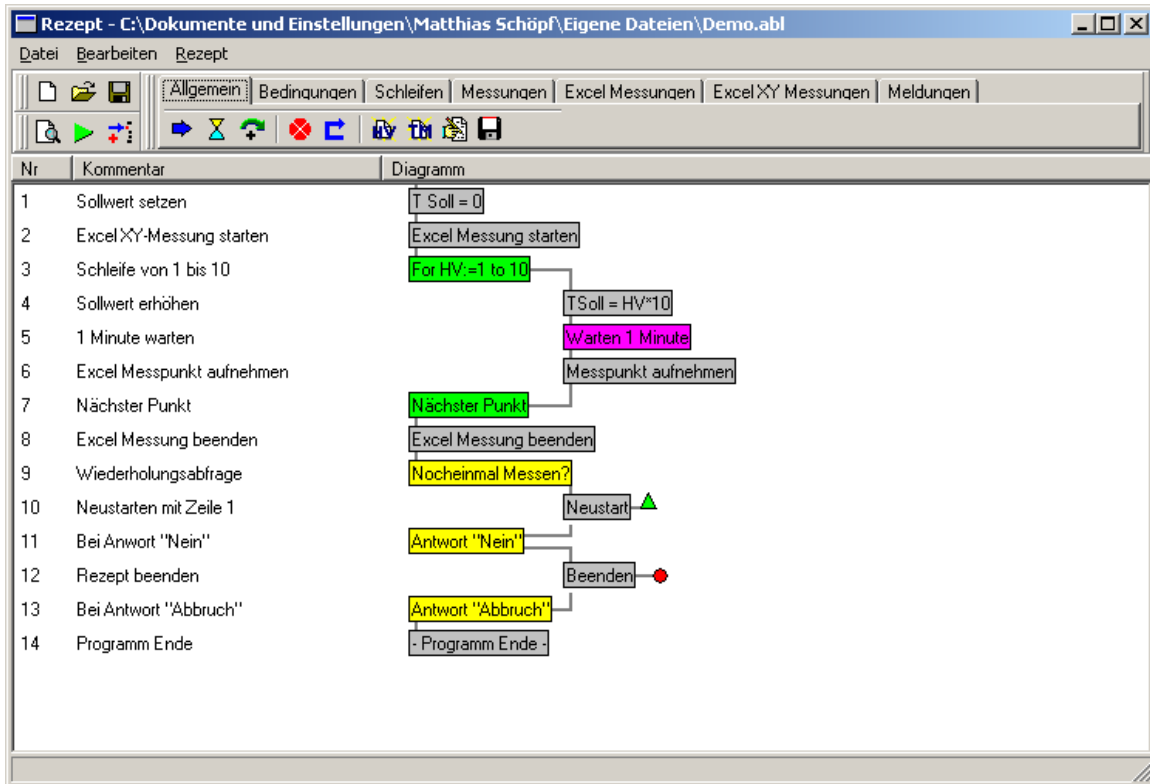


Recipe Control for MSR32

An additional module "Recipe Control" is now available for MSR32. With this module You can create a recipe which controls MSR32. A recipe can be edited graphically. Picture 1 shows the recipe editor with a small example recipe. The module is only available in german language at the moment.



Picture 1: Recipe editor with example recipe

Short explanation of the recipe control

Create a recipe graphically by selecting command blocks in the editor. Commands can be moved, copied, cut or deleted.

The commands are similar to Borland Delphi. Knowledge of Delphi can be helpful but is not necessary.

After the recipe is written and proofed it can be started from MSR32 or directly from the editor. In every MSR32 cycle the actual recipe command is executed . Depending on the command type more than one command will be executed.

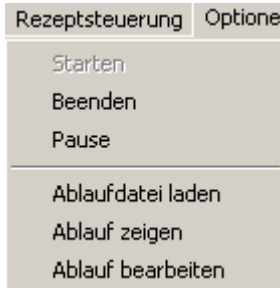
It is now possible to control MSR32 from this recipe. At the moment You can set the values of constant channels and init, start and stop all MSR32 measurement types.

A recipe always corresponds to a MSR32 configuration, because constants can be set and therefore these constants must be defined in the configuration.

Additional there are 30 timer variables and 99 help variables. Help variables can be preset to a value and can be named with a title and a unit and can be saved to a text file.

Handling the recipe control

In the MSR32 main menu there are the following menu items available:

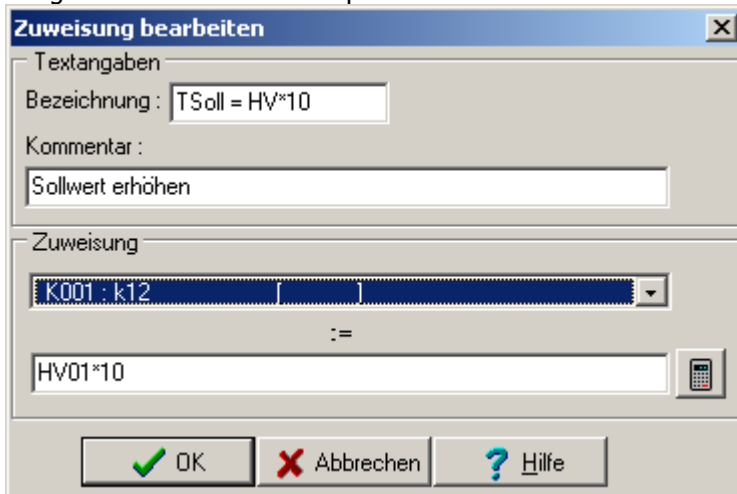


Picture 2 : MSR32 Menu items for recipe control

You can load an existing recipe. After loading You can start, stop or pause the recipe. The recipe state can be displayed , the current line is marked. You can also open the recipe editor. A recipe will always be checked when it starts.

Set up the commands

Command blocks can be edited with a double click on the corresponding line. Picture 3 shows an assign command as an example.



Picture 3 : Assign command form

Title and comment are properties of every command. As shown in picture 1 the title is the text in the box and the comment is displayed at the left side of the list. Title and comment can be edited by the user. Select a channel to which a value should assigned from a drop down list. All constant channels from the actual MSR32 configuration are available and all timer and help variables. The value will be calculated from a formula like in MSR32. Within this formula all defined MSR32 are available, also the timer and help variables.

Conditions for slopes, IF blocks are entered also as a formula. The result TRUE corresponds to a formula result of greater/equal than 1, FALSE corresponds to a value smaller than 1.

Overview of available commands

1. Assign command

You can set a MSR32 constant, a timer or a help variable to a new value. The assignment works in the way Channel = Formula.

e.g.: `K001 = HV01*10 + K123 + TM10`

2. Waiting slopes

The waiting time can be entered as a time value directly or as a condition. The next command is executed after the wait block is over.

e.g.: Wait until `K001>10`

3. Conditions

As in every programming language there are conditions in the recipe control. There are simple conditions as IF – END or the condition IF – ELSE - END

e.g.:

```
IF K001>10 // if K001 is greater than 10..
  K123=20 // then set K123 to 20
ENDIF // end of block
```

```
IF K001>10 // if K001 is greater than 10..
  K123=20 // then set K123 to 20
ELSE // otherwise..
  K123=50 // set K123 to 50
ENDIF // end of block
```

4. Slopes

Analogue to Delphi there are three slope types

For – Next Slope : Enumerates a variable from the start value to the end value

Repeat – Until Slope: Repeats the block until the UNTIL condition is true

While - Do Slope : While the WHILE condition is true the block will be executed

5. Measurements

All MSR32 measurement types can be initialised, started, paused and stopped from with the recipe. All measurements from the recipe cannot be handled from MSR32, a warning will be given. To avoid changes in a recipe file, the filename of a measurement will be created automatically with a current number and a name. Additional it is possible to add the date to the filename.

e.g. 12092002001Test.MW3 with 12092002 for the date, 001 as the current number.

Files can not be overwritten with a recipe control.

6. Messages and dialogs

Additional You can show messages , Yes-No dialogs or input dialogs, which will be on the screen until the user closes the dialogs

7. Some other functions

There are commands for restart, recipe stop, set and save help variables and slope exits.