

Product Manual

October 2001

**ABB i-bus<sup>®</sup> EIB**

**Display and Control Tableau, LCD  
MT701**

Intelligent Building Systems

**ABB STOTZ-KONTAKT**



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## 1 Description

The Display and Control Tableau MT701 is an ABB i-bus<sup>®</sup> EIB-device consisting of a LCD-Display and control buttons for:

- displaying switching status, fault reports and measurement values,
- central switching of electrical consumers,
- programming of light scenes and time programs and
- generating acoustic and visual alarm signals.

Additional to the display and control tableau, a separate flush-mounting housing is delivered. The flush-mounting housing is designed to install the MT701 in walls or partitioned walls. Connection to ABB i-bus<sup>®</sup> EIB is made via the bus connection terminal. The device requires an additional 230 V AC – power supply.

The display and control tableau is programmed with the **EibTab**-Software, using the same group addresses as allocated in the ABB i-bus<sup>®</sup> EIB – installation. The program can be loaded directly into the device using the 9 pin SUB D RS232 connector.

The LCD display has a resolution of 240x128 pixels and up to 8 lines can be displayed on each display page. To change between the max. 50 display pages, links can be defined individually from one page to another.

The display and control tableau can manage up to 24 light scenes. For all of the 24 light scenes, a maximum of 32 group addresses can be used.

For up to 8 switching actions, time programs can be individually defined. Each time program can include up to 8 different switching times which can be easily adjusted by the user.

The display and control tableau can also display various measurement values and generate pop up alarm messages. The user can be made aware of an alarm via an acoustic alarm signal. The last 100 events are stored in a list of alarms, reports and resets.

The basic programming of the Display and Control Tableau MT701 is described on the following pages using always the one same example. At the end of each chapter, you can find tips and tricks for advanced programming.

We are very sorry that there is no English version of the EibTab software for your use. At the moment, we are working to set up the English version; it will take us a few months however. In the meantime, be so kind as to use the German version with the following explanations. Thank you.

## 2 Technical Data

Connection power supply	230 V AC, 50 Hz 4 screw terminals (2 for phase and 2 for neutral)
Connection ABB i-bus <sup>®</sup> EIB	bus connection terminal
PC-connection	9-pin SUB D RS232 connector
LED red and button	for entering the physical address
1 push button illumination	illumination of LCD display On/Off
2 menu push buttons	for moving up/down in the menu
4 function push buttons	for moving between menus or switching electrical consumers
Protection	IP 20 to EN 60 529
Operating temperature range	-5°C up to +45°C
Dimensions flush mounting box	212 x 124 x 75 mm (w x h x d)
Dimensions LCD display	124 x 68 mm (w x h)
Dimensions frame	215 x 129 mm (w x h)

### Selection table

Description	Ordering Info Short code	Product code	bbn 4016779 EAN	Price group	Weight 1 PC. [ kg ]	Package [ Pcs. ]
Display and control tableau, LCD, white	MT 701, WS	GH Q605 0059 R0003	<b>50414 0</b>	26	0,86	1
Display and control tableau, LCD, silver	MT 701, SR	GH Q605 0059 R0004	<b>50415 7</b>	26	0,86	1
Frame for display and control tableau, white	T-RAHM, WS	GH Q605 0059 R0011	<b>49585 1</b>	26	0,05	1
Frame for display and control tableau, silver	T-RAHM, SR	GH Q605 0059 R0012	<b>49586 8</b>	26	0,05	1
Flush mounting box for display and control tableau	UP-KAST 2	GH Q605 0059 R0014	<b>51396 8</b>	26	0,15	1

### 3 Installation

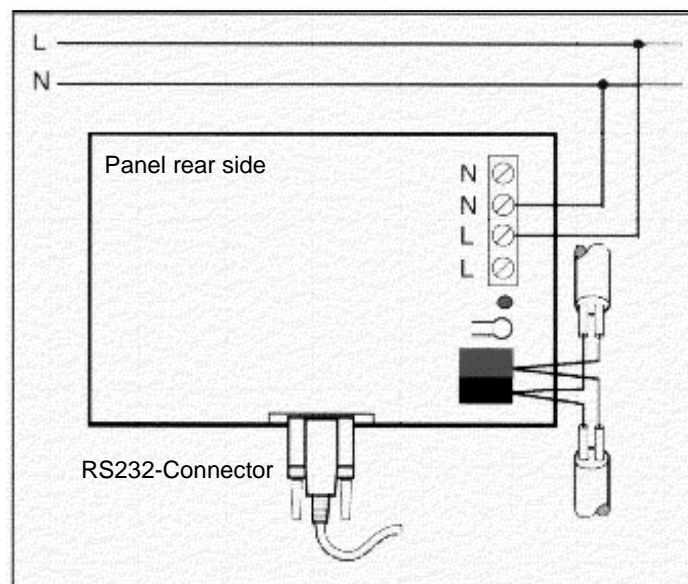
#### System requirement for the programming software EibTab

- IBM®-compatible PC with processor 80386 or higher
- min. 10MB free memory on hard disk
- min. 8MB RAM
- VGA-Grafic
- RS232 Connector
- WINDOWS™ V3.1 or higher
- MS-DOS® or higher

#### Steps for installation of the EibTab

1. Please execute the file INSTALL.EXE in the Program Manager/Windows Explorer.
2. Enter the source directory in the field „Quelle“.
3. Enter the installation directory in the field „Ziel“.
4. Klick the button „Installieren“.
5. Start the file Eibtab18.exe.

#### Connection Diagram for the display and control tableau MT701



## 4 How to program a project

### 4.1 Starting a new project

To start a new project, open the EibTab software and chose the menu **Datei** in the head menu line. Klick on **Neu/LCD MT701** to start the project. The screen shows the Main Window of the new project (Illustration 1).

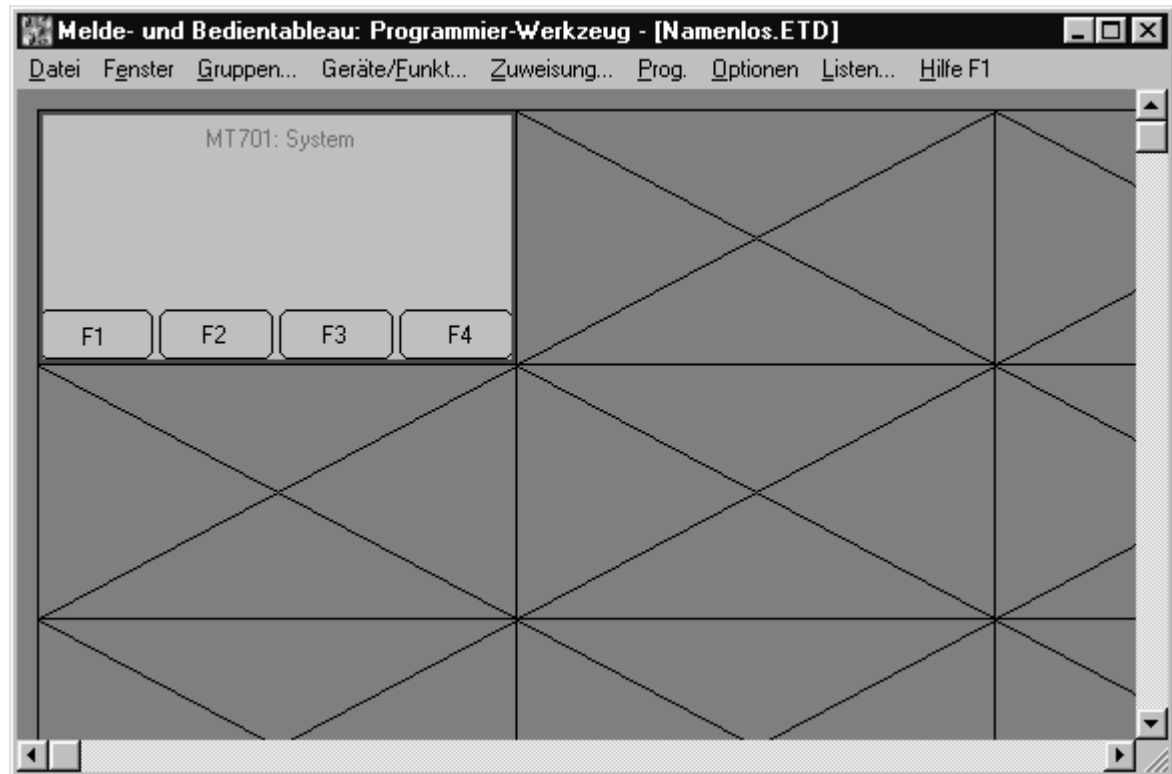


Illustration 1: Main Window

In the same menu **Datei**, projects can be opened (**Öffnen...**), saved (**Speichern/Speichern unter...**), closed (**Schließen**) and deleted (**Löschen...**). Group addresses and functions of other EibTab projects can be imported (**Import**) (see Chapter 6.1). Close the EibTab software with **Beenden**.

### 4.2 Building the menu structure

50 different display-screens can be installed. There can be individually programmed links between these 50 display-screens. In every project, there is are automatically four fix display-screens: the system page, the light scene page, the threshold page and the time program page.

As an example, the four display pages Main Menu (Illustration 2), Living Room, Kitchen and Sleeping Room will be built up step by step. You will see how easy it is to define links between these four display pages.

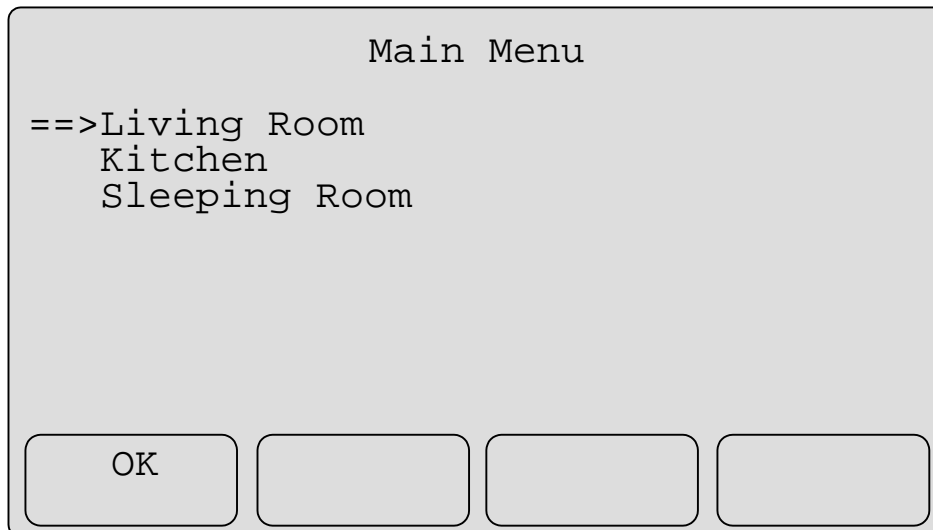


Illustration 2: Display page Main Menu

#### 4.2.1 Inserting a display page

For each display page, a small box is shown in the Main Window (Illustration 1). This small box does not give any additional information than the number of the display page and it shows if the display page is connected with a function (see Chapter 4.3.3: Tips and Tricks no. 4).

Klick on a free small box and chose the command **Einfügen/Ändern** from the menu **Fenster** in the head menu line. The dialog box **Fenster Zuweisung** appears on the screen (Illustration 3). Confirm with the **OK** button. Repeat this for three more display pages.



Illustration 3: Dialog box Fenster Zuweisung

Now assign a headline to each display page. Herefore, mark a small box and chose the command **konfigurieren...** from the menu **Fenster** in the head menu line. The dialog box **Konfiguration** appears (Illustration 4). Enter the headline in the first field (**Seiten-Überschrift:**) and confirm with the **OK** button.

Repeat those steps to enter the headlines for the four display pages Main menu, Living Room, Kitchen and Sleeping Room.



Illustration 4: Dialog box Konfiguration

#### 4.2.2 Configuration of display lines

Now assign a text (Living Room) and a function (change to the display page Living Room) to the first display line of the Main menu (Illustration 2). Klick on the small box no. 1 and chose the command **Zuweisung...** in the head menu line. The dialog box **Zuweisung** appears on your PC screen (Illustration 5).

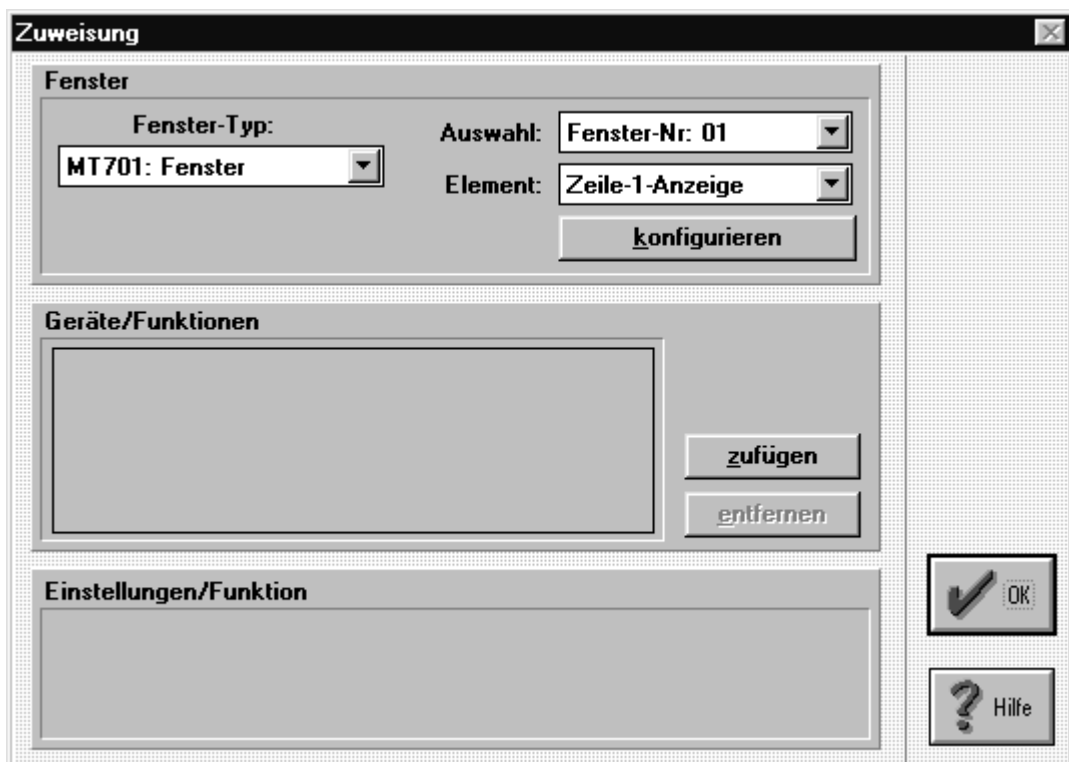


Illustration 5: Dialog box Zuweisung

Chose the Element **Zeile-1-Anzeige** (Line-1-display) and klick on the button **konfigurieren**. The dialog box **Konfiguration: Zeile 1** appears (Illustration 6). Enter the text „Living Room“ in the



field **Zeilentext:** and the text „OK“ in the field **Zeile-1/Taste-1** (line-1/button-1) and confirm with the **OK** button. Ignore all other parameters right now.

Illustration 6: Dialog box **Konfiguration: Zeile 1**

Now you have to decide what shall happen when the user of the tableau pushes the button no. 1 when the cursor is positioned in the first line. In this example, there must be a change from the display page **Main Menu** to the display page **Living Room**. Chose the element **Zeile-1-Taste-1** (line-1/button-1) in the dialog box **Zuweisung** (Illustration 5) and klick on the button **zufügen** (add). The dialog box **Geräte/Funktionen Auswahl** (Selection of functions) appears (Illustration 7). Chose the function **Sprung zur Nr** (change to display page no.) and confirm with the **OK** button.

Illustration 7: Dialog box **Geräte/Funktionen Auswahl**

Enter the number of the destination display page in the dialog box **Zuweisung** (Illustration 8) and confirm with the **OK** button. Now save the project and download it to the MT701 device to test this first function (see Chapter 4.6).

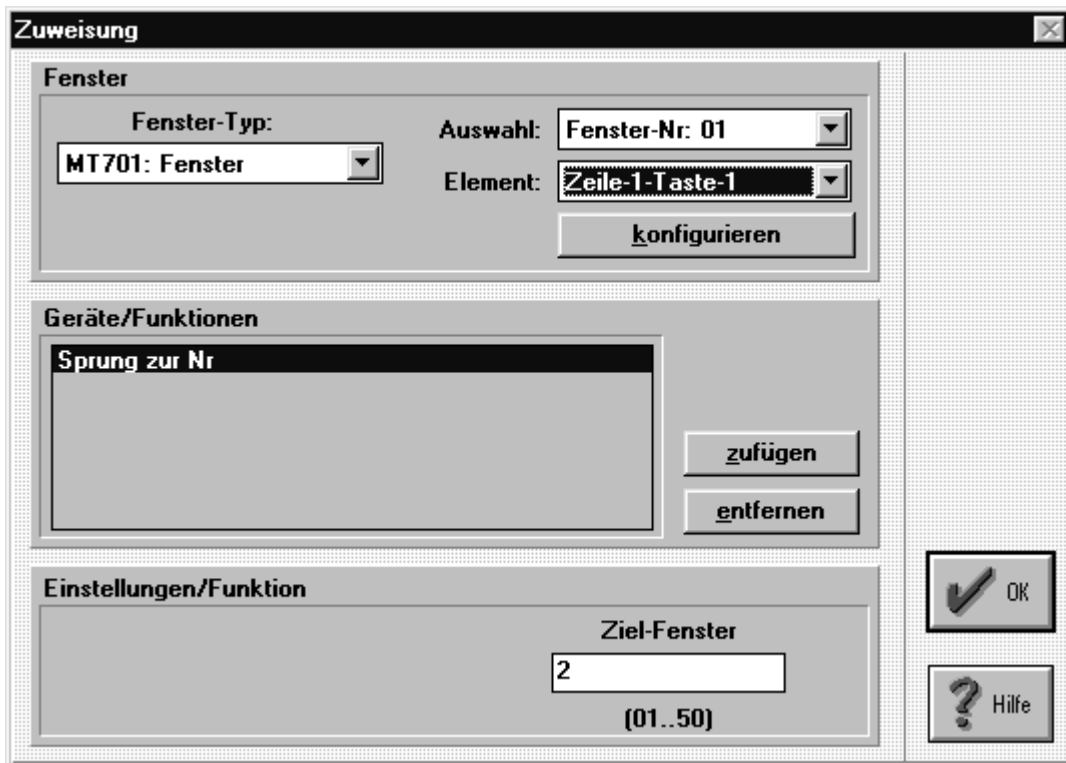


Illustration 8: Dialog box Zuweisung

After the download, the display page Main Menu appear on the MT701 display (Illustration 9). Push the buttons no. 2, 3 and 4 – nothing will happen. No functions have been assigned. Only the button no. 1 has a function: the change to the display page Living Room (Illustration 10).

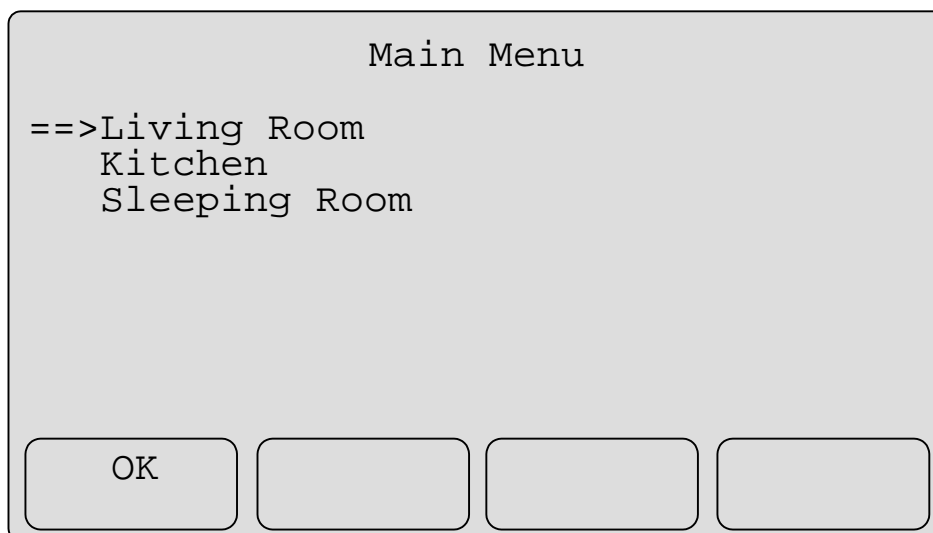


Illustration 9: Display page Main Menu

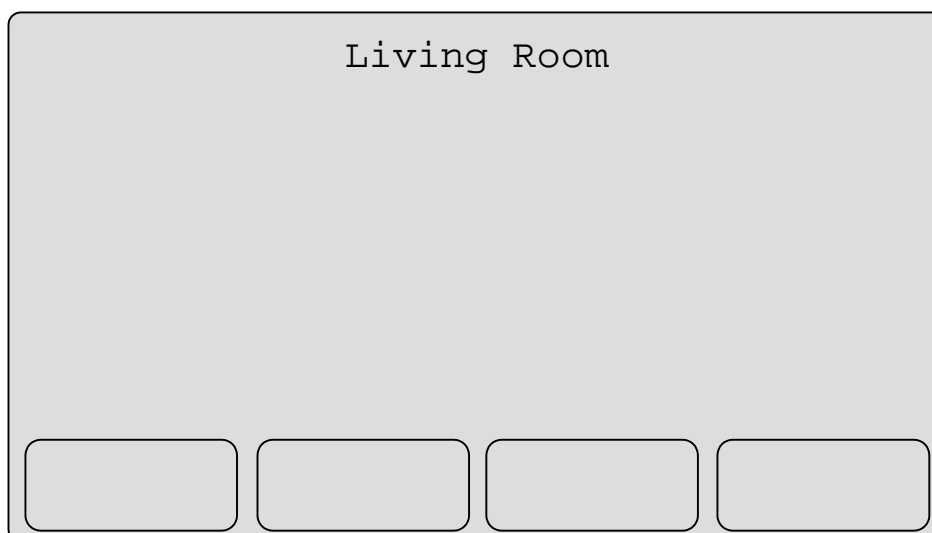


Illustration 10: Display page Living Room

Now enter texts (Kitchen, Sleeping Room) and functions (change to other display pages) to the buttons no. 1 of the 2<sup>nd</sup> and 3<sup>rd</sup> line of the Main Menu (Illustration 9). Therefore repeat the same steps as to assign the change to the display page Living Room.

In this manner, you can individually define changes between display pages. Now finish the menu structure of the example project by assigning changes back to the Main Menu from the display pages Living Room, Kitchen and Sleeping Room.

If you chose one of the options **zur Grenzw.Seite**, **zur Schaltuhr** or **zur Systemseite** instead of choosing **Sprung zur Nr** in Illustration 7, a link to the 3 pre-defined display pages can be defined. The functions of these 3 pages will be explained later.

#### Tips and Tricks:

If you have one or more empty lines in one display page, you have the possibility of deactivating these lines. Deactivated the user can't put the cursor in those lines and can't execute any functions. Deactivate the lines no. 4 to 8 of the Main Menu. (Don't forget to reactivate them if needed in the further course of the described example.)

For deactivation of a line, delete the hoke (✓) of the option **wird im MT701 verwendet** in the dialog box **Konfiguration: Zeile** (Illustration 6) with a klick.

### 4.3 Switching electrical consumer and display the switching status

On the display page Auf der Display-Anzeige **Living Room** (Illustration 10), the switching status of the ceiling light and the wall light is to be displayed. The two consumers have to be switched with the Display and Control tableau MT701.

#### 4.3.1 Entering of the group addresses

Chose the command **Gruppen...** (groups) in the head menu line. The dialog box **Gruppen im Projekt** appears (Illustration 11). Enter the two group addresses for the switching of the ceiling light and the wall light. Overtake the group addresses from your ETS project.

Enter the fields **Haupt:**, **Mitte:**, **Unter:** (Maingroup, Middlegroup, Subgroup) and **Benennung** (name of the group), chose the information type **Informationstyp: 1 Bit Schalten/Jalousie (0,1)** (1 Bit switch/shutter (0,1)) and confirm the entries with the button **anlegen**. The new group address will now be listed in the field **verfügbare Gruppen** (existing group addresses).

If you want to change a group address, highlight it in the field **verfügbare Gruppen**, change the fields and confirm with the button **übernehmen**. To delete a group address, highlight it and push the button **löschen**. Confirm with the **OK** button.

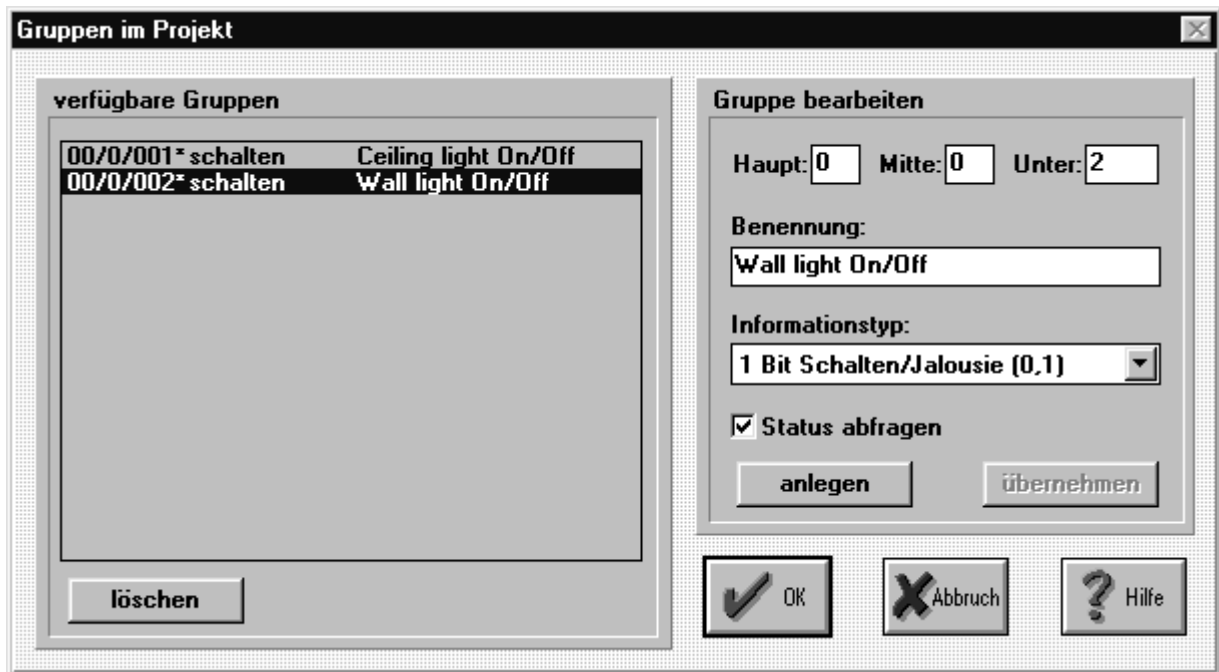


Illustration 11: Dialog box Gruppen im Projekt

#### 4.3.2 Entering of virtual switches

To execute switching actions or to show the switching status, virtual switches must be entered first. Choose the command **Geräte/Funkt...** (virtual devices/functions) in the head menu line. The dialog box **Geräte/Funk-tionen im Projekt** appears (Illustration 12).



Illustration 12: Dialog box Geräte/Funktionen im Projekt

The already existing virtual devices/functions are pre-defined. You already know for of them: **Sprung zur Nr**, **zur Grenzw.Seite**, **zur Schaltuhr** and **zur Systemseite** (see Chapter 4.2). Push the button **anlegen** (enter a new virtual device). The dialog box **Geräte/Funktionen anlegen** appears (Illustration 13). Choose the type **Schalter** (switch), enter a name and confirm with the **OK** button. The dialog box **Definition: Schalter** appears (Illustration 14).



Illustration 13: Dialog box Geräte/Funktionen anlegen



Illustration 14: Dialog box Definition: Schalter

Push the button **zufügen** to select all group addresses that are switched with the switch Ceiling light. The dialog box **Gruppen Auswahl** (Selection table) appears (Illustration 15). Chose the group **Ceiling light On/Off** and confirm with the **OK** button. (More than one group can be assigned to each virtual device as long as the information type is the same.)

The group addresses is now listed in the dialog box **Definition: Schalter** (Illustration 16). You can now set the Send flag (Senden), the Receive flag (Empfangen) and/or the Read flag (Lesen (L-Flag)) and chose the priority (Niedrig=low, Hoch=high, Alarm=alarm, System=system). Confirm with the OK button and enter the virtual switch for the Wall light in the same manner.

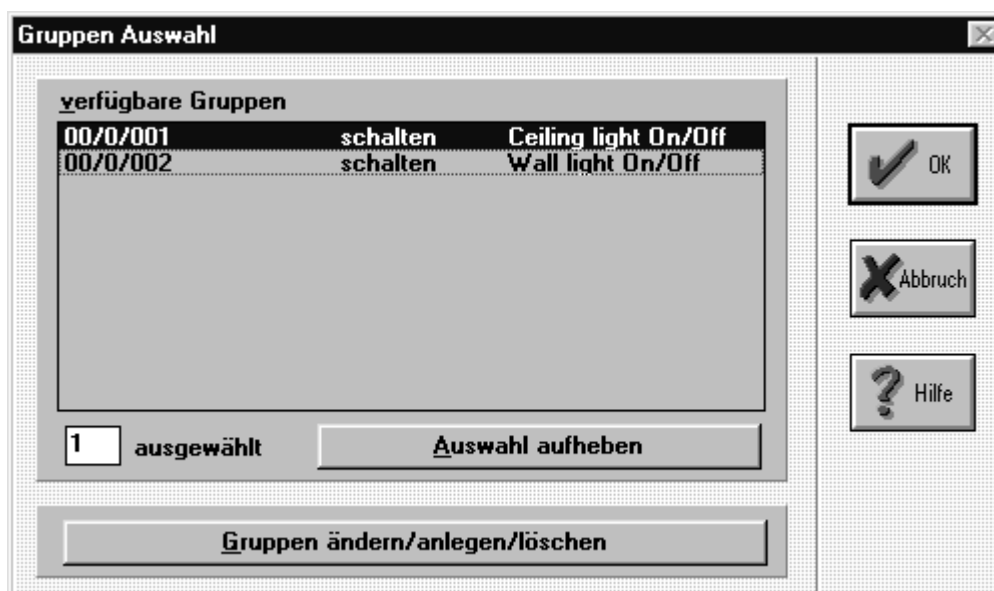


Illustration 15: Dialog box Gruppen Auswahl

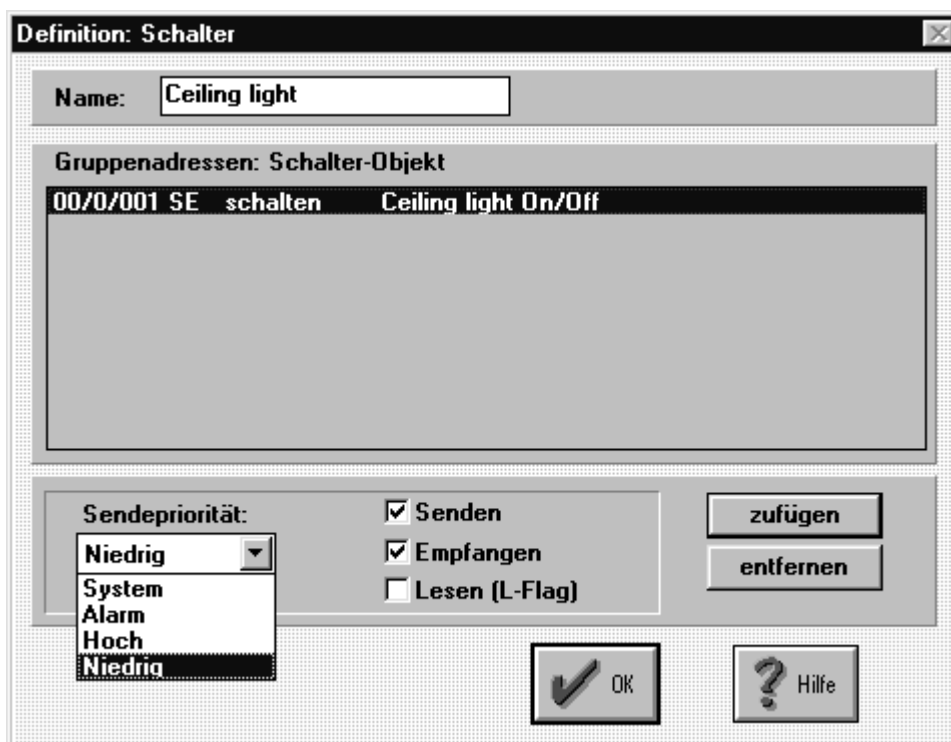


Illustration 16: Dialog box Definition: Schalter

#### 4.3.3 Assigning virtual switches to tableau buttons

To activate the virtual switch, it must be assigned to one of the push buttons of the Display and Control Tableau MT701. Highlight the small box no. 2 (display page Living Room) in the main window (Illustration 1) and chose the command **Zuweisung...** in the head menu line. The dialog box **Zuweisung** appears (Illustration 17). Chose the element **Zeile-1-Anzeige** (line-1-display) and change to the dialog box **Konfiguration: Zeile-1** (Illustration 18) by clicking on the button **konfigurieren**.

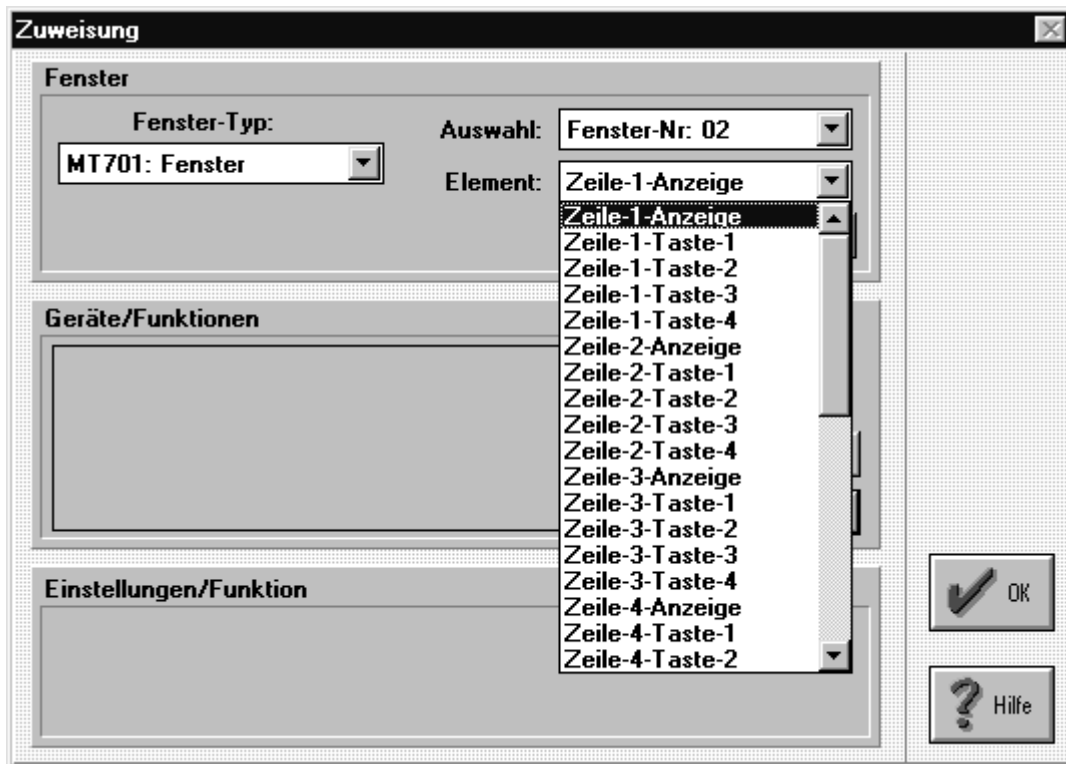


Illustration 17: Dialog box Zuweisung

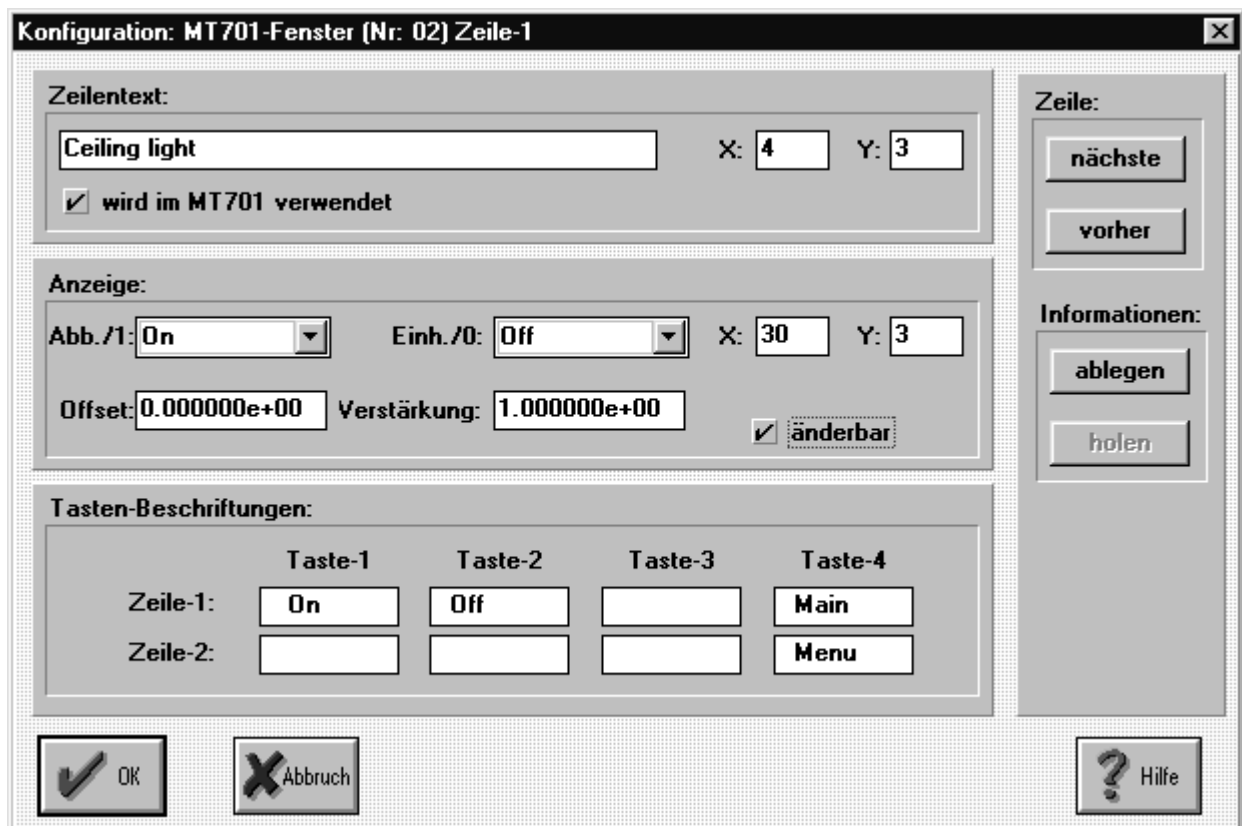


Illustration 18: Dialog box Konfiguration: Zeile-1

Enter a text for the first line (**Zeilentext:**) and for the buttons no. 1 and 2. Enter the text „On“ in the field **Abb./1:** and the text „Off“ in the field **Einh./0:** to display the switching status of the ceiling light. Confirm with the **OK** button to return to the dialog box **Zuweisung** (Illustration 17) and open the dialog box **Auswahl** (Illustration 19) with the button **zufügen** (add).

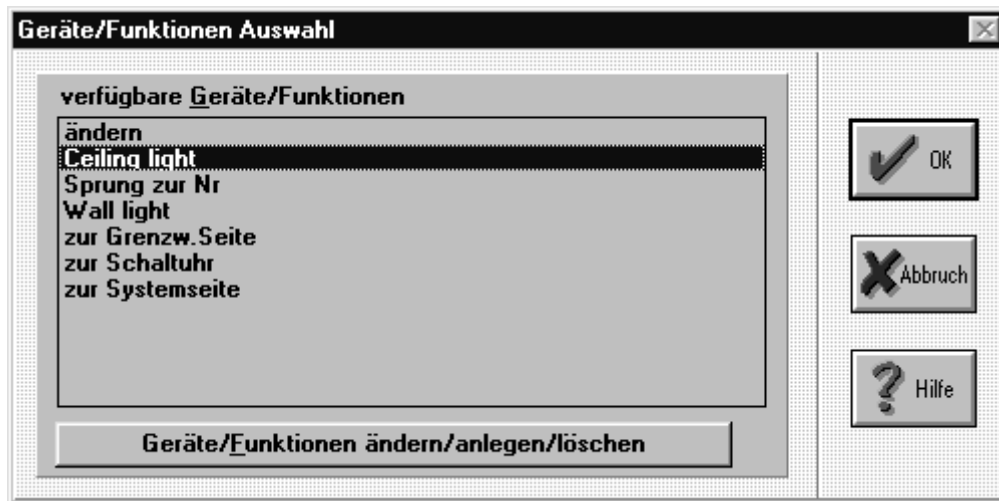


Illustration 19: Geräte/Funktionen Auswahl

Now chose the virtual device the switching status of which is to be displayed in line 1 (Ceiling light) and confirm with the **OK** button. The virtual device Ceiling light is now listed in the dialog box **Zuweisung** (Illustration 20).

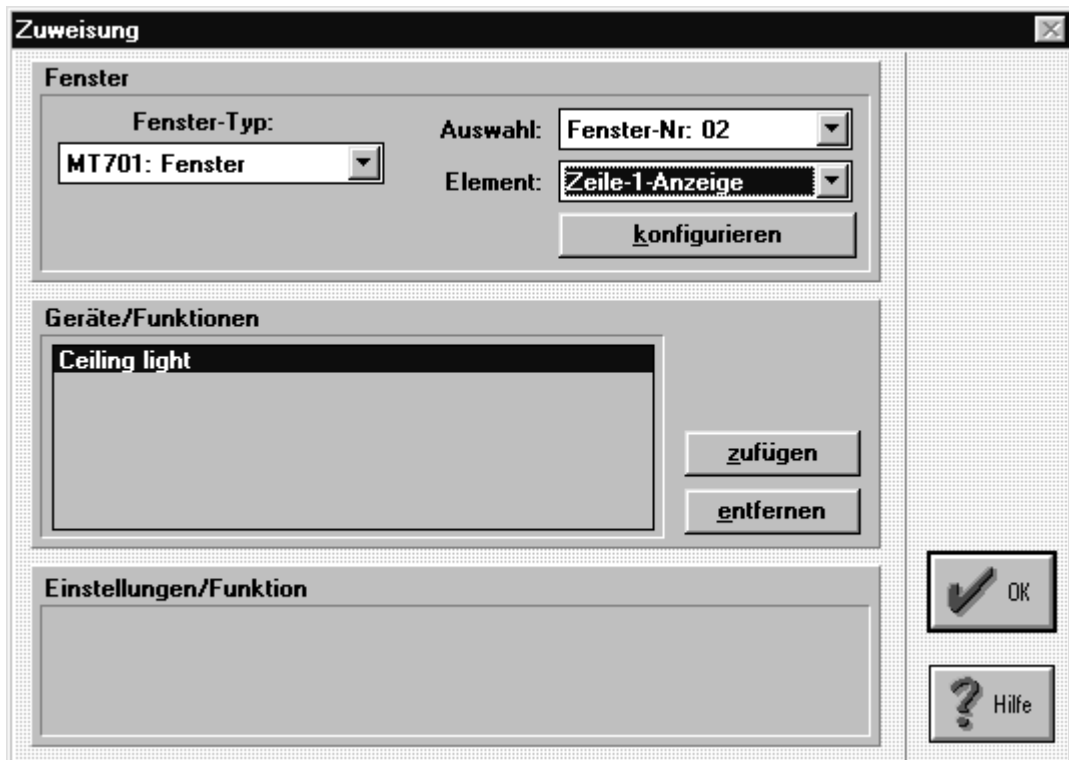


Illustration 20: Dialog box Zuweisung

Now chose the element **Zeile-1-Taste-1** (Line-1-button-1) and push the button **zufügen**. Again the dialog box **Geräte/Funktionen Auswahl** appears (Illustration 19). This time, chose the virtual device that is switched with the button no. 1 when the cursor is positioned in the line no.1 (Ceiling light) and confirm with the **OK** button. The virtual device Ceiling light is now listed in the dialog box **Zuweisung** (Illustration 21).

Now adjust the parameters in the downer fields of the dialog box. The action on pushing the button no.1 is that the Ceiling light is switched on. Therefore chose the entry **EIN** in the field **drücken/aktivieren**. There is no action on letting the button go of (**loslassen/deaktivieren**), therefore chose the option **keine Funktion** (no function). (The other choices are AUS=Off and UM=change the switching status).



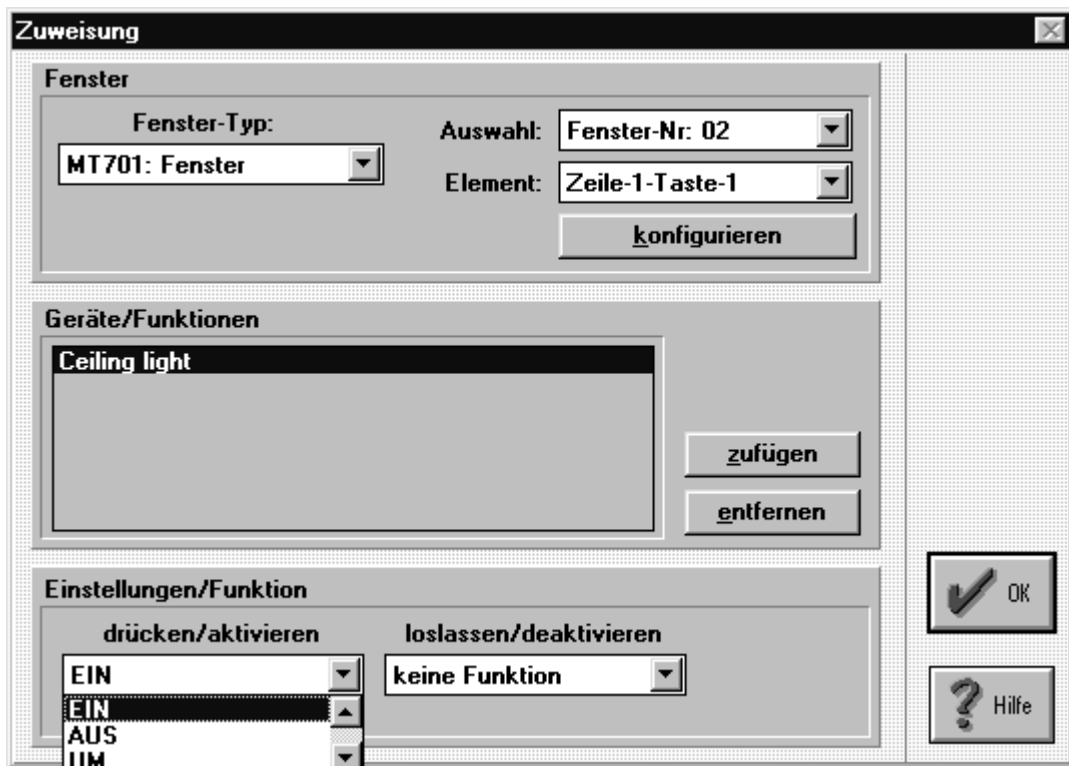


Illustration 21: Dialog box Zuweisung

Now choose the element **Zeile-1-Taste-2** (line-1-button-2) and assign the virtual device Ceiling light and choose the option **AUS** for the parameter **drücken/aktivieren** and **keine Funktion** for **loslassen/deaktivieren**.

Repeat those assignments for line no. 2 with the virtual switch Wall light. If not already done, don't forget to assign a link to the Main Menu on button no. 4 of line 1 and button no. 4 of line 2 (see Chapter 4.2). Close the dialog box **Zuweisung** with the **OK** button, save the project and download it in the Display and Control Tableau MT701. The display page **Living Room** looks like in Illustration 22.

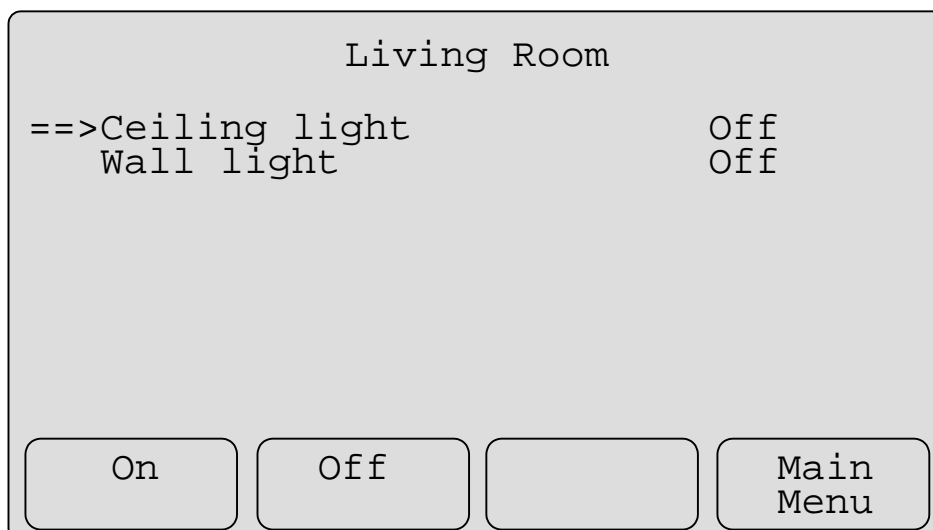


Illustration 22: Display page Living Room

With the buttons no. 1 and 2, the Ceiling light and the Wall light now can be switched. The switching status will be displayed when the Display and Control Tableau MT701 receives a acknowledge telegram from the actor.

### Tips and Tricks:

1. If you want to use about the same configuration for different lines of a display page, then copy the configuration of one line by clicking on the button **ablegen** in the dialog box **Konfigurieren: Zeile X** (Illustration 18). Change to the next line (button **nächste**) or to the previous line (button **vorher**) and insert the copied entries clicking on the button **holen**.
2. If you want to change the position of the text of a line (**Zeilentext:**) or the position of the switching status (**Anzeige:**), use the values **X:** and **Y:** in the dialog box **Konfiguration: Zeile** (Illustration 18) to adjust your individual position. (It is highly recommended, not to chose a X-value lower than 2 for the position of the line text, otherwise the cursor can't be seen).
3. Chose the command **Anzeige** in the menu **Optionen** in the head menu line of the main window. The dialog box **Anzeige-Einstellungen** appears (Illustration 23). You can chose whether the group address is displayed in two-digit „0/0“ or three-digit „0/0/0“ mode.
4. In the same dialog box, you can chose the option **Markierung bei vorhandenen Zuweisungen**. Is this option activated all small boxes in the main window are given a green hoke (✓) if any assignment is made for the small box.

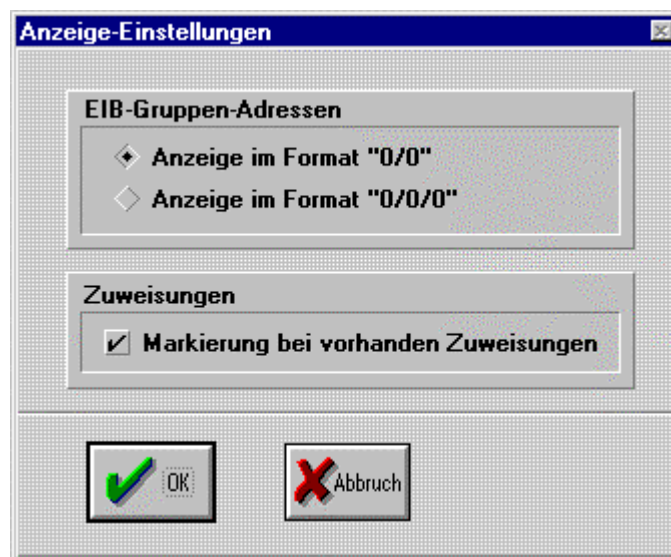


Illustration 23: Dialog box Anzeige-Einstellungen

## 4.4 Moving shutters

A shutter is to be moved on the display page Living Room (Illustration 22) and the lamellas are to be adjusted.

### 4.4.1 Entering of the group addresses

Chose the command **Gruppen....** in the head menu line. The dialog box **Gruppen im Projekt** appears (Illustration 24). Enter the two group addresses to move the shutter and to adjust the lamellas. Overtake the group addresses of your ETS project. Repeat the steps of Chapter 4.3.1, chose the information type **Informationstyp: 1 Bit Schalten/Jalousie (0,1)**.

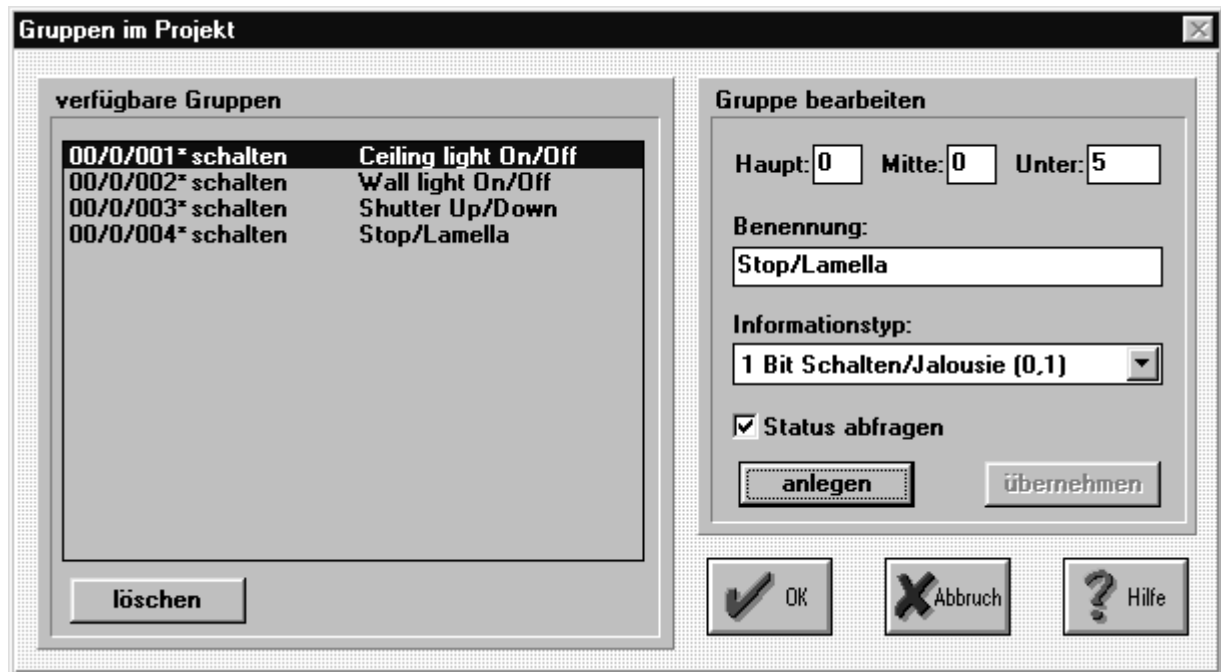


Illustration 24: Dialog box Gruppen im Projekt

#### 4.4.2 Entering of virtual shutter switch

Repeat the step of Chapter 4.3.2. Chose a virtual device of the type **Typ: Jalousie (2 Objekte)** (Illustration 25). After confirmation with the **OK** button, the dialog box **Definition: Jalousie** appears (Illustration 26).



Illustration 25: Dialog- Box Geräte/Funktionen anlegen



Illustration 26: Dialog box Definition: Jalousie

Assign the corresponding group addresses clicking on the button **zufügen** and confirm with the **OK** button.

#### 4.4.3 Assigning virtual shutter switches to tableau buttons

Repeat the steps of Chapter 4.3.3. Chose the element **Zeile-3-Anzeige** (line-3-display) and klick on the button **konfigurieren** to enter the configuration (Illustration 27). It is highly recommended no to display the switching status of shutters. Leave the configuration **Anzeige:** (display) like it is, but do not assign a virtual device to the element **Zeile-3-Taste-1** (line-3-button-1) and assign (zufügen) the virtual shutter switch shutter Living R (Parameter: **Jalousie: hoch**=shutter up) (Illustration 28) and assign the same virtual device shutter Living R to the element **Zeile-3-Taste-2** (Parameter: **Jalousie: runter**=shutter down).

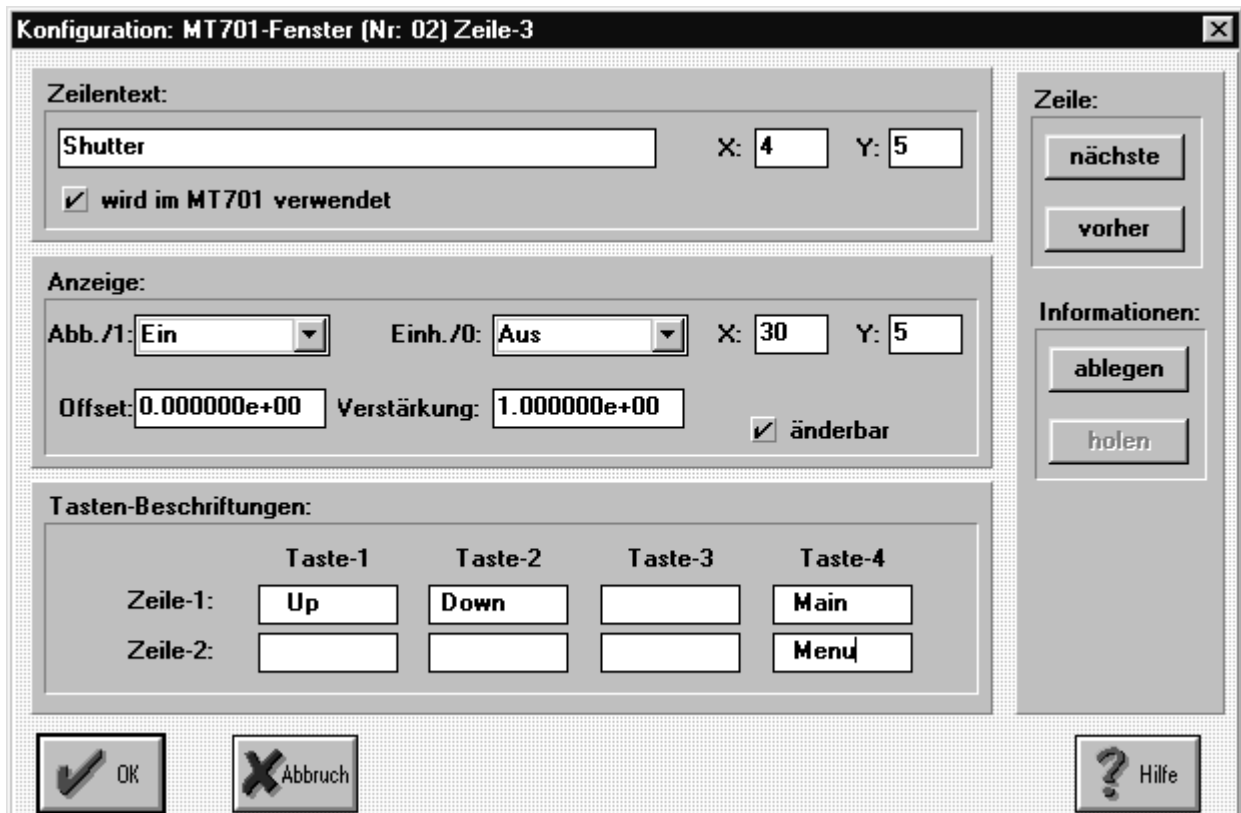


Illustration 27: Dialog box Konfiguration: Zeile 3

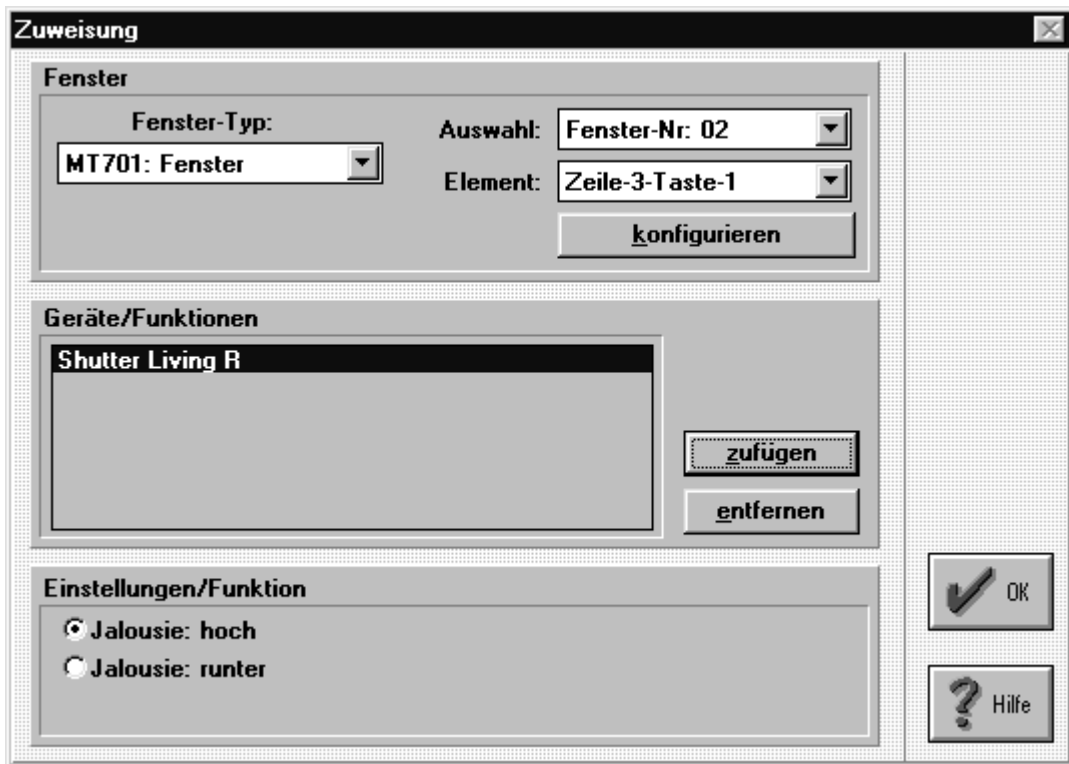


Illustration 28: Dialog box Zuweisung

Close the dialog box **Zuweisung** with the **OK** button, save your project and download it to the Display and Control Tableau MT701. The display page Living room looks like in Illustration 29.

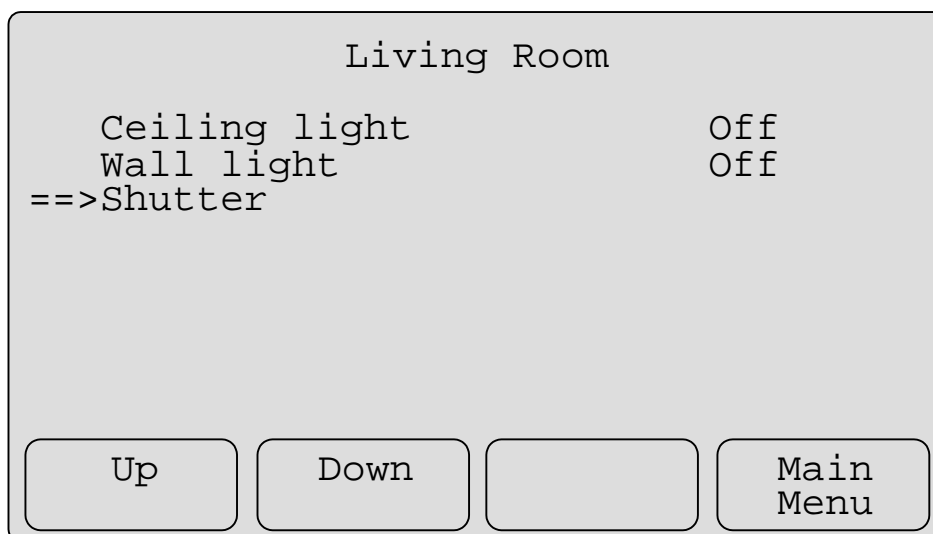


Illustration 29: Display page Living Room

With the buttons no. 1 and 2, the shutter is moved with a long push and movement stop as well as lamella adjustment is done with a short push.

### Tips and Tricks:

The time threshold between a short and a long push are set in the dialog box **Zeitabstände** (head menu line in the main window: menu **Prog./command Zeiten...**). The threshold can be adjusted separately for dimmers (**Dimmer**) and shutters (**Jalousie**) (Illustration 30). The minimum threshold is 0.1 seconds, the maximum threshold is 25.5 seconds for both thresholds.

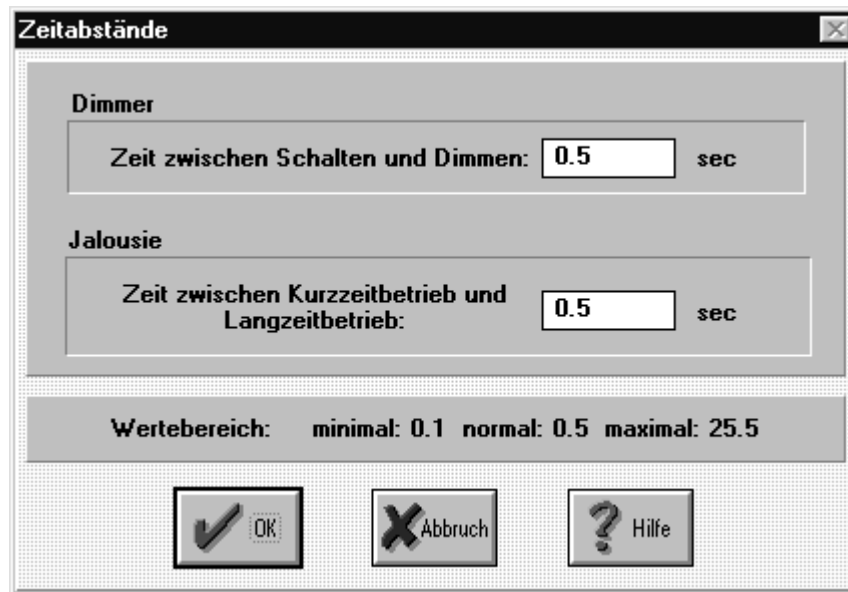


Illustration 30: Dialog box Zeitabstände

## 4.5 Dimming lights

A group of lights in the living room is to be switched and dimmed on the display page Living Room (Illustration 29).

### 4.5.1 Entering of the group addresses

Repeat the steps of Chapter 4.3.1. Enter the group addresses for switching On/Off (**Informationstyp: 1 Bit Schalten/Jalousie (0,1)**), for dimming lighter/darker (**Informationstyp: 4 Bit Dimmen**) and for sending a brightness value (**Informationstyp: 1 Byte Wert (0...255)**) (Illustration 31).



Illustration 31: Dialog box Gruppen im Projekt

#### 4.5.2 Entering of a virtual dimmer switch

Repeat the steps of Chapter 4.3.2. Chose the virtual device of the type **Dimmer (3 Objekte)** (Illustration 32). After confirmation with the **OK** button, the dialog box **Definition: Dimmer** appears (Illustration 33). Assign the corresponding group addresses with the button **zufügen** and confirm with the button **OK**.



Illustration 32: Dialog box Geräte/Funktionen anlegen



Illustration 33: Dialog box Definition: Dimmer

#### 4.5.3 Assigning virtual dimm switch to tableau buttons

Repeat the steps of Chapter 4.3.3. Chose the element **Zeile-4-Anzeige** (line-4-display) and change to the dialog box **Konfiguration: Zeile 4** (Illustration 34). Enter the configuration and confirm with the **OK** button. Assign the virtual device light group to:

- **Zeile-4-Anzeige** (line-4-display),
- **Zeile-4-Taste-1** (line-4-button-1) (parameter: **Schalten Ein/Dimmen heller=On/Brighter**),
- **Zeile-4-Taste-2** (line-4-button-2) (parameter: **Schalten Aus/Dimmen dunkler=Off/darker**) und
- **Zeile-4-Taste-3** (line-4-button-3) (parameter: **Dimmen: Wert zuweisen=send brightness value**).

Enter a brightness value (Dimmwert) from 0 up to 255 that is sent when this button is pushed (Illustration 35).

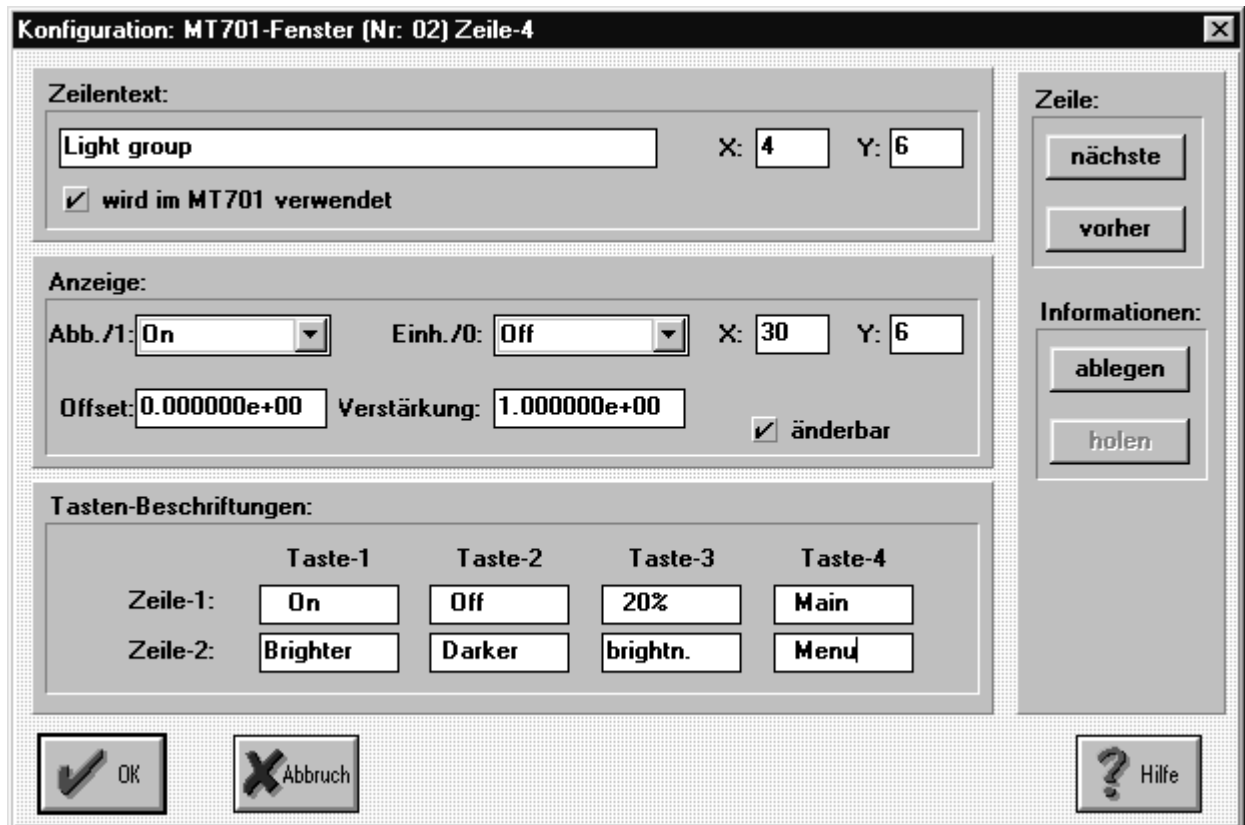


Illustration 34: Dialog box Konfiguration: Zeile 4

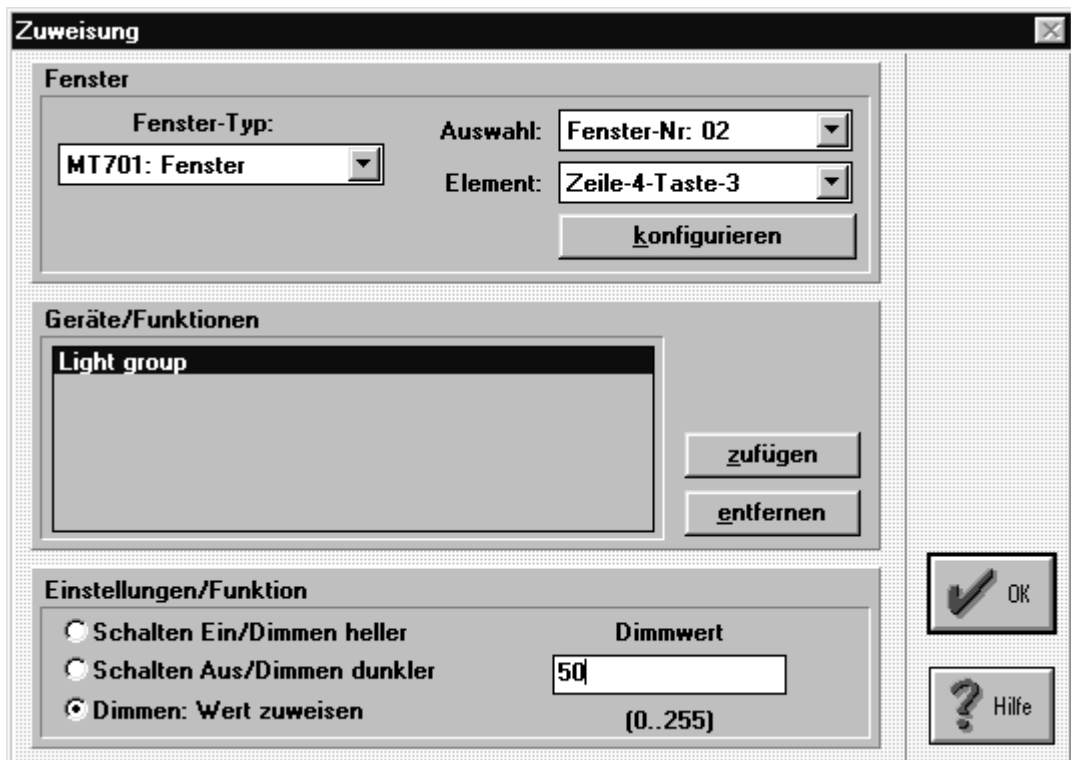


Illustration 35: Dialog box Zuweisung

Confirm the assignments with the **OK** button, save the project and download it to the Display and Control Tableau MT701. The display page **Living Room** looks like in Illustration 36.



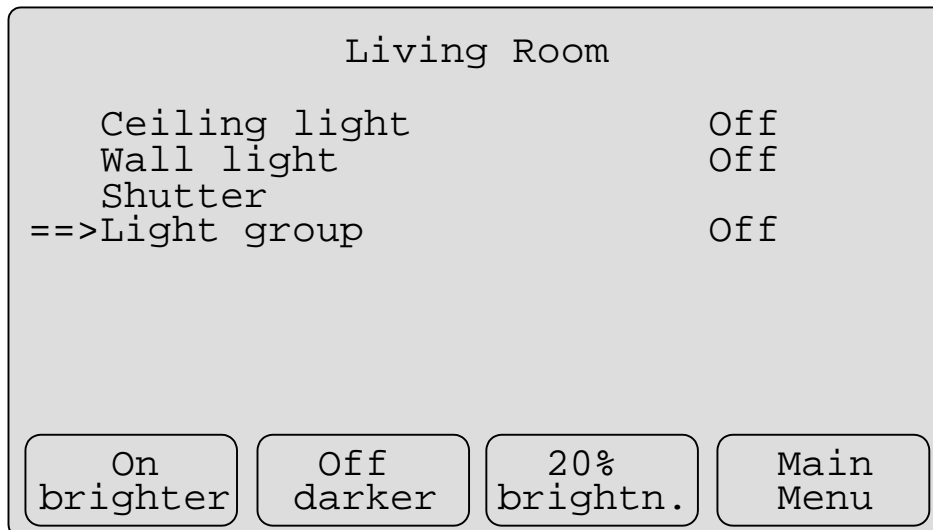


Illustration 36: Display page Living Room

**Tips and Tricks:**

The time threshold between a short and a long push are set in the dialog box **Zeitabstände** (head menu line in the main window: menu **Prog./command Zeiten...**). The threshold can be adjusted separately for dimmers (**Dimmer**) and shutters (**Jalousie**) (Illustration 37). The minimum threshold is 0.1 seconds, the maximum threshold is 25.5 seconds for both thresholds.

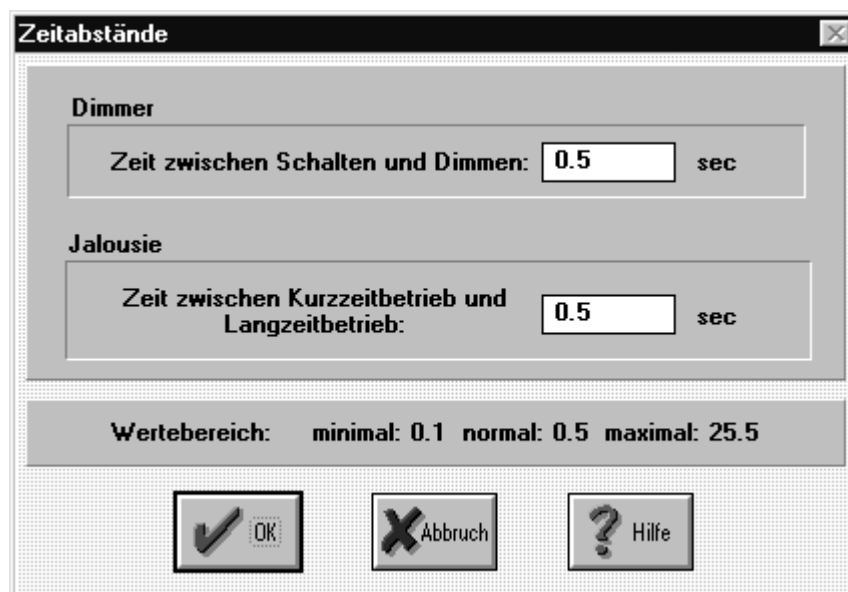


Illustration 37: Dialog box Zeitabstände

**4.6 Downloading a project to the Display and Control Tableau MT701**

Connect your PC to the Display and Control Tableau MT701 via the RS232 connector (see connection diagram in Chapter 2).

Choose the command **Schnittstelle...** of the menu **Optionen** in the head menu line of the main window. The dialog box **Optionen** appears (Illustration 38). Choose the correct output port and confirm with the **OK** button.

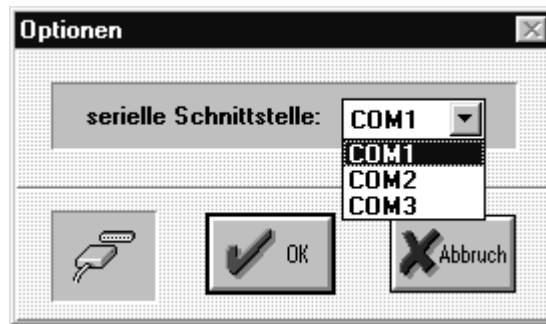


Illustration 38: Dialog box Optionen

Chose the command **Start...** of the menu **Prog.** in the head menu line. The dialog box **Programmierung Steuerelektronik (Down Load)** appears (Illustration 39). Click on **Start** to start the data transmission to the Display and Control Tableau MT701. After the download, click on the button **Fertig** to close the dialog box.



Illustration 39: Dialog box Programmierung Steuerelektronik (Down Load)

**Note:**

If a fault message like shown in Illustration 40 appears, it could be that:

- the Display and Control Tableau is not connected to the power supply,
- the wrong output port is chosen or
- the RS232 connector is not fixed correctly.

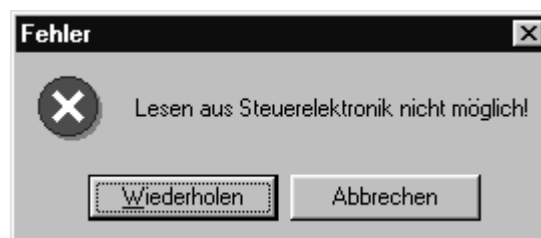


Illustration 40: Fault message during project download

A change of configuration that is made in the Display and Control Tableau itself (e.g. the name of a light scene) can't be overwritten by downloading the project. If you change the name of a light scene in the MT701 and then download the project without this change, the MT701 will preserve the change made in it. You can only change it in the MT701 itself.

If you have already had loaded a project with time programs into the MT701, on every INIT (i.e. Download of a project or after a breakdown of the power supply or after a breakdown of the bus voltage) the Display and Control Tableau MT701 automatically checks the current time and compares it to the times of the time programs. It then executes the last switching action for each time program.

With every download, the alarm list will be deleted.

### Tips and Tricks

With every INIT, the communication object value of all group addresses used in the EibTab project will be read over the bus in order to display the correct switching status. This can cause unintentional switching actions in the EIB installation, shutter actors will shortly move (ca 0,5 seconds). To suppress these unintentional actions, it is recommended (especially for jalousie actors, it is highly recommended) to deactivate the option **Status abfragen** (read status) when entering the group address (Illustration 41). The status will then be actualized when the group address is sent for the first time after an INIT.

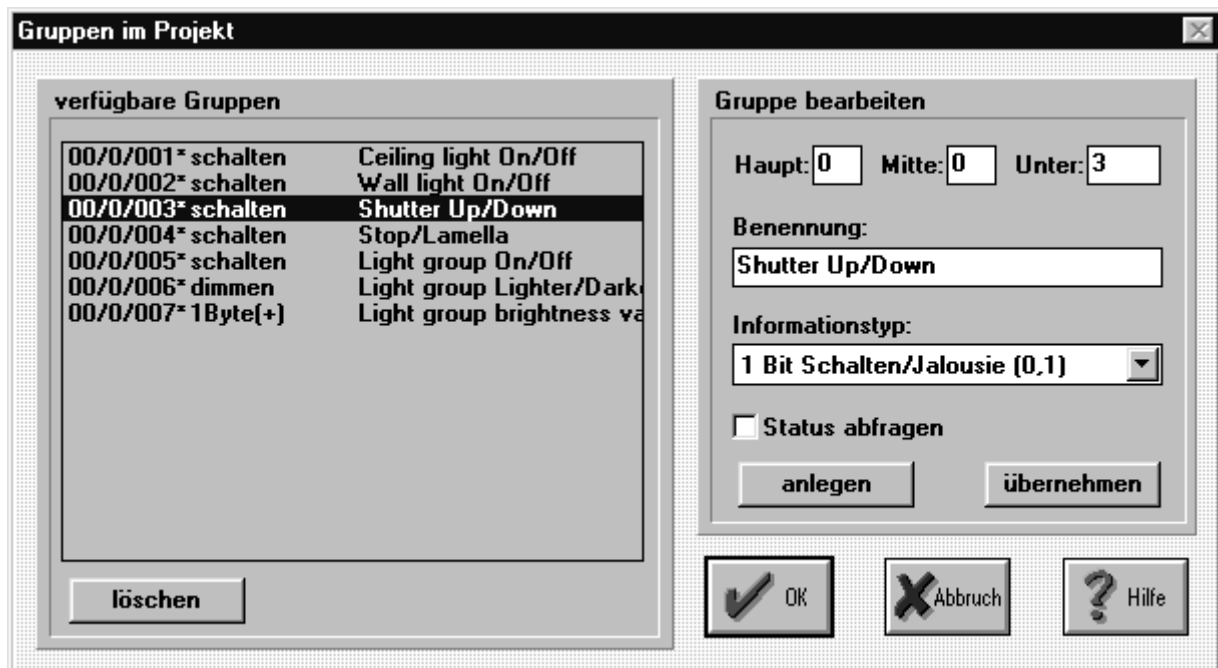


Illustration 41: Gruppen im Projekt

It is also highly recommended to deactivate the **Status abfragen** option for group addresses that cause an entry in the alarm list. If not deactivated, on every INIT there will be one entry for each group address in the alarm list.

## 5 Additional functions

### 5.1 Light scenes

A light scene has to be switched with a button on the display page Living Room (Illustration 36).

#### 5.1.1 Entering of a virtual light scene

Repeat the steps of Chapter 4.3.2. Chose a virtual device of the type **Lichtszene** (Illustration 42). After the confirmation with the **OK** button, the dialog box **Definition: MT701-Lichtszene** appears (Illustration 43). Enter the name of the light scene and click on the grey field **Gruppenadressen: Lichtsszene**. Assign the corresponding group addresses with the button **zufügen** and confirm with the **OK** button. All assigned group addresses must have the same information type.



Illustration 42: Dialog box Geräte/Funktionen anlegen

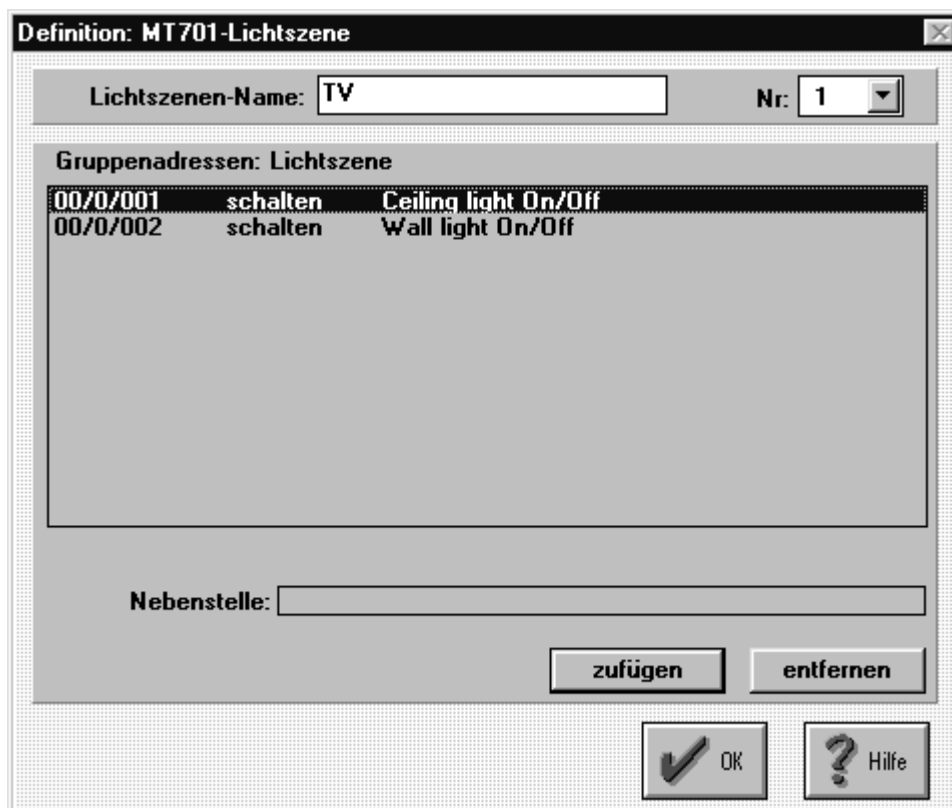


Illustration 43: Dialog box Definition: MT701-Lichtszene

5.1.2 Assigning links to the light scene page to tableau buttons

Repeat the steps of Chapter 4.3.3. Chose the element **Zeile-5-Anzeige** (line-5-display) change to the dialog box **Konfiguration: Zeile-5** with the button **konfigurieren** (Illustration 44). Confirm with the **OK** button and assign the function Lichtszene to the element **Zeile-5-Taste-1** (line-5-button-1) (Illustration 43).

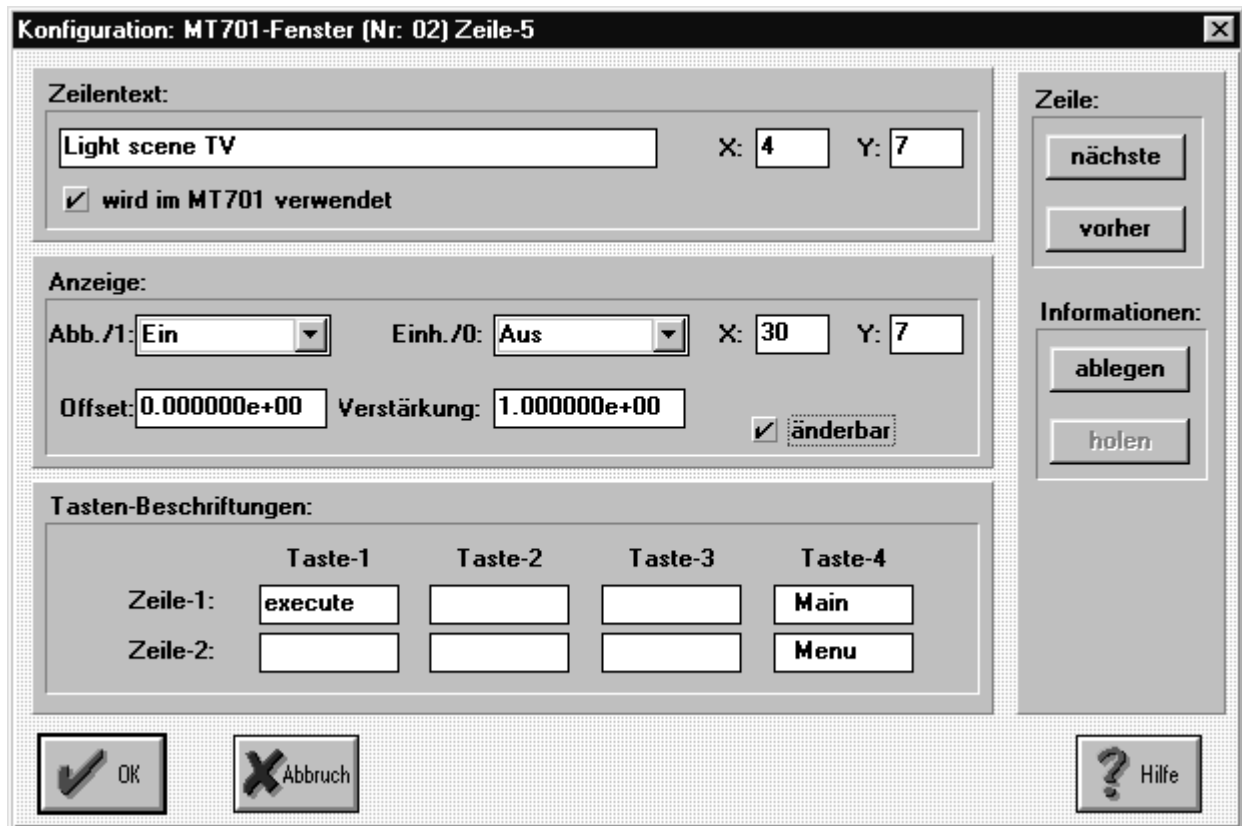


Illustration 44: Dialog box Konfiguration: Zeile-5

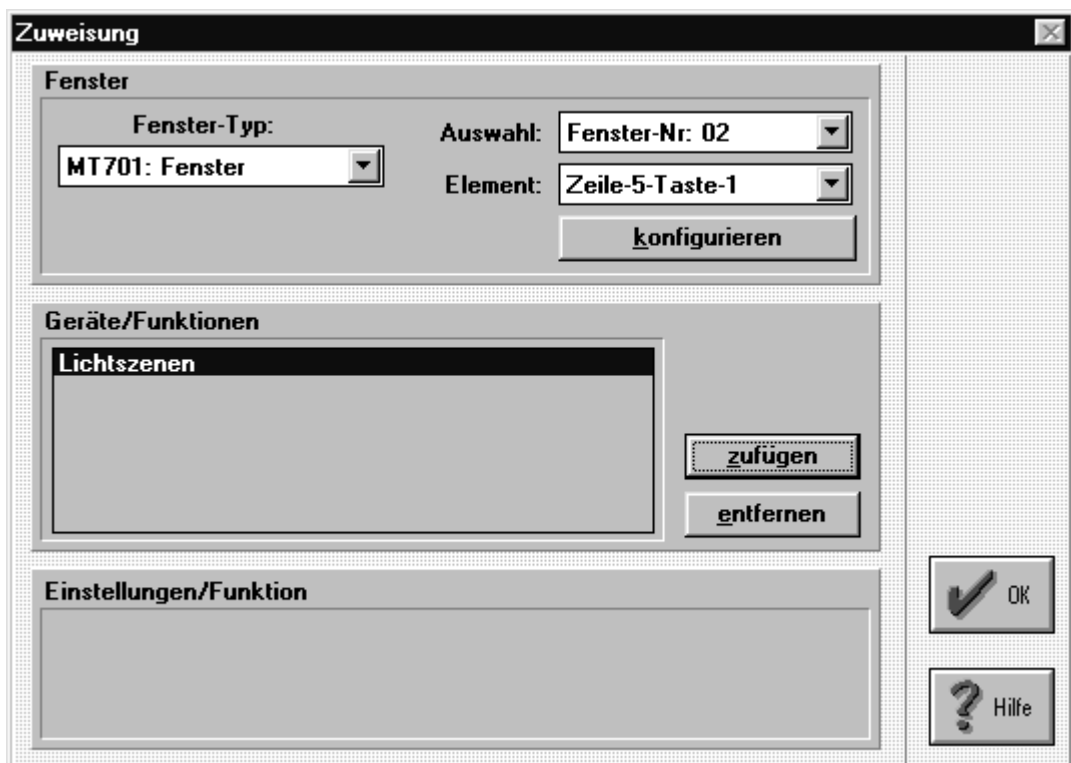


Illustration 45: Dialog box Zuweisung

Close the dialog box **Zuweisung** with the **OK** button, save the project and download it to the Display and Control Tableau MT701. The display page **Living Room** looks like in Illustration 46. Klick on the button **Execute**. The display page **Light scenes** appears (Illustration 47).

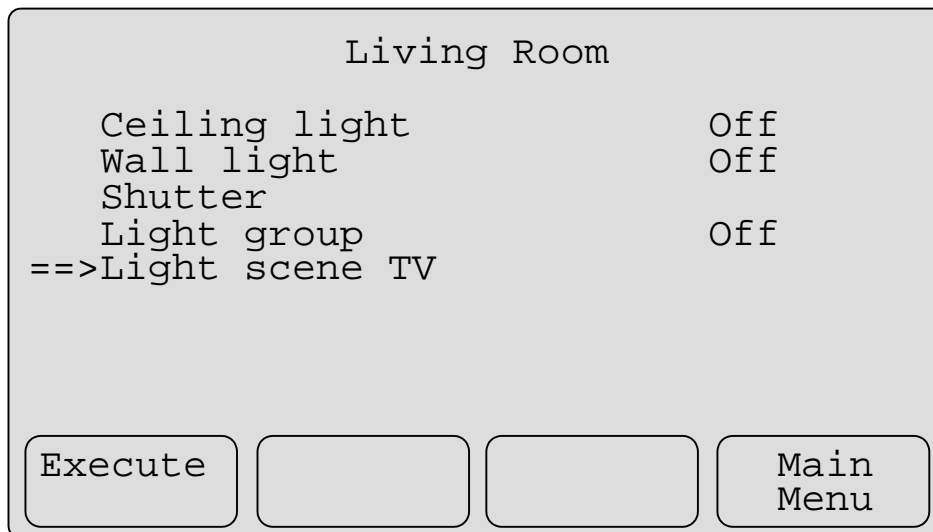


Illustration 46: Display page Living Room

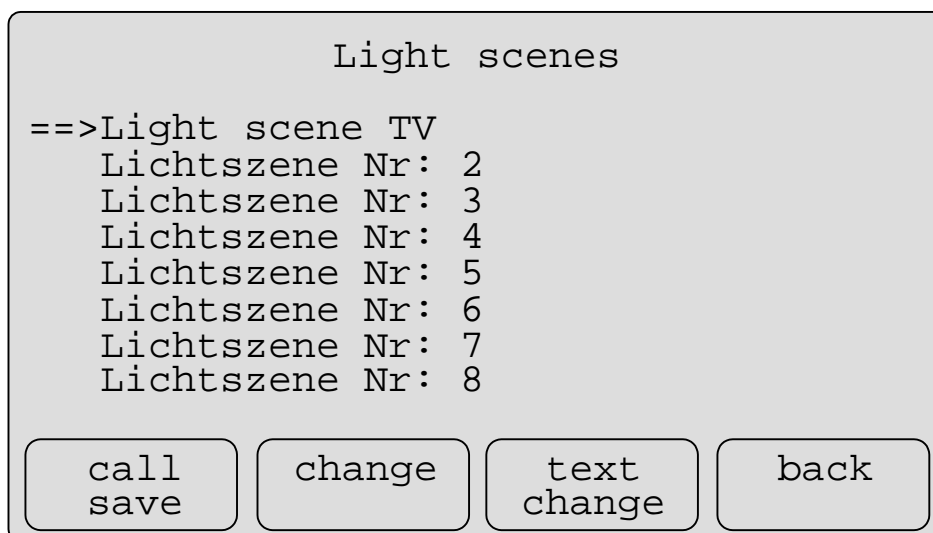


Illustration 47: Display page Light scenes

There are two possibilities to adjust a light scene:

1. Chose the light scene you want to adjust with the cursor. Switch all the corresponding consumers as you want them for the light scene. Push the button **call/save** until you can hear a short acoustical sign. The light scene is now saved can be executed with a short push on the button **call/save**.
2. Push the button **change**. The display page **Szene: Light scene TV** appears (Illustration 48). Chose the button **on/shut/+** or the button **off/open/-** for every single group address assigned to the virtual light scene.

If you want to change the name of the light scene, press the button **text change** on the display page **Light scene** (Illustration 47). The display page **text change** appears (Illustration 49). Now you can enter a new name using the cursor button and the **enter** button.

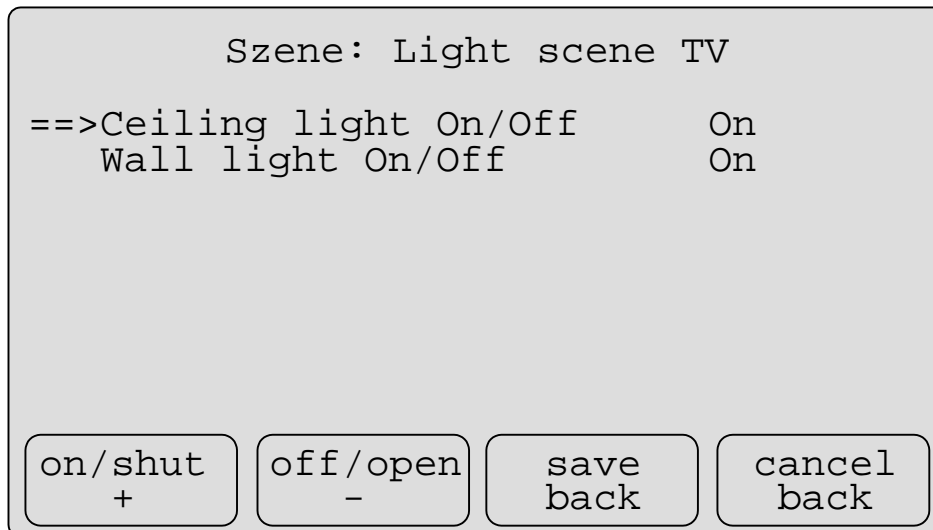


Illustration 48: Display page Szene: Light scene TV

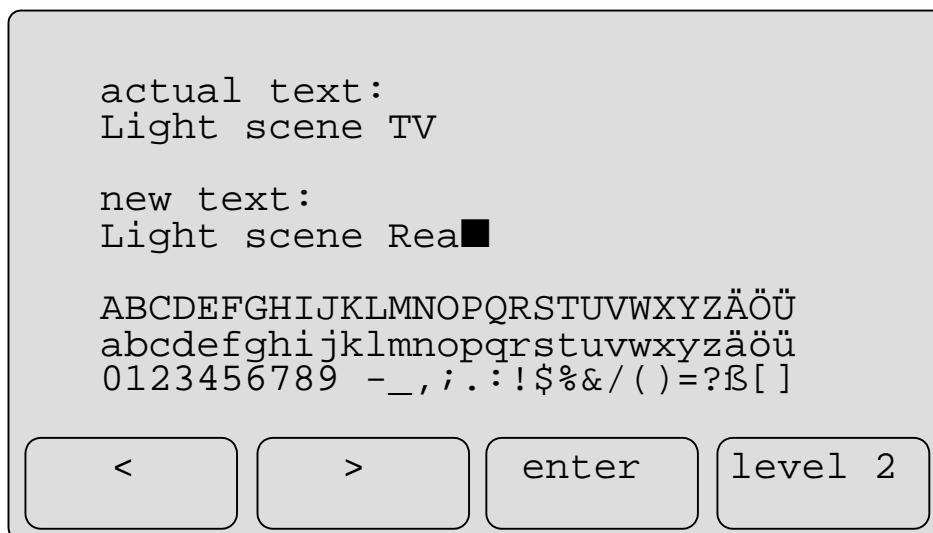


Illustration 49: Display page text change

**Note:**

Up to 24 light scenes can be adjusted, but the same group addresses will be used in all light scenes, it is not possible to assign other group addresses to light scene no. 2 than assigned to light scene no. 1. Only the switching values of the assigned group addresses is different for each light scene. Up to 32 group addresses can be assigned.

**Tips and Tricks:**

To execute the light scenes with a bus telegram, you can enter an 8-Bit-group address and assign it to the light scene (**Nebenstelle:**) (Illustration 43).

**5.2 Time programs**

On the display page Main Menu (Illustration 9) has to be made a link to the time program display page.

**5.2.1 Enter the time program display page**

Highlight a free small box in the main window (Illustration 1) and insert a new display page (menu **Fenster** of the head menu line, **Einfügen/Ändern**). The dialog box **Fenster Zuweisung** appears

(Illustration 50). Chose the display page type: **MT701: Schaltuhr** and confirm with the **OK** button. The small box is automatically given the no. 52.



Illustration 50: Dialog box Fenster Zuweisung

Highlight the Main Menu page in the main window, open the dialog box Zuweisung (command **Zuweisung...** in the head menu line) and assign the function **zur Schaltuhr** to the element **Zeile-5-Taste-1** (line-5-button-1) (Illustration 51). Enter the according configurations (Illustration 52).

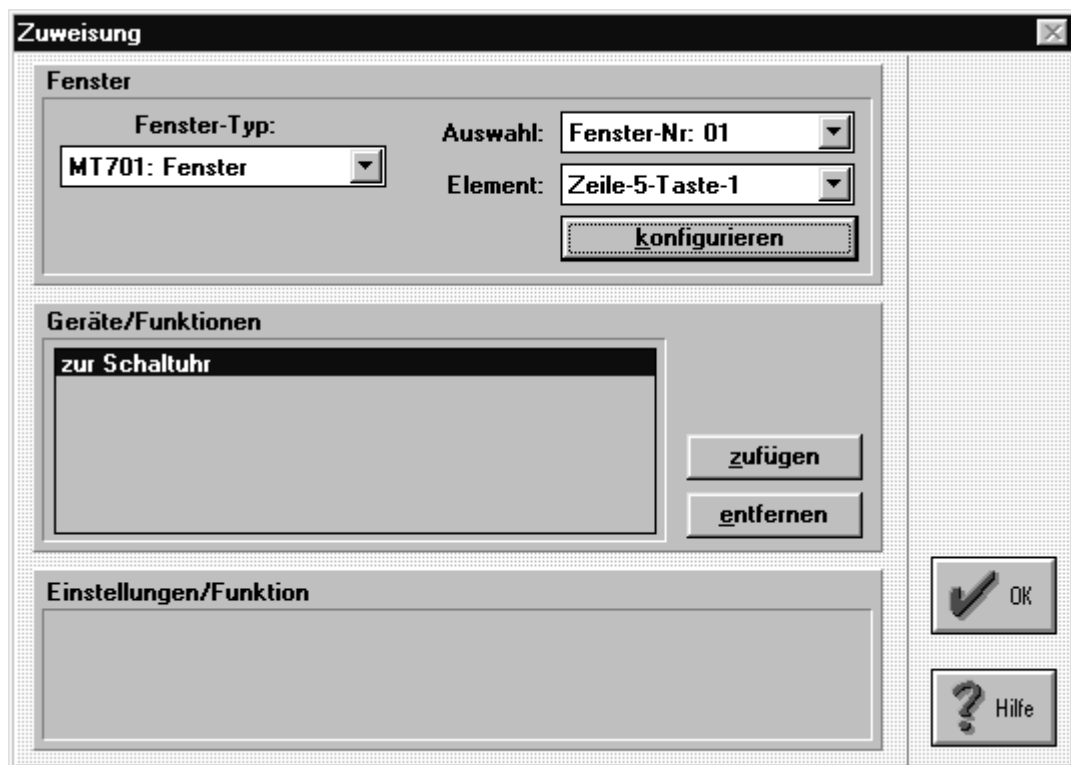


Illustration 51: Dialog box Zuweisung



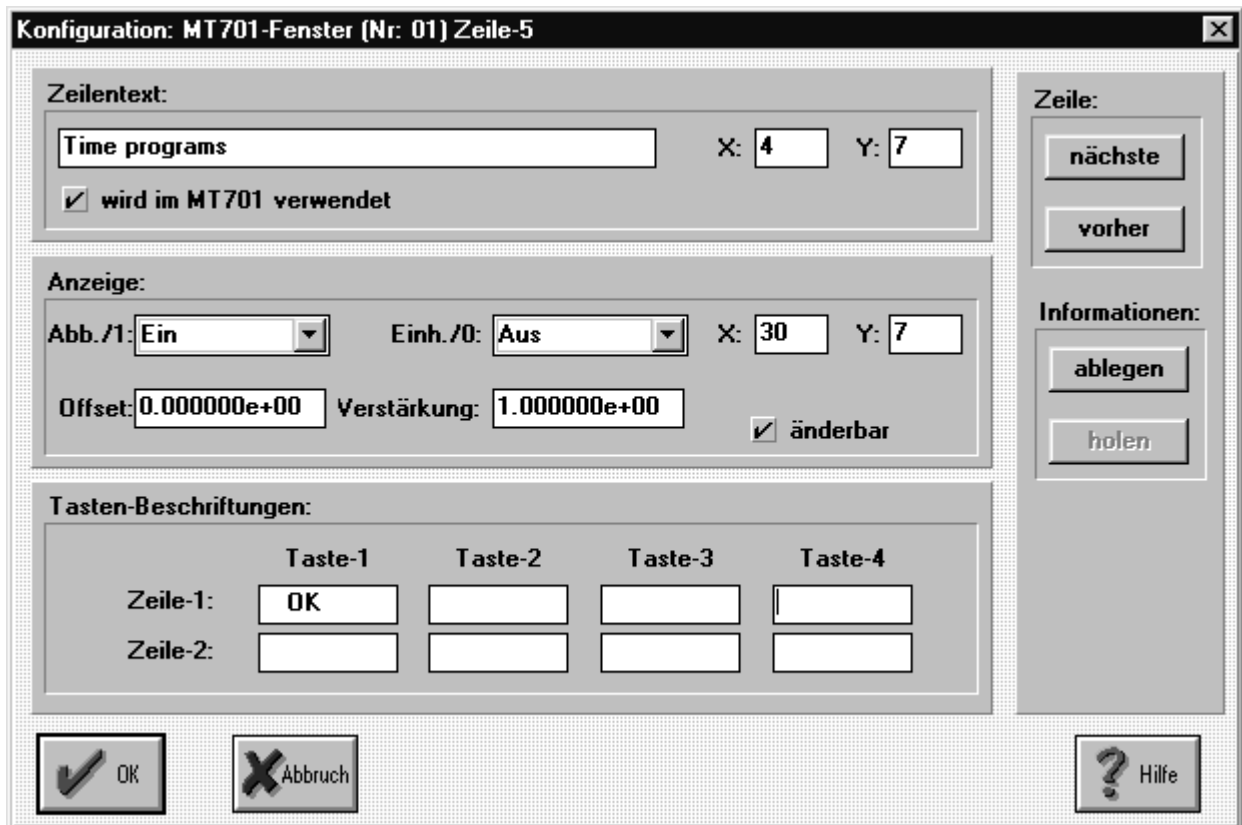


Illustration 52: Dialog box Konfiguration: Zeile-5

## 5.2.2 Configuration of the time program display page

Assign a headline to the time program display page (see Chapter 4.2.1).

Assign a name to each of the up to 8 time programs (see Chapter 4.3.3) (Illustration 53). For every line of the time program display page, there is an additional element **Ereignis** (Event). Assign the virtual device that is to be executed to this element **Ereignis**. Don't forget to assign the option **EIN** to **drücken/aktivieren** and the option **AUS** to **loslassen/deaktivieren**.

When assigning functions to the elements, be sure to assign the function **ändern** (change) to one button per line. With this button, the user is able to enter and change switching times.

Assign the virtual device Wall light to the element **Zeile-1-Ereign.** (line-1-event) (Illustration 54) and the function **ändern** to the element **Zeile-1-Taste-1** (line-1-button-1) (Illustration 55).

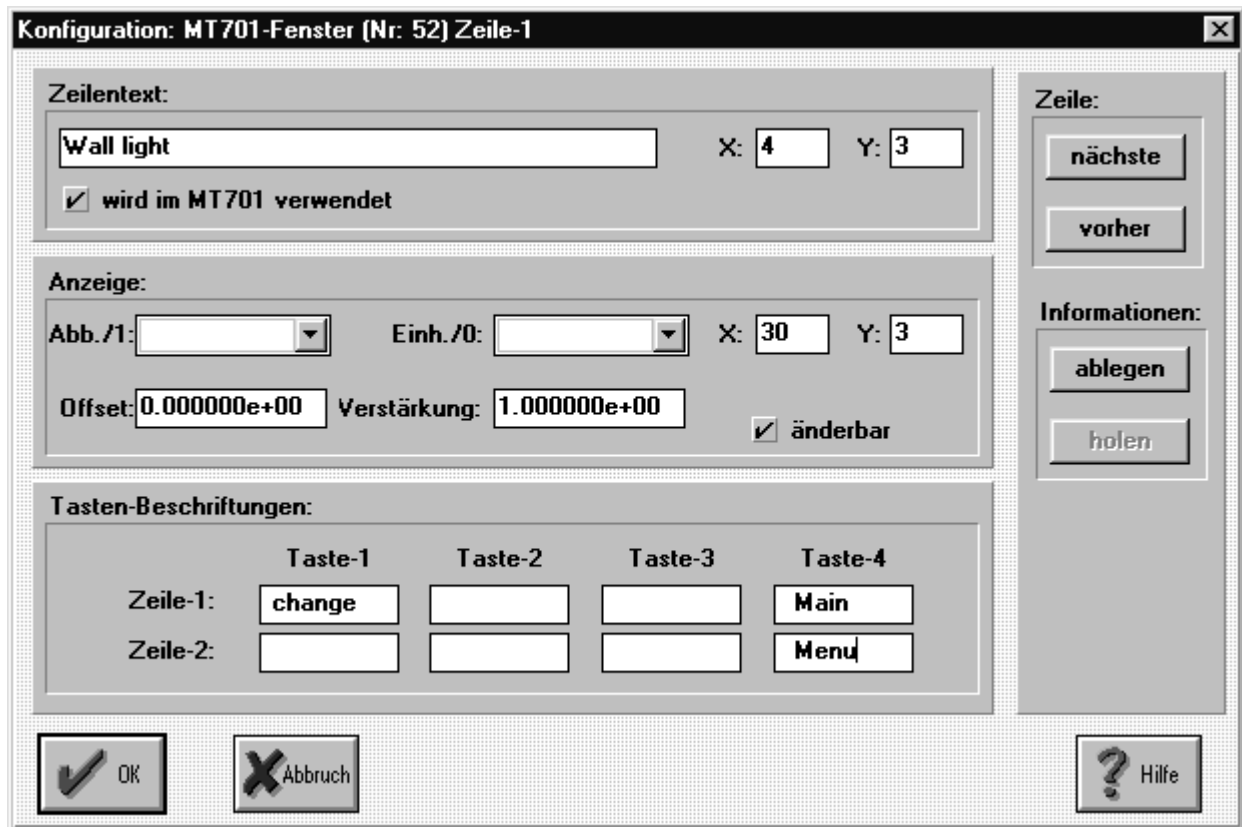


Illustration 53: Dialog box Kofiguration: Zeile 1

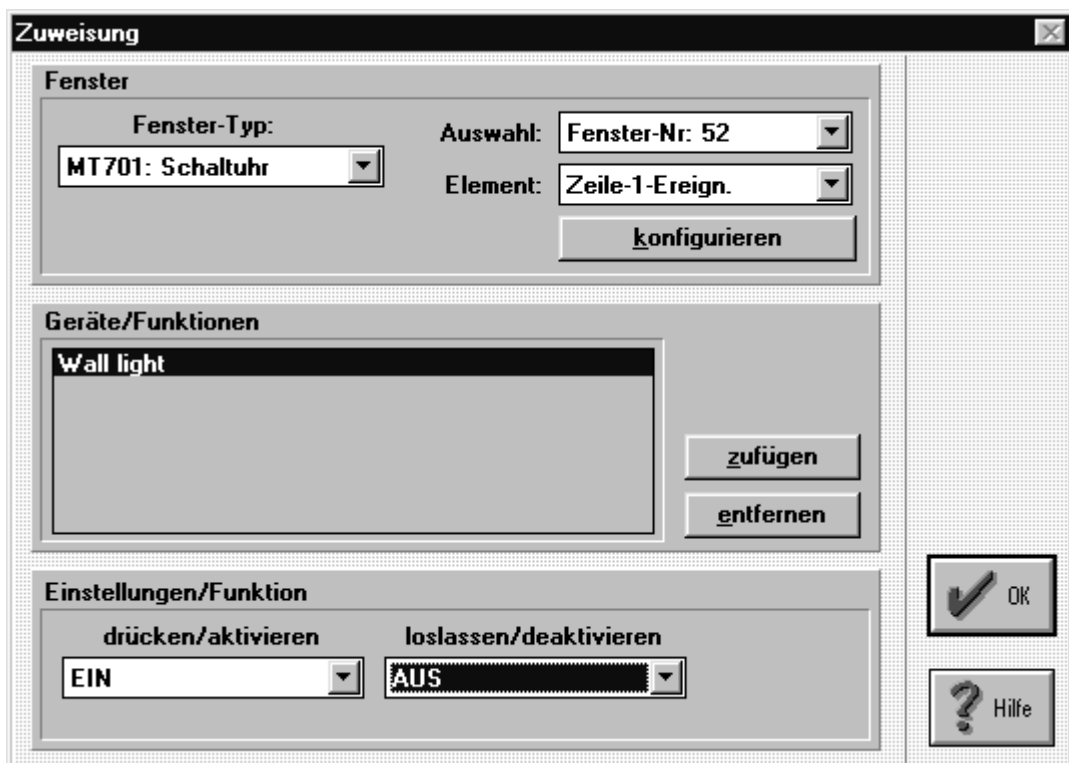


Illustration 54: Dialog box Zuweisung

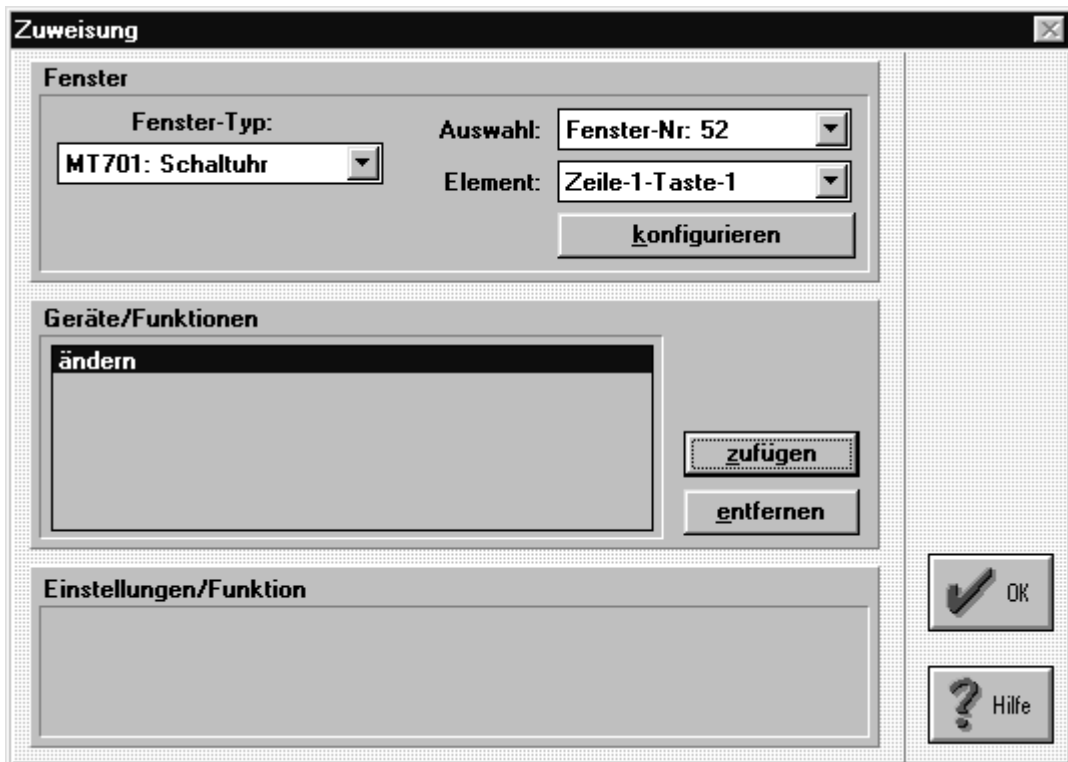


Illustration 55: Dialog box Zuweisung

### 5.2.3 Entering of a link to the system display page

To be able to adjust date and time in the Display and Control Tableau MT701, there must be a link to the system display page. Therefore a link will be entered on the Main Menu system page (Illustration 9).

The system display page is entered automatically in every project (the small box **MT701: System** in Illustration 1). Do not delete it! Now assign the function **zur Systemseite** to the element **Zeile-6-Taste-1** of the Main Menu display page (Illustration 56) and enter the corresponding configurations (Illustration 57).

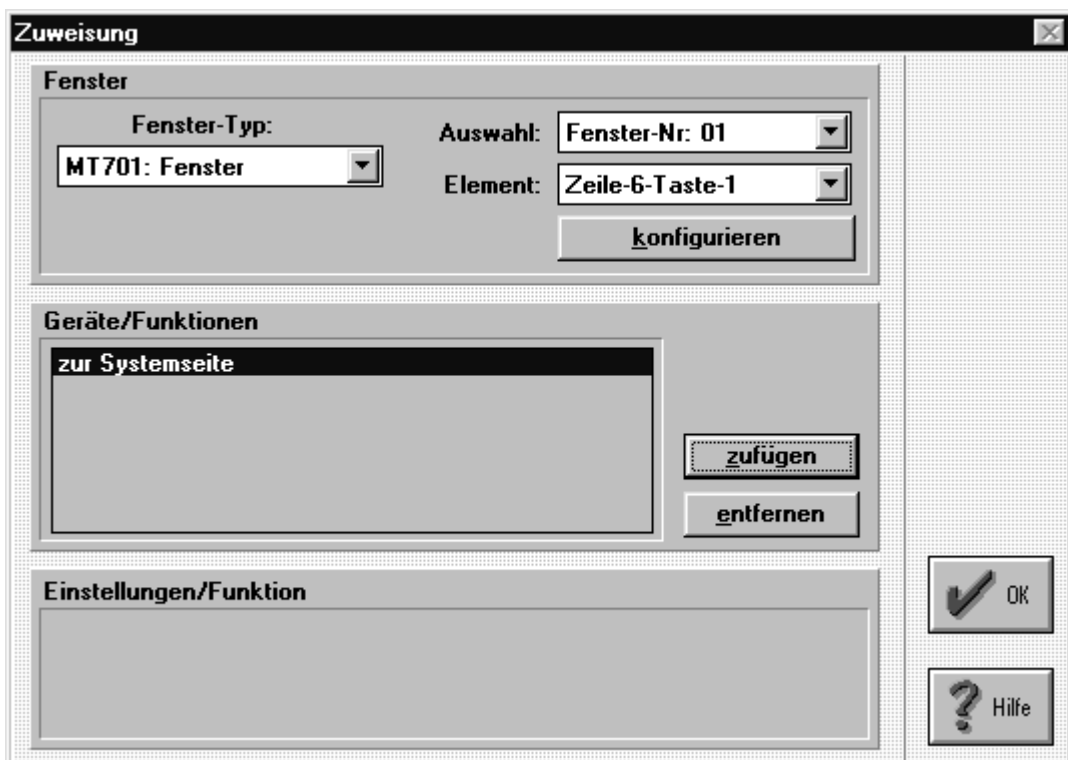


Illustration 56: Dialog box Zuweisung

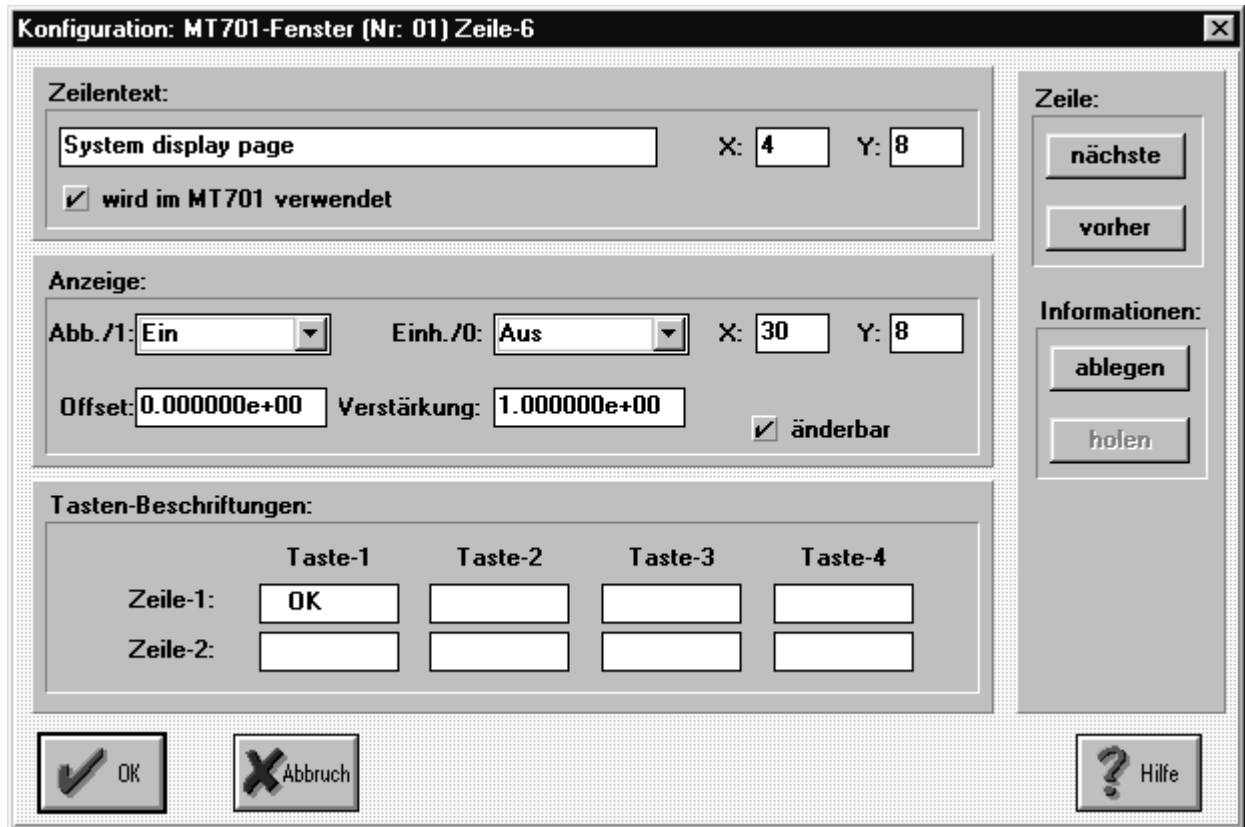


Illustration 57: Dialog box Konfiguration: Zeile-6

Close the dialog box **Zuweisung** with the **OK** button, save the project and download it to the Display and Control Tableau MT701. The Main Menu display page looks like in Illustration 58. Push the OK button. The display page Time programs appears (Illustration 59).

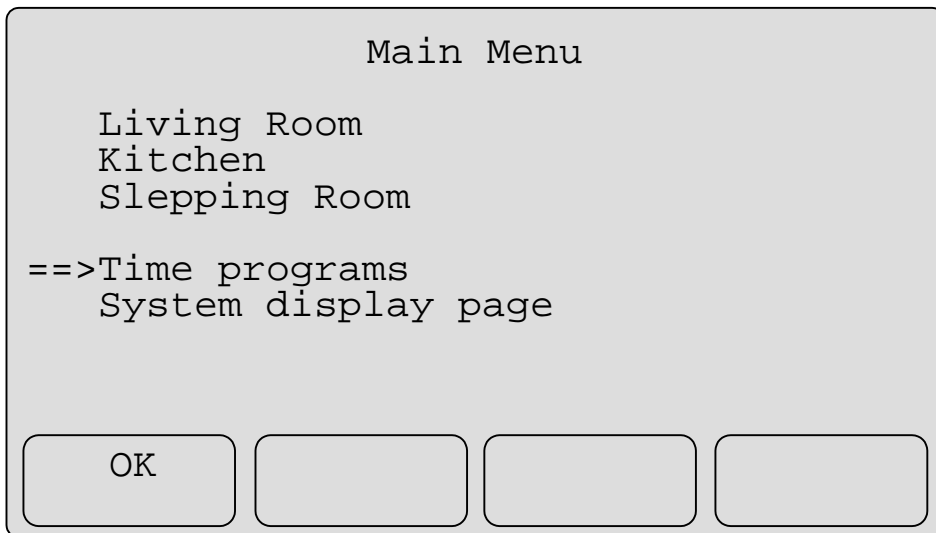


Illustration 58: Display page Main Menu

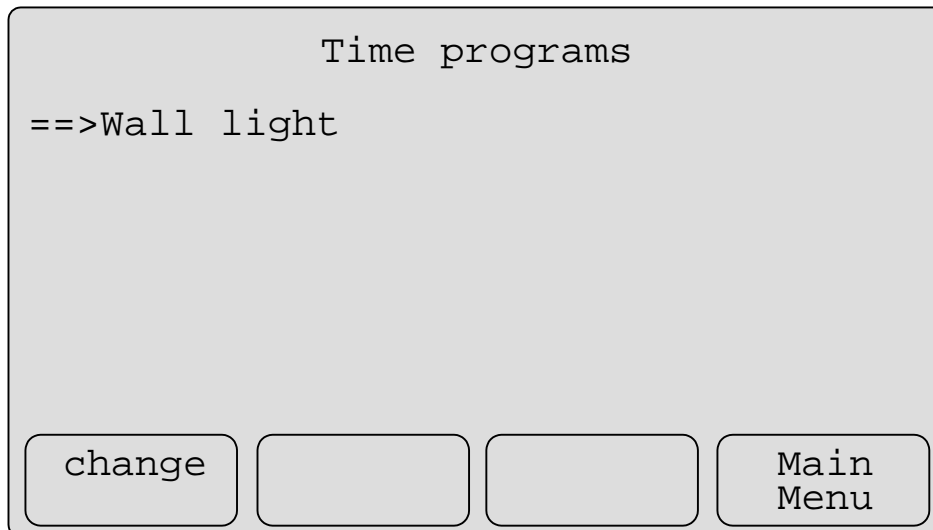


Illustration 59: Display page Time programs

Press the button **change**. The display page **Wall light** appears (Illustration 60). Enter up to 8 switching times with the cursor buttons. Chose Ein for switching On and Aus for switching Off. Chose the day on that the switching action is executed (M=monday, D=tuesday, M=wednesday, D=thursday, F=friday, S=saturday, S=sunday). Press the button **delete** to delete a switching time. Save the entries (**save**) and return to the time program display page with the button **end**.

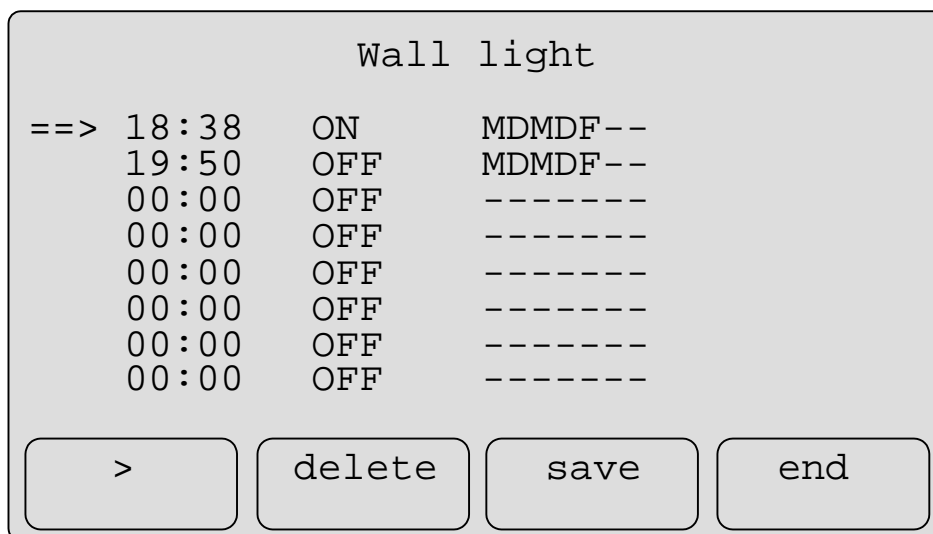


Illustration 60: Display page Wall light

Return to the Main Menu display page (Illustration 58), move the cursor to the line **System display page** and press the **OK** button. The display page Systemeinstellungen appears (Illustration 61). Chose the line **Date** or **Time** and press the button **change**. The display page **Date** appears (Illustration 62). Adjust the correct date and save the entry with the button **enter**. Leave the display page Datum with the button **end**. Adjust the time in the same manner. Leave the display page **System settings** with the button **back**.

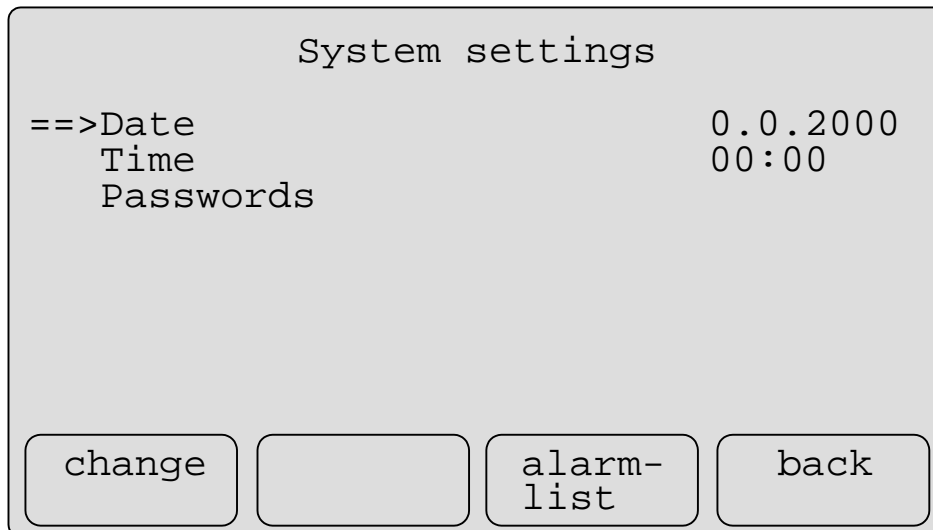


Illustration 61: Display page System settings



Illustration 62: Display page Date

**Note:**

Up to 8 virtual devices can be switched on up to 8 different times.

**Tips and Tricks:**

Time and date can as well be transmitted on and received from the bus as a 3 Byte-telegram. Therefore, first enter a group address each for date and time. Assign the information type **3 Byte Datum/ 3 Byte Zeit** (Illustration 63). Add the two virtual devices date (type: **Datum**) and time (type: **Uhrzeit**) (Illustration 64) and assign the corresponding group addresses (Illustration 65). Adjust the parameters (**Datum senden**=send date, **Datum empfangen (und interne Uhr stellen)**=receive date (and controll internal timer), **Datum lesen (L-Flag)**=read date).

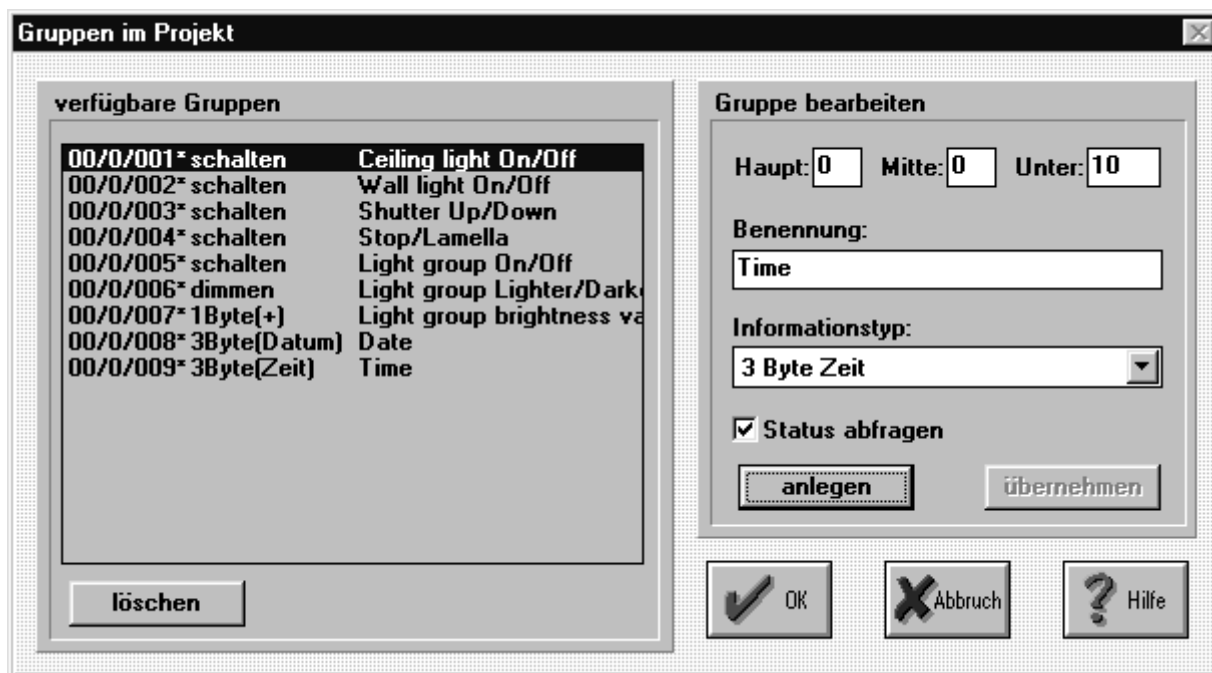


Illustration 63: Dialog box Gruppen im Projekt

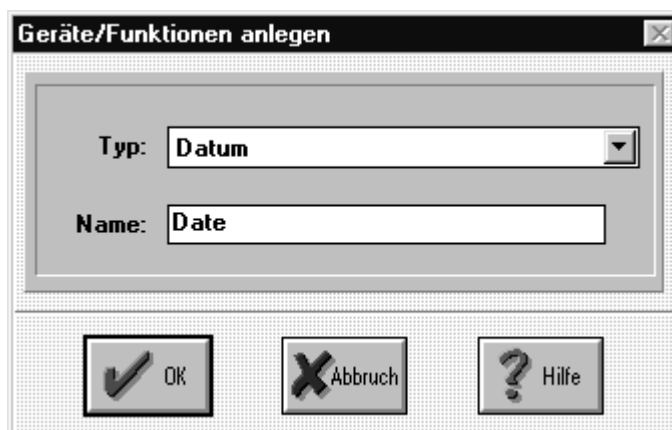


Illustration 64: Dialog box Definition

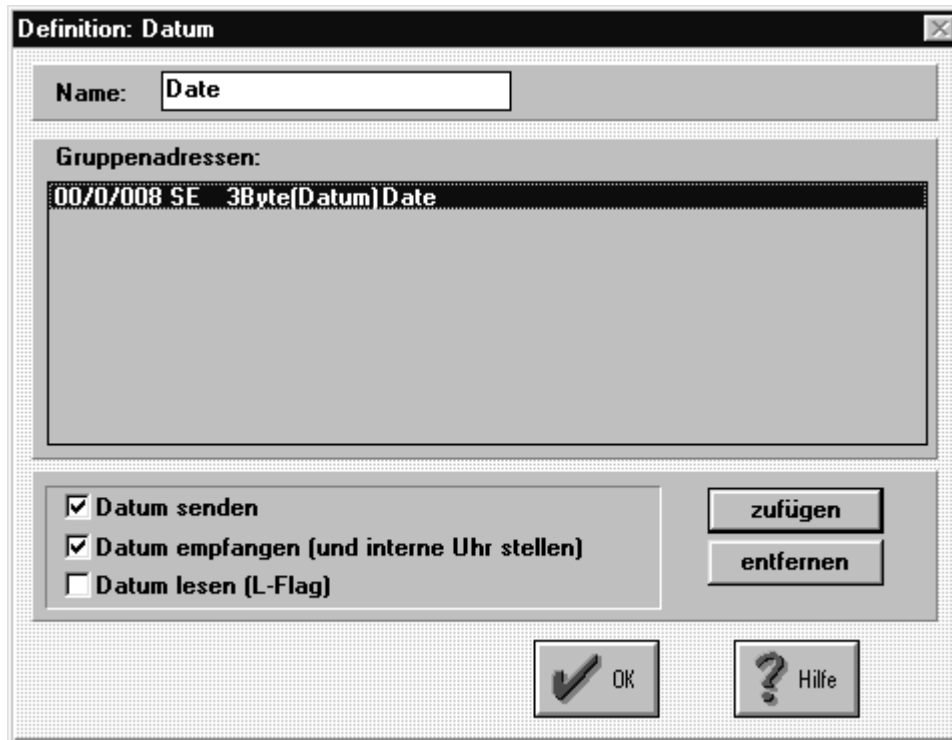


Illustration 65: Dialog box Definition: Uhr

Assign the virtual devices **Datum** and **Zeit** to the system display page. In the field **Element**, chose if date and time are to be sent cycally every minute (**Timer-Tick 1min**) or every hour (**Timer-Tick 1std**) (Illustration 66).

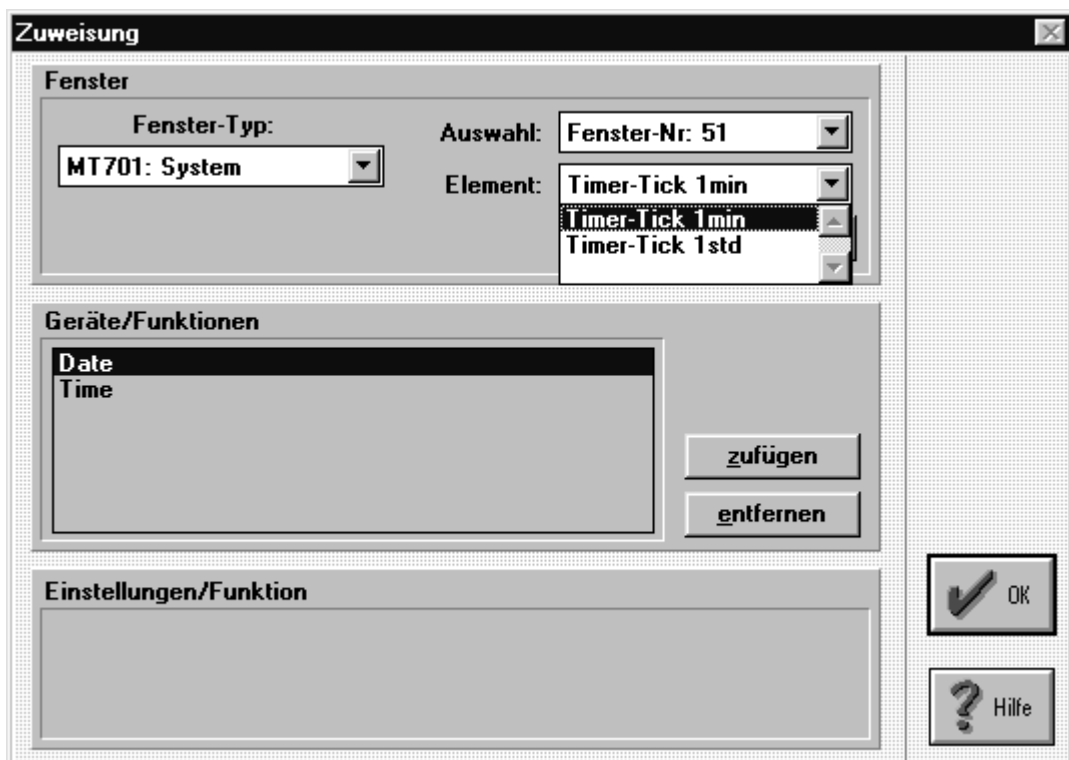


Illustration 66: Dialog box Zuweisung

### 5.3 Passwords

Every display page can be protected with a password. Therefore, a password level is assigned to every display page. There are 5 different password levels. The password level 0 allows



everybody to change to a display page. When the user wants to change to a display page with a higher password level than the one he currently sees, he must enter the according password. To return to a page with a lower password level, there is no need to enter a password.

In the example, the display page **Living Room** (Illustration 46) is going to be protected with a password of level 1.

Highlight the small box of the display page Living Room in the main window (Illustration 1) and chose the command **konfigurieren...** of the menu **Fenster** in the head menu line. The dialog box **Konfiguration: MT701-Fenster** appears (Illustration 67). Enter the password level „1“ in the field **Kennwortebene** and confirm with the **OK** button.



Illustration 67: Dialog box Konfiguration: MT701-Fenster

If you have not yet entered a link to the system display page in your project, you need to do it now.

Save your project and download it to the Display and Control Tableau MT 701. The Main Menu display page looks like in Illustration 68. Press the **OK** button. The display page Illustration 69 appears.

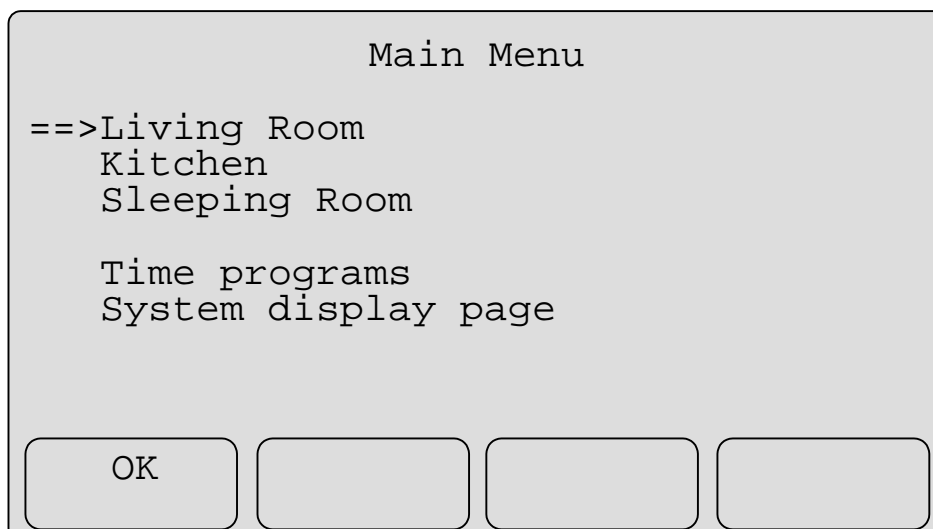


Illustration 68: Display page Main Menu

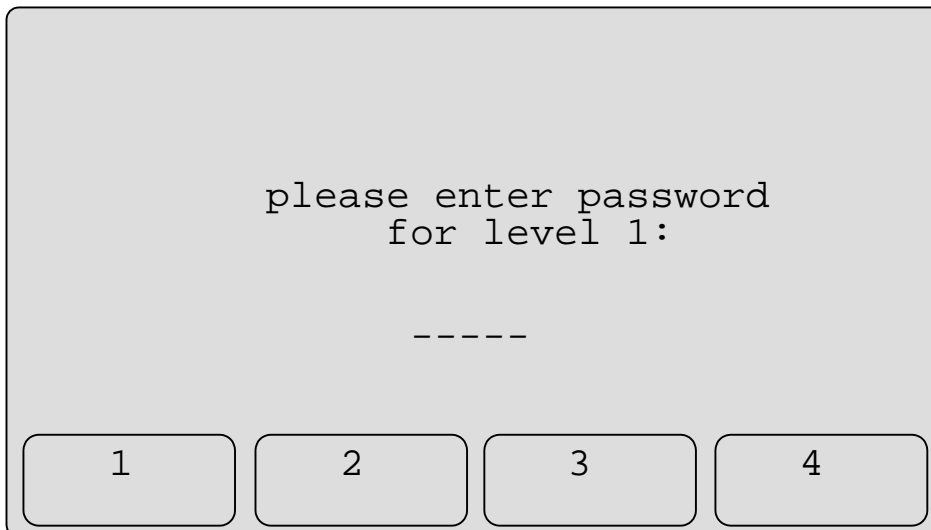


Illustration 69: Display page for entering the password of level 1

The password is a 5-digit number consisting of the figures 1 to 4. The figures are entered with the four downer buttons of the Display and Control Tableau MT701. The following passwords are used as preset: level 1: „11111“, level 2: „22222“, level 3: „33333“ and level 4: „44444“.

Now enter the password „11111“ to change to the display page **Living Room** (Illustration 46). Go back to the Main Menu display page and try again with a wrong password.

Go back to the Main Menu display page (Illustration 68), change to the system display page, position the cursor on **Passwords** and press the button **change**. The display page **Passwords** (Illustration 70) appears. With the button **change**, you can now change the passwords (Illustration 71).

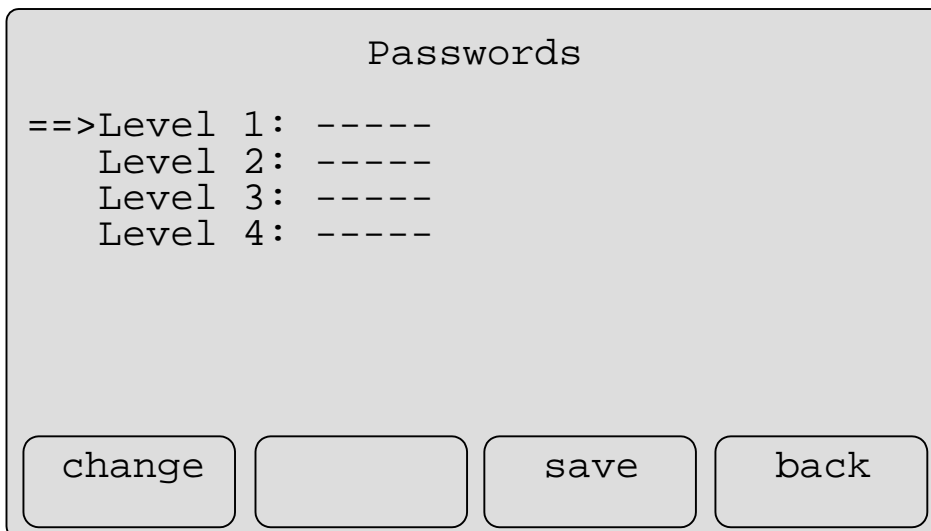


Illustration 70: Display page Passwords

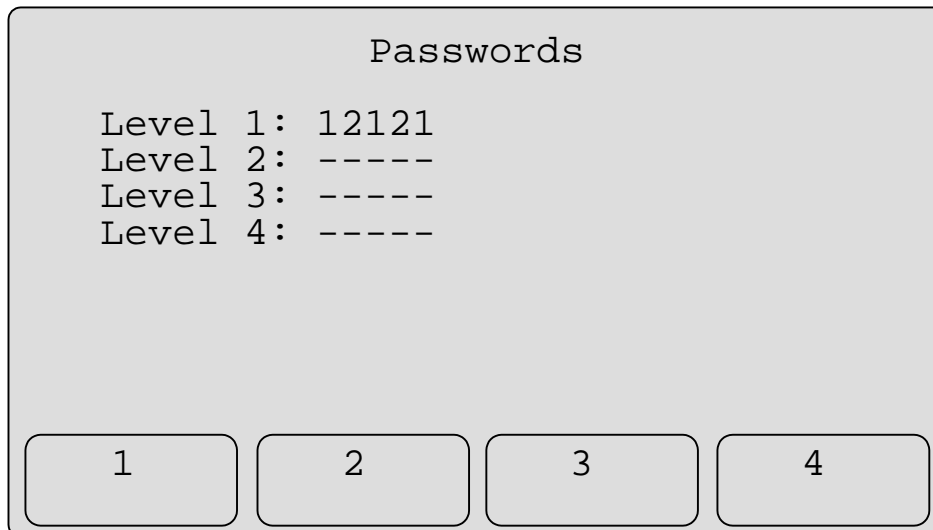


Illustration 71: Display page Passwords

**Tips and Tricks:**

Protect the display page with which you can change to the system display page in order that nobody can change the passwords.

**5.4 Displaying and sending values**

On the Display and Control Tableau MT701, 1-Bit-, 8-Bit- and 16-Bit values can be displayed, entered and sent. In the example project, the actual room temperature is to be displayed and the desired room temperature is to be entered and sent on the display page **Living Room** (Illustration 46).

Repeat the steps of Chapters 4.3.1 bis 4.3.3. Enter the group addresses Actual temperature and Desired temperature (both with the information type: **2 Byte Gleitkomma**) (Illustration 72), enter the virtual devices Actual temperature and Desired temperature (both of the type: **Wert/Schalter (1 Objekt)**) (Illustration 73) and assign the according group address (Illustration 74).

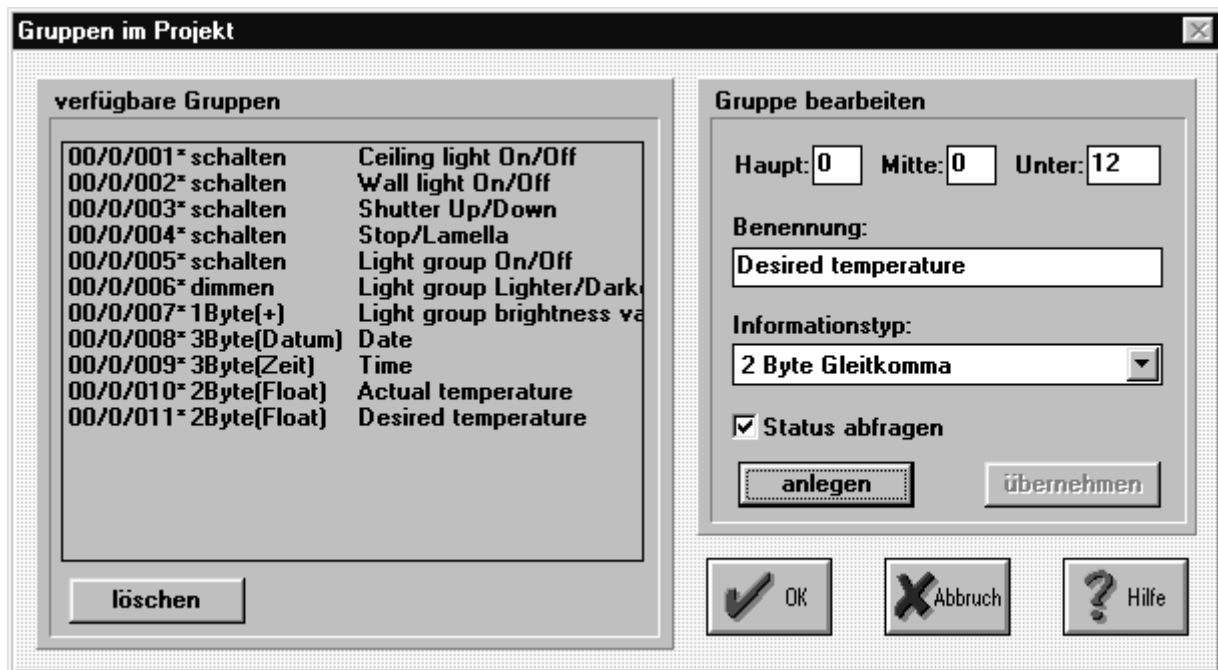


Illustration 72: Dialog box Gruppen im Projekt

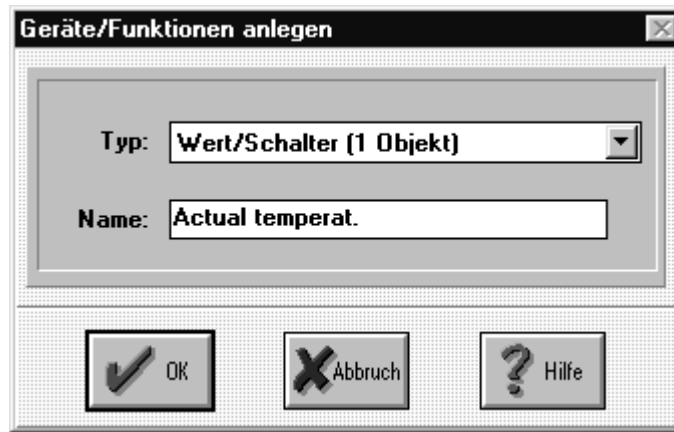


Illustration 73: Dialog box Geräte/Funktionen anlegen

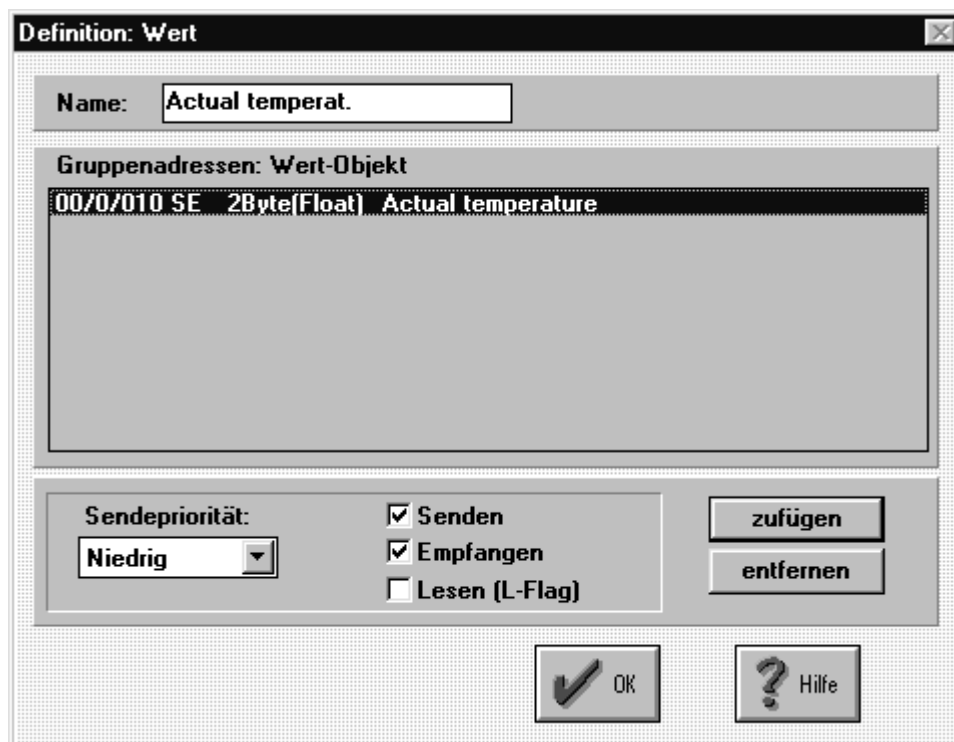


Illustration 74: Dialog box Definition: Wert

Open the dialog box **Zuweisung** (command **Zuweisung...** in the head menu line), chose the element **Zeile-6-Anzeige** (line-6-display) and enter the configurations like shown in Illustration 75. Chose the 4-digit display type with one digit after the point (**Abb./1: ####.#**) and the unit °C (**Einh./0: °C**). Assign the virtual device Actual temperature to the element **Zeile-6-Anzeige** (line-6-display) (Illustration 76).

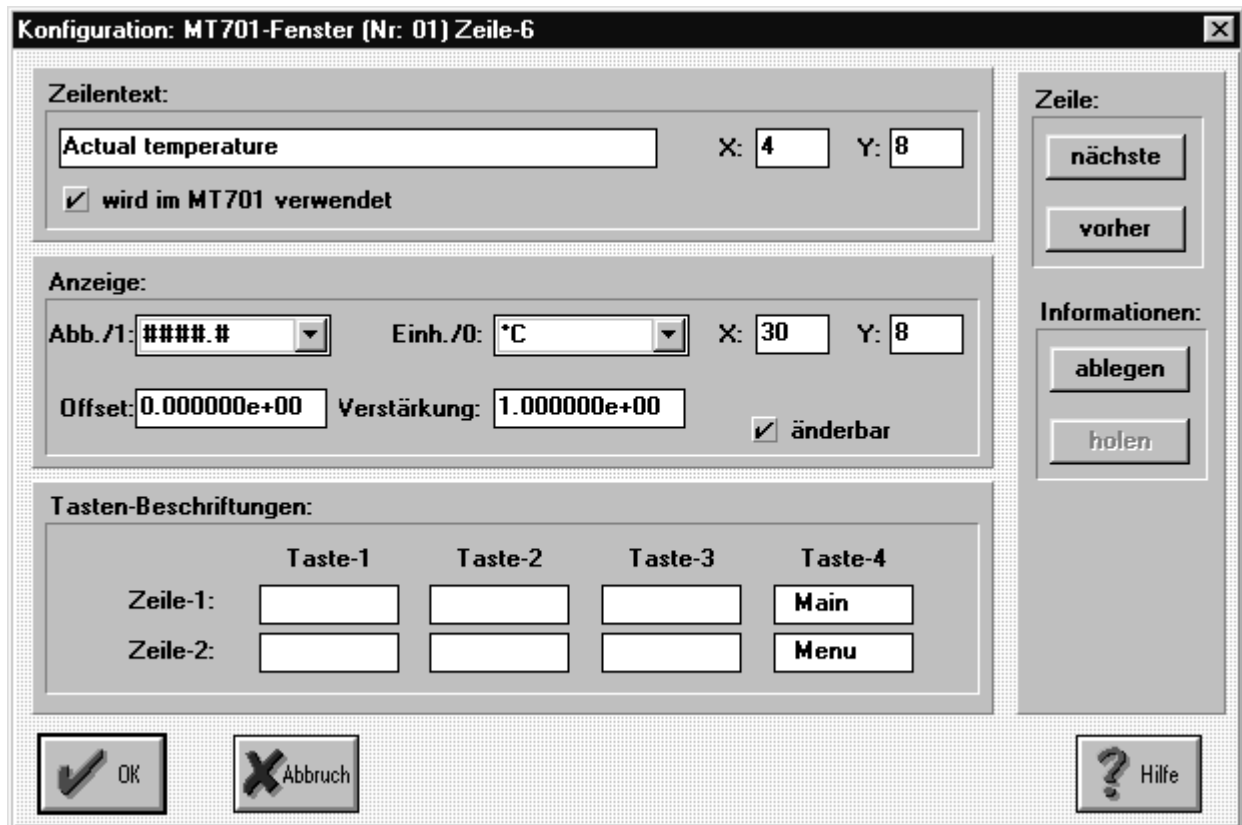


Illustration 75: Dialog box Konfiguration: Zeile 6

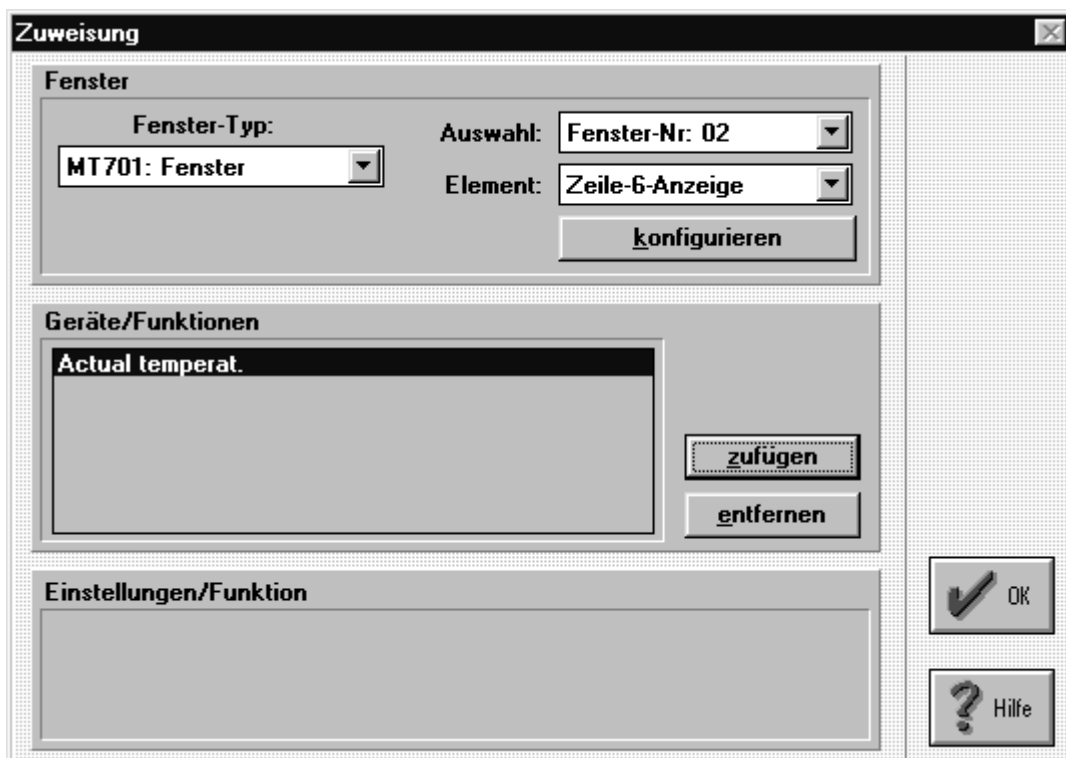


Illustration 76: Dialog box Zuweisung

Enter the configurations for line 7 (**Zeile-7-Anzeige**). Consider that there has to be a button for changing the desired value (change) (Illustration 77). Assign the virtual device Desired temperature to the element **Zeile-7-Anzeige** (line-7-display) and the pre-defined function **ändern** (change) to the element **Zeile-7-Taste-1** (line-7-button-1) (Illustration 78).

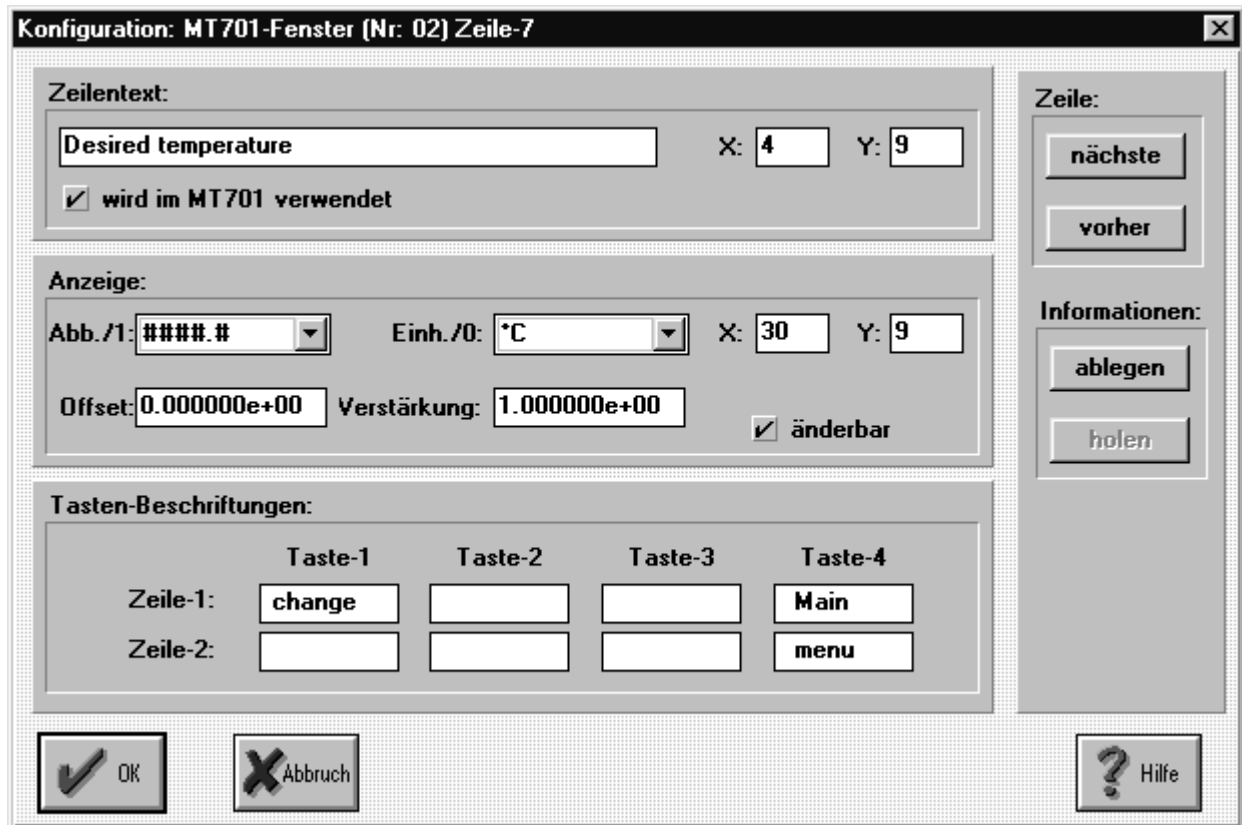


Illustration 77: Dialog box Konfiguration: Zeile 7

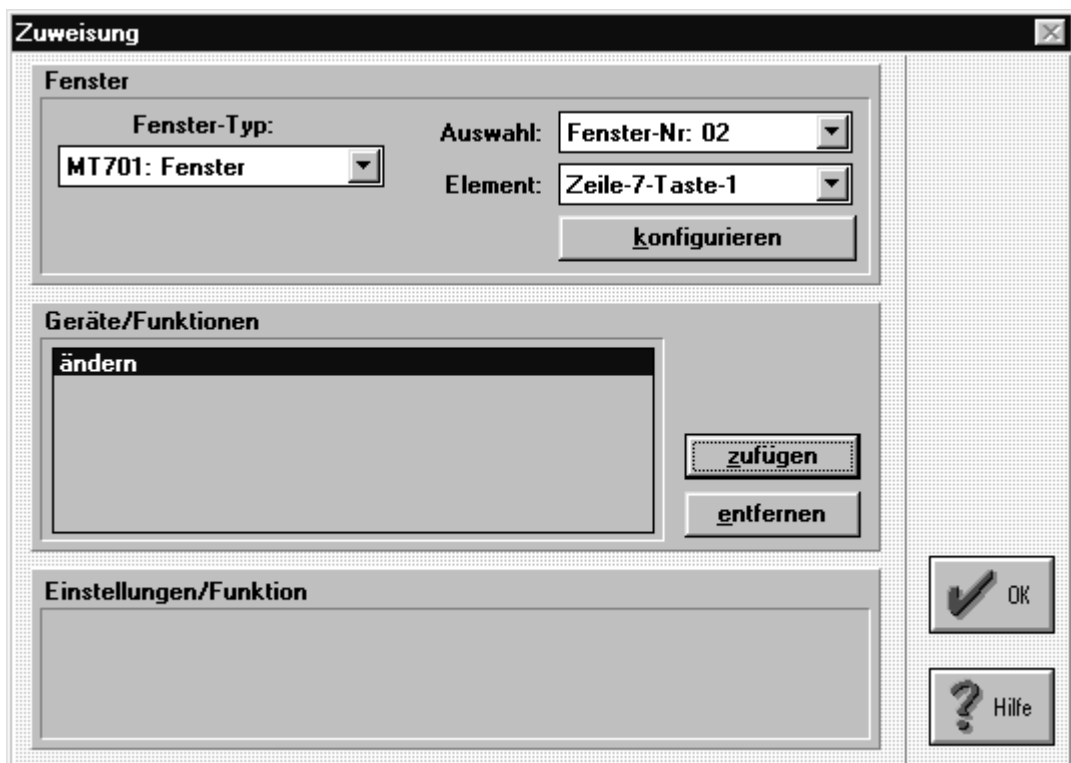


Illustration 78: Dialog box Zuweisung

Save the project and download it to the Display and Control Tableau MT701. The display page **Living Room** looks like in Illustration 80. Press the button **change**. The display page in Illustration 81 appears. The actual value is shown (**actual value:**). You can enter a new value (**new value:**) using the cursor buttons. With pushing the **enter** button your entry will be sent via bus and the display page **Living Room** appears (if not connected to an acknowledging EIB

device via the bus, the Desired temperature will not be changed). With pushing the **end** button instead of the **enter** button, your entry will be ignored and no telegram sent on the bus.

Living Room	
Ceiling light	Off
Wall light	Off
Shutter	
Light group	Off
Light scene TV	
Actual temperature	0.0 °C
==>Desired temperature	0.0 °C

change    send       Main Menu

Illustration 80: Display page Living Room

actual value:	0 °C
new value:	20 °C

<    >    enter    end

Illustration 81: Display page for changing values

### Tips and Tricks:

#### Intensification:

In order to scale a value, use the entry **Verstärkung** in the dialog box **Konfiguration** (Illustration 77). To scale e.g. a 1-Byte value (0...255) to a 0...100% range, please enter „3.921600e-01“ (=1/2,55) as **Verstärkung**.

#### Offset:

If you need scaling that does not start off with an „0“, you can enter an offset (Illustration 77). If for example the 1-Byte value (0...255) is to correspond to a „20...275“ value range, the correct offset would be „20“.

#### Thresholds:

Thresholds can be watched using the Display and Control Tableau MT701. Is a threshold crossed, a telegram is sent. In the example project, a 1-Bit telegram is sent to the heating actor when the room temperature goes below 18°C.

Enter the group address **Heating On** of the information type: **1 Bit Schalten/Jalousie (0,1)** (Illustration 82) and the virtual device Heating On of the type **Schalter** (Illustration 83). Assign the group address **Heating On** to the virtual device Heating On.

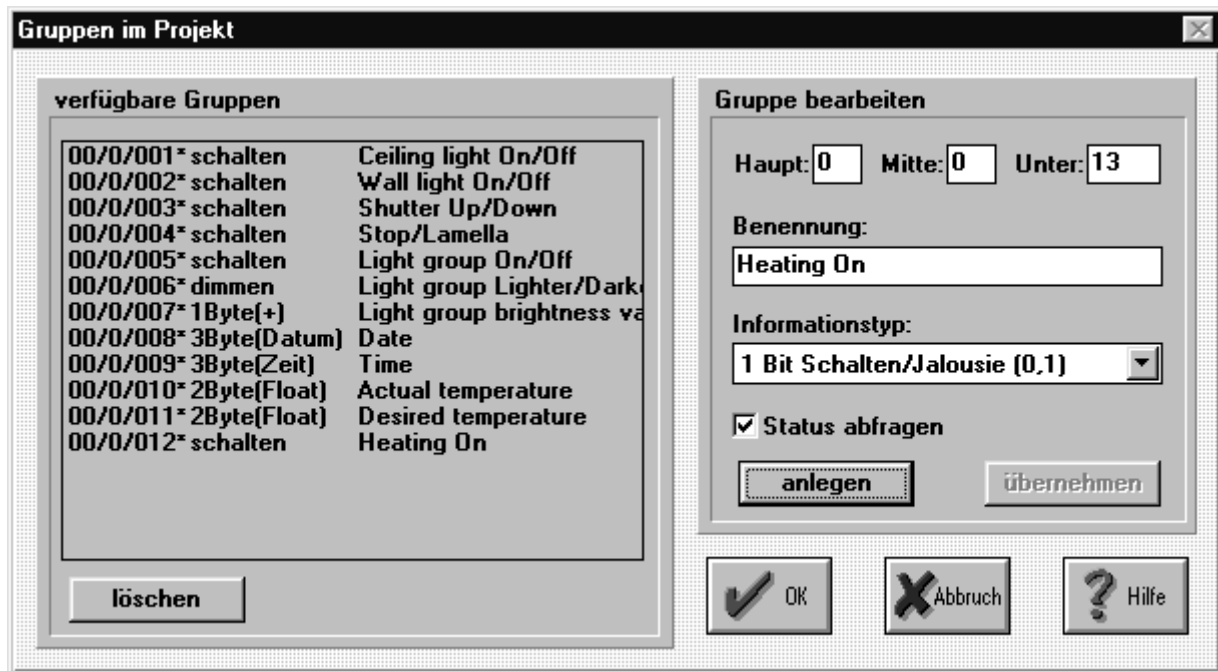


Illustration 82: Dialog box Gruppen im Projekt



Illustration 83: Dialog box Geräte/Funktionen anlegen

Enter a threshold display page in the project. Highlight a free small box in the main window and chose the command **Einfügen/Ändern** of the menu **Fenster** in the head menu line. Chose the display page type: **MT701: Grenzwerte** (Illustration 84). Assign a headline to the new threshold display page and, if needed, a password. Assign the function **zur Grenzw.Seite** to the element **Zeile-7-Taste-1** (line-7-button-1) of the display page Living Room.





Illustration 84: Dialog box Fenster Zuweisung

Klick on the command **Zuweisung** in the head menu line and chose the element **Messwert-1** (measured value 1) and press the button **konfigurieren** (Illustration 85). Assign the virtual device Actual temperature to the element **Messwert-1** and the virtual device Heating On to the element **MW1-unterer GW** (lower threshold) with the setting **EIN** for **Einstellungen/Funktion – drücken/aktivieren** (Illustration 86).



Illustration 85: Dialog box Konfiguration: MT701-Grenzwert Zeile-1

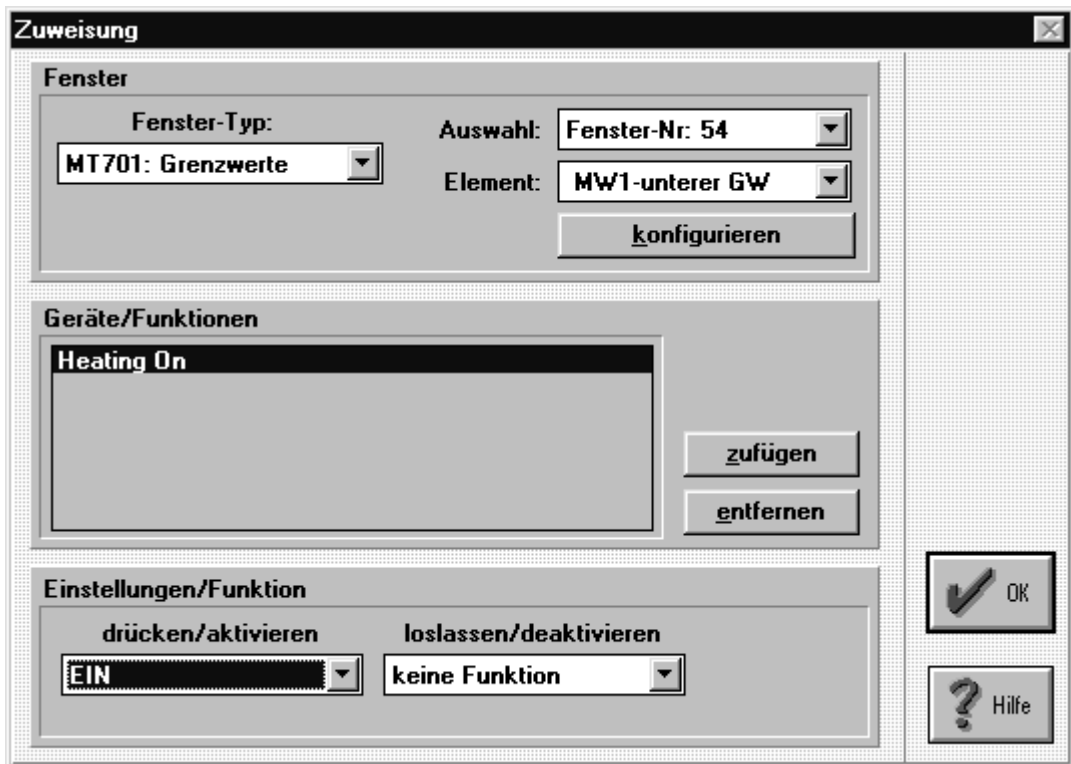


Illustration 86: Dialog box Zuweisung

Save your project and download it to the Display and Control Tableau MT701. Change from the Main Menu page to the Thresholds display page (Illustration 87). Chose the button **upper limit** to change the upper threshold and the button **lower limit** to change the lower threshold in a separat display page (Illustration 88). Enter the new threshold value using the cursor buttons, save your entries with the button **enter** and return to the threshold display page with the button **end**.

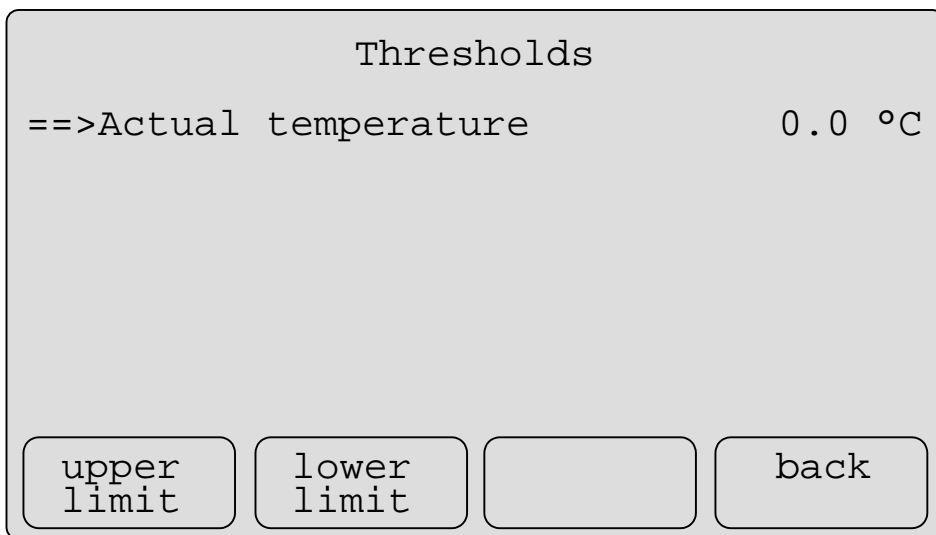


Illustration 87: Display page Thresholds

Actual temperature  
upper limit

actual value: 1.5 °C  
new value: 0018.0 °C

<      >      enter      end

Illustration 88: Display page for changing thresholds

## 5.5 Alarm messages

1-Bit alarm telegrams can be displayed with an individual information text on the Display and Control Tableau MT701. An acoustical signal will be heard and the user can give a receipt pressing a button. All messages can be listed in an alarm list. The last 100 entries are saved in the alarm list.

Enter the group address alarm (Illustration 89) of the information type **1 Bit Schalten/Jalousie (0,1)**. Insert a virtual device of the type **Alarmseite** (alarm display page) (Illustration 90) and assign the corresponding group address (Illustration 91). You can chose whether an alarm display page is shown (**Fenster öffnen**), whether an acoustical alarm can be heard (**Ton**), whether the infotext entered in the fields **Zeile 1:** and **Zeile 2:** is shown (**Infotext**), whether the alarm will be entered in the alarm list (**in Alarmliste**) and whether the user can give an alarm receipt or not (**quittierbar**).

**Gruppen im Projekt**

verfügbare Gruppen		Gruppe bearbeiten					
00/0/001* schalten	Ceiling light On/Off	Haupt:	0	Mitte:	0	Unter:	13
00/0/002* schalten	Wall light On/Off	Benennung:					
00/0/003* schalten	Shutter Up/Down	Alarm					
00/0/004* schalten	Stop/Lamella	Informationstyp:					
00/0/005* schalten	Light group On/Off	1 Bit Schalten/Jalousie (0,1)					
00/0/006* dimmen	Light group Lighter/Dark	<input checked="" type="checkbox"/> Status abfragen					
00/0/007* 1Byte(+)	Light group brightness va	anlegen      übernehmen					
00/0/008* 3Byte(Datum)	Date	<input checked="" type="checkbox"/> OK <input checked="" type="checkbox"/> Abbruch <input checked="" type="checkbox"/> Hilfe					
00/0/009* 3Byte(Zeit)	Time						
00/0/010* 1Byte(+)	Actual temperature						
00/0/011* 1Byte(+)	Desired temperature						
00/0/012* schalten	Heating On						
00/0/013* schalten	Alarm						
löschen							

Illustration 89: Dialog box Gruppen im Projekt

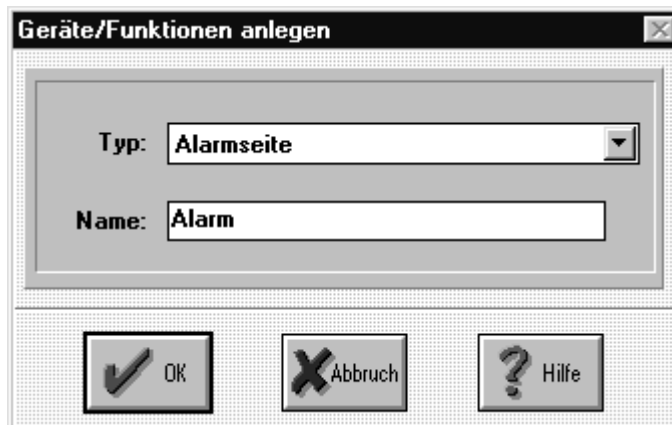


Illustration 90: Dialog box Geräte/Funktionen anlegen



Illustration 91: Dialog box Definition: Alarm

Save the project and download it to the Display and Control Tableau MT701. Send the alarm group address via the EIB. The Display and Control Tableau will show the alarm display page **ALARM MESSAGE** (Illustration 92). The date and time are shown when the message has been sent. Besides the message and the information text, the number of current alarm messages is given **1 active window(s)**. The user can now give a receipt (**O.K.**) and return to the last display page pressing the button **back**.

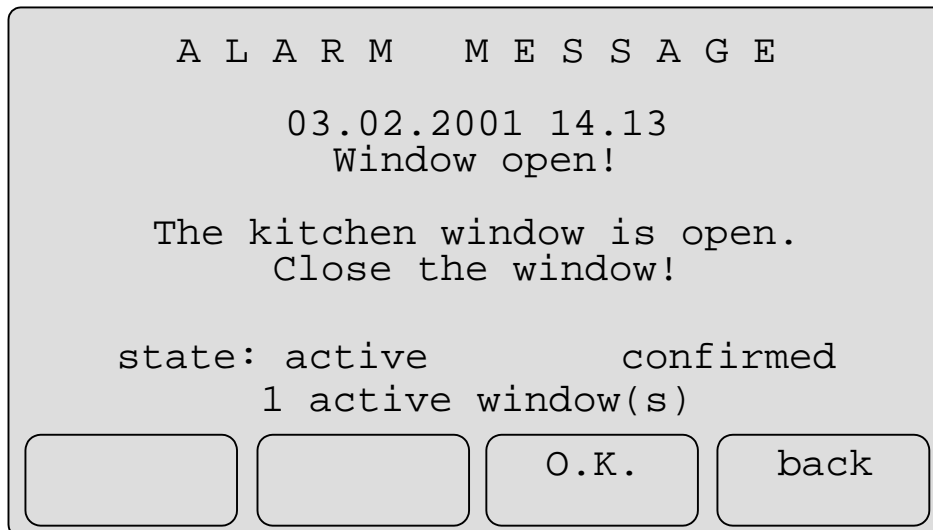


Illustration 92: Display page Alarm message

Every alarm action is entered in the alarm list (the last 100 messages are stored in the alarm list). To open the alarm list, press the button **alarmlist** on the system display page (Illustration 93). The display page **Alarm list** appears (Illustration 94).

**A** stands for „Alarm“ (an alarm has emerged), **G** stands for „Going alarm“ (the alarm reason does not exist any longer) and **C** for Confirm (receipt). The last 100 alarm actions will be displayed. Scroll through the entries using the cursor buttons.

When the device is resetted or the program downloaded into the device, the entries in the alarm list will be deleted.

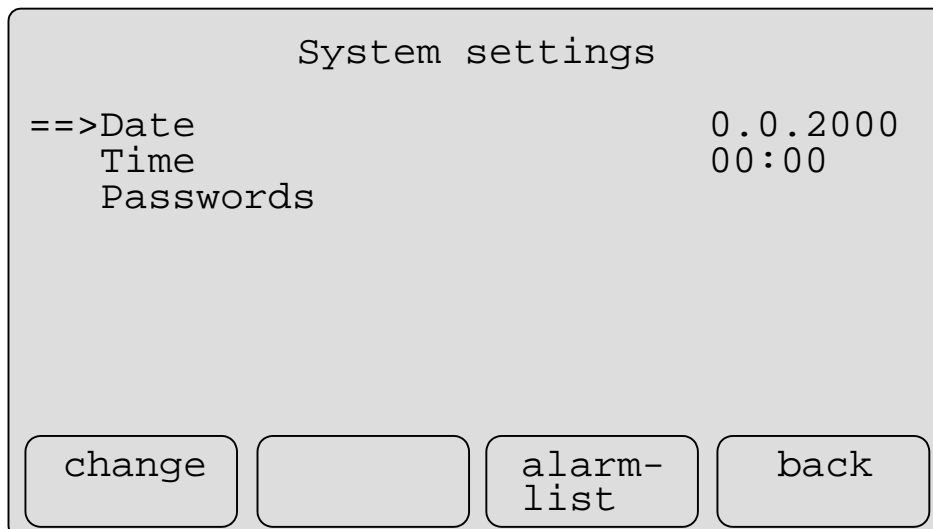


Illustration 93: Display page System settings

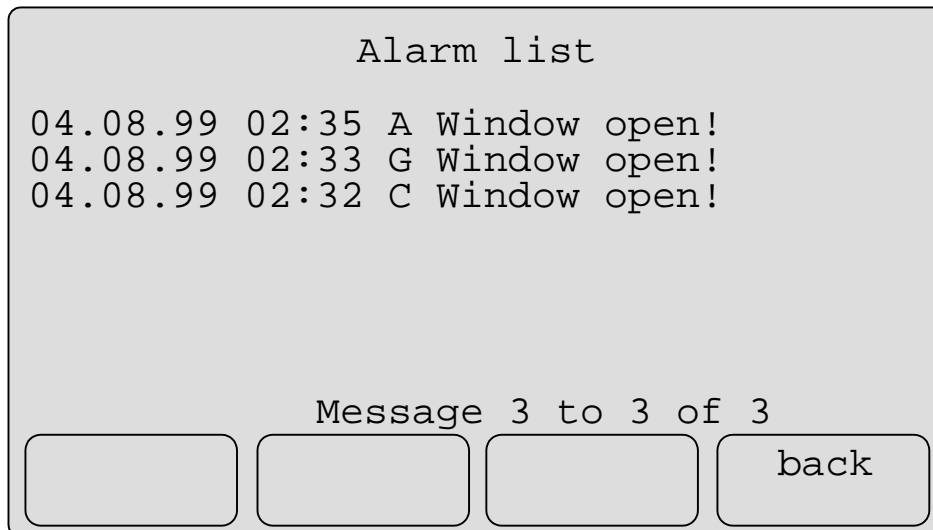


Illustration 94: Display page Alarmliste

## 5.6 Logical combinations

1-Bit group addresses (group addresses of the information type: **1 Bit Schalten/Jalousie (0,1)**) can be combined logically. The result of logical combinations can be displayed, but not sent via the EIB. The following logical combination types exist:

- UND-Verknüpfung (AND),
- NICHT-UND-Verknüpfung (NAND),
- ODER-Verknüpfung (OR) and
- NICHT-ODER-Verknüpfung (NOR).

In the example project, the group addresses „External light 1“ and „External light 2“ is to be entered. The display „Status external lights“ shows a „On“ if one of the two lights is burning.

Enter the group addresses „External light 1“ and „External light 2“ (Illustration 95) and a function of the type: **ODER-Verknüpfung (OR)** (Illustration 96), enter the number of input group addresses (**Anzahl der Eingänge:**) and assign the group address „External light 1“ to the input no. 1 (**Eingang-Nr.**) the group address „External light 2“ to the input no. 2 (**Eingang Nr. 2**) (Illustration 97). If you assign several group addresses to the same input, they will be treated as an OR combination. Up to 10 group addresses can be assigned to each input.

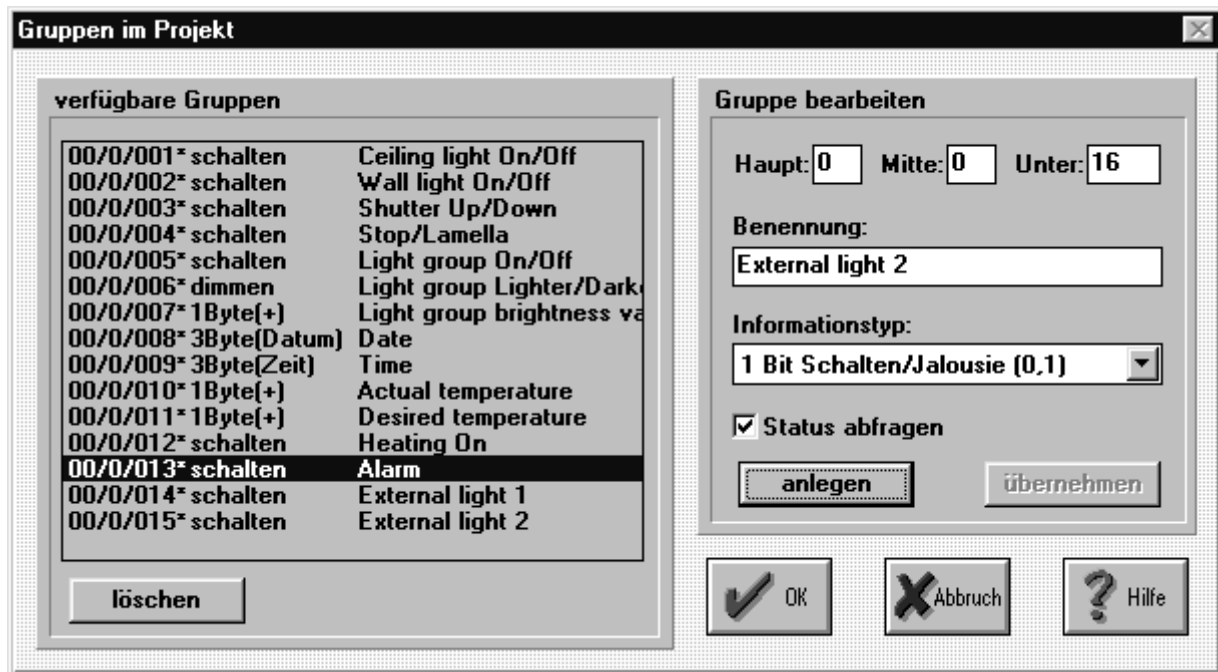


Illustration 95: Dialog box Gruppen im Projekt

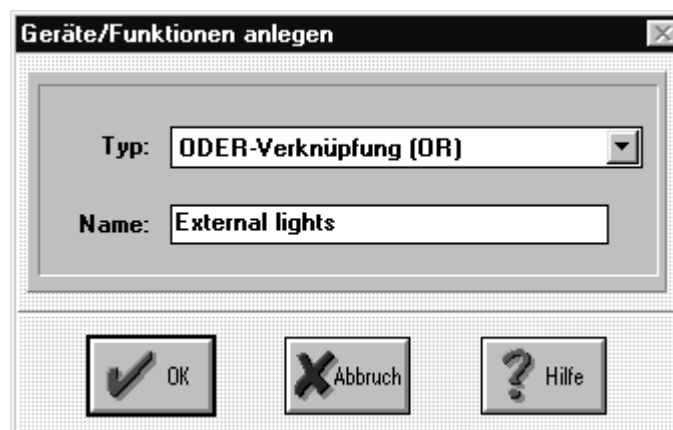


Illustration 96: Dialog box Geräte/Funktionen anlegen



Illustration 97: Dialog box Definition: ODER-Verknüpfung (OR)

Chose the small box Main Menu in the main window, open the configuration dialog box for the element **Zeile-8-Anzeige** (line-8-display), enter the according configurations (Illustration 98) and assign the function External lights (Illustration 99).

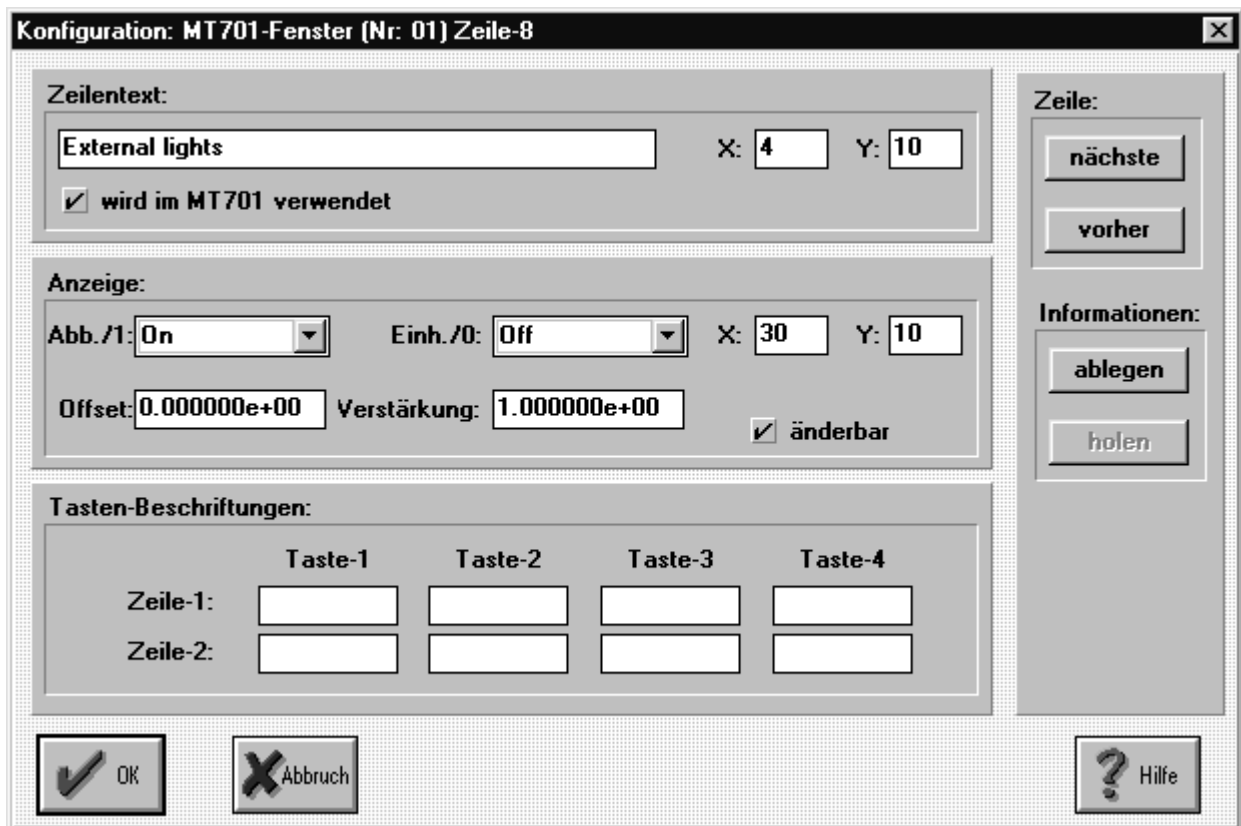


Illustration 98: Dialog box Konfiguration: Zeile-8



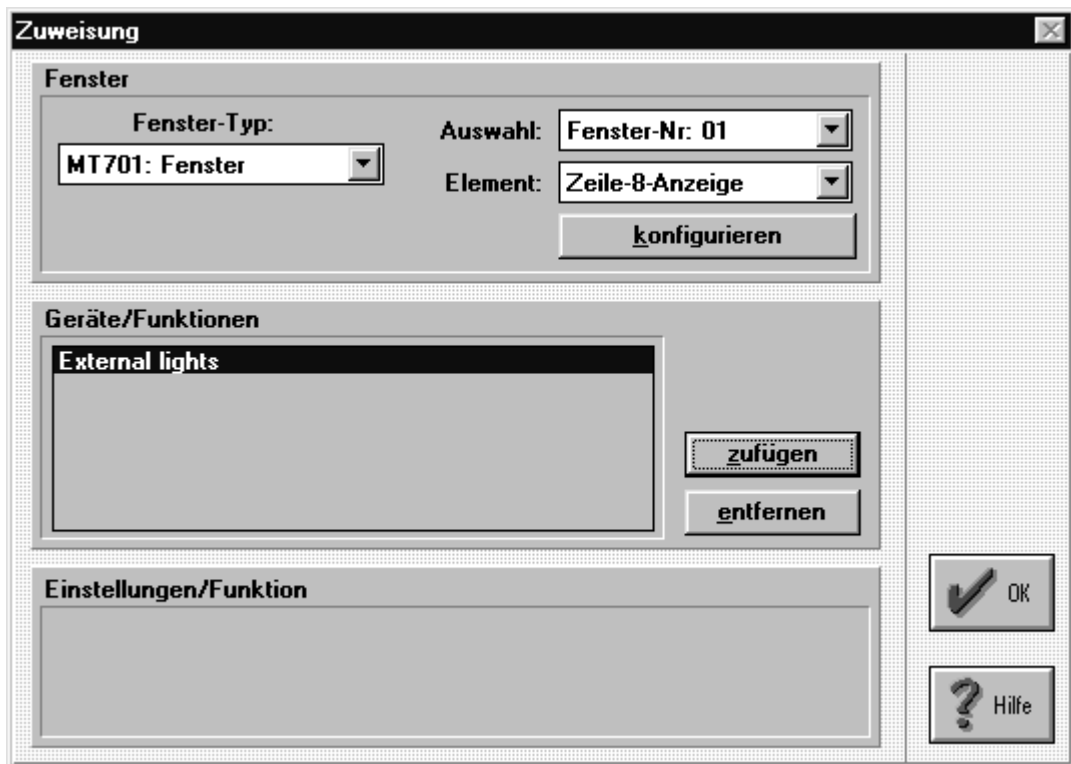


Illustration 99: Dialog box Definition

Save the project and download it to the Display and Control Tableau MT701. The display page **Main Menu** looks like in Illustration 100. The status **On** will be displayed if one of the external lights is burning.

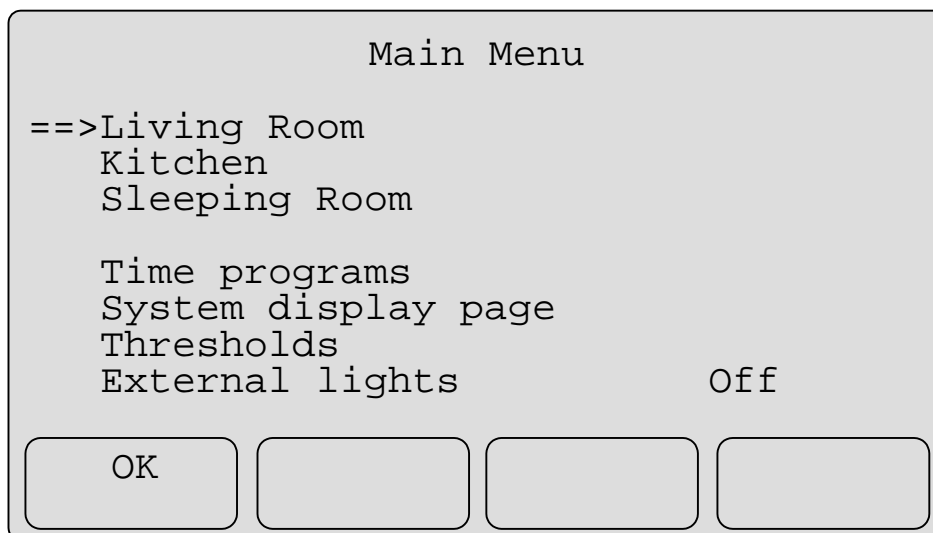


Illustration 100: Display page Main Menu

## 6 Project administration

### 6.1 Importing group addresses of other EibTab projects

Group addresses and Functions/Virtual devices of other EibTab projects can be imported from one project into another. Chose the command **Import/Datei wählen...** of the menu **Datei** in the head menu line and search for the file of which the group adresses or functions/virtual devices are to be imported. After that chose the command **Import/Gruppen...** bzw. **Import/Geräte/Funkt...** and highlight in the appearing list those entries that you want to import.

### 6.2 Project documentation

For documentation of projects, there are several lists that can be exported to a Windows-Editor to be edited, printed or saved.

Open the dialog box **Listen** (Illustration 101) with a klick on the command **Listen...** in the head menu line of the main window (Illustration 1). The dialog box **Listen** appears (Illustration 101). In the field **Schalter**, you can chose which elements are to be entered in the list: display pages (**Fenster auflisten**), group addresses (**Gruppen auflisten**), functions/virtual devices (**Geräte/Funktionen**) and assignments (**Zuweisungen auflisten**). In the field **Zuweisungen/Fensterauswahl**, you can chose the display pages of which the information is to be exported. If you want to export the information of all display pages, then chose the option **alle Module in die Liste aufnehmen**.

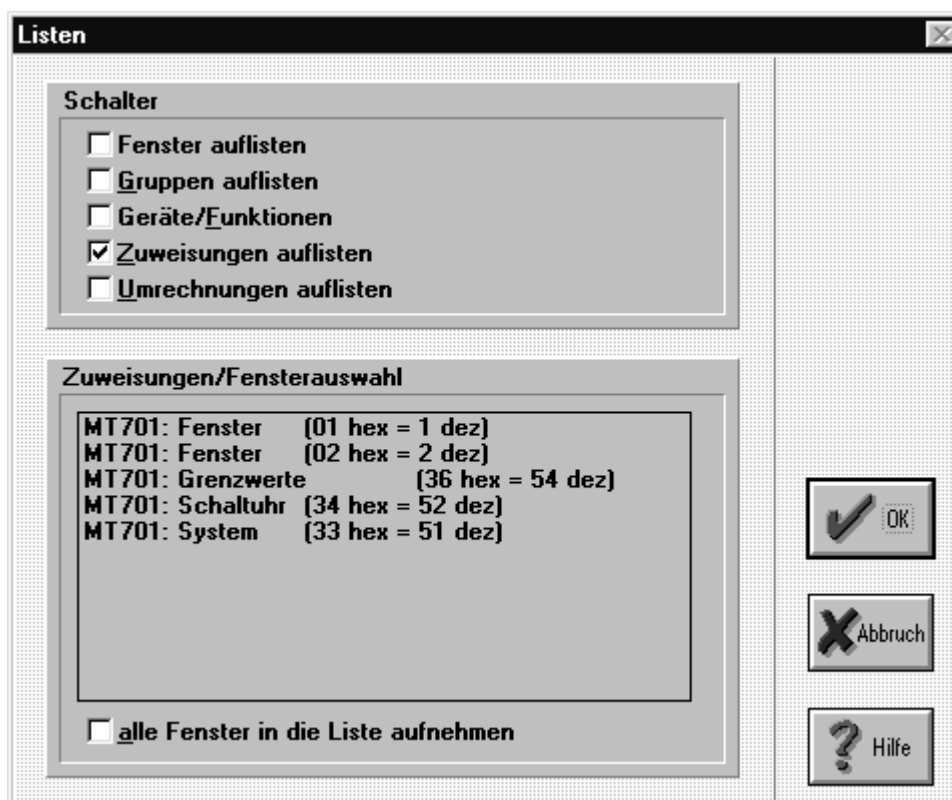


Illustration 101: Dialog box Listen