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1 Description

The Display and Control Tableau MT701 is an ABB i-bus® 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® 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® EIB – installation. The programm 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 popup 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® 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

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

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.
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). Click on the small box no. 1 and choose the command Zuweisung... in the head menu line. The dialog box Zuweisung appears on your PC screen (Illustration 5).

Chose the Element Zeile-1-Anzeige (Line-1-display) and click 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.

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**. Choose the element **Zeile-1-Taste-1** (line-1-button-1) in the dialog box Zuweisung (Illustration 5) and click on the button **zufügen** (add). The dialog box **Geräte/Funktionen Auswahl** (Selection of functions) appears (Illustration 7). Choose the function **Sprung zur Nr** (change to display page no.) and confirm with the **OK** button.
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
Now enter texts (Kitchen, Sleeping Room) and functions (change to other display pages) to the buttons no. 1 of the 2nd and 3rd 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 re-activate 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.
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/Funkt-ionen im Projekt appears (Illustration 12).

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/Funkt-ionen 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 *zfügen* 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.
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 **Zelle-1-Anzeige** (line-1-display) and change to the dialog box **Konfiguration: Zeile-1** (Illustration 18) by klicking on the button **konfigurieren**.
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).
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. The 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).
Now chose the element **Zeile-1-Taste-2** (line-1-button-2) and assign the virtual device Ceiling light and chose 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.

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).**
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 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 click on the button **konfigurieren** to enter the configuration (Illustration 27). It is highly recommended not 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-Anzeige**. Chose 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 seperately 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.
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).
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

![Geräte/Funktionen anlegen](image1)

Illustration 33: Dialog box Definition: Dimmer

![Definition: Dimmer](image2)

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.
Living Room

Ceiling light Off
Wall light Off
Shutter
===>Light group Off

On brighter Off
darker 20% brightn.
Main Menu

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 seperately 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).

Chose the command Schnittstelle... of the menu Optionen in the head menu line of the main window. The dialog box Optionen appears (Illustration 38). Chose the correct output port and confirm with the OK button.
Chose the command **Start...** of the menu **Prog.** in the head menu line. The dialog box **Programmierung Steuerelektronik (Down Load)** appears (Illustration 39). Klick on **Start** to start the data transmission to the Display and Control Tableau MT701. After the download, klick on the button **Fertig** to close the dialog box.

**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.

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 than 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 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.
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

<table>
<thead>
<tr>
<th>Living Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling light</td>
</tr>
<tr>
<td>Wall light</td>
</tr>
<tr>
<td>Shutter</td>
</tr>
<tr>
<td>Light group</td>
</tr>
<tr>
<td>==&gt;Light scene TV</td>
</tr>
</tbody>
</table>

Illustration 47: Display page Light scenes

<table>
<thead>
<tr>
<th>Light scenes</th>
</tr>
</thead>
<tbody>
<tr>
<td>==&gt;Light scene TV</td>
</tr>
<tr>
<td>Lichtszene Nr: 2</td>
</tr>
<tr>
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<td>Lichtszene Nr: 6</td>
</tr>
<tr>
<td>Lichtszene Nr: 7</td>
</tr>
<tr>
<td>Lichtszene Nr: 8</td>
</tr>
</tbody>
</table>

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](image)

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](image)
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
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 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
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**.

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

**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.

![Konfiguration: MT701-Fenster](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.

![Main Menu](Illustration 68: Display page Main Menu)
please enter password for level 1:

-----

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).
Passwords

Level 1: 12121
Level 2: ----- 
Level 3: ----- 
Level 4: ----- 

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).
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).
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.

Illustration 80: Display page Living Room

```
Living Room

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

Illustration 81: Display page for changing values

```
actual value:  0 °C

new value:  20 °C

<  >  enter  end
```

**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 separate 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).

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 windows(s). The user can now give a receipt (O.K.) and return to the last display page pressing the button back.
A L A R M   M E S S A G E

03.02.2001 14.13
Window open!

The kitchen window is open.
Close the window!

state: active        confirmed
1 active window(s)

back O.K. 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.

System settings

===>Date 0.0.2000
Time 00:00

Passwords

change alarm- list back

Illustration 93: Display page System settings
Alarm list

04.08.99 02:35 A Window open!
04.08.99 02:33 G Window open!
04.08.99 02:32 C Window open!

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

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

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. Choose the command **Import/Datei wählen...** of the menu **Datei** in the head menu line and search for the file of which the group addresses or functions/virtual devices are to be imported. After that choose the command **Import/Gruppen...** bzw. **Import/Geräte/Funk...** 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 click 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 choose 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 choose the display pages of which the information is to be exported. If you want to export the information of all display pages, then choose the option **alle Module in die Liste aufnehmen**.

Illustration 101: Dialog box Listen