Kuhnke Electronics
Instruction Manual
TEBESCT – Text Editor for KDT 623/624 and KDT 680CT

E 529 GB 9 March 2000 / 82.585

This manual is primarily intended for use by design, project, and development engineers. It does not contain any information about delivery possibilities. Data is only given to describe the product and must not be regarded as guaranteed properties in the legal sense. Any claims for damages against us - on whatever legal grounds - are excluded except in instances of deliberate intent or gross negligence on our part.

Subject to errors, omissions and modifications.

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1 What is TEBESTCT?

TEBESCT is the programming software for dialogue terminals KDT 623, KDT 624, and the terminal of Control Terminal KDT 680CT (→ 5).

It replaces the MS-DOS-based text editor KED623.

1.1 System requirements

- Standard industry PC inc. floppy drive, hard disk and serial interface hardware
- Windows 3.11, Windows 95, Windows 98 or Windows NT 4.x

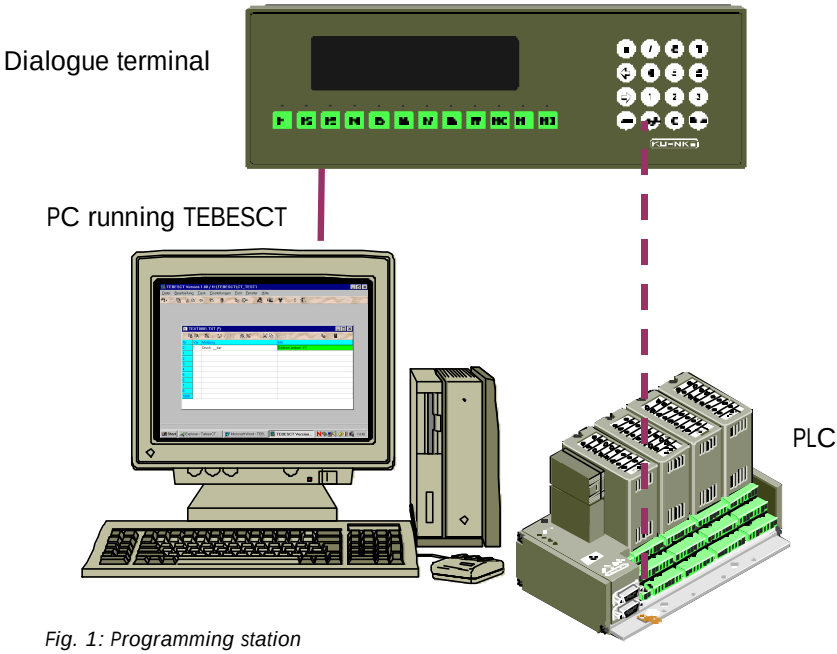


Fig. 1: Programming station

1.2 Features

- Transparent project management,
- Integral online help engine for perfect user guidance,
- Text editor inc. input limit monitoring,
- Font editor for customisable character sets,
- Editor for input and output variables,
- Import of symbols for variables from symbol tables of KUBES projects.

1.3 Advantages over KED623

TEBESCT is a convenient tool for Windows environments, making operation lot easier compared with the previous KED623 editor.

- System settings are automatically generated from the requirements as specified in dialogue boxes,
- The program monitors the correct syntax of text and variable inputs, Hardly any syntax errors during data input,
- Selection of variable types is reduced to plain text queries in dialogue boxes,
- Automated processes help avoid input errors, securing faster success.

2 Reliability, safety

2.1 Target group

This manual contains all information necessary for the use of the described product (control device / terminal, software, etc.) according to instructions. It is written for the personnel of the construction, project planning, service and commissioning departments. Extensive knowledge of automation technology is compulsory to properly understand and apply technical descriptions, instructions for use and - particularly - notes of danger and warning.

2.2 Reliability

Reliability of Kuhnke controllers is brought to the highest possible standards by extensive and cost-effective means in their design and manufacture.

These include:

- selecting high-quality components,
- quality agreements with our sub-suppliers,
- measures for the prevention of static charge during the handling of MOS circuits,
- worst case planning and design of all circuits,
- inspections during various stages of fabrication,
- computer aided tests of all assembly groups and their co-efficiency in the circuit,
- statistical assessment of the quality of fabrication and of all returned goods for immediate taking of corrective action.

2.3 Notes

Despite the measures described in chapter 2.2, the occurrence of faults or errors in electronic control units - even if most highly improbable - must be taken into consideration.

Please pay particular attention to the additional notes which we have marked by symbols in this instruction manual: Please pay particular attention to the additional notes which we have marked by symbols in this instruction manual:

2.3.1 Danger

This symbol warns you of dangers which may cause death, (grievous) bodily harm or material damage if the described precautions are not taken.

2.3.2 Dangers caused by high contact voltage

This symbol warns you of dangers of death or (grievous) bodily harm which may be caused by high contact voltage if the described precautions are not taken.

2.3.3 Important information / cross reference

This symbol draws your attention to important additional information concerning the use of the described product. It may also indicate a cross reference to information to be found elsewhere.

2.4 Safety

Our product normally becomes part of larger systems or installations. The following notes are intended to help integrating the product into its environment without dangers for humans or material/equipment.

2.4.1 Observe during planning and installation

- 24V DC power supply: Generate as electrically safely separated low voltage. Suitable devices are, for example, split transformers constructed in compliance with European standard EN 60742 (corresponds to VDE 0551).
- In case of power breakdowns or power fades: the program is to be structured in such a way as to create a defined state at restart that excludes dangerous states.
- Emergency switch-off installations must comply with EN 60204/IEC 204 (VDE 0113). They must be effective at any time.
- Safety and precautions regulations for qualified applications have to be observed.
- Please pay particular attention to the notes of warning which, at relevant places, will make you aware of possible sources of dangerous mistakes or faults.
- Relevant standards and VDE regulations are to be observed in every case.
- Control elements are to be installed in such a way as to exclude unintended operation.
- Control cables are to be laid in such a way as to exclude interference (inductive or capacitive) which could influence controller operation or its functionality.

To achieve a high degree of conceptual safety in planning and installing an electronic controller it is essential to exactly follow the instructions given in the manual because wrong handling could lead to rendering measures against dangers ineffective or to creating additional dangers.

2.5.8 Observe during maintenance or servicing

- Precautions regulation VBG 4.0 must be observed, and section 8 (Admissible deviations during working on parts) in particular, when measuring or checking a controller in a power-up condition.
- Repairs must only be made by specially trained Kuhnke staff (usually in the main factory in Malente). Warranty expires in every other case.
- Spare parts:
- Only use parts approved of by Kuhnke. Only genuine Kuhnke modules must be used in modular controllers.
- Modular systems: always plug or unplug modules in a power-down state. You might otherwise damage the modules or (possibly not immediately recognisably!) inhibit their functionality.
- Always dispose of any batteries and accumulators as hazardous waste.

2.5 Electromagnetic compatibility

2.5.1 Definition

Electromagnetic compatibility is the ability of a device to function satisfactorily in its electromagnetic environment without itself causing any electromagnetic interference that would be intolerable to other devices in this environment

Of all known phenomena of electromagnetic noise, only a certain range occurs at the location of a given device. This noise depends on the exact location. It is defined in the relevant product standards.

The international standard regulating construction and degree of noise resistance of programmable logic controllers is IEC 1131-2 which, in Europe, has been the basis for European standard EN 61131-2.

2.5.2 Resistance to interference

- Electrostatic discharge, ESD
  in acc. with EN 61000-4-2, 3rd degree of sharpness
- Irradiation resistance of the device, HF
  in acc. with EN 61000-4-3, 3rd degree of sharpness
- Fast transient interference, burst
  in acc. with EN 61000-4-4, 3rd degree of sharpness
- Immunity to damped oscillations
  in acc. with EN 61000-4-12 (1 MHz, 1 kV)

2.5.3 Interference emission

Interfering emission of electromagnetic fields, HF
in acc with EN 55011, limiting value class A, group 1

If the controller is designed for use in residential areas, then high-frequency emissions must comply with limiting value class B as described in EN 55011.
Fitting the controller into an earthed metal cabinet and equipping the supply cables with filters are appropriate means for maintaining the relevant limiting values.

2.5.4 General notes on installation

As component parts of machines, facilities and systems, electronic control systems must comply with valid rules and regulations, depending on the relevant field of application.

General requirements concerning the electrical equipment of machines and aiming at the safety of these machines are contained in Part 1 of European standard EN 60204 (corresponds to VDE 0113).

For safe installation of our control system please observe the following notes

2.5.5 External electrical influences

Connect the control system to the protective earth conductor to eliminate electromagnetic interference. Ensure practical wiring and laying of cables.

2.5.6 Cable routing and wiring

Separate laying of power supply circuits, never together with control current loops:

- DC voltage 60 V ... 400 V
- AC voltage 25 V ... 400 V

Joint laying of control current loops is allowed for:

- shielded data signals
- shielded analogue signals
- unshielded digital I/O lines
- unshielded DC voltages < 60 V
- unshielded AC voltage < 25 V

2.5.7 Location of installation

Make sure that there are no impediments due to temperatures, dirt, impact, vibration and electromagnetic interference.

Temperature

Consider heat sources such as general heating of rooms, sunlight, heat accumulation in assembly rooms or control cabinets.

Dirt

Use suitable casings to avoid possible negative influences due to humidity, corrosive gas, liquid or conducting dust.

Impact and vibration

Consider possible influences caused by motors, compressors, transfer lines, presses, ramming machines and vehicles.

Electromagnetic interference

Consider electromagnetic interference from various sources near the location of installation: motors, switching devices, switching thyristors, radio-controlled devices, welding equipment, arcing, switched-mode power supplies, converters / inverters.

2.5.8 Particular sources of interference

Inductive actuators

Switching off inductances (such as from relays, contactors, solenoids or switching magnets) produces overvoltages. It is necessary to reduce these extra voltages to a minimum. Reducing elements may be diodes, Z-diodes, varistors or RC elements. To find the best adapted elements, we recommend that you contact the manufacturer or supplier of the corresponding actuators for the relevant information.

3 Installing TEBESCT

The TEBESCT programming software is delivered on a 3.5" diskette.

1 Start your computer.

2 Insert the installation disk into your floppy drive (usually A:).

To install the program either choose My Computer \ Control Panel \ Software or go via Windows Explorer. Proceed as follows to install the software via Windows Explorer:

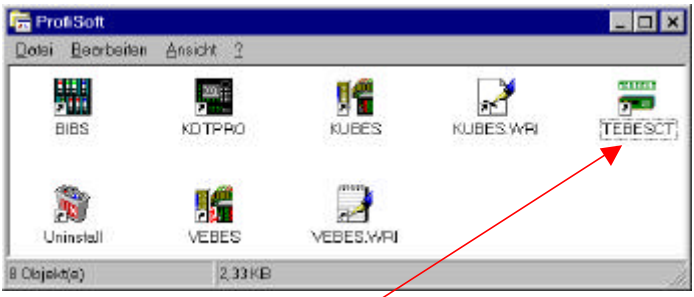
- Start Windows Explorer.
- Activate drive A:

  → the contents of the diskette is shown.
- Double-click on setup.exe.

  → This starts the TEBESCT installer.
- Type in your name and the name of your company.
- Follow the on-screen instructions (→ next page).

- You may want to change the path to the installation folder
  standard path = C:\TEBESCTE.
- Choose a program folder to contain the program icon. We recommend that you choose “ProfiSoft” because this is the standard folder for all Kuhnke applications.

→ When you have completed the installation, the chosen program folder including the TEBESCT program icon will be shown on the desktop.



- Double-click this icon to start the application.

4 Working with TEBESCT projects

- Connect your dialogue terminal (KDT 623, KDT 624 or KDT 680CT) to your computer's serial interface.
- Start your computer, then double-click the TEBESCT program icon to launch the program.

The icon can be located in the program group you specified during installation (default: ProfiSoft).

The TEBESCT application window is displayed.

To begin with, you don't need to connect a dialogue terminal to your computer – you can still create your texts and upload them to the terminal later.

4.1 Starting TEBESCT

- In the program group (ProfiSoft), click on the icon shown on the left to start the programming software.

➔ This will start TEBESCT and you can start your project work.

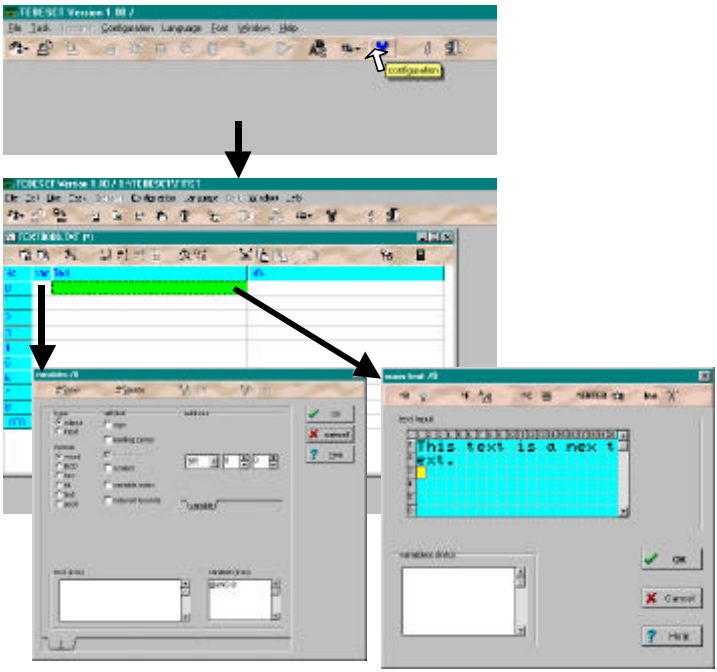
4.2 Menus and icons

4.2.1 General

Perform the following steps before you try to create a new text file:

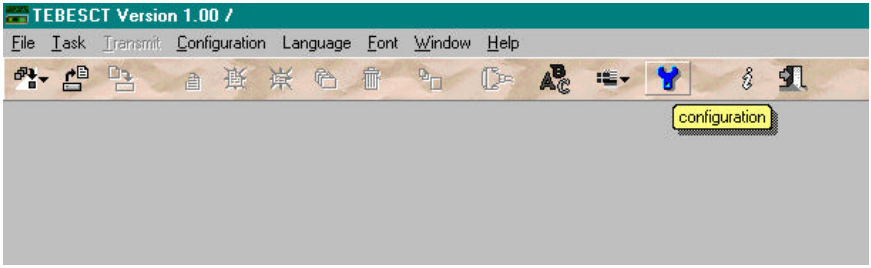
- create a new project or open a previously saved project,
- create a new message text or open a previously saved text file,

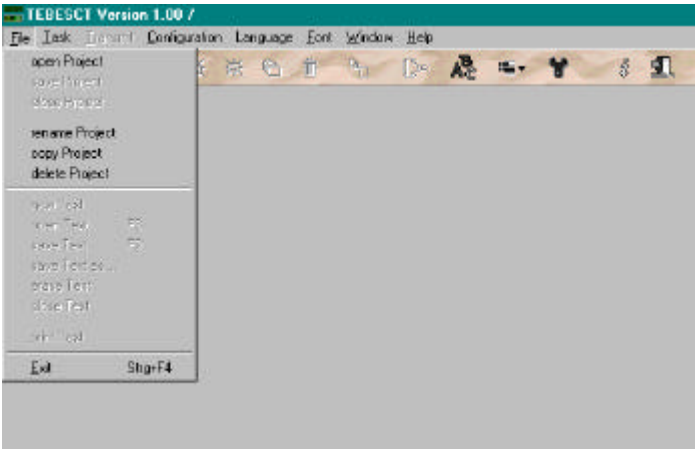
→ You can then proceed to create or edit the message text and the variables.



To open any of the menus, left-click on the name of the menu. As a rule, a dropdown menu will open. Left-click on a menu item to start the function.

Below the menu bar, you will find a couple of buttons which control the most frequently used functions. When you have placed the cursor on the button (but before clicking it) a tool-tip will appear to tell you which function is controlled by that button.





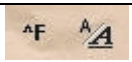
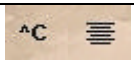
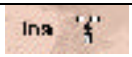
4.2.2 TEBESCT icons

Icon	*Function*	→ *Chapter*
	Open most recent projects	4.3
	Create / open project	4.3.1
	Close project	4.3.4
	Create new text	4.4
	Load text	4.4.10
	Close text	
	Close all texts	
	Delete text	
	Create task	4.6
	Serial text transfer	4.5
	Edit font	4.2.8
	Select language	4.2.7
	Options	4.2.6
	Info	
	Exit program	

4.2.3 Text editor icons

Icon	*Function*	→ *Chapter*
	Save text	4.4.9
	Save text as	4.4.9
	Configuration	
	Append new line	
	Insert line after current position	
	Delete current line	
	Change number of line	
	Find text	
	Find and replace text	
	Cut	
	Copy	
	Paste	
	Replace	
	Clear	
	Print as text	
	Close window	

4.2.4 Icons in Message Text (Text) window

Icon	*Function*	→ *Chapter*
	Flashing (blinking) text	4.4.2
	Second font	
	Centre text	4.4.3
	Line feed (wrap line)	
	Insert / overwrite	

4.2.5 Icons in Message Text (Variable) window

Icon	*Function*	→ *Chapter*
	Add variable	4.4.4
	Remove variable	
	Move variable left (tab)	
	Move variable right (tab)	

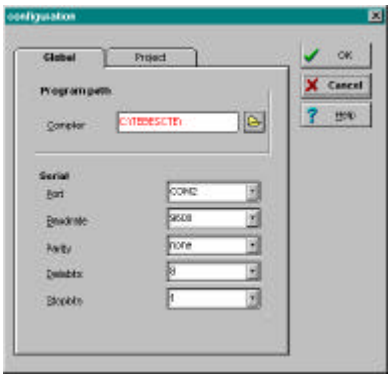
4.2.6 Configuration options

You need to open a project before you can change the project settings.

- Click this icon or choose Configuration.

→ The Configuration window is displayed.

- Enter the values into the Global section.
- Click the Project tab to change the project settings.
- Choose a dialogue terminal (“Type”), symbols and fonts as appropriate.
- Click OK to accept or Cancel to discard the values.



4.2.7 Selecting a language

➢ Click this icon or choose Language, move the mouse pointer to the desired language (German, English, or Custom) and left-click it.

→ All menus and texts will be shown in the chosen language.

German and English are preinstalled options. Choose Custom to add another language. All languages are stored in file LANG.DAT located in the TEBESCTE program folder. The Custom language is defined in section [mainCustom].

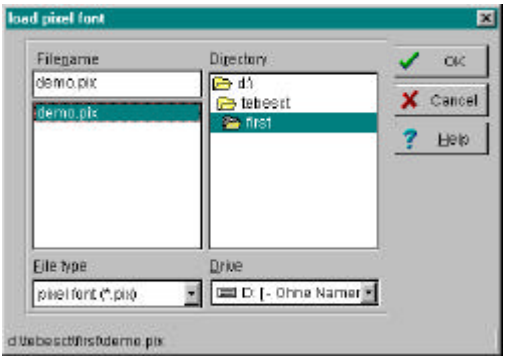
4.2.8 Editing fonts

You need to close <u>all</u> projects before you can edit fonts.

You can load font files for the LED terminals. Use Font Editor to create your own font files.

➢ Click this icon or choose Edit from the Font menu.

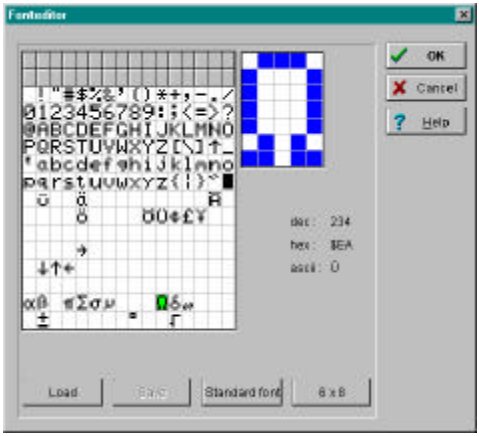
→ The Font Editor application is started.



- First load a font, e.g. DEMO.PIX, then double-click a character to select it.
- Click 5x7 (6x8) to change between pixel formats, if required.

→ The character appears in the edit field.

- Left-click to add pixels or right-click to remove pixels.
- Then save the font to have it available under Configuration (Project tab) \ Font.



Click and hold a mouse button to edit several pixels at a time.

4.3 Projects

Prior to creating a new text file you need to create a new project or load a previously saved project and save it under a different name.

You can create project directories within the TEBESCT parent folder. The latter is automatically created when you create your first project.

4.3.1 Creating a new project

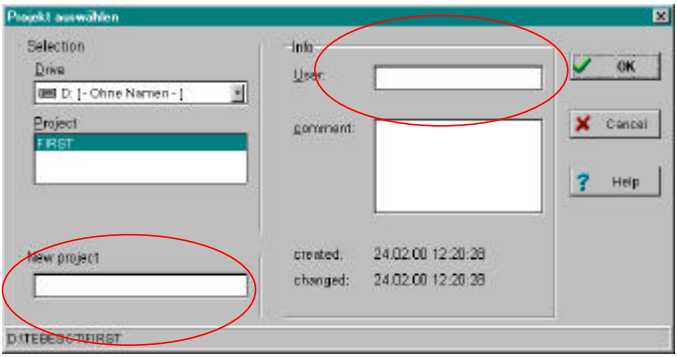
➢ Click this icon or choose File, point to Open Project and left-click that menu item.

The Select Project window is displayed.

➢ Type the name of the new project into the New Project field and click OK to accept.

➢ Add the name of the user and a comment if you so wish.

➔ The project and all project information are stored.



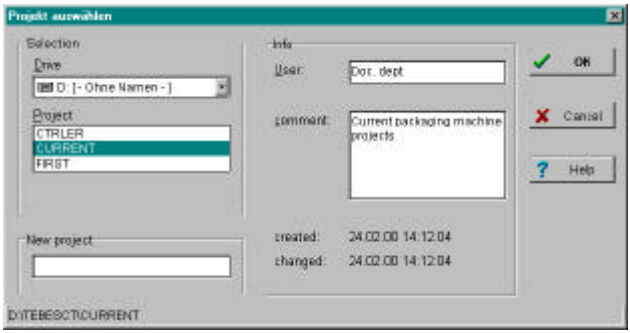
4.3.2 Opening a project

➢ Click this icon or choose File, point to Open Project and left-click that menu item.

→ The Select Project window is displayed.

➢ Highlight a project in the Projects lists and click OK to accept.

→ The project is opened.



4.3.3 Recent projects

➢ Click this icon or choose File, point to Project List and left-click that menu item.

→ A list of most recently opened projects is displayed.

4.3.4 Closing a project

Before you exit the TEBESCT application we recommend that you close all open projects.

➢ Click this icon or choose File, point to Close Project and left-click that menu item.

→ The project is closed.

4.4 Creating a new text file

Before you can create a new text file you need to open a project first (see chapter 4.3).

The Text Editor window has 4 columns:

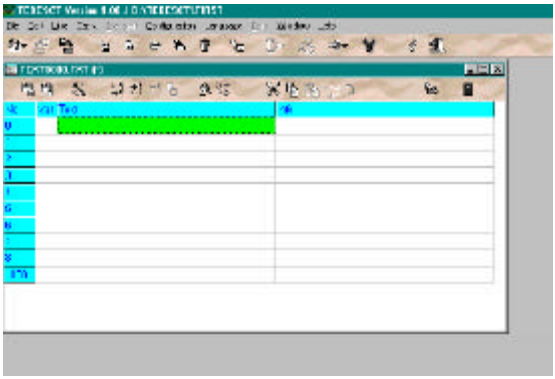
- **No.**: = number of the text line, required by PLC program to select the text.
- **Var**: = an asterisk tells you that variables have been declared. Double-click to start the Variable Editor (see chapter 4.4.4).
- **Text**: = shows you the first line of text. Double-click to edit.
- **Info**: = shows you the first line of the auxiliary text. Double-click to edit.

- Click this icon or choose File, point to New Text and left-click that menu item.

→ This starts the Text Editor application, showing the first line of text against a green background.

- Double-click the first line of text into which you wish to type text.

➔ The Main Text window is displayed.

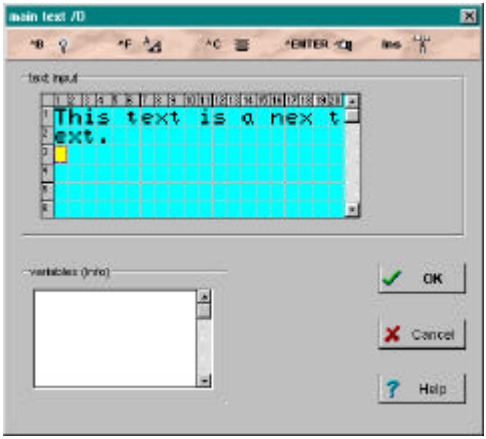


The size of your text files is only limited by the amount of free hard disk space.

The maximum length of every message text is 12 lines.

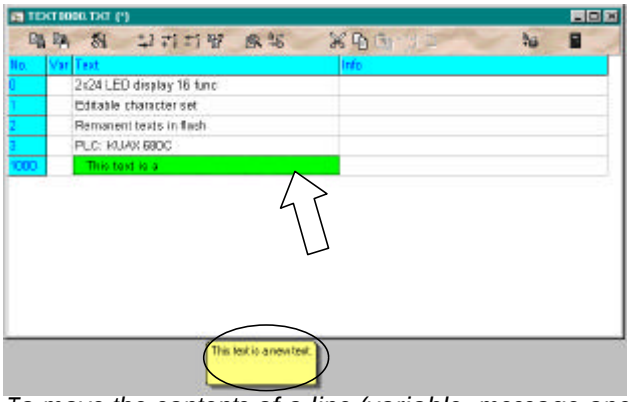
- Left-click the field where you wish your text to start.

  → This field is highlighted in yellow.
- Type your text in as per usual (including spaces).
- Click OK to accept the finished text.

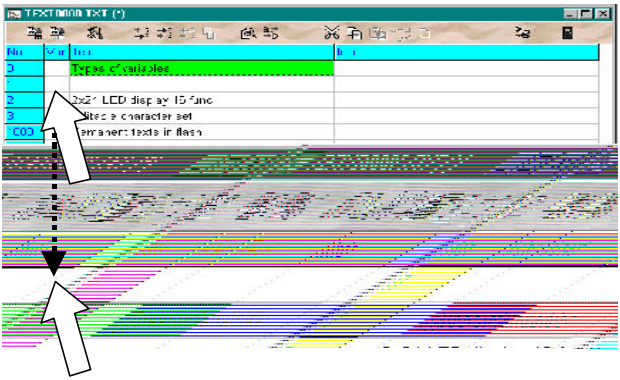


→ The text you just typed in will be shown in the line you were editing.

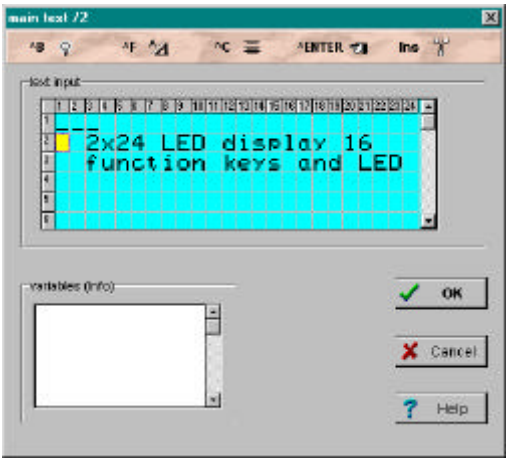
If the text contains more than one line, the Text Editor will only display the first line.
To view the entire message text move the mouse pointer to an entry; the text will then appear in a tool-tip box.



To move the contents of a line (variable, message and info) to another line, right-click the line number and, holding the mouse button, move it to another line number.



Underline characters (___) in the text define the position of variables.



4.4.1 Info texts

You can add so-called info texts to the actual text messages.

Info texts are only displayed on the screen when you press the <i> button. When a message text is displayed that has an info text assigned to it, the LED above the <i> button will automatically light up.

To input info texts proceed as described in chapter 4.4.

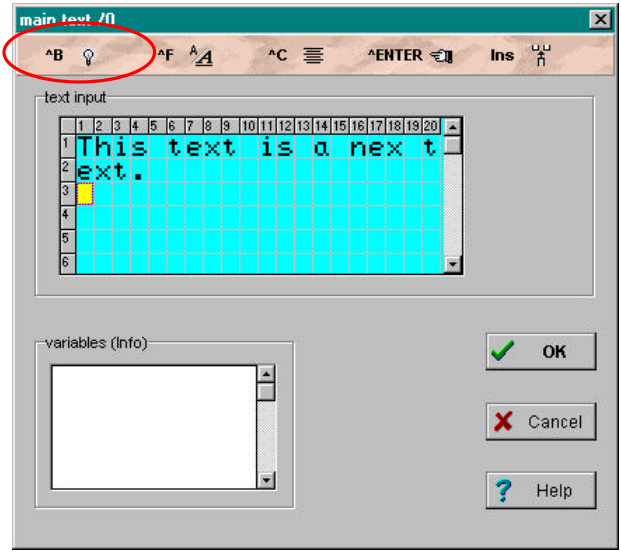
Text numbers 1000 and higher are error messages!

4.4.2 Flashing text

You can have message texts flash on the screen to mark them optically.

➢ In the Main Text window, left-click the relevant text, then click the Flashing (Blinking) Text control.

→ That text will flash on the display of the dialogue terminal.



To select text with the mouse:

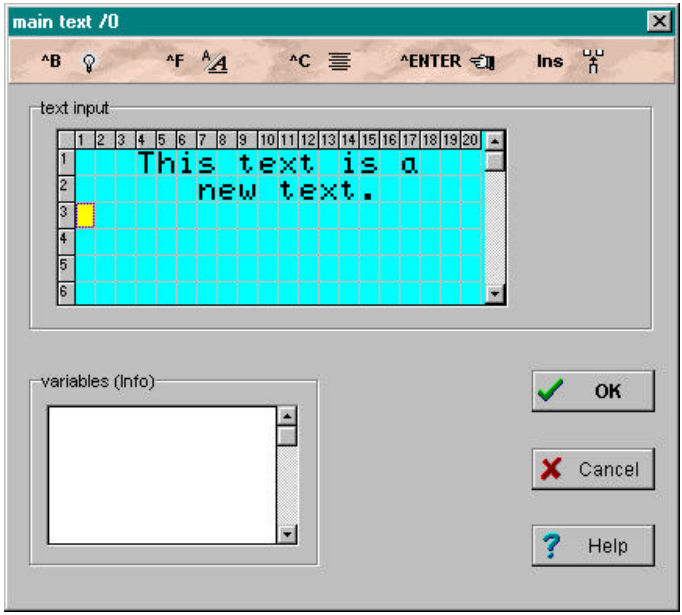
Press and hold the Shift key on your keyboard, then click and hold the left mouse button and drag the cursor across the text.

4.4.3 Centring text

You can centre text in lines of the message that are not completely filled with characters (see chapter 4.4).

➢ Place the text cursor at the beginning of the line and left-click the Centre Text control.

→ The text in that line will be centred.



You can centre text only in one line at a time.
To undo the Centre Text command place the cursor at the beginning of the line and press Del (repeatedly) to remove the spaces preceding the text.
When you have highlighted a block of text you can remove it by pressing the Del key on your keyboard.

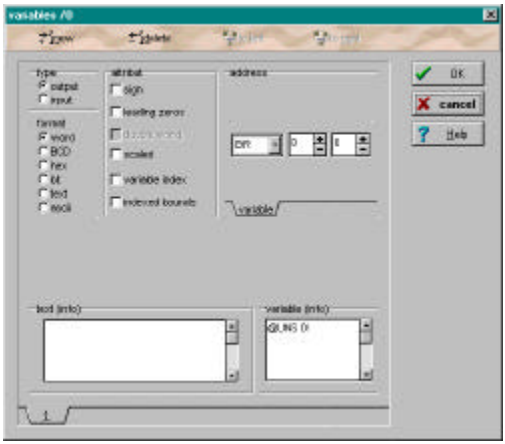
4.4.4 Variables

You can add variables to every line of text. TEBESCT works with global variables which can be used in messages later. Every variable has a format, an attribute, an address, and is of a specific type (→ 4.7.2).

TEBESCT can sort variables by type, address or format.

- In the Text Editor application, double-click the Var column (see chapter 4.4).

  → The Variables window is displayed.
- Click New to enter a new variable.
- Click the relevant positions, then click OK to accept and close the window.

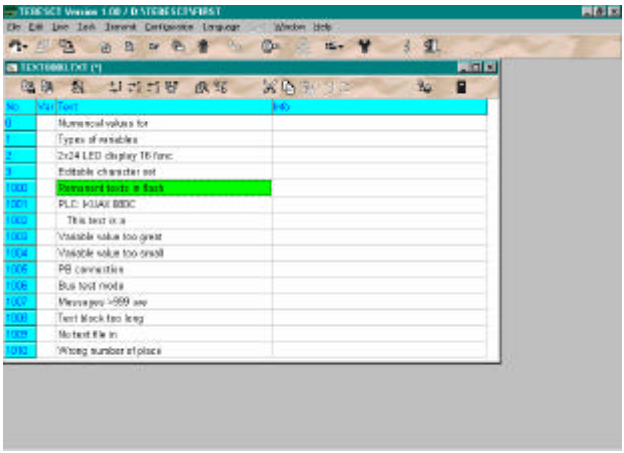


Available items are marked by the corresponding button being white. Unavailable items are marked by the corresponding button being grey.
The system variables are explained in chapter 4.7.

4.4.5 Changing the line number

➢ Click somewhere in the line whose number you wish to change.

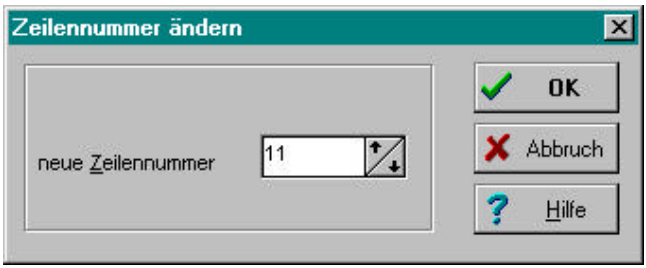
→ The line is marked in green.



➢ Click the icon shown on the left.

→ Another dialogue box is displayed.

➢ Type in the new line number.



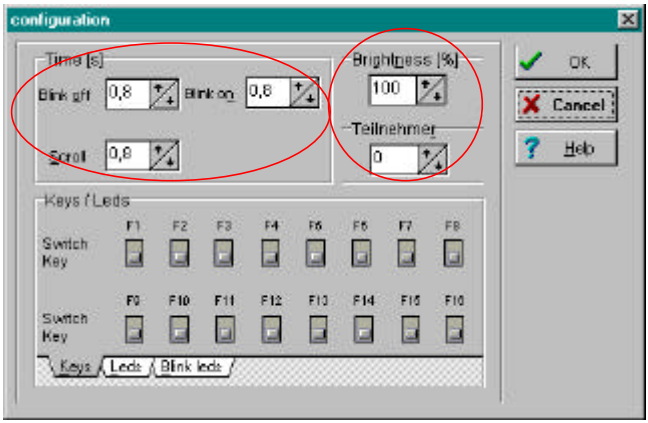
4.4.6 Changing parameter settings

➢ Click the icon shown on the left.

→ The Configuration window is displayed.

➢ Change any of the times below as applicable:

1. Blink off — Off-time of flashing cursor
2. Blink on — On-time of flashing cursor
3. Scroll — Time until the next lines are shown on the KDT display
4. Brightness — Brightness of display, applies to KDT 623/624
5. Station — Option for connecting several KDTs to one PLC



→ *continued on next page*

Keys:

- Left-click one of the keys (F1 – F16) to set switches or buttons.

Switch	Press = On, press again = Off, etc.
Key	Press = On, release = Off

LEDs:

- Left-click one of the LEDs to set it to Internal or External.

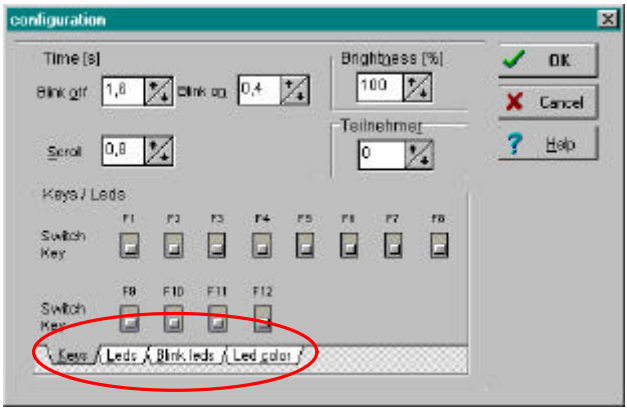
Internal	LED will be controlled by the switching function.
External	LED will be controlled by the PLC.

Blink-LEDs:

- Left-click one of the LEDs to turn flashing On or Off.

Flash on	LED works as a flashlight indicator.
Flash off	LED is permanently on when needed.

LED colour

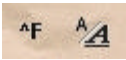


- You can set the LEDs to being either red or green.

If the keys are set to be Monostable, the key code will be transferred to the PLC only once. After evaluation by the user program, the user may have to clear the key code.

4.4.7 Second font

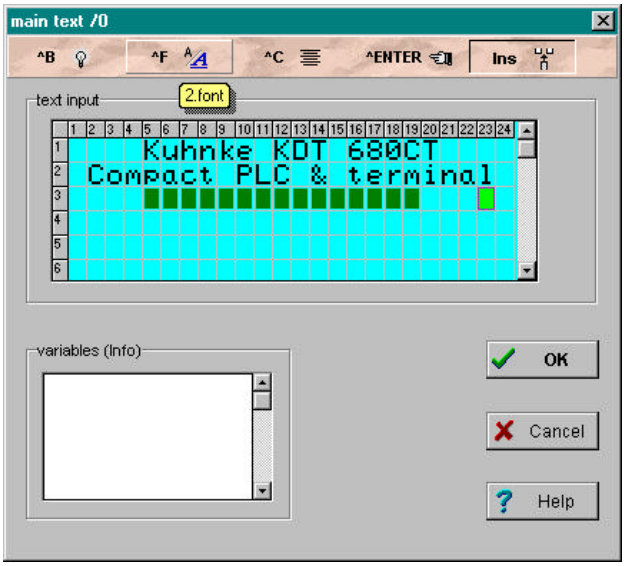
There is a second character set available which you can fall back on to create message or info texts.



➢ Click this icon to activate the second font.

➢ Left-click at the position where you wish the text to begin and type in the characters as appropriate.

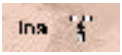
→ Second font characters are shown in green in the Message Text window.



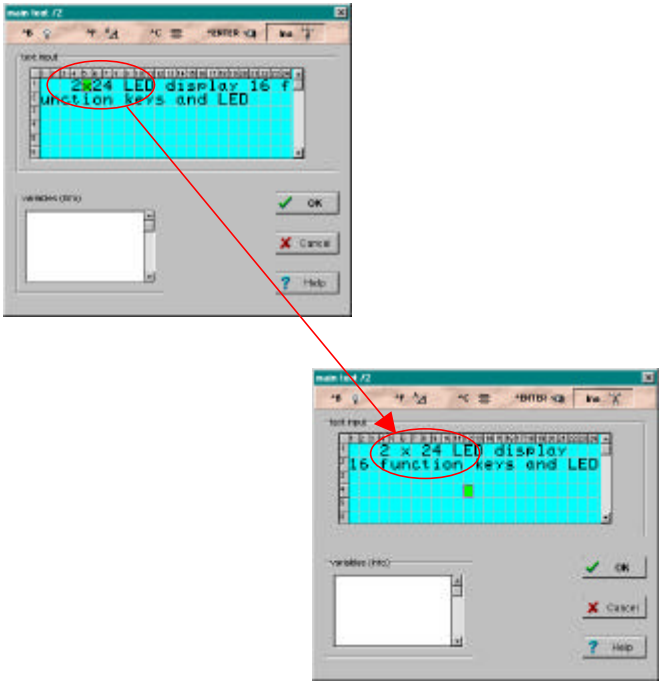
See chapter 4.2.8.

4.4.8 Insert mode

Use this function to add characters to existing message or info texts.



➢ Click this icon to add characters between existing characters.



4.4.9 Saving texts

To save a modified message:

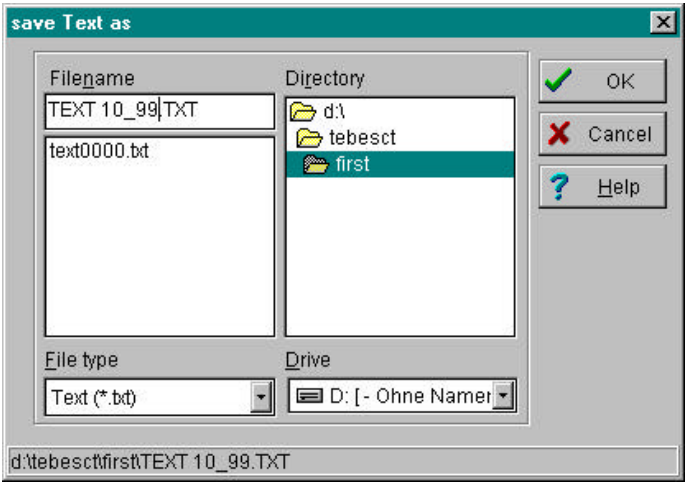
➢ Click this icon to save the text under the same name.

→ The Save Text window is displayed. You have the option to either save the text or not.

To save a modified message under a different name:

➢ Click this icon to save the text under a new name.

→ The Save Text As window is displayed. You have the option to save the text under its old or under a new name.



4.4.10 Editing texts

To edit existing texts proceed as before when creating a new message.

- Open the project and the text to be edited.
- You have the following message and info text editing options:

– centre text (see chapter 4.4.3),

– flash on / off (see chapter 4.4.2),

– use the second font (see chapter 4.4.7).

– add, remove, or edit line numbers (see chapter 4.4.5),

– add or edit variables (see chapter 4.4.4).

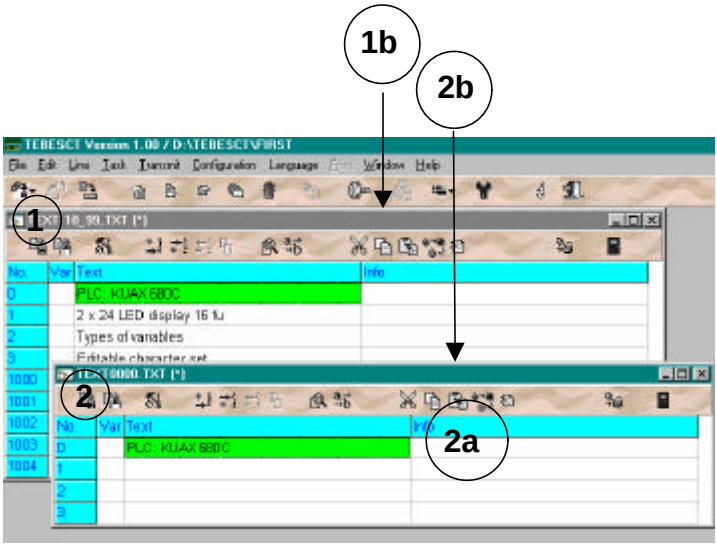
4.4.10.1 Importing text from another text file

TEBESCT is the software for programming KDT 623, 624 or KDT 680CT.

You can load “old” message and info texts from KDT.EXE and save them as TEBESCT projects.

- Load both the text you wish to copy from (1) and the text you wish to copy to (2).
- First click the text field to be copied (1a), then click the Copy control (1b).
- Click the text field that the text is to be copied to (2a), then click the Insert control (2b).

- Click the Save As control to load an entire text file into another project.



4.5 Uploading message texts and fonts to KDT 623/624

- Connect your dialogue terminal (KDT 623 or KDT 624) to your computer's serial interface.

- Open the project whose message texts you wish to upload.

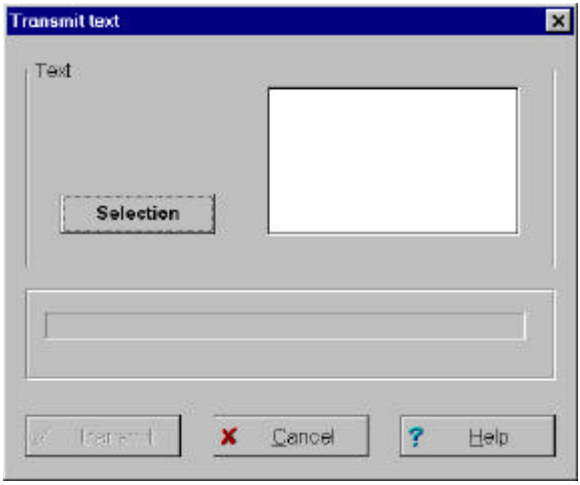
- Choose Configuration / Project to check whether the software has been set to the correct dialogue terminal (see chapter 4.2.6).

You can select up to 2 texts and 1 font.

You do not need to open the texts prior to uploading.

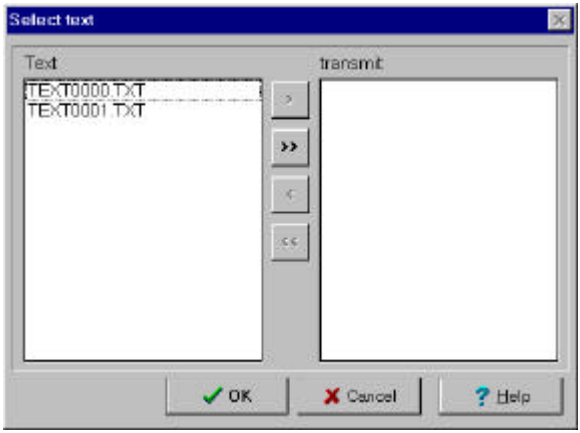
- Click the icon shown on the left.

→ The Transmit Text window is displayed.



➢ Click Selection.

→ Another dialogue box is displayed.



➢ Left-click the name of the text(s) to be uploaded, then click the appropriate control to copy that name to the Transmit panel.

Copies the selected text to the Transmit field.

Copies all texts to the Transmit field.

Deletes the selected text from the Transmit field.

Deletes all texts from the Transmit field.

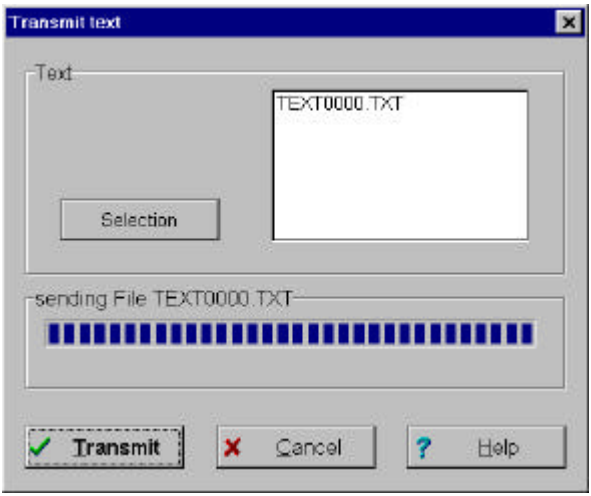
- Click OK to accept.

→ The program returns you to the previous window.

➢ Click the Transmit control.

→ The text(s) will be uploaded to KDT.

→ The Transmit Text dialogue automatically disappears when the process has been completed.



4.6 Creating tasks (KDT 680CT only)

- Connect your KDT 680CT dialogue terminal to your computer's serial interface.

- Open the project whose message texts you wish to copy to a task.

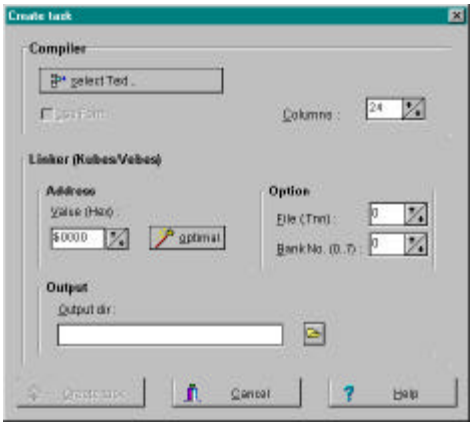
- Choose Configuration / Project to check whether the software has been set to the correct dialogue terminal (see chapter 4.2.6).

You can select up to 2 texts and 1 font.

You do not need to open the texts prior to creating tasks.

- Click this icon or choose Create Task.

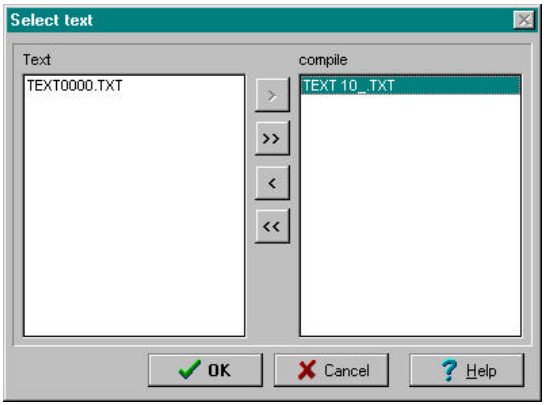
→ The Create Task window is displayed.



➢ Click Selection.

→ Another dialogue box is displayed.

➢ Left-click the name(s) of the text(s) to be compiled, then click the appropriate control to copy the text to the Compile panel.



Copies the selected text to the Compile field.

Copies all texts to the Compile field.

Deletes the selected text from the Compile field.

Deletes all texts from the Compile field.

➢ Click OK to accept.

→ The program returns you to the previous window.

- Change the values as appropriate

– Address (the C task is stored in the PLC under this address), and

– Option (the C task is stored on this PLC bank).

- Change the output directory as appropriate (references the allocated KUBES or VEBES project).
- Click the Create Task control.

  → KUBES uploads the task to KDT 680CT.
- Click the Close control.

4.7 System variables

4.7.1 Display variables

Display variables are permanently read from the PLC. All changes are displayed immediately.

4.7.2 Variable formats

Variables can have one of a variety of formats:

4.7.3 Variable format: UNS

The value of the specified operand is interpreted as a positive number (0 ... 65535). The input editor only accepts keys 0 ... 9. The number of place holders is to be between 1 and 5.

4.7.4 Variable format: INT

The value of the specified operand is interpreted as a KF number (-32767 ... +32767). The input editor only accepts keys 0 to 9 and ± for switching between leading signs. The number of placeholders is to be between 2 and 6 because the sign only takes up one space.

4.7.5 Variable format: BCD

The value of the specified operand is interpreted as a 4-digit BCD number (0 to 9999). The input editor only accepts keys 0 ... 9. The number of place holders is to be between 1 and 4. Any nibbles in the controller that have been assigned values greater than 9 will be indicated by letter A to F.

4.7.6 Variable format: BCDL

The value of the specified operand is interpreted as an 8-digit BCD number (0 to 99999999). The input editor only accepts keys 0 ... 9. The number of place holders is to be between 5 and 8.

This variable word takes 4 instead of only 2 byte, i.e. it includes the next variable word. In this case you must ensure that the number of the next variable word is not used for other variables.

4.7.7 Variable format: HEX

The value of the specified operand is interpreted as a 4-digit hexadecimal number (0 to FFFF). The input editor only accepts keys 0 to 9 and <Shift>. To input numbers A to F, press and hold the <Shift> key while pressing one of keys 0 to 5. The number of place holders is to be between 1 and 4.

4.7.8 Variable format: BIT

The value of the specified operand is shown as a 16-digit bit number. The input editor only accepts keys 0 and 1. The number of place holders is to be between 1 and 16.

4.7.9 Variable format: TXT

The variables are texts which have been stored in the terminal under different message text numbers. These texts are referred to as index texts.

When declaring your variables, specify the number of the first text for [min] and the number of the last of these texts for [max]. There are to be as many placeholders as the longest texts has places (otherwise this text will be cut off). The variable word contains the number of the text to be displayed.

4.7.10 Variable format: IL

This variable represents a signed 32 bit number. The number of place holders is to be between 2 and 11. The system will automatically read to subsequent variable words.

4.7.11 Variable format: ASC

The placeholders are filled with ASCII characters, starting with the low byte of the specified address. The character set (IBM or CPM) specified in System Settings will be used. If the placeholders are assigned to the second (graphical) character set, the symbols defined in that set will be displayed. Only displayable characters are allowed (20h and up). ASCII variables are always display variables which can be programmed only once per message. The number of placeholders is limited to the length of one line.

You are not allowed to display and print ASCII variables at the same time. ASCII character output is limited by either the size of the display window or by the value 00h appearing in the character string.

5 Appendix

5.1 Glossary

KDT 623	Dialogue terminal featuring a 2 x 24 character display
KDT 624	Dialogue terminal featuring a 2 x 40 character display
KDT 680CT	Control terminal with integral PLC and text display

5.2 Literature

E 385 GB	Instruction manual for KDT 623 and KDT 624
E 414 GB	Instruction manual for KDT 680CT

5.3 Order specifications

Product		Part number
TEBESCT	Text editor	680.511.00
KDT 623	Dialogue terminal featuring a 2 x 24 character display	623.001.00
KDT 624	Dialogue terminal featuring a 2 x 40 character display	624.001.00
KDT 680CT	Control terminal with integral PLC and text display	
	Including LED indicators, no module slots	680.001.00
	Including LED indicators and 4 module slots	680.001.01
	Including LCD display, no module slots	680.001.10
	Including LCD display and 4 module slots	680.001.11

5.4 Index