



Software SmartControl - Manual

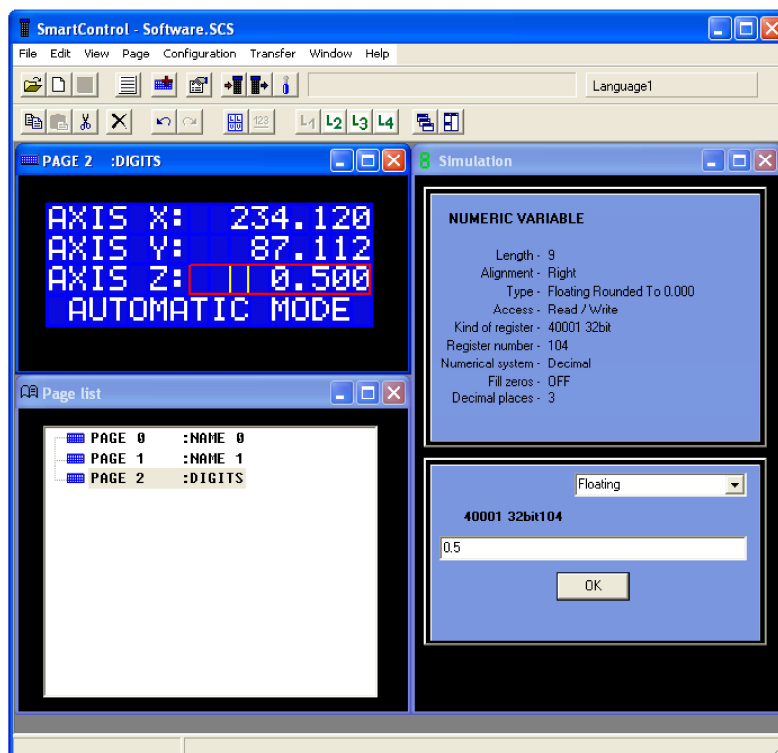




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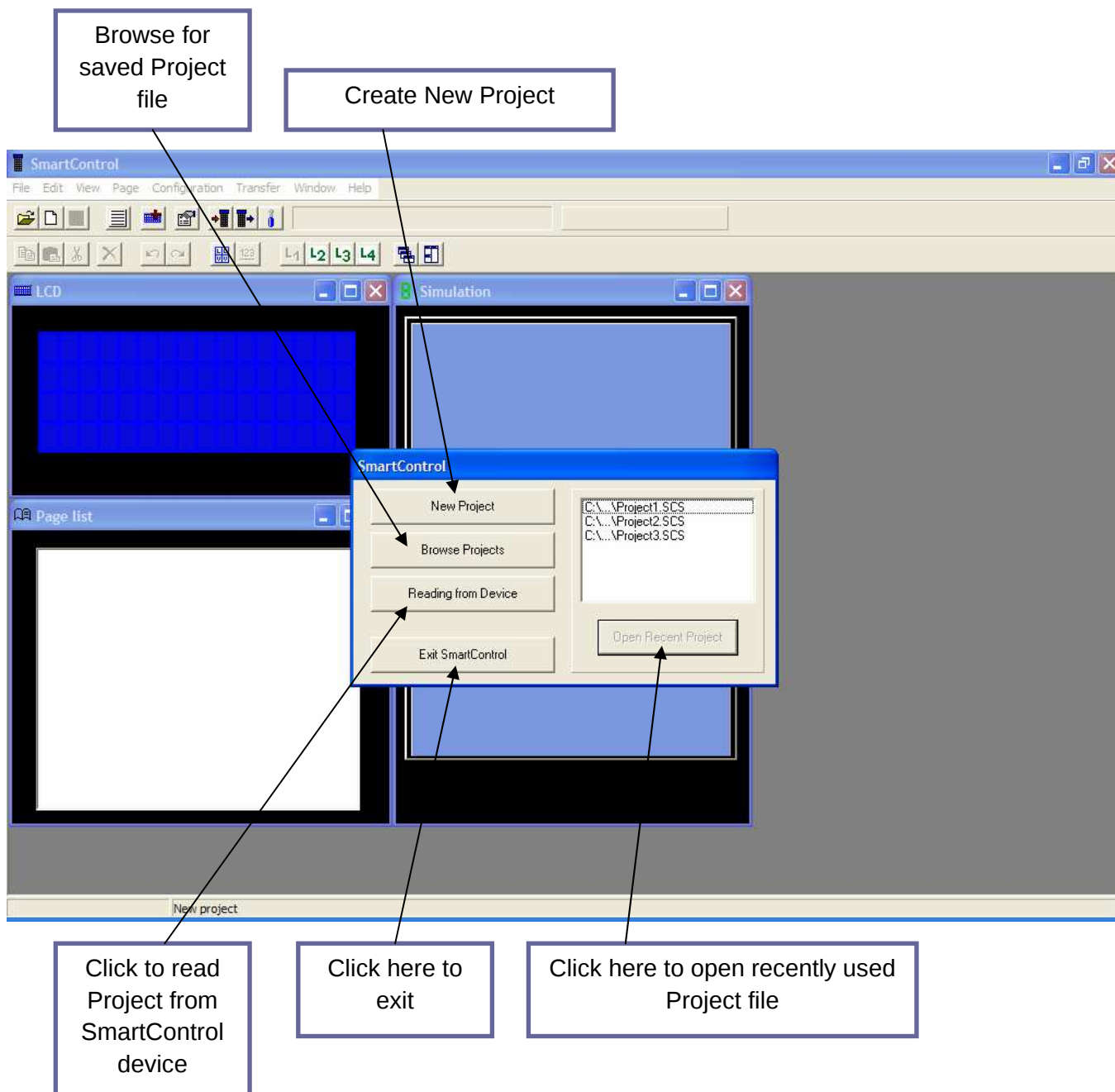
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1. START



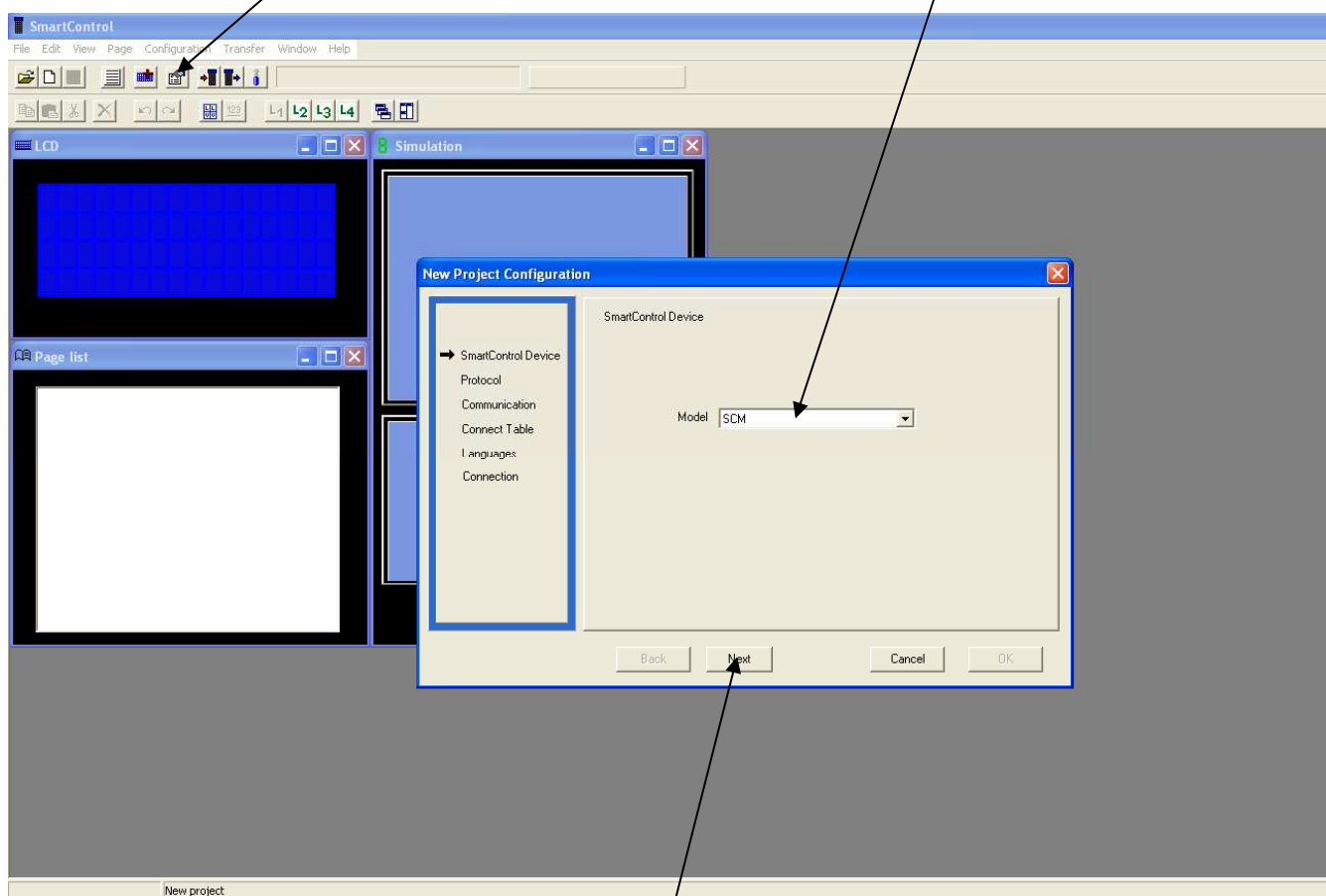
2.CONFIGURATION

2.1. [SmartControl Device] SmartControl version choice

Configuration window opens automatically after clicking the NewProject button.

To reopen the configuration window click this icon or select Menu-Configuration

This version SmartControl Software support all models of SmartControl devices SCM

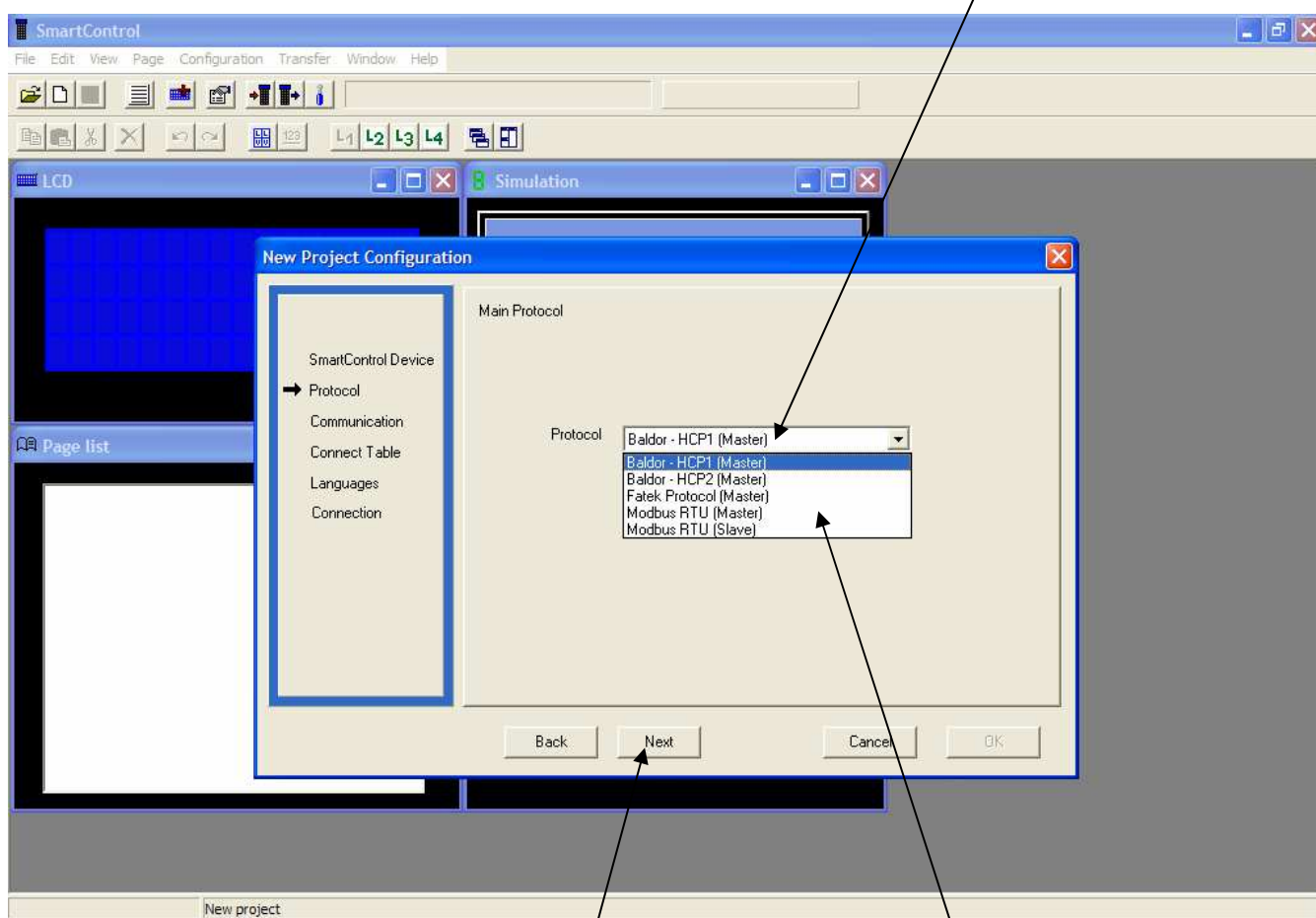


Click NEXT

2.2 [Protocol] “Main” channel protocol choice

Note:

After protocol confirmation this field is no longer editable because of specific protocol properties.

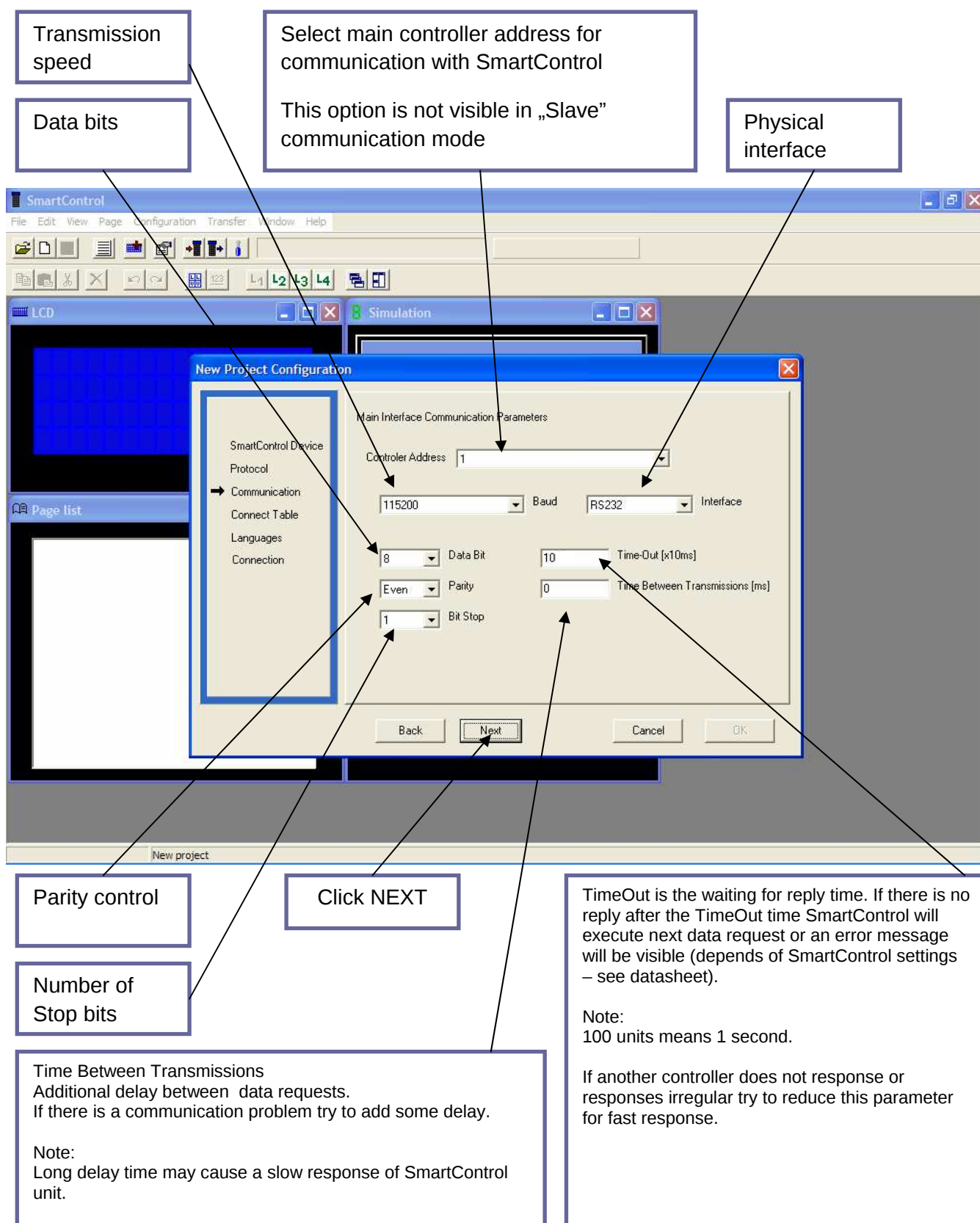


Click NEXT

Choose communication protocol for „Main” communication channel.

This protocol is used to control page number, keys, leds, showing and editing variables.

2.3 [Communication] Communication parameters for „Main” channel



Transmission speed

Data bits

Select main controller address for communication with SmartControl

This option is not visible in „Slave” communication mode

Physical interface

SmartControl

File Edit View Page Configuration Transfer Window Help

LCD

Simulation

New Project Configuration

SmartControl Device

Protocol

Communication

Connect Table

Languages

Connection

Main Interface Communication Parameters

Controller Address 1

115200 Baud RS232 Interface

8 Data Bit

10 Time-Out (x10ms)

Even Parity

0 Time Between Transmissions (ms)

1 Bit Stop

Back Next Cancel OK

Parity control

Click NEXT

Number of Stop bits

Time Between Transmissions
Additional delay between data requests.
If there is a communication problem try to add some delay.

Note:
Long delay time may cause a slow response of SmartControl unit.

TimeOut is the waiting for reply time. If there is no reply after the TimeOut time SmartControl will execute next data request or an error message will be visible (depends of SmartControl settings – see datasheet).

Note:
100 units means 1 second.

If another controller does not response or responses irregular try to reduce this parameter for fast response.

2.4 [Connect Table] "Main" channel communication table

Register types depends of protocol selection.

Register type for keyboard,
A 32 bit register must be used.
Each bit 0..17 represents one key.

Type – variable type.

Depend of communication protocol selection you can choose:

Decimal - for integer values

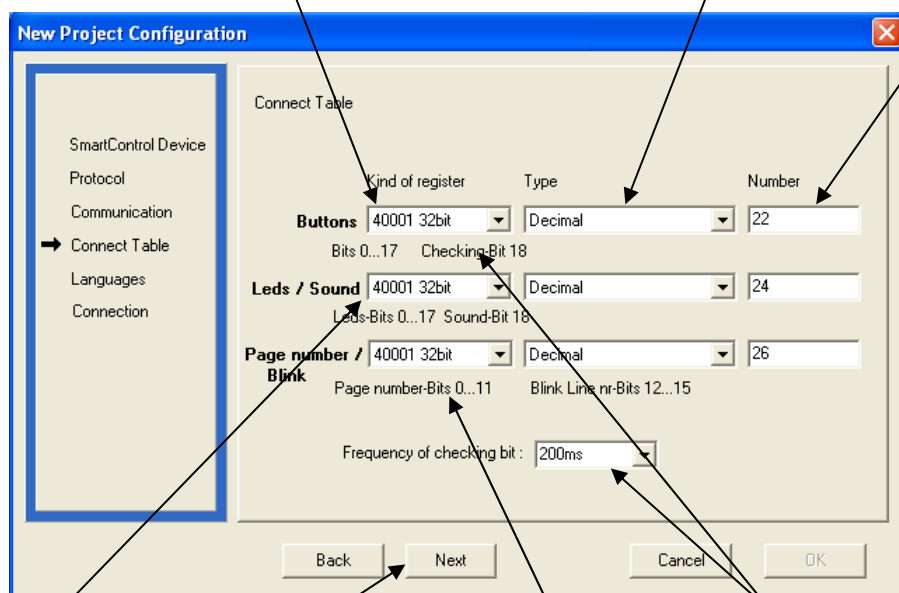
Floating Rounded To Integer – floating point variable rounded to integer.
Floating Rounded To 0.0– floating point variable rounded to 1st decimal place.

Floating Rounded To 0.00– floating point variable rounded to 2nd decimal place.

Floating Rounded To 0.000– floating point variable rounded to 3rd decimal place.

Floating Rounded To 0.0000– floating point variable rounded to 4th decimal place.

Floating Without Rounding – floating point variable without rounding.



Register number



Click NEXT

Register type for keyboard leds .
A 32 bit register must be used.
Each bit 0..17 represents one keyboard led.
By setting the bit 18 generates a buzzer sound.

Register type for page number.

May be 32 or 16 bit register.

Setting the bits 12..15 causes a display line flashing.

bit12 – flashing of first lint

bit13 – flashing of second line

(...)

Bit No. 18 is a bit to control the connection SmartControl (which is master) with the controller.

Bit 18 changes its value at a specific time. Adjustable from 100 ms to 8000 ms.

Writing the appropriate procedure in the controller, Which is controlling changes of this bit, you can detect a break connection or damage SmartControl.

If the state of this bit stop to change, you can respond, for example to cut off the machine drives(safety function).

You can switch off this function, choosing "OFF".

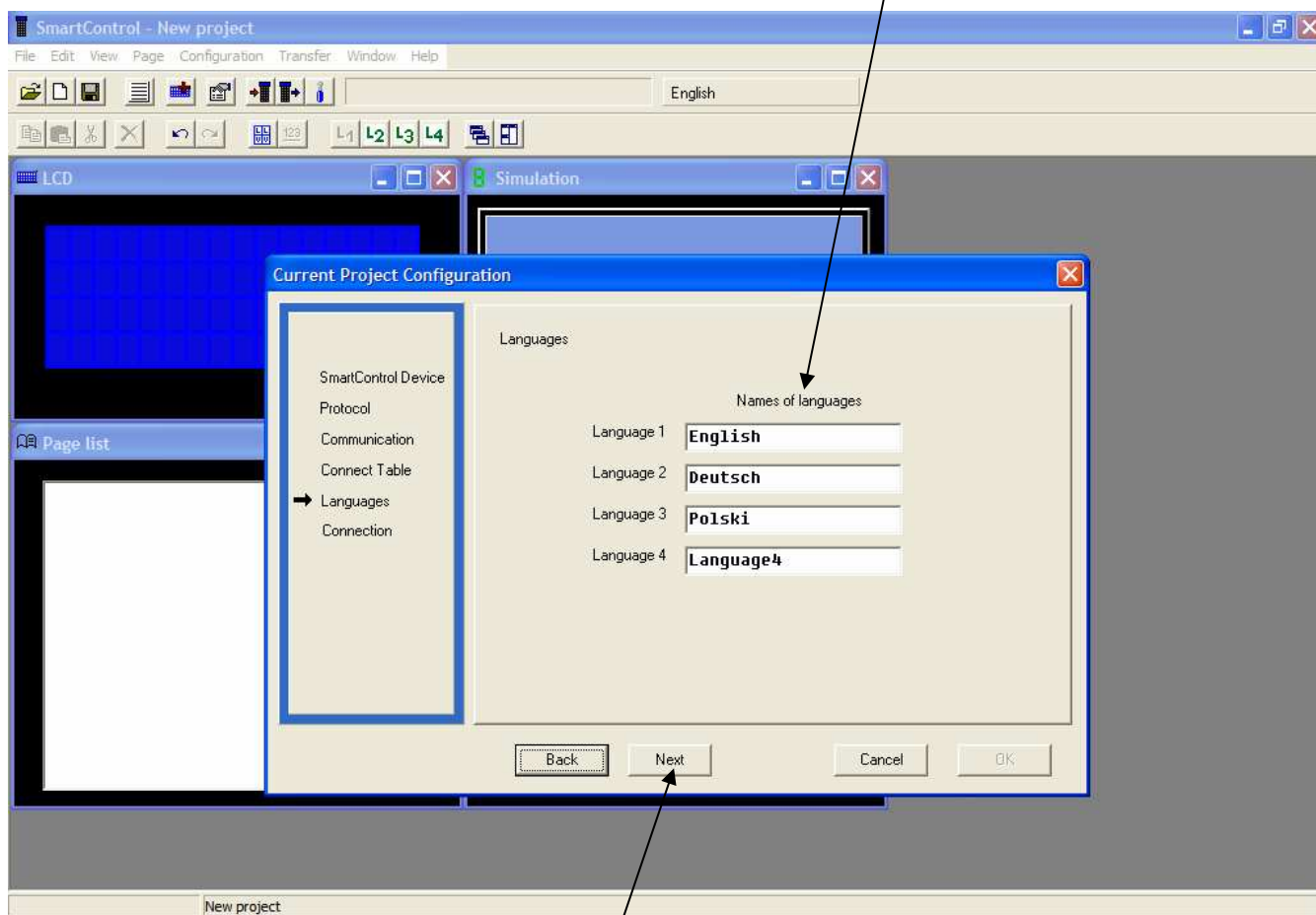
2.5 [Languages] Language table

Specify language names.

This names will be visible in SmartControl Menu.

(see SmartControl datasheet).

Max 16 character for one name



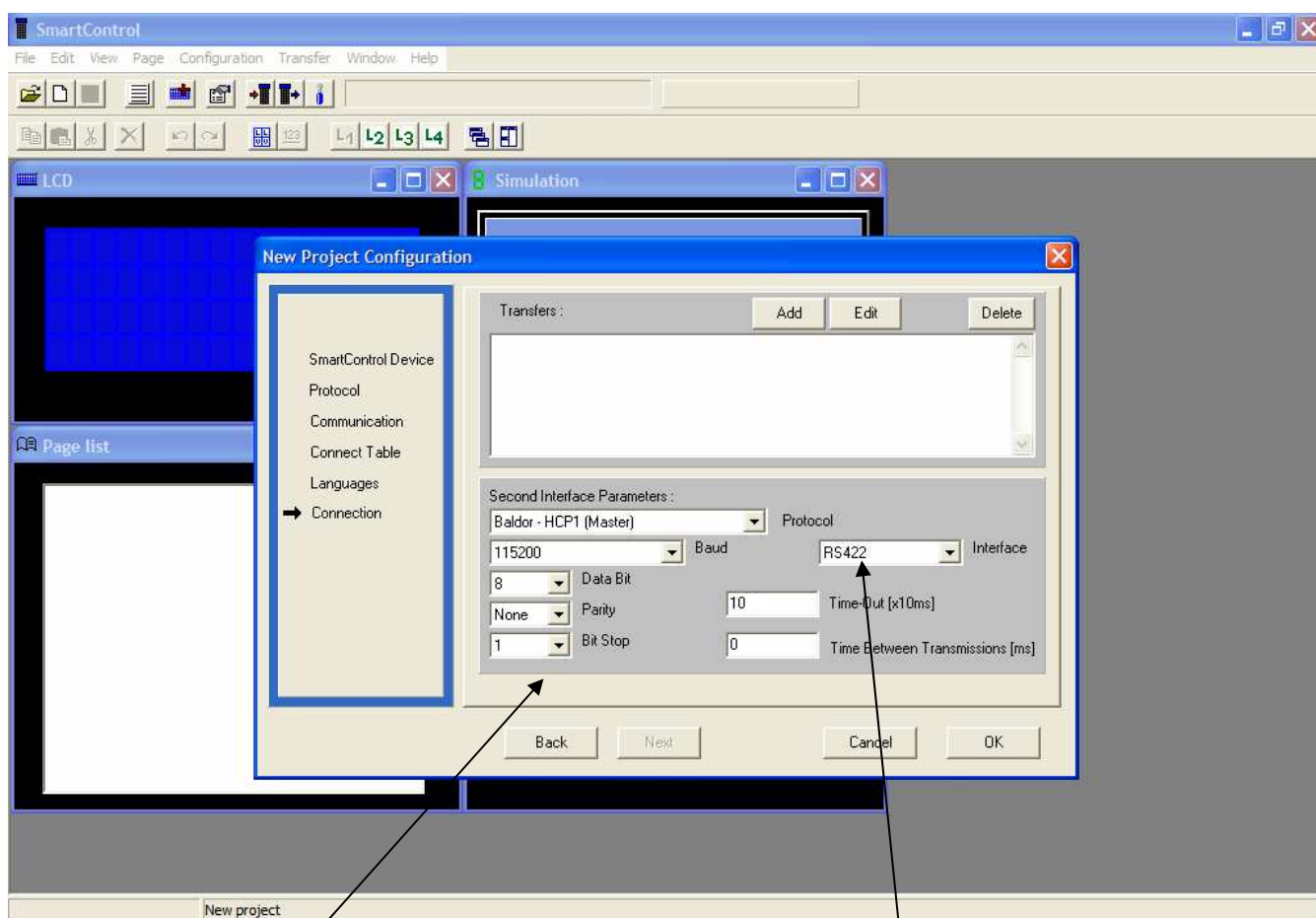
Click NEXT

2.6 [Connection] Connection controllers (optional channel SECOND) SmartControl can be connected to both communication channels in one time.

To transfer data from the MAIN channel to SECOND channel and vice versa, you must add a connection in "Transfers" window.

To disable the SECOND channel, leave the window "Transfers" empty.

2.6.1 Communication parameters for SECOND communication channel



Settings like for MAIN channel

Interface selection reduced to:

RS422
RS485
RS485 4W
or
RS232
USB

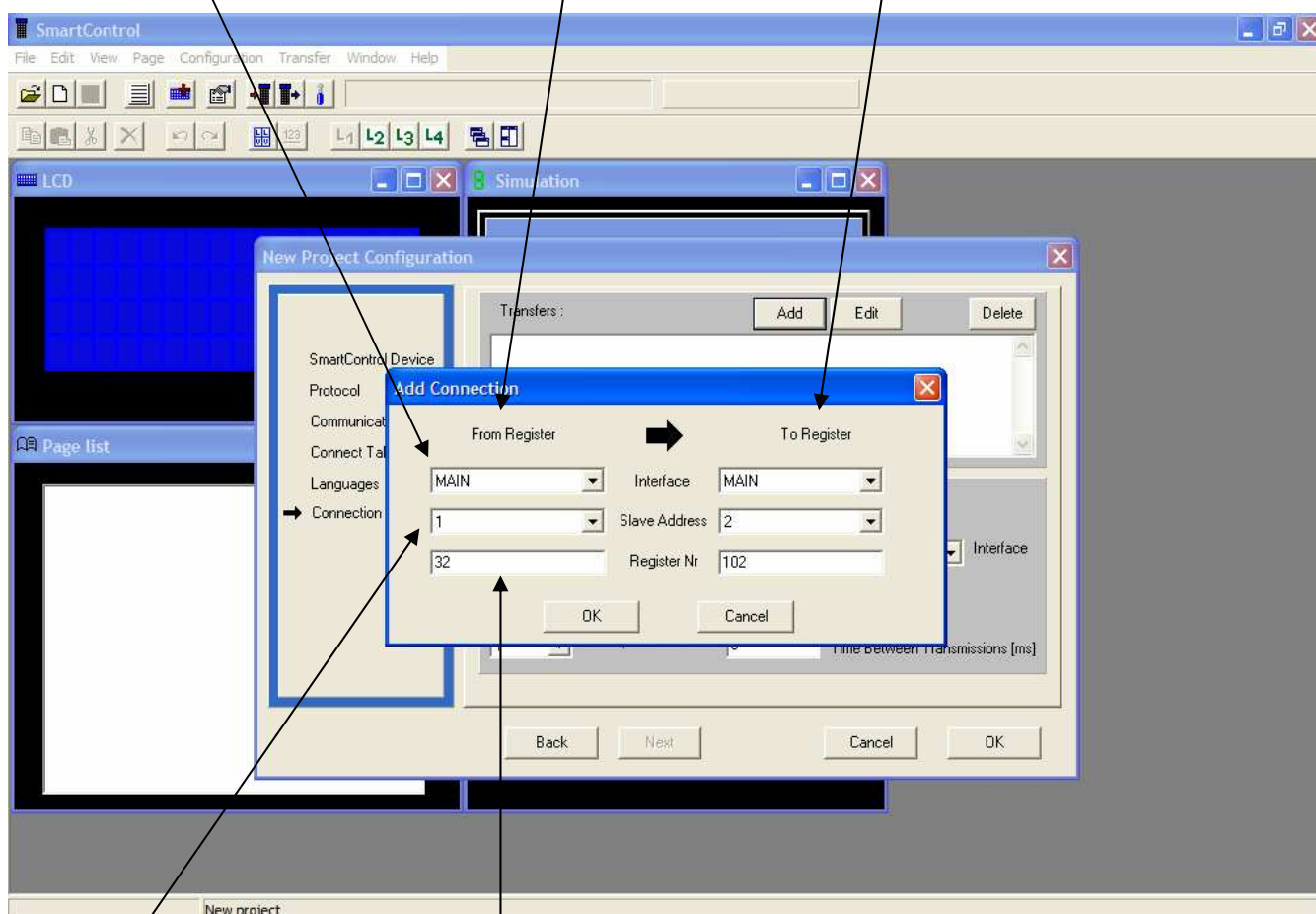
Depends of MAIN channel interface selection.

2.6.2 Adding a register connection between controllers

Communication channel MAIN or SECOND

Read from 32 bit register (two 16 bit registers)

Write to 32 bit register (two 16 bit registers)



Slave controller address

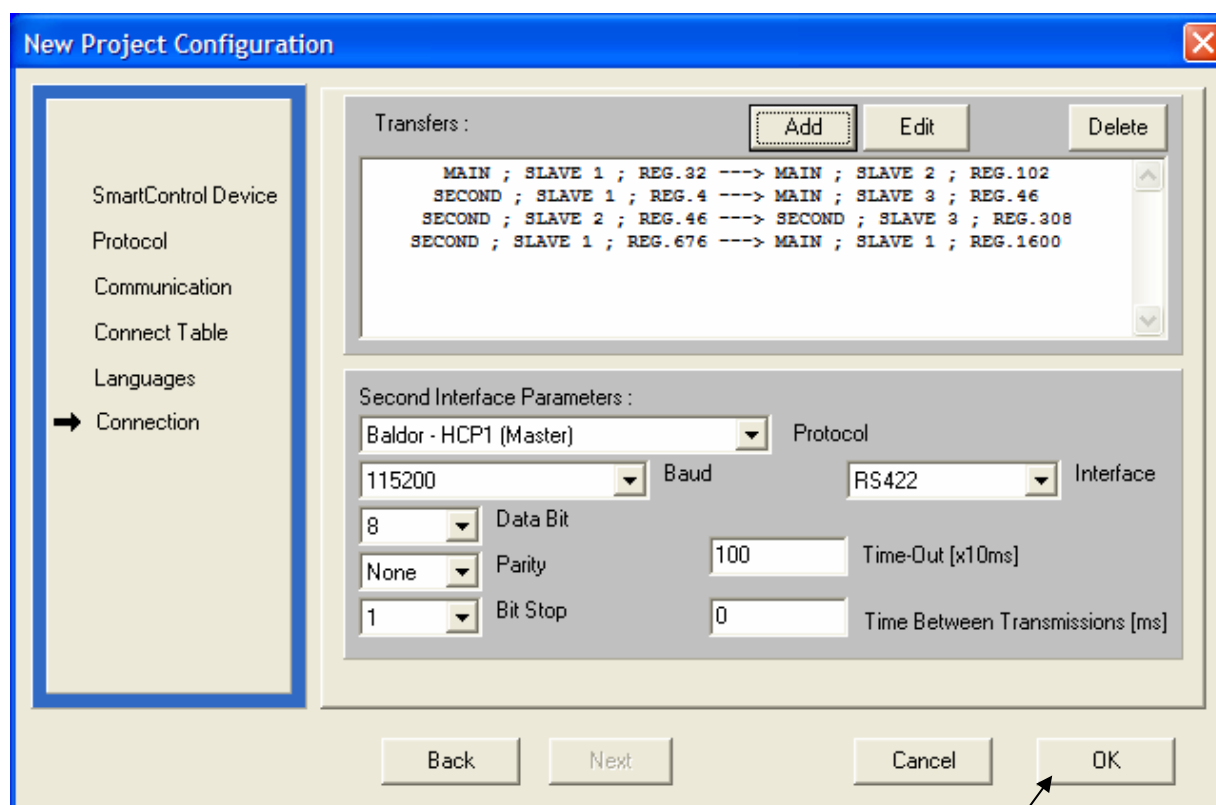
Register number

In this example register 32 will be copied into register 102, and register 33 will be copied into register 103

Note:

In most type of controllers a 32 bit register consists of two 16 bit registers. To avoid overlap errors use only even register numbers..

2.6.3 Register connection example



New Project Configuration

SmartControl Device
Protocol
Communication
Connect Table
Languages
→ Connection

Transfers : Add Edit Delete

```
MAIN ; SLAVE 1 ; REG.32 ---> MAIN ; SLAVE 2 ; REG.102
SECOND ; SLAVE 1 ; REG.4 ---> MAIN ; SLAVE 3 ; REG.46
SECOND ; SLAVE 2 ; REG.46 ---> SECOND ; SLAVE 3 ; REG.308
SECOND ; SLAVE 1 ; REG.676 ---> MAIN ; SLAVE 1 ; REG.1600
```

Second Interface Parameters :

Baldor - HCP1 (Master) Protocol

115200 Baud RS422 Interface

8 Data Bit

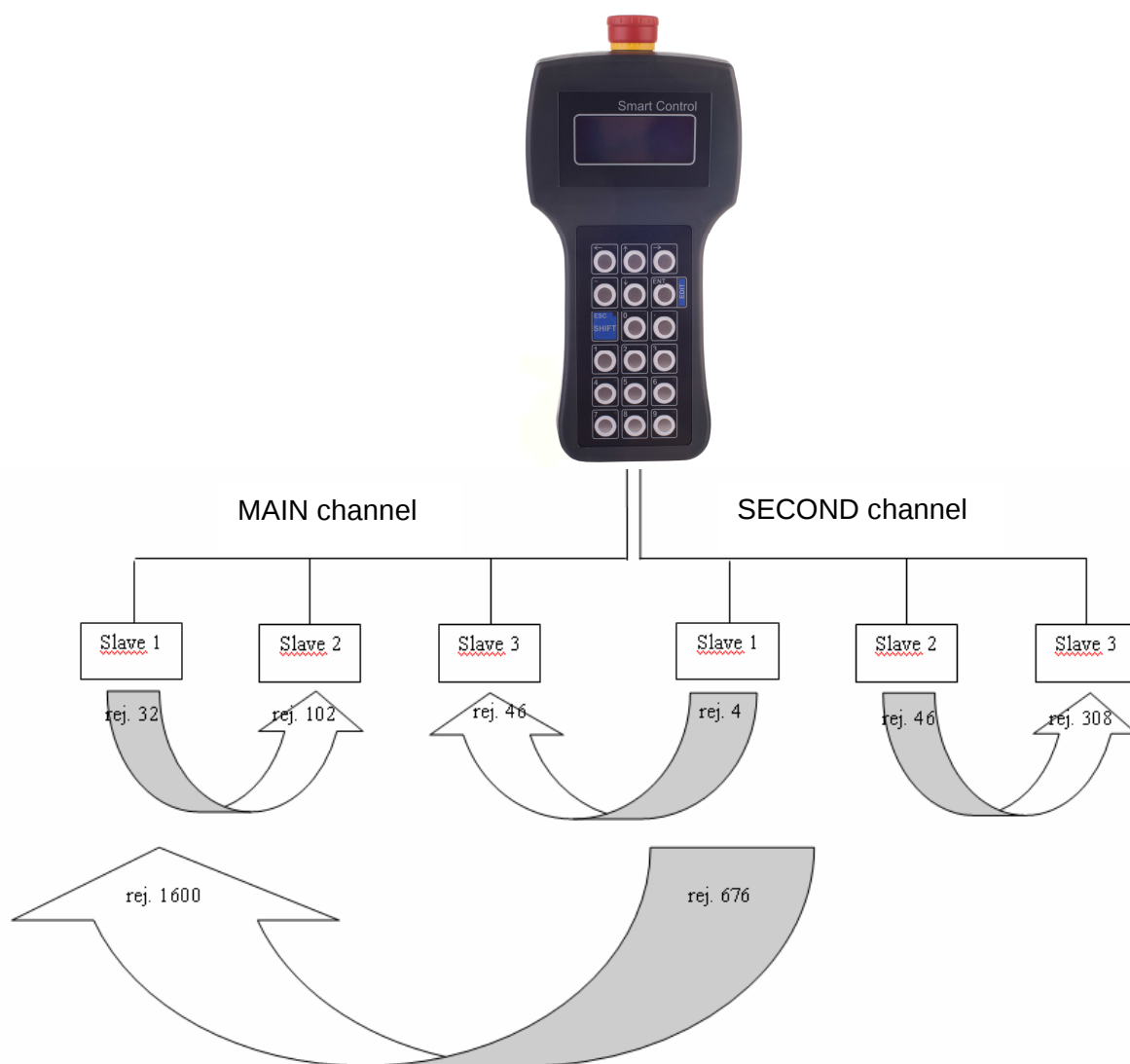
None Parity 100 Time-Out [x10ms]

1 Bit Stop 0 Time Between Transmissions [ms]

Back Next Cancel OK

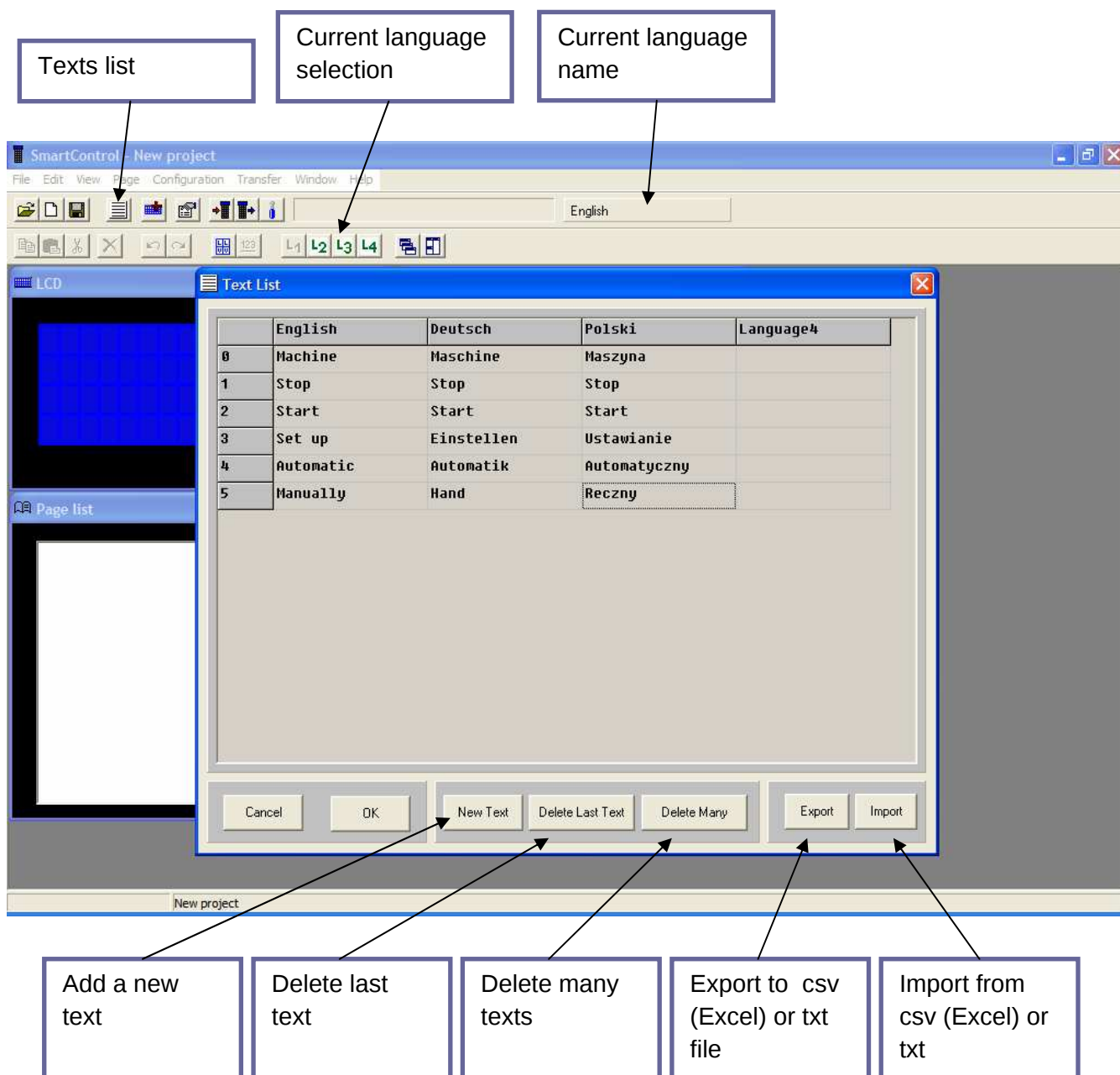
Click OK. to finish configuration

2.6.4 Register data flow for previous example



3. TEXTS

3.1 Text list edit tools



Texts list

Current language selection

Current language name

English

Text List

	English	Deutsch	Polski	Language4
0	Machine	Maschine	Maszyna	
1	Stop	Stop	Stop	
2	Start	Start	Start	
3	Set up	Einstellen	Ustawianie	
4	Automatic	Automatik	Automatyczny	
5	Manually	Hand	Reczny	

Cancel OK New Text Delete Last Text Delete Many Export Import

Add a new text

Delete last text

Delete many texts

Export to csv (Excel) or txt file

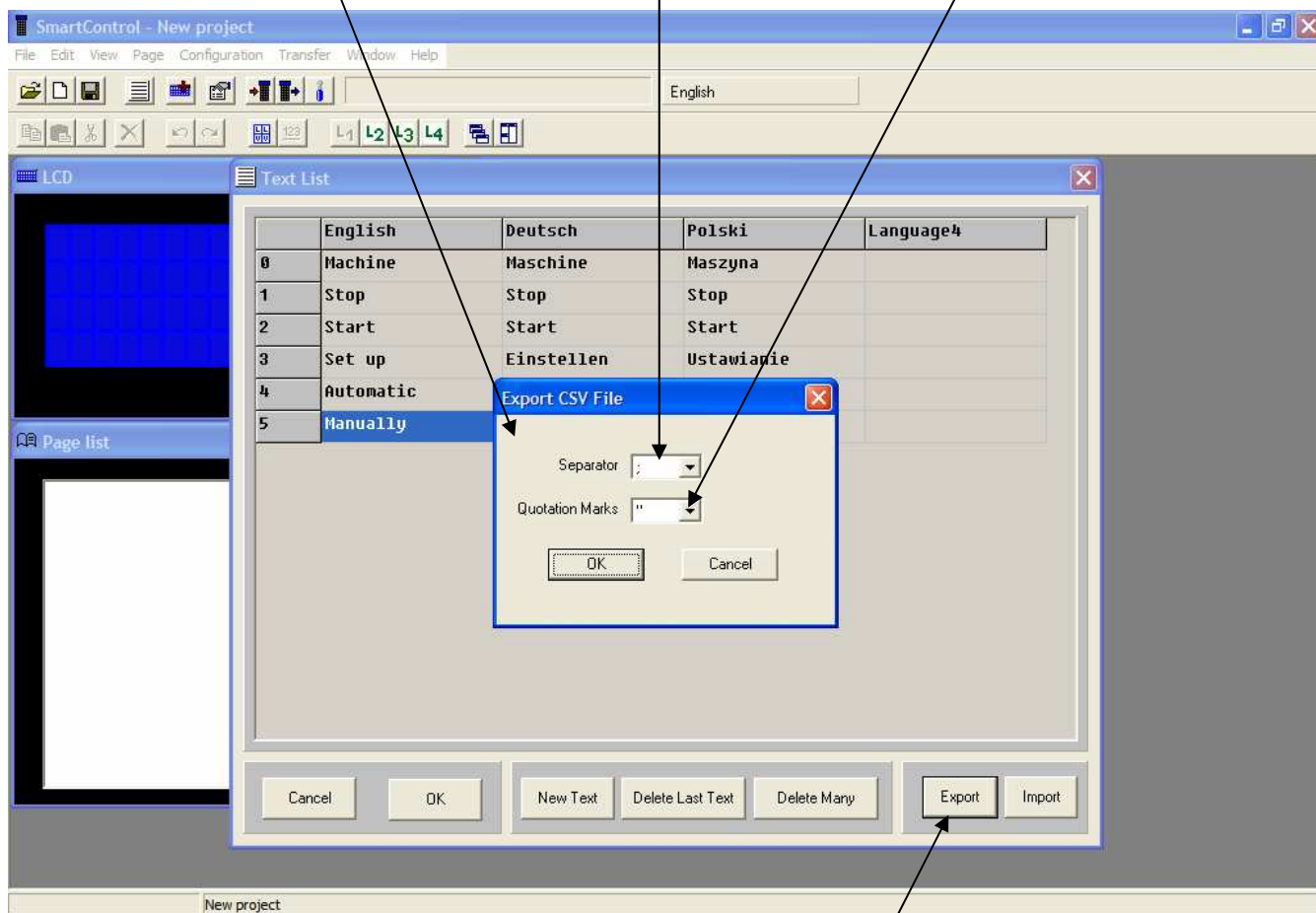
Import from csv (Excel) or txt

3.2 csv (Excel) or txt file export

Default values are good for most of cases.

Column separator

Quotation marker

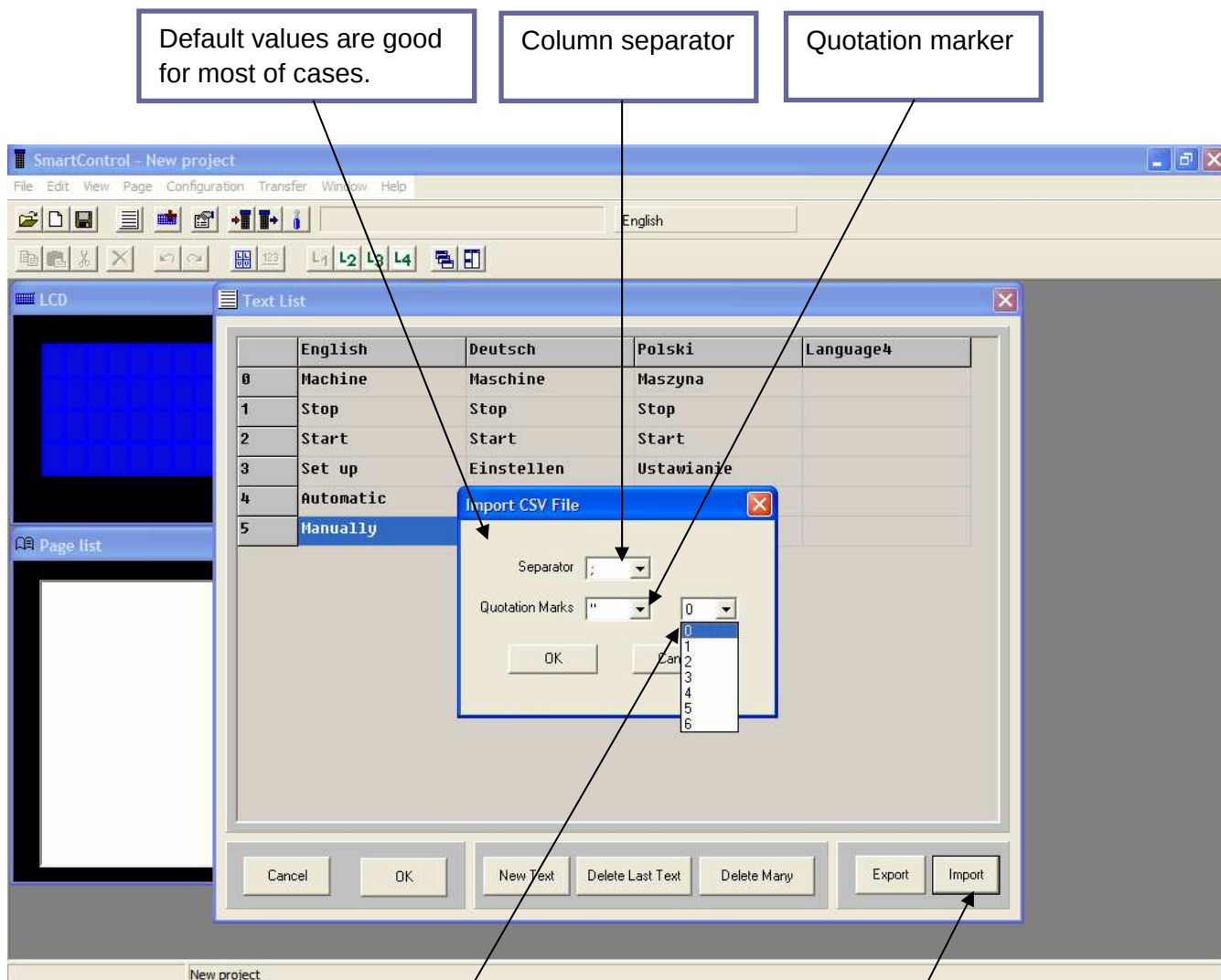


Export

This file can be edited in MS Excel application.

To open this file select File-Open menu, choose CSV file extension then click Open.

3.3 csv (Excel) or txt file import



Select imported text position.

Note:

All texts from this value will be replaced with imported texts.

To add a text at the end of text table choose the last row number (row 6 in this example)

4.PAGES

4.1 Adding a new page

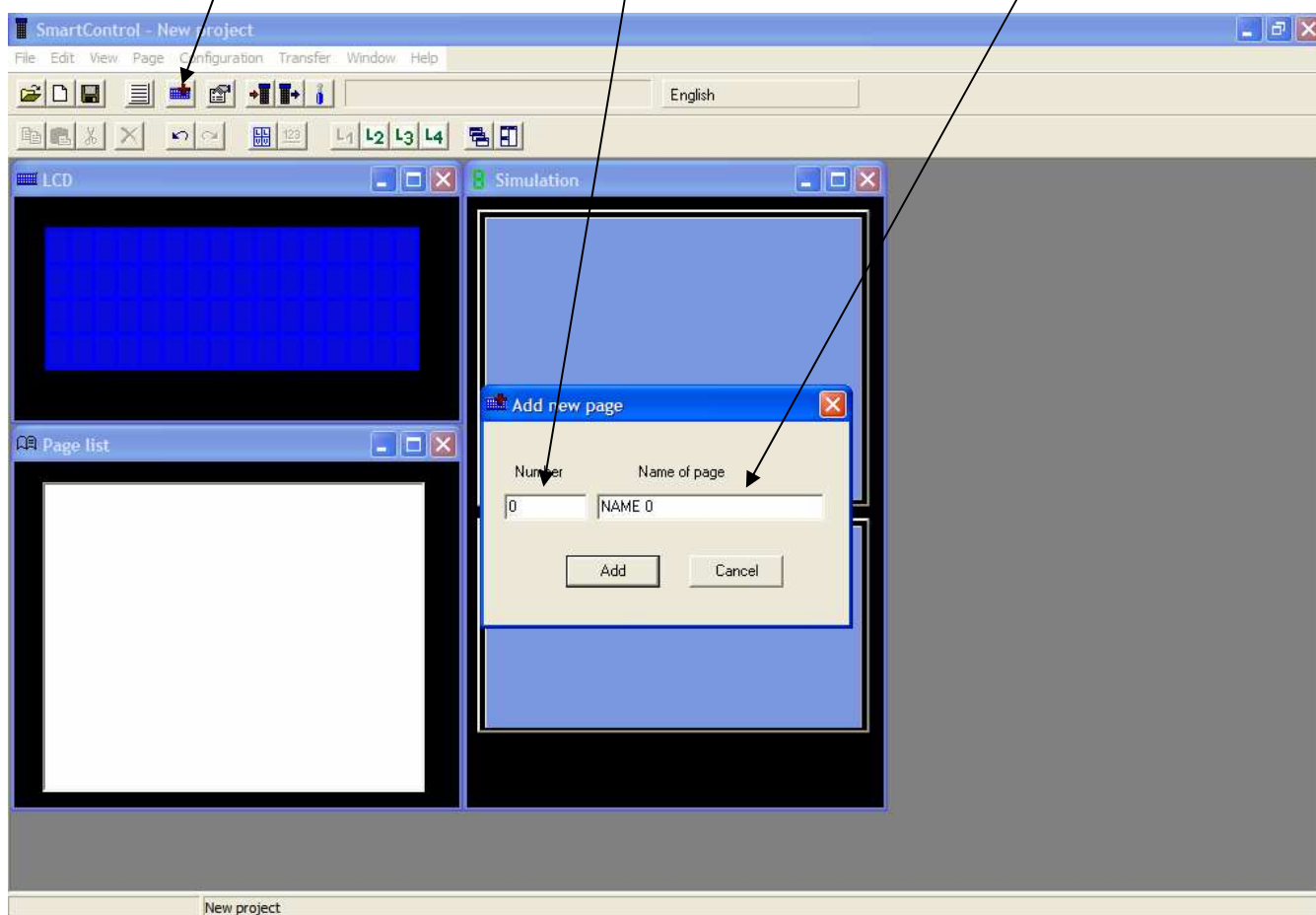
Page number.

Writing into page register

(see CONFIGURATION) a value equal to the page number will display this page

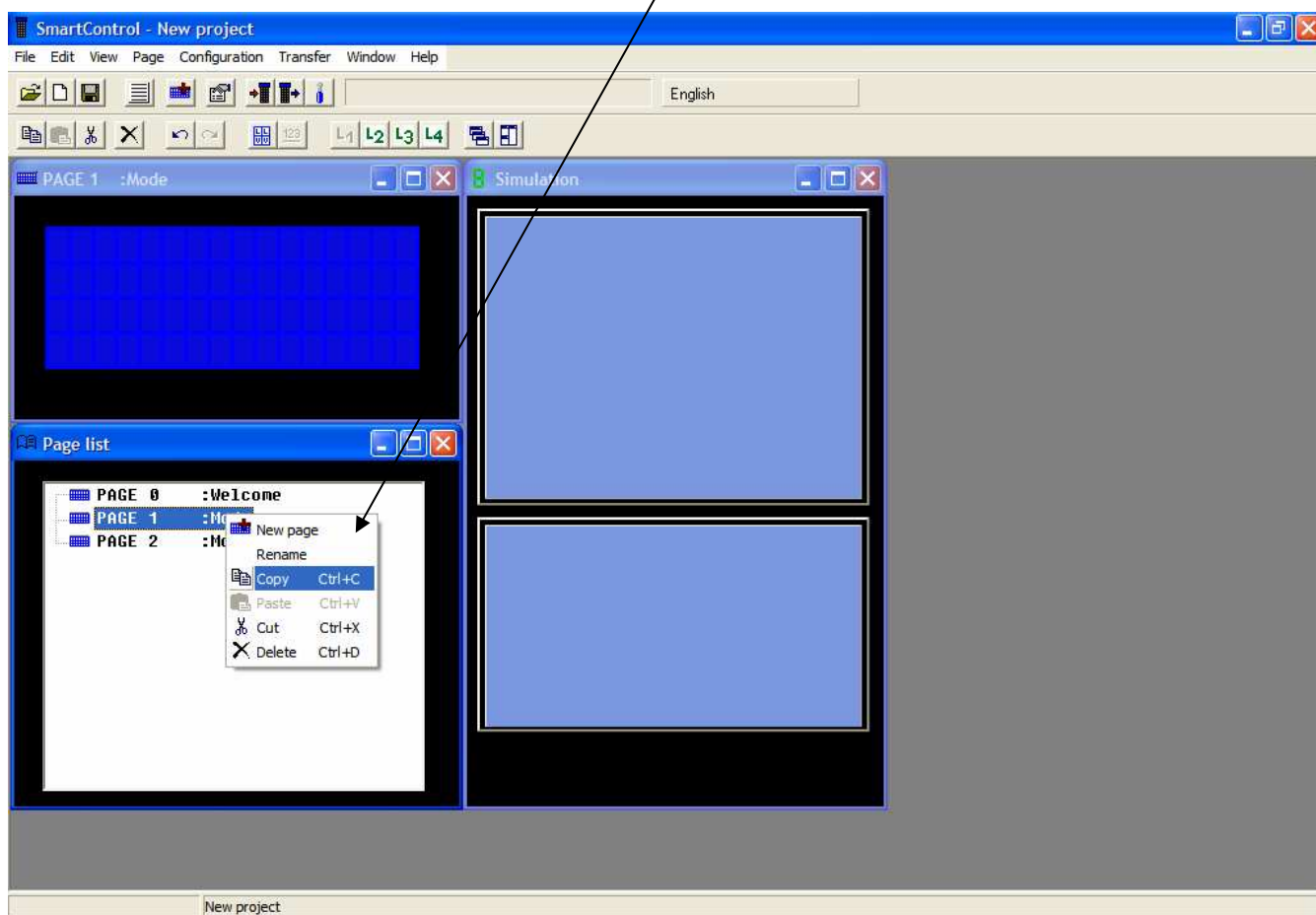
Add a New page

Page name



4.2 Pages control

Additional options are visible on right-click

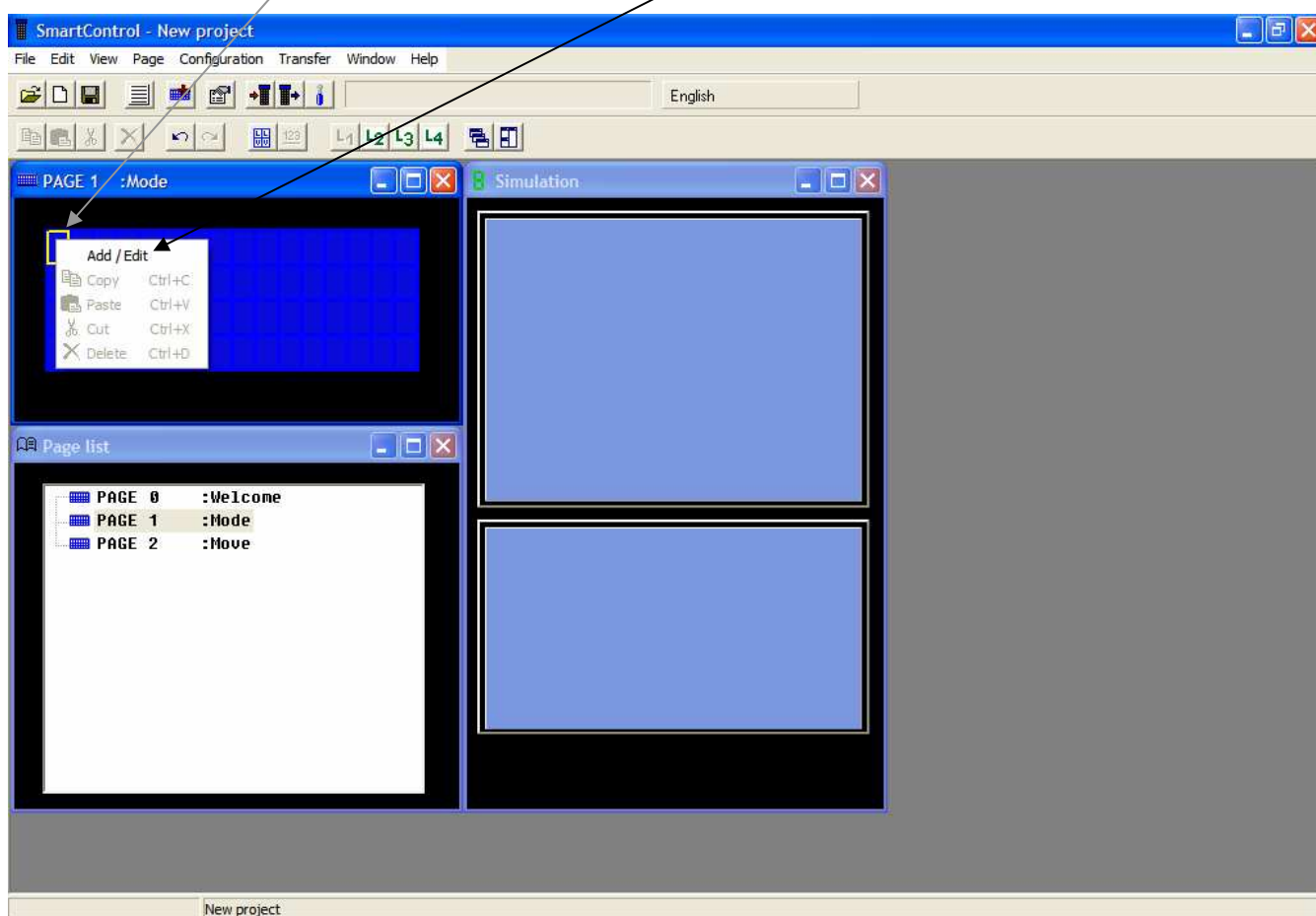


5. CONSTANT TEXT AND VARIABLES FIELDS

5.1 Adding a New field

Select a field position by left-click.

Click the right mouse button and choose „Add / Edit” option



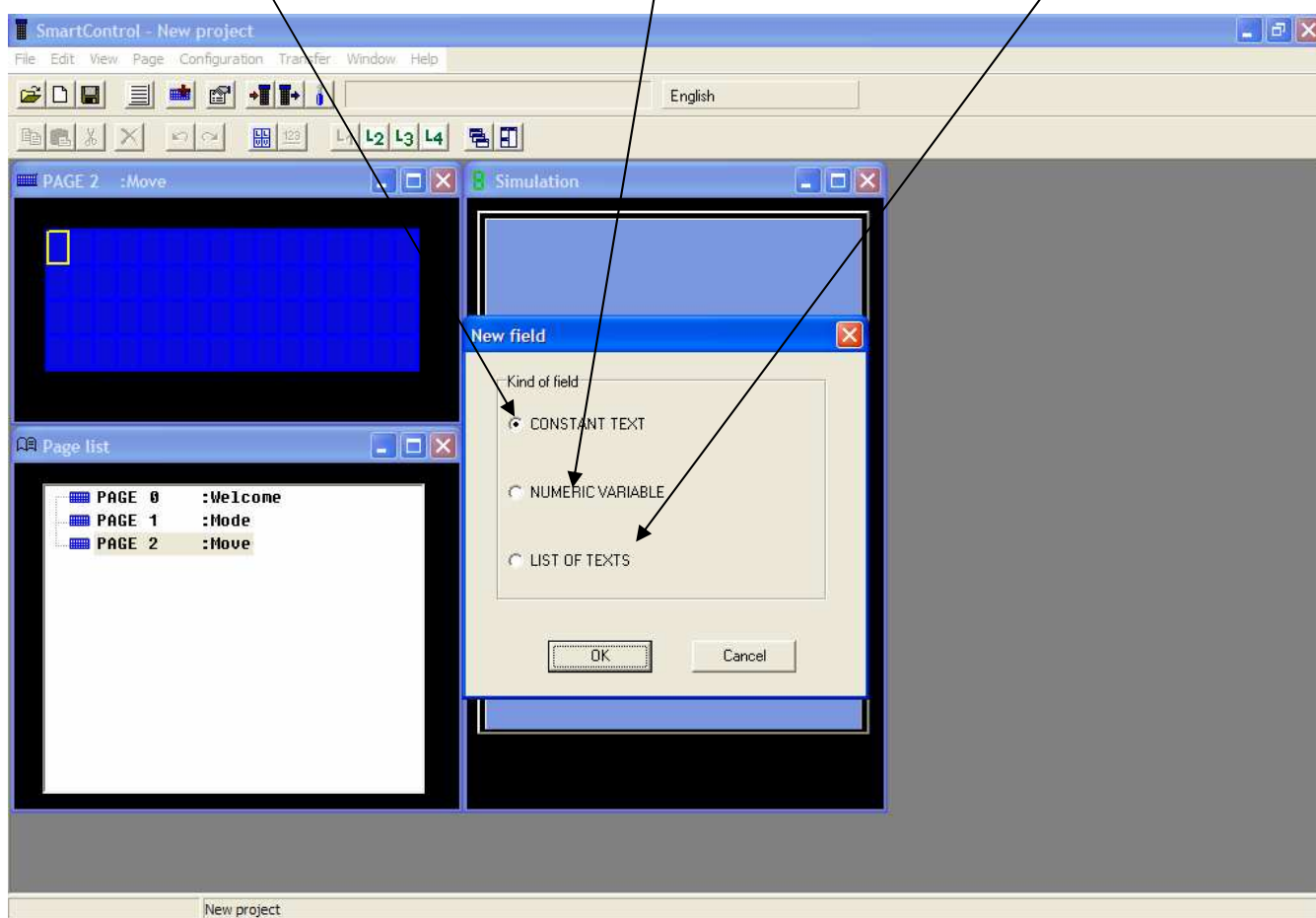
5.2 Selecting the type of field

Three field type on SmartControl:

Constant text field

Numeric variable field

Replaceable text field

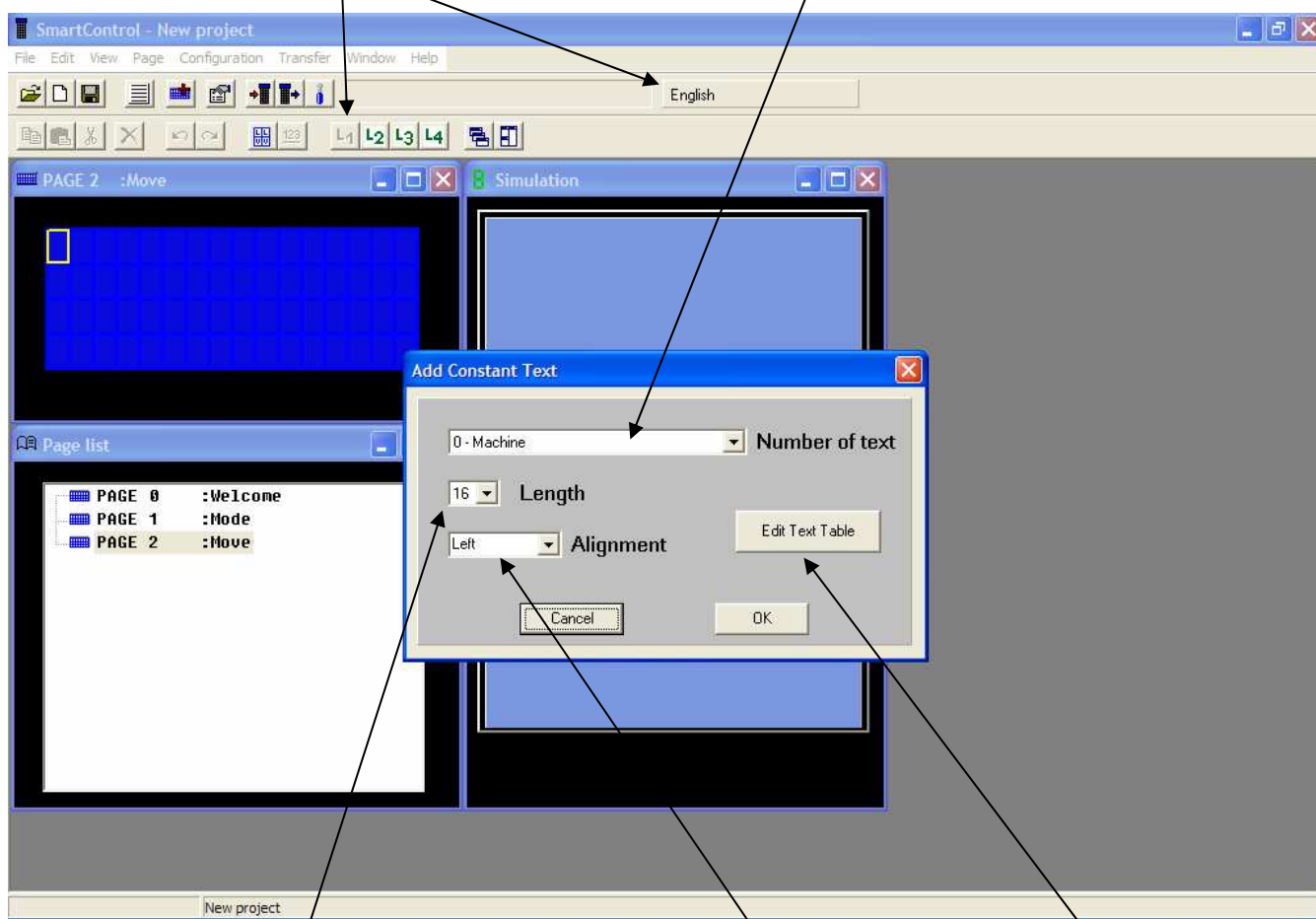


5.3 Adding a constant text field

Currently selected language

Select text from text list.

This option contains a current language text versions



Field length.

Character count is limited by count of free display places.

Fields can not overlap.

A field can be shorter like a text. In this case a text will be cut to field length.

Text alignment

Add an extra text to the text list.

5.4 Adding a numerical variable field

Set field length.

Characters count is limited to the display free space.

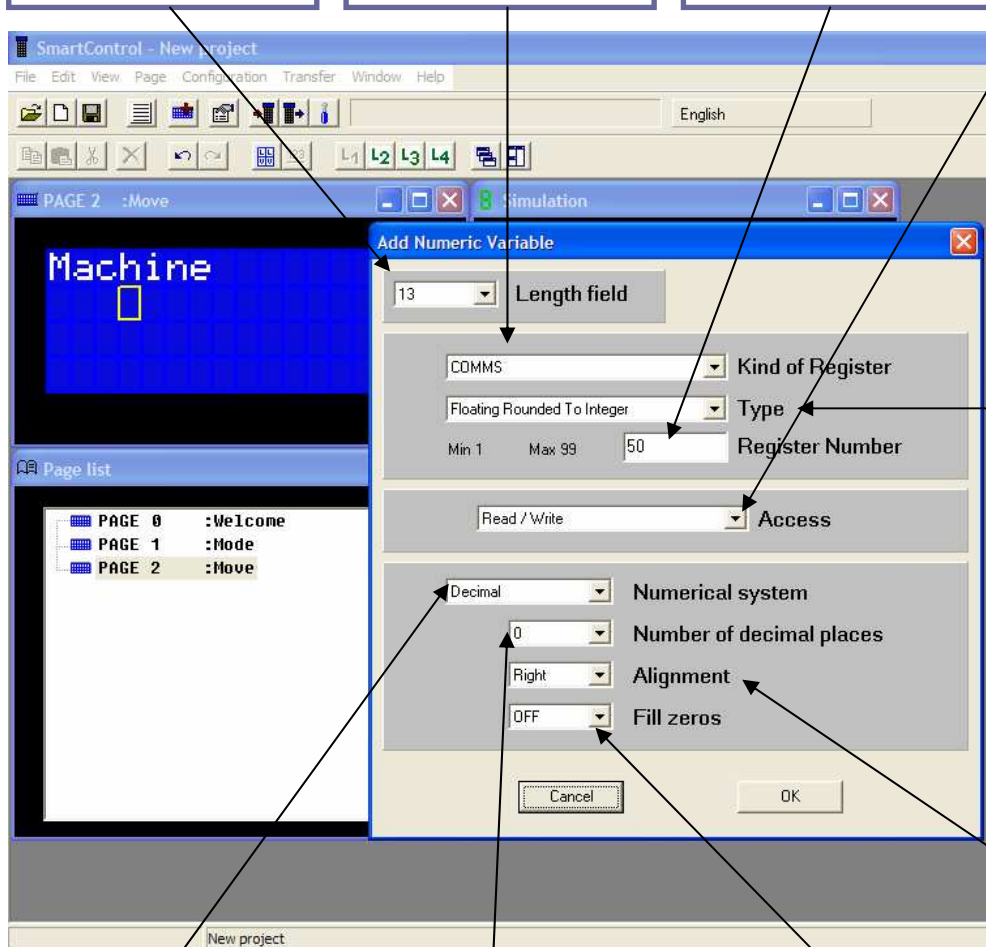
Fields can not overlap.

Register type.

Register type depends of protocol selection (MAIN channel)

Register number

You can block the ability to edit the variable by selecting „Only Read”



Type – variable type.

Depend of communication protocol selection you can choose:

Decimal - for integer values

Floating Rounded To Integer – floating point variable rounded to integer.

Floating Rounded To 0.0– floating point variable rounded to 1st decimal place.

Floating Rounded To 0.00– floating point variable rounded to 2nd decimal place.

Floating Rounded To 0.000– floating point variable rounded to 3rd decimal place.

Floating Rounded To 0.0000– floating point variable rounded to 4th decimal place.

Floating Without Rounding – floating point variable without rounding.

Select the numerical system:

Decimal
Binary
Hexadecimal

Number of decimal places.

This option is allowed for floating point variables only.

Fill in the field with zeros before a number.

Alignment

5.5 Adding a text field (a list o texts)

This field displays a text variable from a list depending of register value

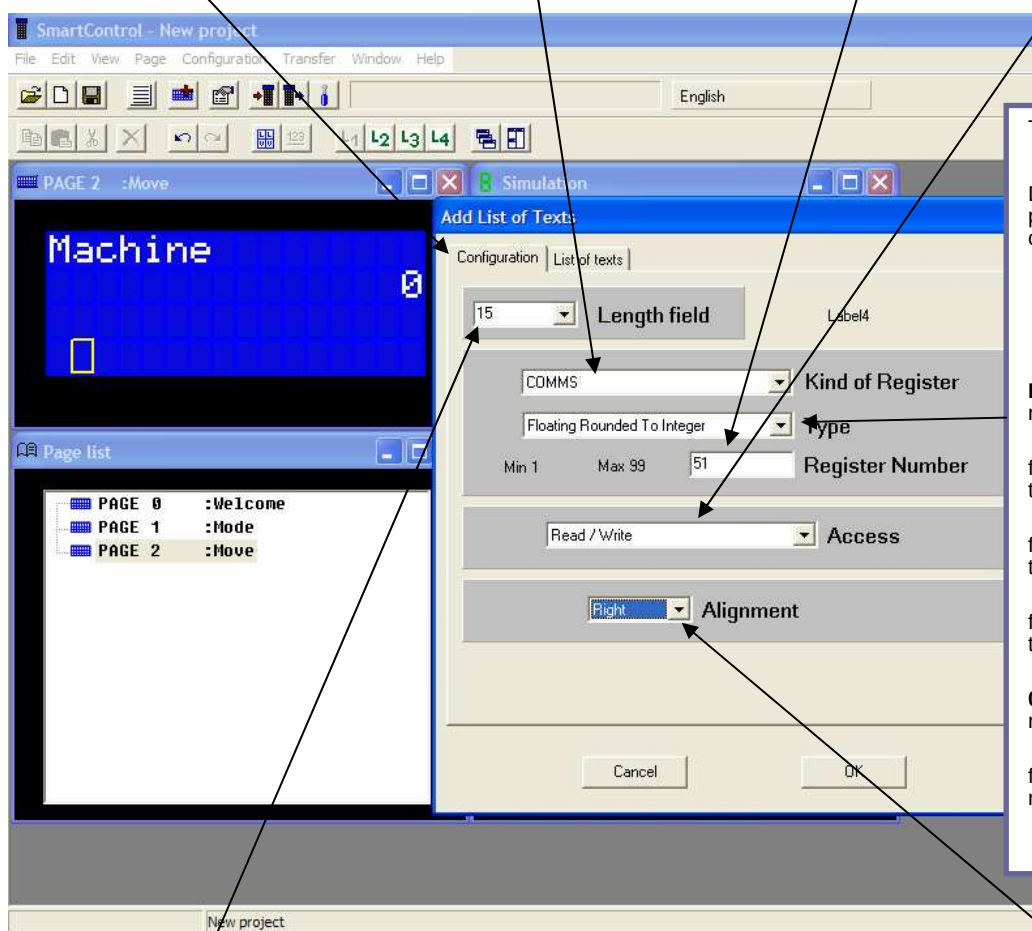
Configuration tab

Register type.

Register typed depends of protocol selection (MAIN channel)

Register number

You can block the ability to edit the variable by selecting „Only Read”



Type – variable type.

Depend of communication protocol selection you can choose:

Decimal - for integer values

Floating Rounded To Integer – floating point variable rounded to integer.

Floating Rounded To 0.0– floating point variable rounded to 1st decimal place.

Floating Rounded To 0.00– floating point variable rounded to 2nd decimal place.

Floating Rounded To 0.000– floating point variable rounded to 3rd decimal place.

Floating Rounded To 0.0000– floating point variable rounded to 4th decimal place.

Floating Without Rounding – floating point variable without rounding.

Set field length.

Characters count is limited to the display free space.

Fields can not overlap.

Alignment

5.5.1 Creating an individual texts list

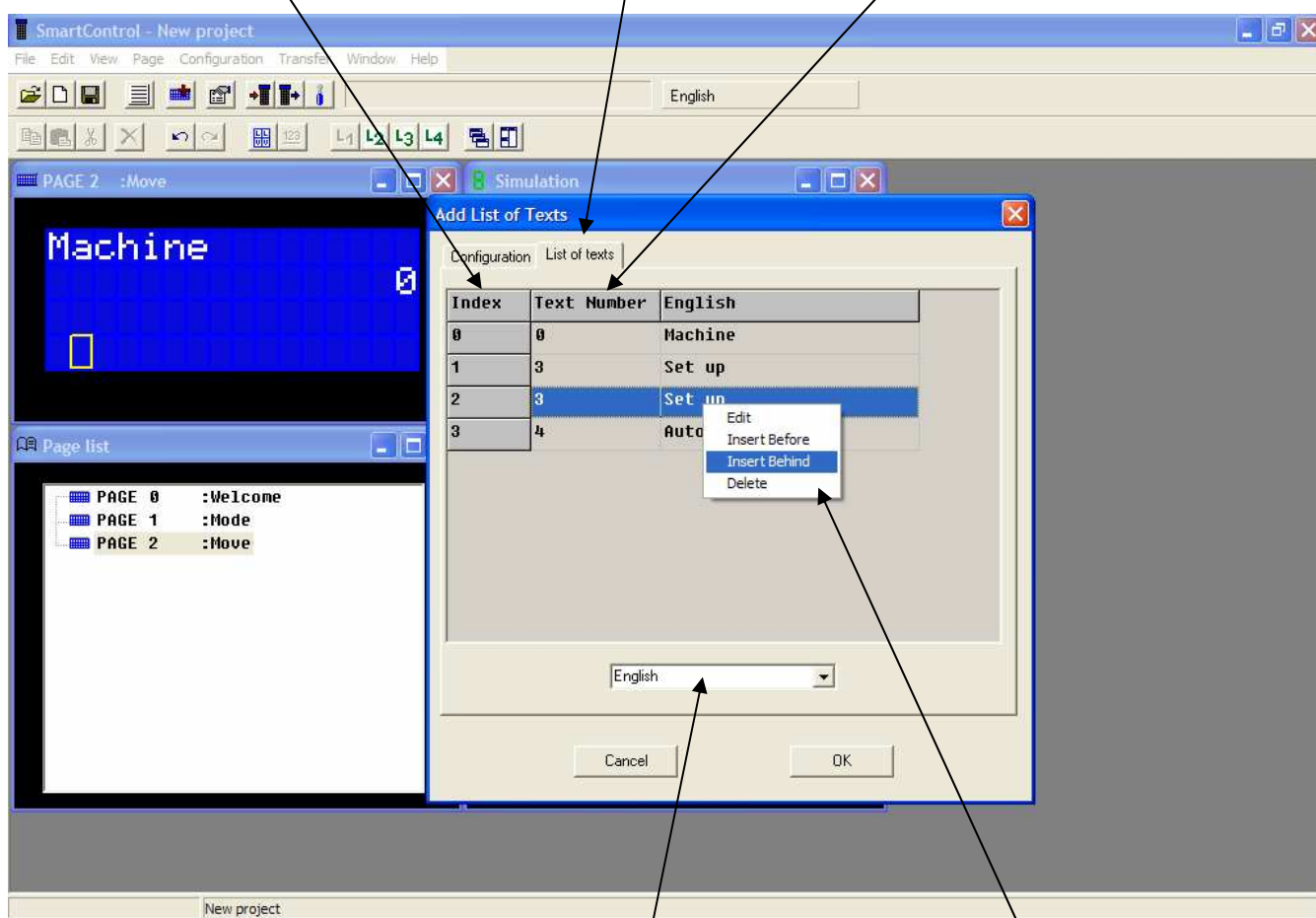
This list is created individually for each edited field.

Texts can be added in any order and can be repeated.

Register value for selected text.

„List of text” tab

Text number on main text list



Language selection

Click the right mouse button to add a text

6. SIMULATION

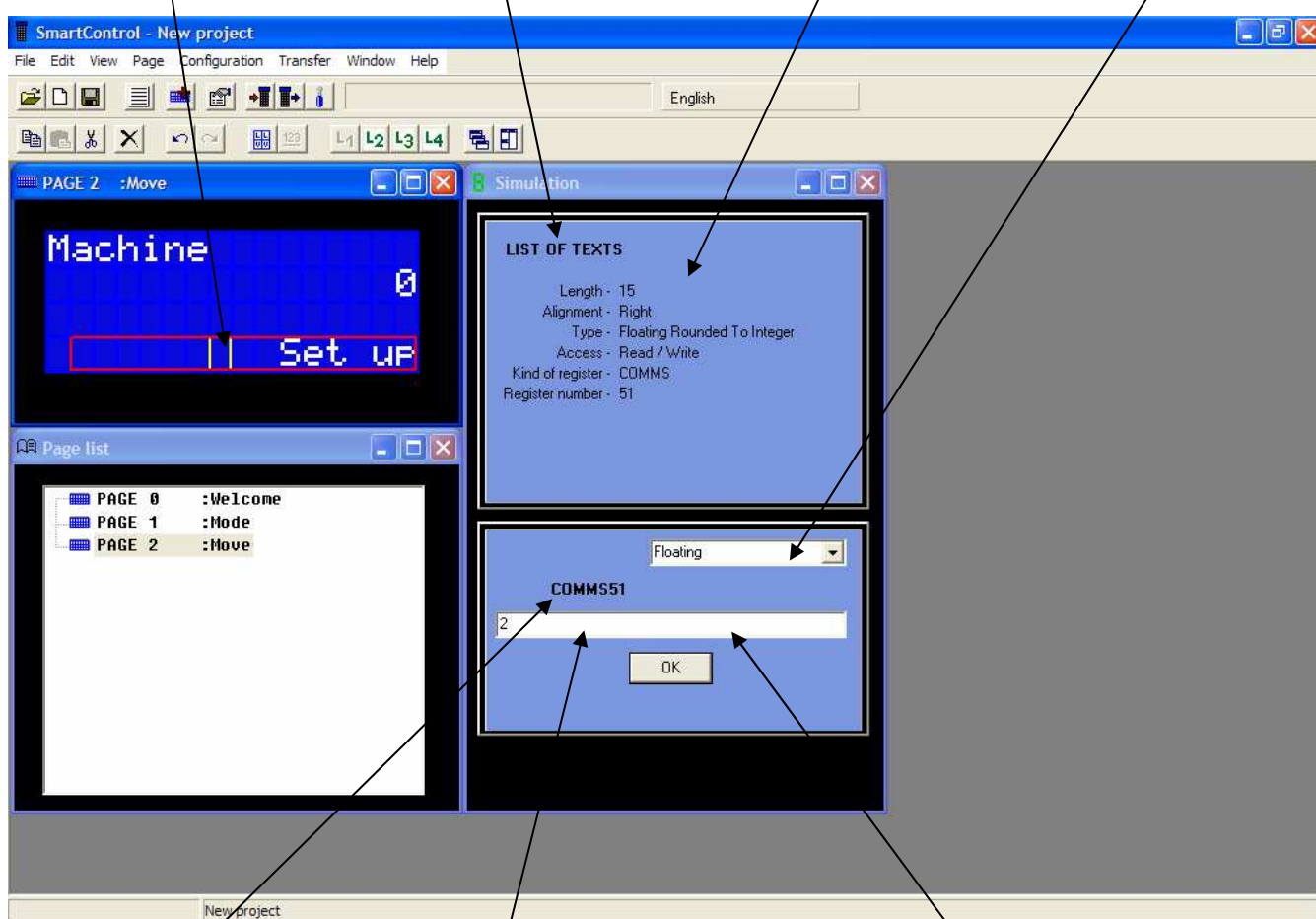
Select the field by clicking left mouse button.

Field contour will be marked by red border.

Information about selected field.

All parameters of field

Select the input data format for register value



Register number and type

Register values are saved even after program shut down.

There is only one register memory area for each projects.

Observe the display while changing a values. This value will be saved for selected register . If there is any other field connected with the same register – that field will be also changed.

7.CHANGING THE DISPLAY MODE

Click „View as symbol”

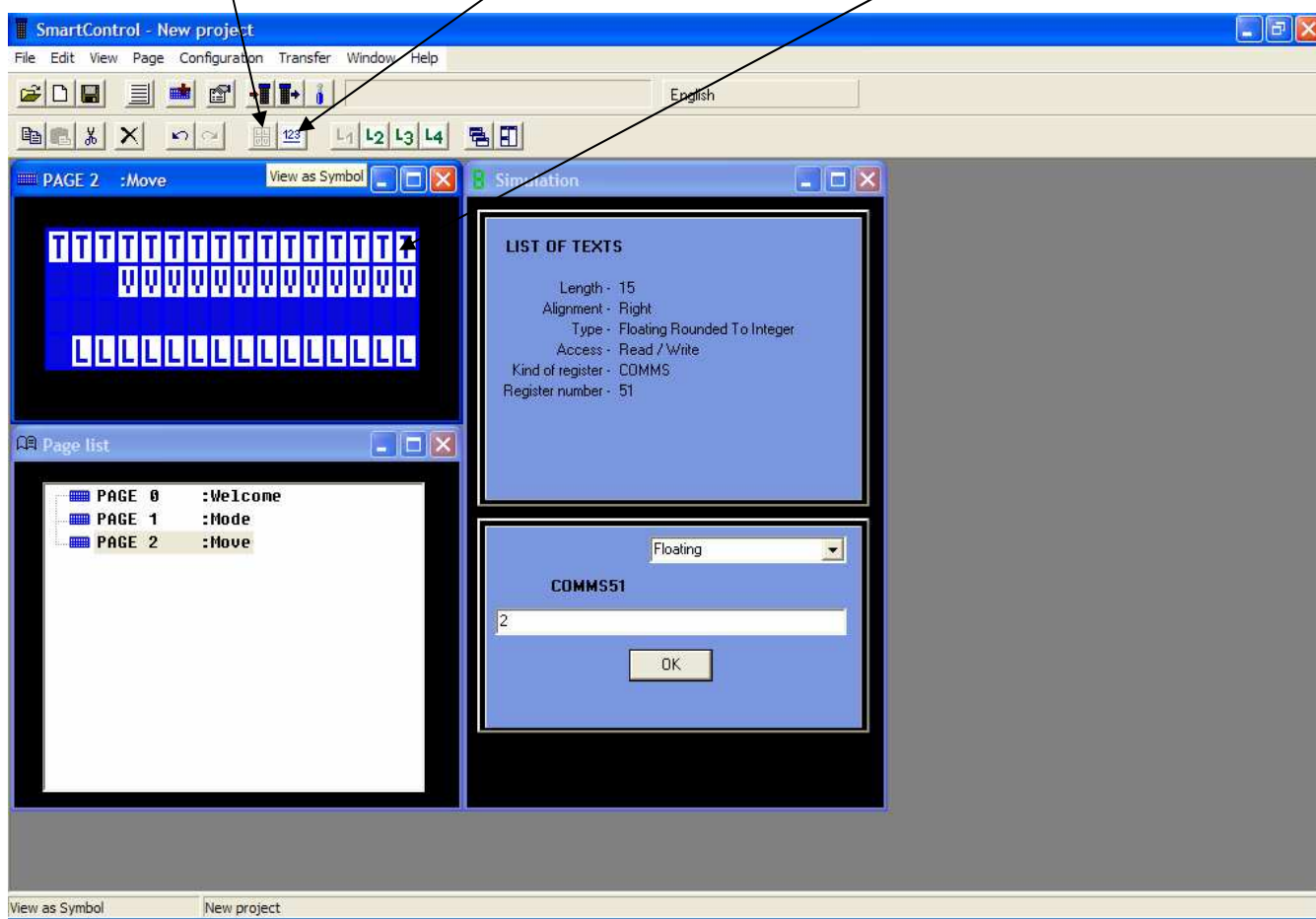
Back to the normal display mode

The symbols shows how the fields are arranged on the display:

T – constant text

V – numerical variable

L – lists of texts

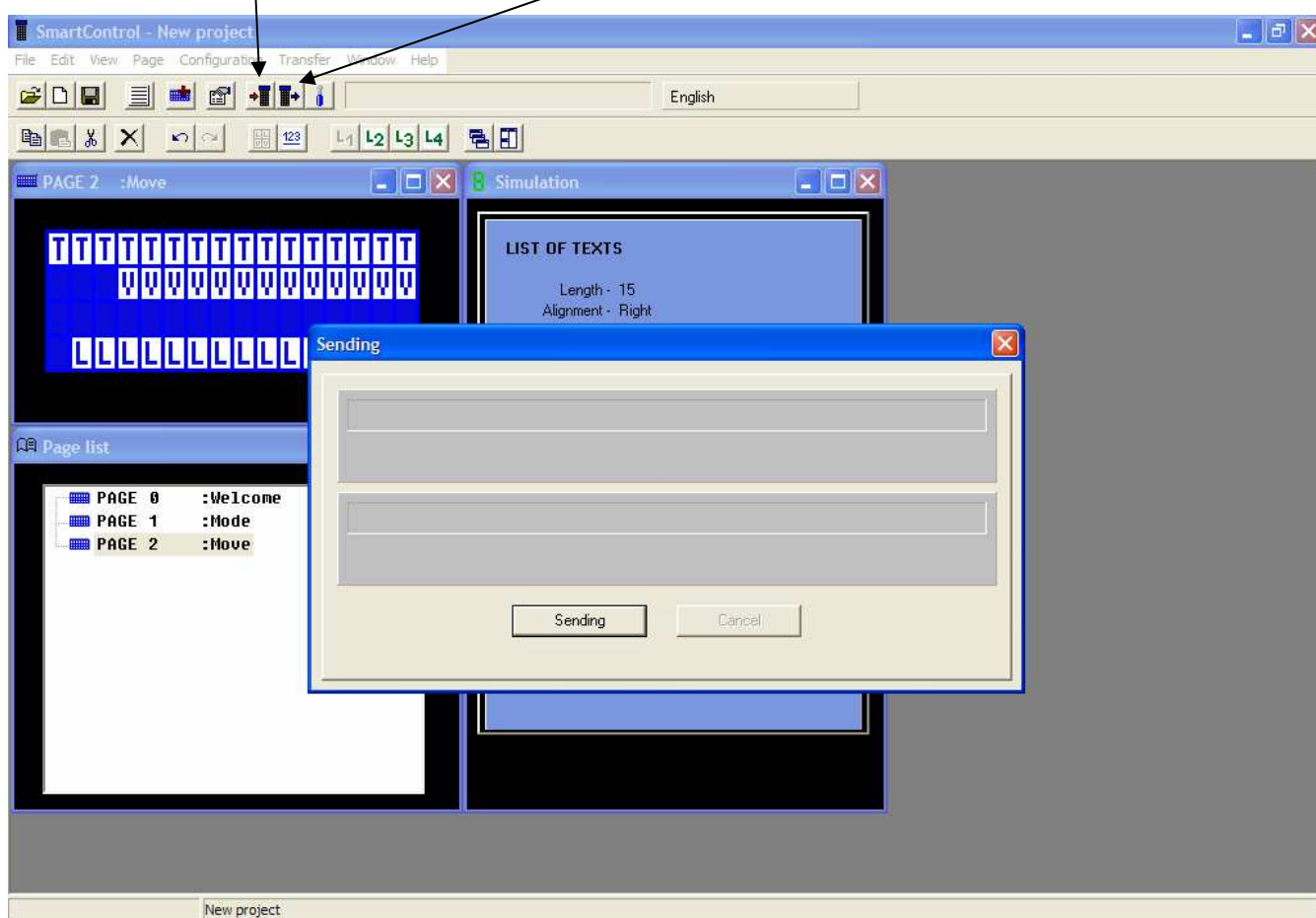


8. TRANSFER (PROGRAMMING)

SmartControl must be connected to the computer and have to be in TRANSFER mode (see Smart Control User Manual)

Click „Send to device”, to write the program to the SmartControl

You can also read a program from SmartControl



9. CONTROL PANEL

SmartControl must be connected to the computer and have to be in TRANSFER mode (see Smart Control User Manual)

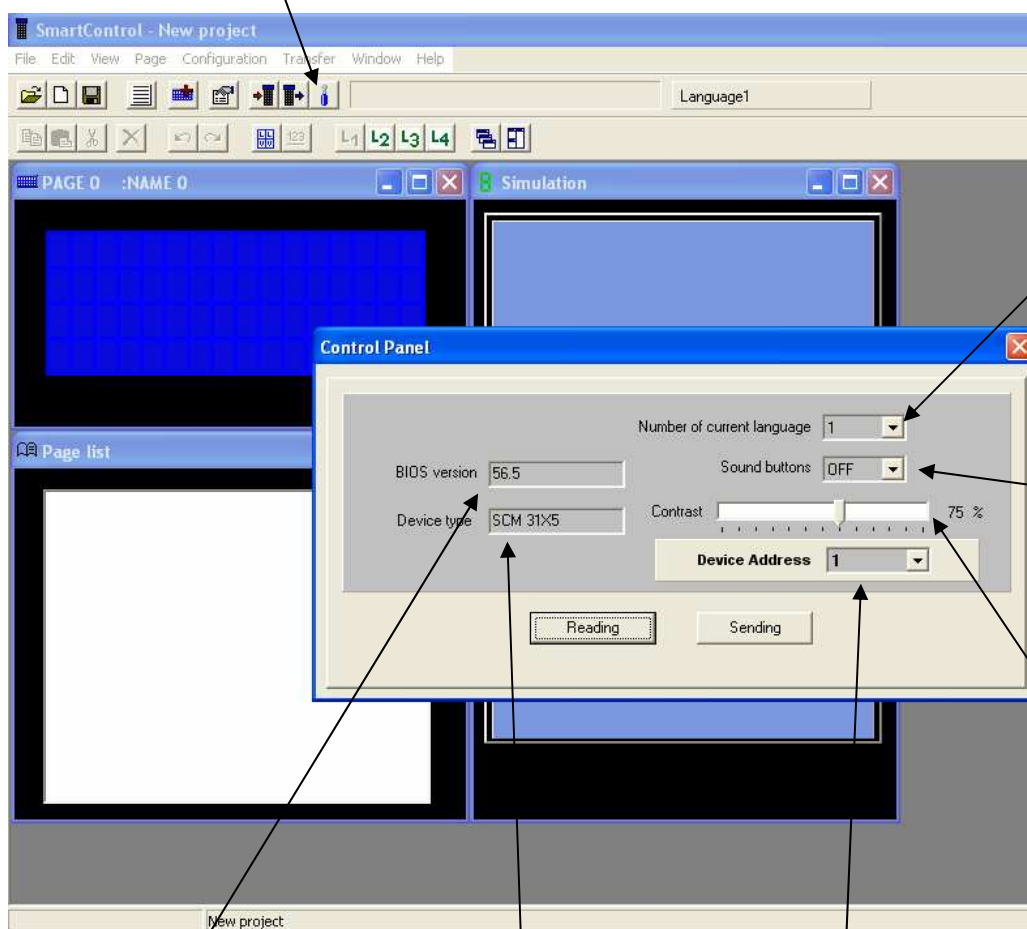
Control panel

The following three setting are also available from SmartControl menu – see Smart Control User Manual

Currently selected language

Keys sound ON/OFF

Display contrast



SmartControl BIOS Version

Model SmartControl

Setting the device address.

This address is needed when one of the protocols is configured in SLAVE mode

10. PROJECT DOCUMENTATION

Selecting the Menu-File-Documentation

opens a text file containing the whole project. You can save it and print it with any text editor. It is helpful when writing a program to the controller. It also enables a complete restoration project for example, after losing the file.

Documentation

