ET/KS 98 Engineering Tool

F1

Calling Help ...

- General descriptions of the ET/KS 98 operating principle.
- Survey and description of the library functions (with the function block selected or the parameter dialog box opened).

Condition:
The checkbox for Help must have been clicked during installation!

F2

Calling the password dialog

F3

Comparison of the engineerings in KS 98 and ET/KS 98plus is started.

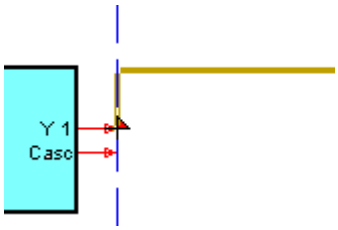
F4

Debug mode is activated

KS 98 or SIM/KS 98 must be connected!

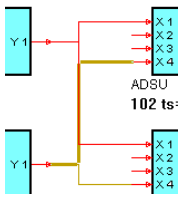
F5

Search overlapping lines
During the wiring mode, line overlaps are searched for. The first overlap found is displayed (shown marked). In the upper left corner of the screen, either "**Acount=0"** (result negative) or "**Acount=1"** is displayed.



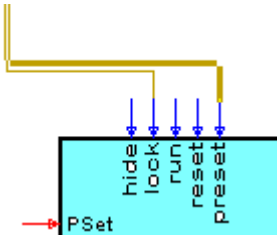
F6

Search all line overlapping
The overall engineering is searched for overlaps. Overlaps found are displayed shortly on the screen, but only the last overlapping found is displayed continuously.



F7

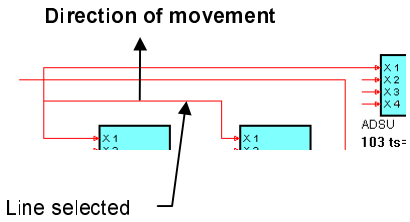
Unify adjacent lines
Lines which belong to one connection, with only a few parallel pixels, can be unified with F7. Thereby, a line segment must be selected. (Shifting by means of the mouse may be not pixel-exact. However, exact superposition is possible by means of the arrow keys).



Shift + ...

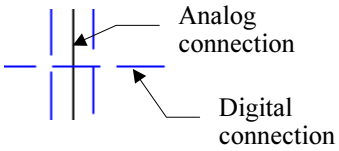
... Unifying line segments
When moving a line segment with the Shift key pressed, other lines belonging to the same signal source will be unified to the same line after the Shift key is released. Start segments cannot be moved.

Line segments close to each other are unified by clicking one of the lines with the Shift key pressed.



F9

Line colour / type of logic connection
On the screen, distinction of analog and logic connections is easier in colour. In a print-out (black and white), distinction by dashed lines is better clarity. Switch-over is always possible by pressing F9.



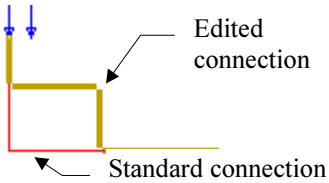
F10

Cursor toggling between engineering and menu bar. Menu operation with the arrow keys is now possible (if e.g. the mouse is not available).

Function corresponds to key Alt

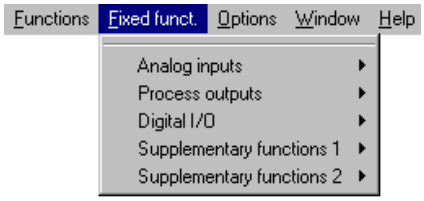
F11

Create standard connection
Connections between two points are automatically drawn as short as possible at right angles (standard connection) and can be edited manually.
F11 transforms a selected edited connection into a standard connection



F12

Language selection
Language selection (English / German / French) for the Engineering Tool operator interface (menus, dialog boxes, etc.) is possible in the main menu.
However, the language of Help texts for KS 98 functions can only be selected during installation!

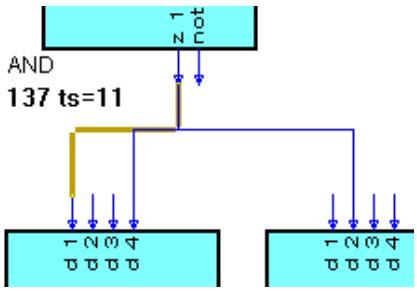


Ctrl + **click**

Wiring mode

Multiple line connections
A signal source can be connected to several inputs by clicking the inputs to be connected with an existing line marked and the Ctrl key pressed.

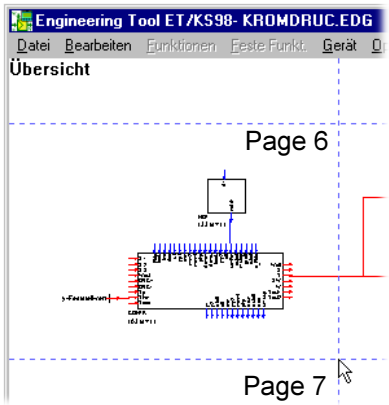
Re-connecting signal sources
Re-wiring of a network to a different signal source can be done automatically, by clicking the signal source (output), and clicking the new source while keeping the Ctrl key pressed.This automatically connects all the inputs with the new source.



Ctrl + **click**

Survey mode

Introducing a grid
A mouse click at any place on the screen with key Ctrl pressed, will draw a grid that represents the print pages.
The grid will be taken over in the working sheet.



Ctrl **+ C/V**

Copying parameters in the working sheet
By means of "Ctrl+C“ the parameters of a selected block are stored in the clipboard, from where they can be inserted into another (selected) block of the same type with "Ctrl+V“. This Windows function is particularly time-saving for all blocks with many parameters (e.g. CONTR+; APROGD; DPROGD; etc.).

Copying and inserting in the survey
Individual blocks as well as block groups selected with the capture frame can be copied into the clipboard with "Ctrl+C“, and inserted with "Ctrl+V“. Inserted parts of the Engineering "stick“ to the mouse pointer and can be moved to the required position in the Engineering. Parameters and internal connections are re-drawn automatically. External connections are removed.

Ctrl + Z

Undo: restores the last action

Tips and tricks

Right mouse key

- **Wiring mode:** → toggles to Survey display and back. For this, the position of the mouse pointer determines which point of the engineering shall be displayed centrally in the edit window.
- **Editing mode:** → on selected block opens the parameter dialog.
- **Editing mode:** → on free place inserts the function block selected last.

Block selection

"Experts" enter the **short-form name of the required function** (e.g. ADSU), followed by acknowledgement to save the detour via the menu bar. Click the right mouse key to position the function selected directly in this way (note upper/lower case!). If the required function is quite close, selecting and de-selecting is sufficient to produce the same effect.

Search

Entry of a block number (displayed at top left of the screen) and acknowledgement with "Enter" displaces the screen and displays the searched function block with marking (functions also in the survey display).

Extended search

The menu item <*Edit*><*Search*> opens a check box into which you can enter the criteria to be found:
- Variable name (analog, digital)
- Block name
- Block number
- Text block

All blocks of the selected criteria will be shown in a list box with block name and number.
The section of the Engineering containing the selected text block will be displayed, with the text shown inversely. The search function can be called from the survey as well as from the working sheet.

Parameter setting

- **Double click** in the parameter input field selects the current value for entry.
- **Triple click** on P-input field opens selection dialog box (possible only once per parameter!)
- **Setting cursor into value field** with acknowledgement by pressing any key opens the selection dialog box (always possible!)

Line segments

6 additional line segments can be inserted into the last line segment (before the destination input), if the connection is selected. For this purpose, click the last line segment before the input and move it into the required direction using the mouse pointer in the wiring mode.

Calculation sequence

Key □ in the survey display causes successive marking of the displayed function blocks in the sequence of calculation. Pressing □ again stops the operation (sometimes important with signal feedback).

Pressing the key V repeatedly moves you forwards through the procedure in single steps. The key R steps you backwards.

↓ ↑ → ←

Pixel-exact shifting of selected line (segments) and function blocks.

For exact shifting line segment by line segment in signal flow direction can be selected by pressing the button X. This becomes important with very short line segments which cannot be activated by klicked with the mouse.

COM test

A quick communication test is possible by transmitting an "empty" engineering to the KS 98.

The communiction can also be tested by opening the password dialog with F2. In this case the existing engineering will not be overwritten. ESC quits the password dialog.

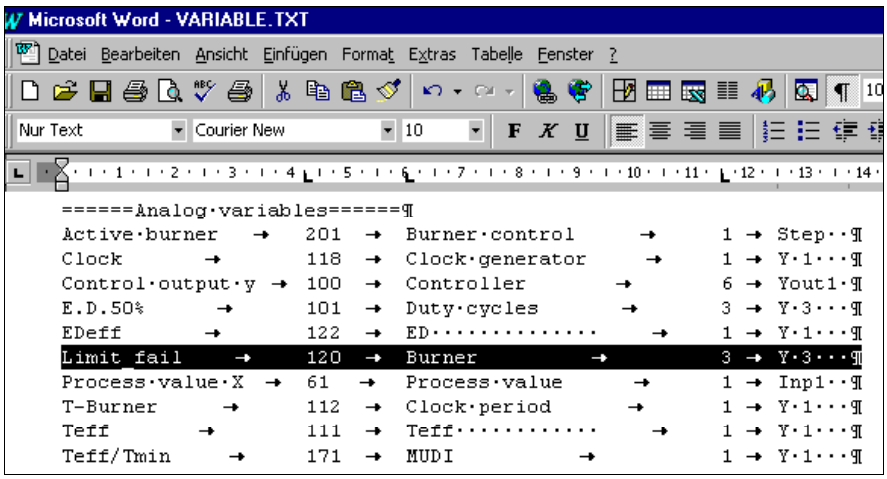
Defining variables

The Variables Editor names signals and checks the uniqueness of assigned descriptions. This enables connecting lines to be replaced, which increases readability and transparency of the engineering.

Export of variable list

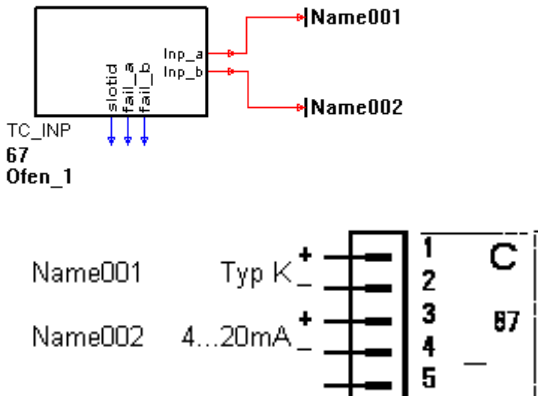
The assigned variable names can be exported as a text file for subsequent processing e.g. with Word or Excel. The list contains the following, sorted according to analog and digital variables:

- the names of variables
- the block no. of the source
- the title of the source
- the consecutive no. of the source
- the meaning of the connection
  (e.g. Weff)



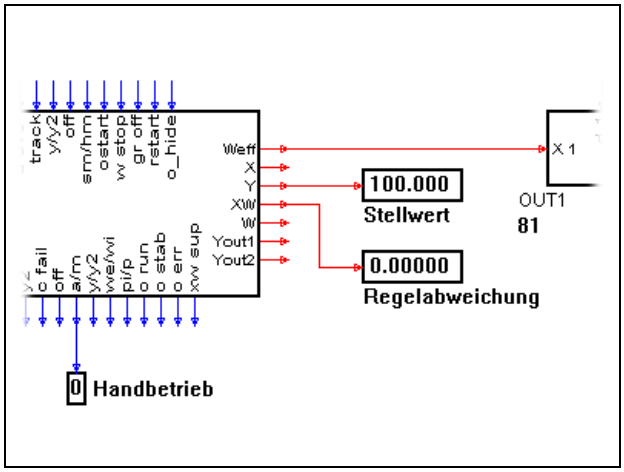
Connecting diagram

Depending on the selected hardware version and the connected inputs/outputs, a connecting diagram is generated interactively, as described in the data sheet. With 1-channel I/O functions (INP1...6, Out1...4) the assigned block name will be displayed. With multi-channel I/O functions (DINPUT, DIGOUT, plug-in "Option C") the block name is not clear! Therefore, the names of the assigned variables are printed out.



Online display

Digital and analog displays in any position of the engineering greatly simplify the testing of signals and results during on-line operation (F4).



Shifting in the survey

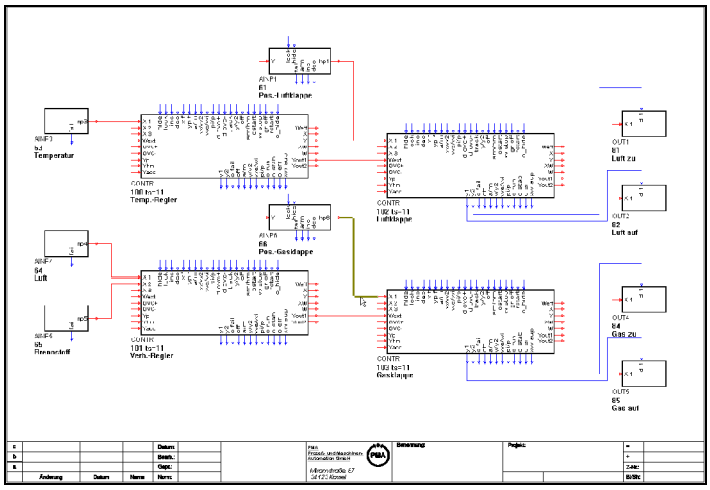
Blocks selected with the capture frame in the survey can be shifted (moved) with the mouse. The connections are re-drawn automatically.

Text blocks

The menu item <*Edit*><*Add text*> enables you to insert a line of explanatory text anywhere in the Engineering. The text is entered in the parameter dialog, and can be moved and deleted like any other block.
Particularly with large Engineerings, the text block could be hard to find after it has been entered and you want to position it. This where the "Search" function is useful.

Header

Print-out in a framed layout including a header in which you can insert your company logo, for example.



Reorganization of block numbers

After the deletion of functions, there will be "gaps" in the list of assigned block numbers.
The menu item <*Edit*><*Reorg Block No.*> opens a dialog box. After confirmation with OK, all the block nos. will be reorganized and are numbered consecutively. This has no effect on the processing sequence of the blocks !

Reorganizing a range of block numbers

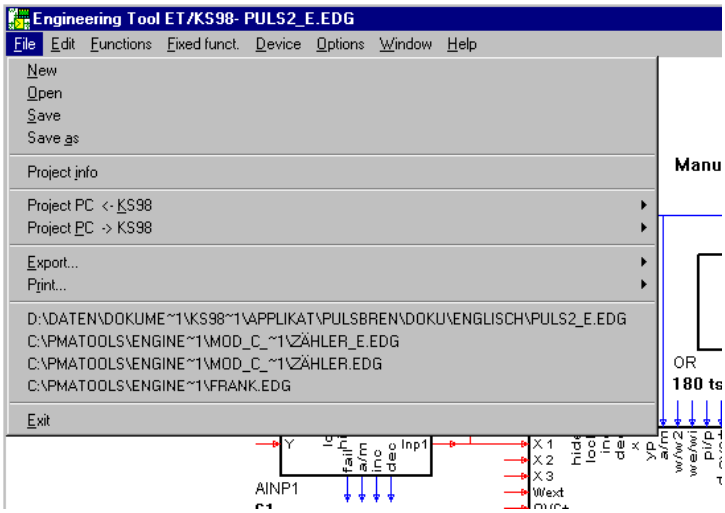
The dialog box <*Edit*><*ReorgBlock No.*> allows you to define a block number increase (e.g. 10). After confirmation with OK, all the block nos. above "100“ are increased by the specified amount, and any free spaces are eliminated.

Starting the ET/KS 98plus

The menu item <*Options*><*Basic settings*> opens a dialog box that allows you to select whether the survey or the normal display is shown after starting the Engineering Tool (from July 2000 onwards; Version 4.1 SR1).

"Drag & drop" with the Explorer

With the Explorer, you can select up to four *.EDG files from a list of Engineerings, and move copy them into the open working display using the "drag & drop" method. These four files are automatically entered under <*File*> as the four most recently edited Engineerings.
This eliminates the more tedious procedure via <*File*><*Open*><*Browser*>, and simplifies the opening of specific files for editing.



SIM/KS 98 Simulation program

Ctrl + G

Making a black & white copy
The display of the KS 98 will be copied into the clipboard and can be used in other applications for documentation purposes (e.g. text or graphic programs).

Alt + Print

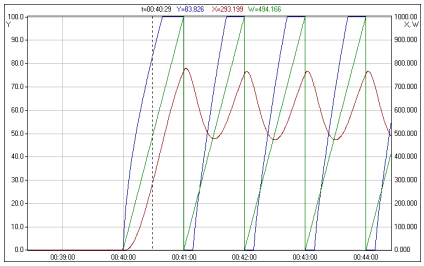
Copies the displayed window of the simulation software SIM/KS 98 into the clipboard (Windows function).

Ctrl + T

Switching the simulation software SIM/KS 98 into the "turbo mode"
Everything runs faster, even the transfer of large engineerings from ET/KS 98 to the simulation software SIM/KS 98!

Ctrl + C

Copying the trend window into the clipboard
Click on menu bar <*View*><*Trend*> of SIM/KS 98!
(Not to be confused with the KS 98 function VTREND !)



Ctrl + F

Trend Stop / Continue

Ctrl + P

Simulation Stop / Start

Cursor

By selecting <*Edit*><*cursor*> a cursor line is displayed in the trend window. The cursor can be positioned on any time mark within the trend. The corresponding values of x, w and y are displayed in the upper part of the window.

View

Trend window and Simulation window can always be displayed on top by selecting <*View*><*Always on Top*>