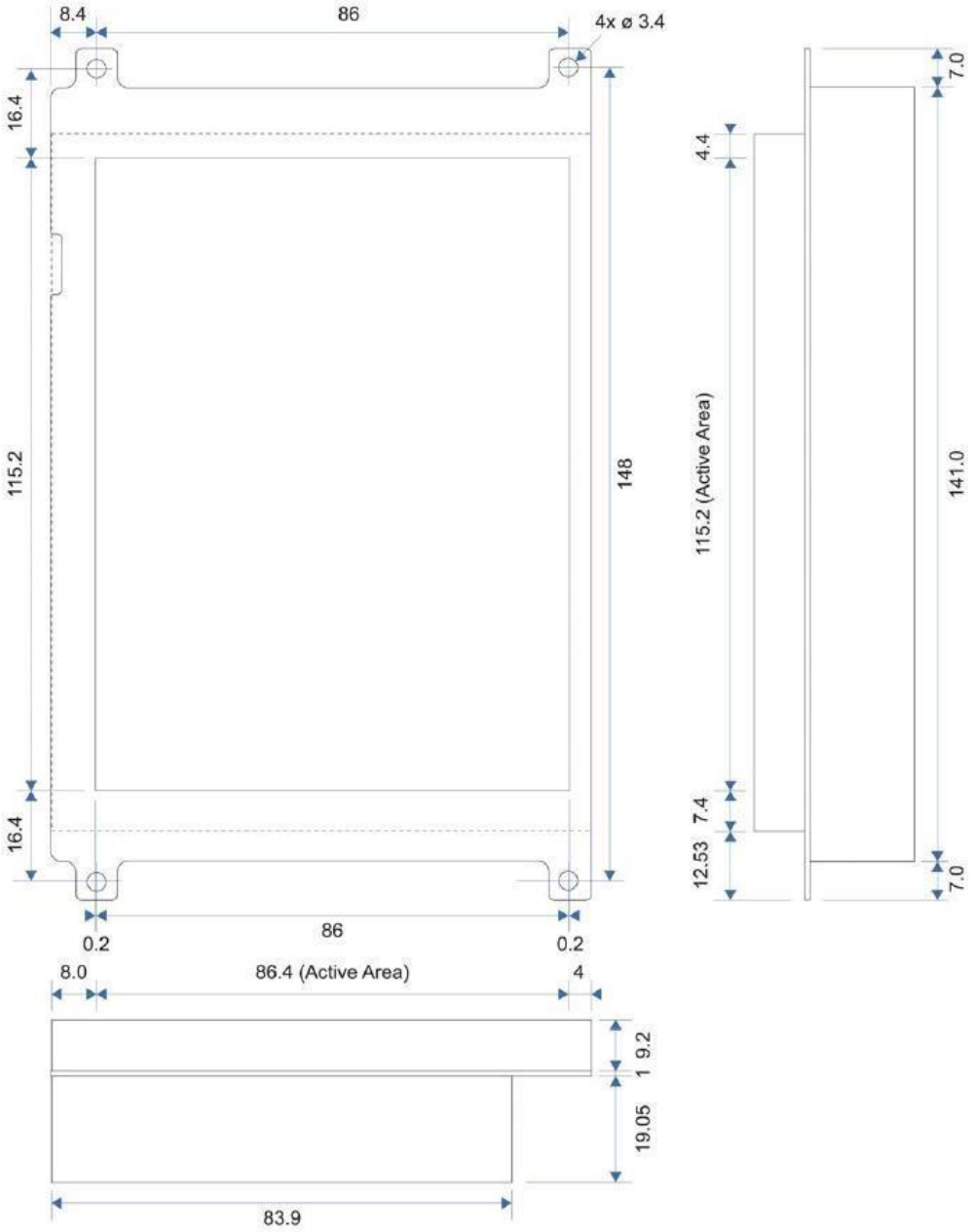

Figure 26 Dimension VTP-UC57

VTP-IC70

Dimension: 202,1 x 126,1 x 29,5 mm (width x height x depth)
Cut out: 190,5 x 114,5 mm
Maximum thickness for panel mounting: < 10mm

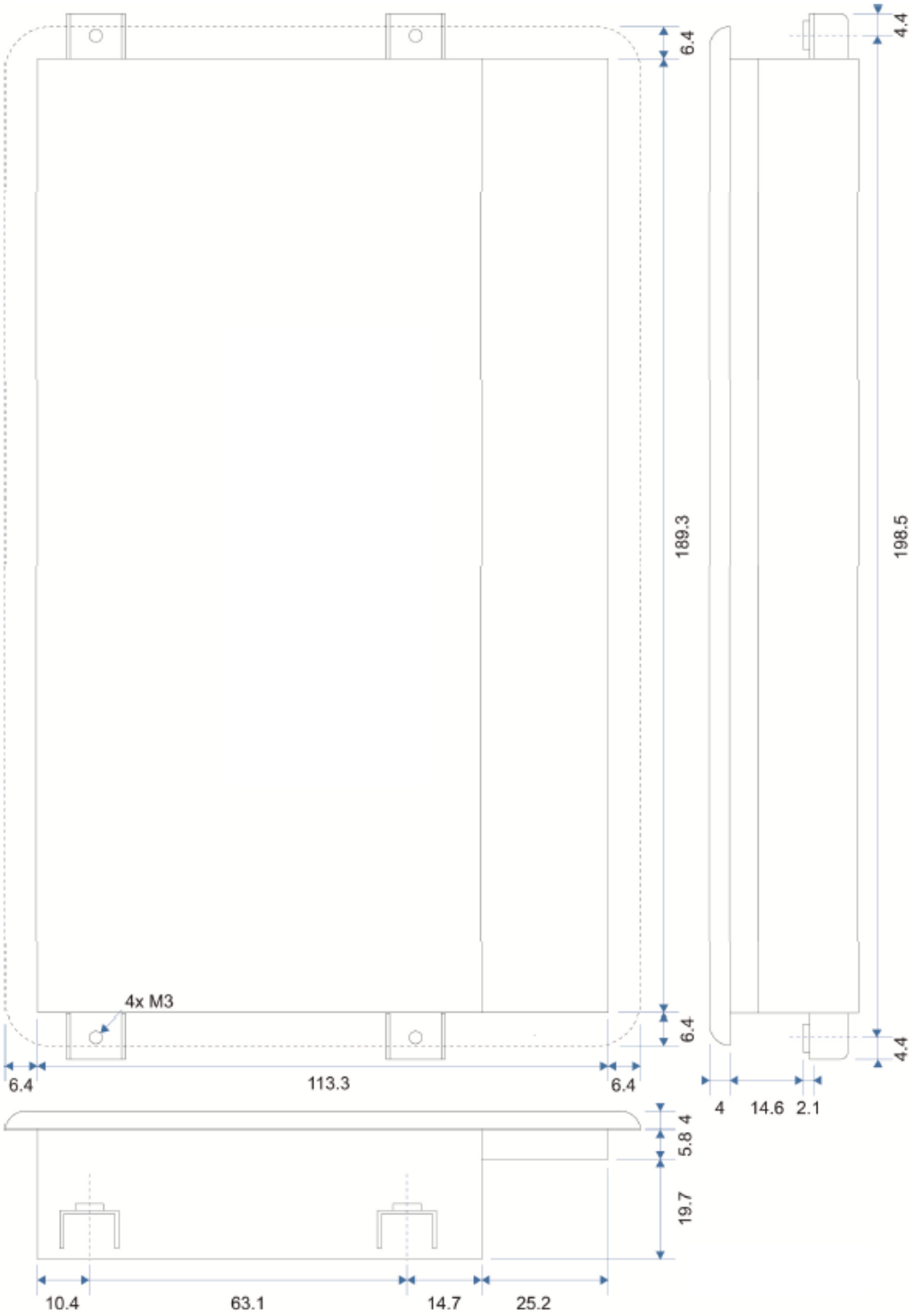

Figure 27 Dimension / Cut out VTP-IC70

VTP-UC70

Dimension: 183,5 x 104,0 x 26,1 mm (width x height x depth)

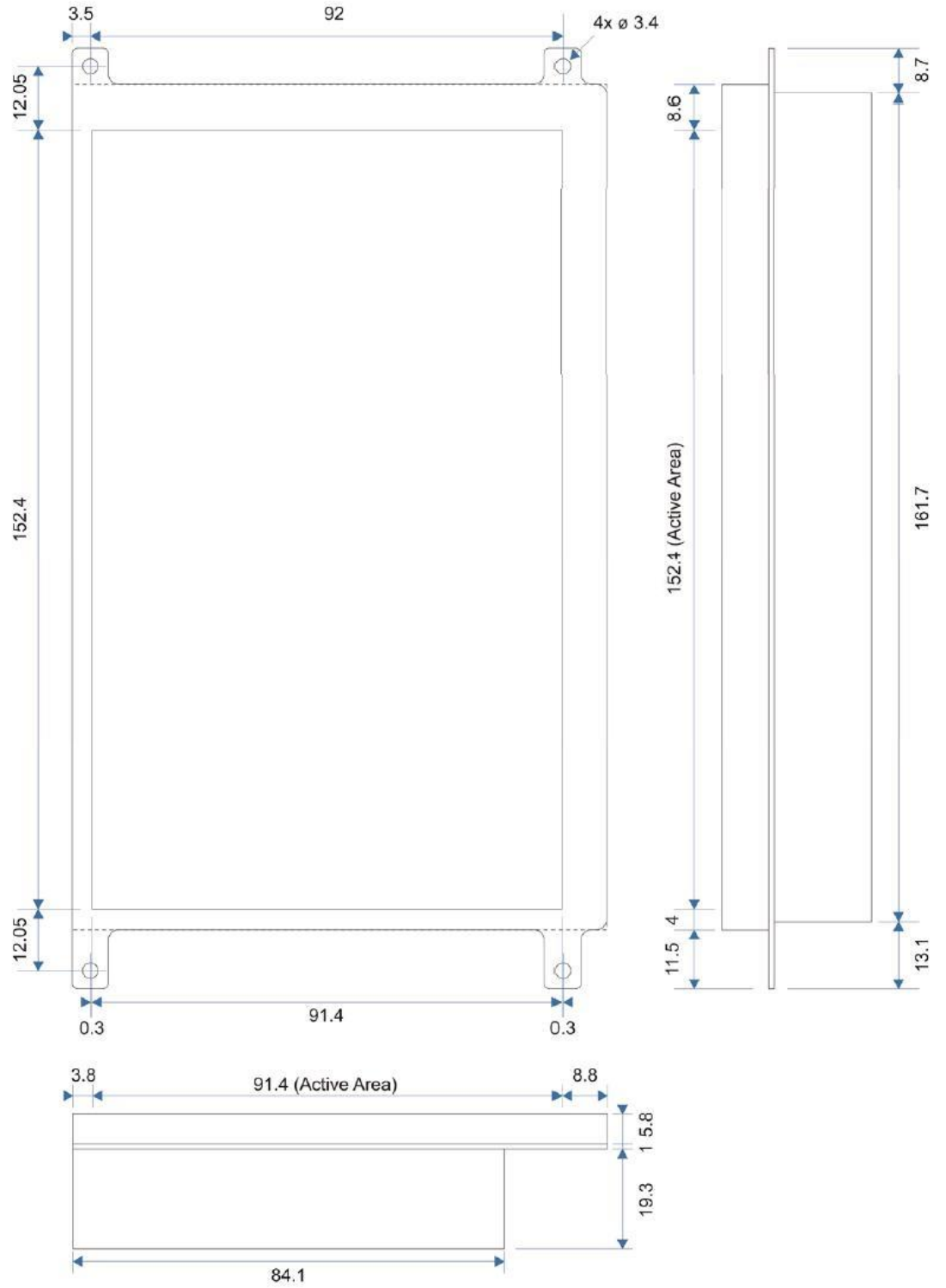

Figure 28 Dimension VTP-UC70

Details for the püanel mounting for the VTP-IC57 and VTP-IC70:

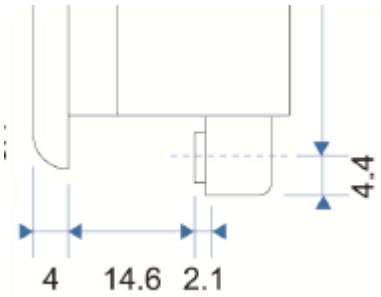

Figure 29 Panel mounting

5.5 Illustration directory