25 CO Colour Touch-Panel 910201

Use of the application program

Product family:	Display
Product type:	Display units
Manufacturer:	Siemens
Name:	UP 588/12 Colour Touch Panel UP 588/13 Colour Touch Panel (AC 230 V)
Order no.:	5WG1 588-2AB12 5WG1 588-2AB13
Name:	UP 588/22 Colour Touch Panel UP 588/23 Colour Touch Panel (AC/DC 24V)
Order no.:	5WG1 588-2AB22 5WG1 588-2AB23

Contents overview

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1. Functional description

The UP 588 colour touch panel is a multi-functional display/control panel for the KNX-bus. The basis of the equipment is a high-quality 320 x 240 pixels TFT colour display with touch screen. The colour depth is 263 K (R, G, B, 6 bit).

The panel is operated directly via the touch screen. Pressure-sensitive areas permit operation similar to a wall switch using short and long pushes of the button. These display buttons can thus also be used to dim the lights, as a control command for the shutters or to recall and program scenes.

The display has an LED backlight that is dimmable from 50 % - 100 % via the user interface. During operation the LED backlight is activated and can be automatically switched off or dimmed after a configurable time.

The panel is equipped with an integrated slide show. This makes it possible to configure an individual start screen. In its idle state, presentation pictures and photographs can be displayed in a cycle.
Up to 500 MB memory are available for the slide show and the photos and pictures that are shown.

When first touching the panel in idle mode, basic lighting or a scene can be activated via the KNX-bus.
In addition, it is possible to activate a temporary cleaning function at the panel via the KNX-bus. During the cleaning function, the panel is blocked from any touch screen operation. This ensures that no control commands are triggered inadvertently while the display surface is being cleaned.

Four different design styles are available for the presentation of the display and control surface, functions and status messages. With styles ranging from modern to classic, most different customer and project requirements have already been taken into account. These designs can be changed by the user without using the ETS.

The colour touch panel is configured only with the ETS.
In conjunction with the corresponding application program 25 CO Colour Touch-Panel 910201, the display can be used to view and control up to 110 KNX functions on up to 20 operating and viewing pages.
Both basic functions such as switching, dimming, controlling shutters, setting value, as well as complex functions such as scene control, heating and ventilator control can be used.

During configuration, the desired functions and status notifications are selected. For each selected function or status display the appropriate communication objects are made available dynamically, which are then linked with group addresses.

Every function, every identification, as well as the screen heading can be described with a text of up to 20 characters.
Symbols indicate statuses, functions and navigation instructions.
The symbols can be adjusted individually for every design style or replaced specifically for any client or project.

The 10 main control pages, as well as the configuration pages for the system setting, for scene configuration, for the weekly schedule, for the logic module and presence simulation can be protected with their own password respectively.
In addition, individual functions can be blocked separately via the KNX-bus.

Up to 64 scenes can be recalled and programed using the panel. Using a scene program, these scenes can be configured directly via the user interface on the display.

With a schedule program, weekly schedules can be set up for the functions. Any scheduled commands can be assigned to every function. The schedules are setup directly via the user interface on the display.

A recording of events can be activated via the user interface on the display. These recordings can be edited manually, like the schedule commands in the weekly schedules. In holiday periods, these recorded events can be played back thus carrying out a presence simulation.

A logic module with up to 32 logic gates can be configured directly via the user interface of the display. This serves to logically link up to 60 objects.

16 alarm functions are available in the panel. These alarm messages are displayed chronologically on an alarm screen. Variable triggering conditions of up to 16 objects serve as a threshold value or limit value switch. These can also be used for event orders.

A trending module displays and saves 1-, 2- and 4-byte status values via a given configurable time. You configure and display directly via the display interface

The display has a battery-buffered real-time clock

to display the current time and date. It can thus function as the master clock in a KNX-system. The clock is used to control the program functions, such as schedule program, presence simulation, alarm function etc.

The display has an internal signal generator which indicates the alarm messages accoustically and is used as a response when a button is activated.

Note:
The application program is loadable with ETS version 3.0 d or higher.

Note:
The current firmware release is V1.1.1.
The firmware is loaded in the Internet via our Service home page http://www.siemens.de/gamma-td (see section *2.12 Software Update*).
From firmware release V1.1.1, there are, inter alia, layout changes in the menu page, configuration page and the browsing dependent on these for the program and fucntion modules. The trending module and the settings for the slide show are available from firmware release V1.1.1 and later.
Firmware release V1.1.1 can be loaded both on the colour touch panels UP 588/12 and UP 588/22 and on the colour touch panels UP 588/13 and UP 588/23.

2. Operating instructions

2.1 General operation

After starting the colour touch panel (once external voltage supply and bus voltage are supplied) or after a bus reset during the initialisation of the control pages, the backlighting is activated and the logo page is shown.

Note:
If, in the relevant configured path on the flash card, there is no image for a logo page or a number of images for a slide show, the *Siemens* logo page (see figure 1) is displayed.
Fundamentally, the image which, with its filename, is in the first position alphanumerically in the selected path, is used as the logo page.
The images in the slide show are also shown in this sequence (see section *2.11 Pictures of the logo / slide show*).

Fig. 1: Logo page

The initialisation of the panel can take up to one minute. During this time, the device can not be operated.
In order to be able to indicate valid values after the start or process these values in corresponding programs, the panel can send a unique read request to certain status objects. All status objects with a set update flag are queried. A condition for this is the corresponding setting "Update of status objects after bus reset" in the ETS configuration (see section *3.1 General communication objects and parameters*).
After this, the display starts up showing the menu page (see figure 2).
This page presents an overview of all ten main pages. It displays the buttons to jump to the individual main pages via which the individual KNX-functions are operated.
The individual pages are selected by touching the corresponding touch area.
The captions (see figure 3a) of the ten buttons are set individually via the ETS configuration: "Description / Headline of page".

Note:
In its factory default state, the system is set to the design style "magic". Accordingly the page, function and symbol representations are shown in the "magic" style in this description of the application.

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Fig. 2: Menu page

Note:
This menu page display is the same as that for firmware release V1.1.1.

Fig. 3a: Page call button

Access to each of the ten main pages can be protected with an individual password. The selection of the pages that can be protected and the setting of the password can be handled in the ETS configuration: "Password page access."

The password-protected pages are marked by a lock symbol in the bottom right corner of the button area (see fig. 3b).

Fig. 3b: Page call button with password protection

The password to activate this protected view is entered via a keypad (see section *2.8 Operation and input of the password via the password page*).

In the lower part of the menu page, there are 4 function buttons to call up the configuration and special pages of the panel. These 4 function buttons with their navigation are fixed to the corresponding configuration and special pages and can not be changed via the ETS-configuration. A configuration or special page is selected by touching the corresponding button area. The configuration page can also be protected by an individual password.
If the configuration page is protected by a password, then no lock symbols are displayed on these small button areas.
The setting of the password are handled via the ETS-configuration: "Password of configuration... ".
In detail, the following functions can be carried out with the function buttons:

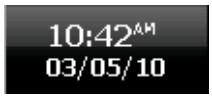
Jump to the configuration page to select the system settings or special pages

Jump to the alarm page

Start or configuration of the logo / slide show

Enabling of the sleep mode

The date/time display is in the centre, between the function keys.



2.2 Operation and function of the main pages

A maximum of 10 main pages can be shown on the colour touch panel. Only those main pages for which standard functions have been configured will be displayed. Only then is selection from the menu page possible.
On the main pages the display and operation of the standard functions takes place (see section *3.3 Communication objects and parameters of the standard functions of the main pages 1 to 10*).
Up to five standard functions can be placed on each main page. Thus, a total of 50 standard functions can be

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shown on all ten main pages. Every main page offers the possibility to navigate between the main pages or the configuration and detail pages. Certain system functions can also be activated via the main pages.
The main pages are divided into three areas: the header (figure 4a), the function block (figure 4b) and the footer (figure 4c).

Fig. 4a: Header

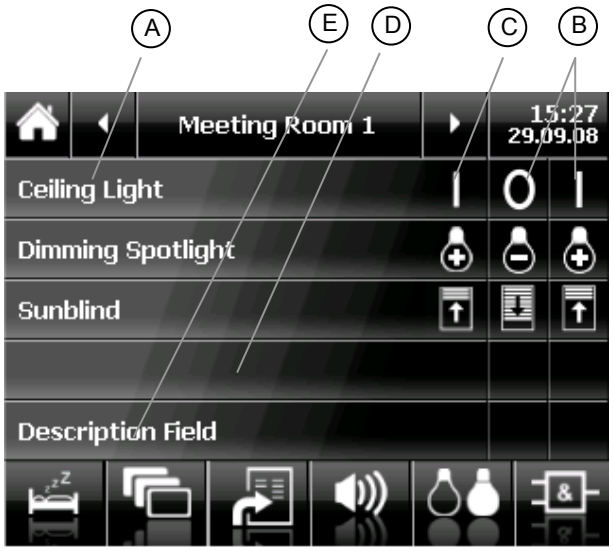

Fig. 4b: Function block

In the header of the main page the page description is shown in the central area (1). The text of the page description is set individually via the ETS-configuration: "Description / Headline of page." The arrow buttons (2) to the right and left next to the page description can be operated. They serve to navigate directly to neighbouring main pages. Thus an operator can call up all ten main pages individually and in sequence, from beginning to end or end to beginning.
Time and date (3) are shown on the right side of the header. The time and date display is updated either via the internal real-time clock, or a synchronisation takes place with a time source in the KNX system. The time zone, the format of the display and setting of time and date can be adjusted in the configuration page of the system settings (see section *2.4.1 Operation and function of the configuration page for system settings*).
On the left side of the header is the Home button (4). Pushing the Home button returns the user to the menu page.
In the middle of the main page is the function block. A maximum of five standard functions can be placed in this block. In this area it is also possible to generate a blank line or to present pure text for description or structuring. The selection, the caption and the configuration of the standard functions, blank lines or character displays are carried out in the corresponding ETS-configuration.

(A): Each function is shown with a description text with up to 20 characters
(B): a control area with up to 2 buttons
(C): and if necessary a display area for a status (in symbolic form or as plain text), between the description text and the control area.
The symbols for the standard functions are shown in the section *2.10.2 Symbols of the standard and additional functions*.
(D): When configuring a blank line, a continuous empty row is shown. The control area remains empty.
(E): When configuring a text, the text is shown on the left in the description field. The control area remains empty (figure 4b).
(F): When configuring special functions, such as switch only ON, switch only OFF, switch OVER etc., only a large button is shown in the control area.
(G): When configuring status displays, the respective values are shown in the display area on the right next to the description text. The control area remains empty.
If 1-, 2- or 4-byte status values have been configured and approved for the display in the trending module, then the symbol for trend display is shown in the display filed to the right of the caption and to the right beside the display value. You use this symbol to change to the graphic depiction of the status value (see figure 6b).

The following standard functions are available:
- Switching
- Switching/dimming with stop data telegram
- Switching with forced control
- Shutter
- Set value 1 byte (0...100 %)
- Set temperature level (2 byte)
- Set counter value

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- Recall/program scene
- Set heating operating mode
- Heating fan setting
- Status display 1 bit
- Status display 1 byte
- Status display 2 byte
- Status display 4 byte

Depending on the function type, a standard function has up to three communication objects for bus communication available (see section *3.3 Communication objects and parameters of the standard functions of the main pages 1 to 10*).

In the footer of the main page, there are up to six additional buttons.

Fig. 4c: Footer

Similar to the 4 function buttons on the menu page, the additional buttons on the main pages also serve to call up the configuration pages (see section *2.1 General operation*). This offers another possibility to get to the configuration pages from the ten main pages. In addition, it is also possible to navigate directly from one displayed main page to other main pages. Detail pages can also be opened using the additional buttons. A detail page is a page that is subordinate to a main page (see section *2.3 Operation and function of the detail pages)*.

Finally it is also possible to trigger certain commands via the additional buttons, e.g. *start sleep mode, activate or configure logo / slide show, temporarily block touch page (cleaning function)*. The function of the buttons and the allocation of a symbol for the buttons is handled via the ETS-configuration (see section *3.2 Communication objects and parameters of the standard functions of the main pages 1 to 10)*. The different pages are selected or commands triggered by touching the corresponding button.

The following symbols are used for the functions *Jump to main page 1...10*:

Symbol 7 (jump to main page 1)

Symbol 8 (jump to main page 2)

Symbol 9 (jump to main page 3)

Symbol 10 (jump to main page 4)

Symbol 11 (jump to main page 5)

Symbol 12 (jump to main page 6)

Symbol 13 (jump to main page 7)

Symbol 14 (jump to main page 8)

Symbol 15 (jump to main page 9)

Symbol 16 (jump to main page 10)

Aside from the general symbols, which only show the number of the page, there is also a number of symbols available. These symbols reflect room functions, rooms, object areas. A project-specific and plausible user interface can thus be planned and engineered.

Symbol 22 (weather data)

Symbol 23 (audio control)

Symbol 24 (lighting)

Symbol 25 (sun protection)

Symbol 26 (HVAC)

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Symbol 27 (central control)

Symbol 28 (configuration functions)

Symbol 29 (workroom)

Symbol 30 (living room)

Symbol 31 (dining room)

Symbol 32 (children's room)

Symbol 33 (bedroom)

Symbol 34 (kitchen)

Symbol 35 (bathroom)

Symbol 36 (toilet)

Symbol 37 (exercise room)

Symbol 38 (basement)

Symbol 39 (studio)

Symbol 40 (garden)

Symbol 41 (staircase)

Symbol 42 (garage)

For the function *Jump to detail page,* there are the following symbols:

Symbol 5 (jump to detail page)

This general symbol to jump to an additional function page that is subordinate to the main page can be used if one jumps, for example, from the main page *Conference 1* to the subordinate detail page *Conference 1*.
It is also possible to navigate from a main page to several different detail pages that are allocated to this main page.
In order to visually differentiate the jump to different detail page or to assign a room function or an area/range to a detail page, one can use the symbols 22 to 42 (see above), similar to calling up a main page.

The following additional buttons can be configured to activate special commands:

Symbol 1 (start sleep mode)

Symbol 2 (activate or configure logo / slide show)

Symbol 3 (cleaning mode)

Symbol 4 (disable)

Symbol 6 (jump to last operated page)

2.3 Operation and function of the detail pages

In addition to the ten main pages, it is also possible to use additional detail pages to operate and display additional functions.

Detail pages are always subordinate to a main page. They can only be reached via the additional buttons of the main pages. It is possible to call up one or more detail pages via a main page (see fig. 5).

Up to 60 additional functions can be shown on the detail pages. The detail pages consist of a header (fig. 6a) and a function block (see fig. 6b).

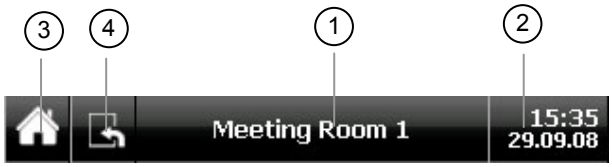

Fig. 6a: Header

In the central area of the header, the page description (1) is shown again. This is copied from the superordinate main page. On the right side of the header, as on the main page, the time and date (2) are shown.

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Menu page

Main pages

Detail pages

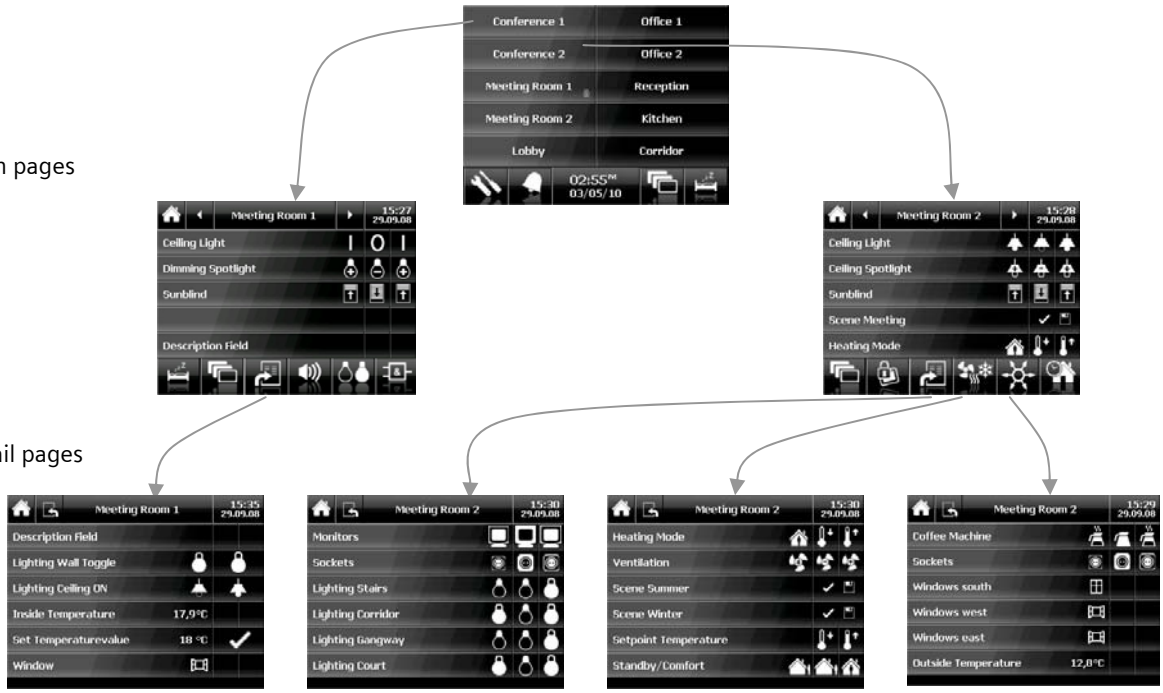

Fig. 5: Operating concept for the detail pages

Fig. 6b: Function block

On the left side of the header, as on the main page, there is a Home Button (3) to allow a direct jump to the menu page. On the right next to the Home button is the Back button (4) to jump to the superordinate main page.
In the function block of the detail pages, up to six additional functions are shown. If more than six additional functions are placed on a detail page, then a scroll bar appears on the right side of the page. The additional functions that are not shown can be made visible with the scroll bar.
The selection, the caption and the configuration of the additional functions and text fields, as well as the allocation to the corresponding main pages are handled via the corresponding ETS-configuration.
(A): Each additional function is shown with a description Text with up to 20 characters
(B): a control area with up to 2 buttons
(C): and if necessary a display area for a status (in symbolic form or as plain text), between description text and control area, (see figure 4b).
The symbols for the additional functions are shown in the section *2.10.2. Symbols of the standard and additional functions*.

(E): When configuring a text, the text is shown on the left in the description field. The control areas remain empty.

(F): When configuring special functions, such as Switch only ON, switch only OFF, switch OVER etc., only a large button is shown in the control area.

(G): When configuring status displays, the respective values are shown in the display field on the right next to the description text. The control areas remain empty.

If 1-, 2- or 4-byte status values have been configured and approved for the display in the trending module, then the trend depiction symbol will be displayed in the display field to the right, beside the labelling text and to the right beside the indicated value. You use this symbol to change to the graphic depiction of the status value (see figure 6b).

Note:

This depiction of the trending symbol in the status value display is compatible with firmware release V1.1.1.

The following additional functions are available:

- Switching
- Switching with forced control
- Set value 1 byte
- Set temperature level (2 byte)
- Set counter value
- Recall/program scene
- Set heating operating mode
- Heating fan setting
- Status display 1 bit
- Status display 1 byte
- Status display 2 byte

Additional functions differ from standard functions in that for every additional function there is only one communication object available (see section *3.4 Communication objects and parameters of the additional functions 1 to 60).*

2.4 Operation and function of the configuration page

You call up the configuration page via the first button on the footer on the menu page.

The configuration page is an overview page for configuring all programs and function modules. The buttons for the system settings, the configuration pages for the scene programs, the logic functions, presence simulation, time program and trending module are depicted by lines one above the other (see figure 7).

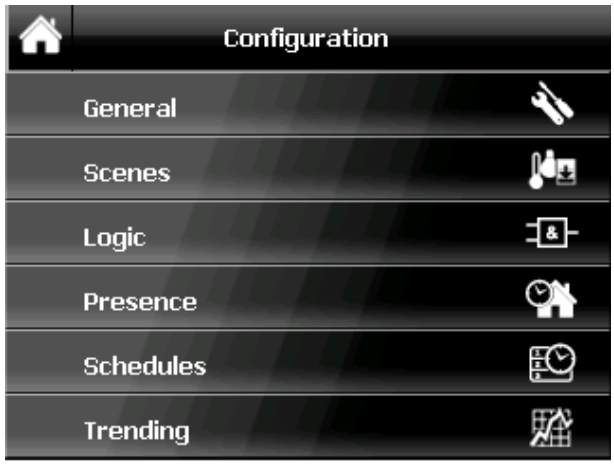

Fig. 7: Overview page for configuring all programs and function modules

The Home button for jumping directly to the menu page is in the top left part of the header.

The 6 keys shown route you to the relevant program and function module configurations.

Note:

This overview page display is the same as that for firmware release V1.1.1.

2.4.1 Operation and function of the configuration page for system settings

You call up the page for system settings with the first button on the configurations overview page (see section *2.4. Operation and function of the configuration page*)

If configured accordingly, this page can also be called up with an additional button in the footer of the ten main pages.

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The configuration page for system settings makes it possible for the user to set basic system configurations without the ETS. The page is shown as follows (see figure 8).

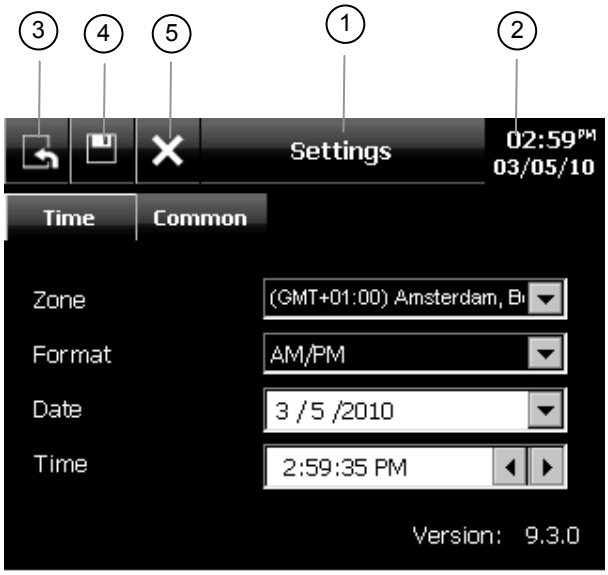

Fig. 8: Configuration page for system settings

In the upper area is the header, similar to the main pages and the detail pages. The page description (1), as well as time and date (2) are also shown in a similar way.

As usual, the Back button (3) for jumping to the previous page, via which the system settings were called up, is on the left.

On the right next to the Back button is the Save button (4). Certain system settings are saved with this button. The Cancel button (5) next to the Save button reverts settings that have just been configured.

The version of the equipment firmware is shown in the lower part of this configuration page. Available firmware updates can be transferred to the device via the USB interface on the front (see section *2.12Software update)*.

In the middle of the configuration page, 2 tabs are available for the system settings.

In the *Time* tab, the valid time zone and the display format for the time can be set.

By setting the valid time zone, the automatic conversion of daylight savings time in the respective time zone is ensured. The change of the time zone is only effective after the Save button has been pressed. After this, the panel is restarted. A corresponding message window is shown. If the Cancel button is pressed before saving, the settings revert to the previously saved time zone.

Setting the time format makes it possible to switch between a 12 h (e.g. 4:30:14 PM) and a 24 h display (e.g 16:30:14). The change of the format setting is only effective after the Save button has been pressed. After this, the panel is restarted. A corresponding message window is shown. If the Cancel button is pressed before saving, the settings revert to the previously saved format setting. If the panel is configured in the ETS configuration as the master clock in the KNX system (see section *3.1 General communication objects and parameters)*, then time and date are driven by the internal real-time clock. Two additional fields will then appear to adjust date and time. The current time and date will become effective after saving.

On the *General* tab, general settings can be carried out (see figure 9).

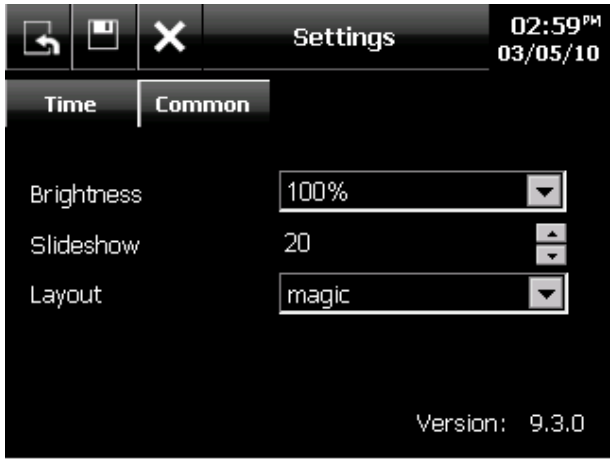

Fig. 9: General settings

With the Brightness setting, the brightness of the backlighting in the active operation of the panel can be changed. A setting from 50% to 100% is possible. If the Save button was pressed after making the setting, the newly set brightness becomes effective. If the Cancel button is pressed before this, then the settings revert to the previously saved brightness percentage value.

With the Slide show setting, the picture change time in seconds between two pictures of the slide show is set. A condition for this is the presence of several pictures in the corresponding path on the flash card (see section *2.6*

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Operation and editing of the logo / slide show). A setting in the range between 10 to 100 seconds is possible. If the Save button was pressed after the picture change time was changed, then the newly set picture change time becomes effective. If the Cancel button is pressed before saving, the settings revert to the previously saved picture change time.

4 different design styles are available for the presentation of the display and user interface. The design style can be selected in the Layout field. The following styles are available: "magic", "modern", "classic" and "elegant" (see figure 10). In order for the newly set layout to become effective, the Save button must be pushed. After this, the panel is restarted. A corresponding message window is shown. If the Cancel button is pressed before saving, the settings revert to the previously set style.

magic

modern

classic

elegant

Figure 10: Design styles

2.4.2 Operation and function of the configuration page for scene programs

You call up the page for scene program configuration with the second button on the configurations overview page (see section 2.4. *Operation and function of the configuration page*)

Given a corresponding configuration, this page can also be called up with an additional button in the footer of the 10 main pages.

The configuration page for scene programs allows the user to configure up to 64 internal scene programs. The end user can change these settings himself directly at the panel. The page is shown as follows (see figure 11).

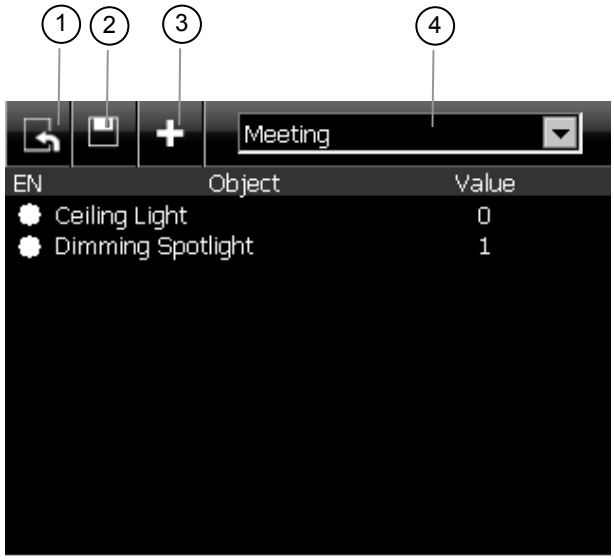

Fig. 11: Configuration page for scene programs

In the upper part is the header. As usual, the Back button (1) for jumping to the previous page, via which the scene program configuration was called up, is on the left. To the right of the Back button is the Save button (2). With this button all scene entries are saved in fixed form. This allows these settings to remain preserved after a reset. A beep sounds as the values are saved. The Plus button (3) next to the Save button inserts a new command in this scene.

In the middle of the header is a pull-down field (4) for the selection of the desired scene.

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The scenes are shown with their description. The description is entered via the ETS configuration. Scenes that have not been provided with a description are shown in the pull-down field with a hyphen "-". Before this, the scene module must be activated (see section *3.5 Communication objects and parameters for the scenes*).

The previously configured and saved scenes are marked with a "*" in the pull-down list of all 64 internal scene programs. This is how it is clear which of the 64 scenes are already occupied and linked with an object.

After the selection of the desired scene, any objects and thus functions that may already have been defined for this scene are shown (see figure 11). Otherwise, a new object is defined with the Plus button. Another input page is then opened for this (see figure 12). This editing window can also be reached by clicking on an existing object.

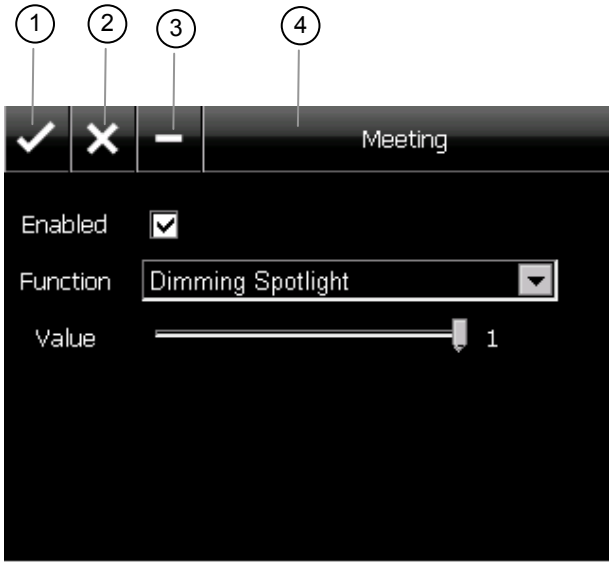

Fig. 12: Settings for scene objects

On the right next to the acknowledgement button (1), Cancel button (2) and Delete button (3), the scene name (4) appears, e.g. *Presentation.*

Below that is a release field. With this, the function in the scene can be released or blocked.

With the pull-down field after function, the objects and thus the functions that are to be allocated to this scene are selected. All the standard or additional functions that were released via the ETS configuration for the scene programs (see section *3.3 Communication objects and parameters of the standard functions of the main pages 1 to 10* and *3.4 Communication objects and parameters of the additional functions 1 to 60*) are made available.

The functions in the pull-down field are displayed as allocated to the respective main pages on which they are shown or to which they are subordinated. The name of the main page will be shown in hyphens e.g. - *Conference 1* - and the functions will be shown below it. Additional functions on detail screens that are assigned to no main page and therefore can not be displayed for operation are shown at the end of the selection box.

The slide control is used to set the value for the function in the scene. The presentation and scaling of the slide control appears corresponding to the selected function or the data type in the ETS configuration.

Example scaling:

Switch on/off: Scaling from 0... 1, increment: 1

Dimming on/off: Scaling from 0... 1, increment: 1

Switching with forced control: Scaling from 0...3, increment: 1

Shutter up/down: Scaling from 0... 1, increment: 1

Set value 1 byte (0..100%), increment: 10%: Scaling from 0... 100, increment: 10

Set temperature value (2 byte), value variable 0..150°C variable set: Scaling from 0... 150, increment: 1

Set counter value 2 byte fixed value :
Scaling fixd to the set value; Change not possible

Set heating operating mode, with automatic operating mode: Scaling from 0 (auto)... 4 (frost/heat protection), increment: 1

Heating fan setting, 5 steps (0%, 20%..100%) scaling from 0...100, increment:20

With the acknowledgement button in the left side of the header, the setting is adopted and the navigation jumps back to the general configuration page for scene programs.

With the Cancel button one can jump back to the general configuration page for scene programs without adopting the current setting.

The Delete button is used to delete a previously defined function. A security query appears before this element is deleted.

Example:

The functions displayed in fig. 11 in the scene Conference are released and switch off the ceiling lamps with the value 0 and dim the spots to the value 100%.

2.4.3 Operation and function of the configuration page for logic functions

You call up the page for logic function configuration with the third button on the configurations overview page (see section *2.4. Operation and function of the configuration page*).

Given a corresponding configuration, this page can also be called up with an additional button in the footer of the 10 main pages.

The configuration page for logic functions allows the user to configure up to 32 logic function gates. The end user can make these settings directly on the panel, individually and personally. The page is depicted as follows (see figure 13).

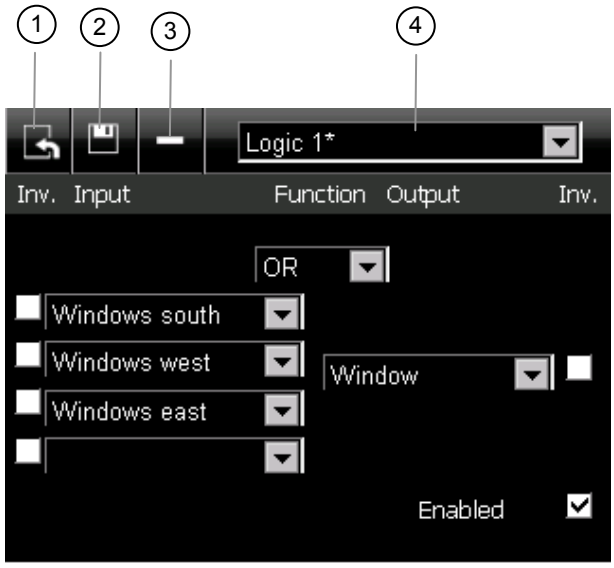

Fig. 13: Configuration page logic functions

The Back button (1) for jumping to the previous page, via which the logic function configuration was called up, is in the header on the left.

On the right next to the Back button is the Save button (2). The configuration of the logic gates is saved in fixed form with this button.

The Delete button (3) next to the Save button serves to delete all settings of the logic gate.

In the middle of the header is a pull-down field (4) for the selection of the 32 logic gates.

Only those objects of the additional functions are available for the configuration of the inputs and outputs of the logic function gates that have been released for the logic function. This release of the additional functions is set via the ETS configuration (see section *3.4 Communication objects and parameters of the additional functions 1 to 60*). Only the additional functions *Switch* or *Status display 1 bit* as well as 1 bit objects can be used in the logic gates.

Each of the 32 logic gates has 4 inputs and an output. The inputs and outputs can be inverted individually. *Inverting* is written in the upper text line on the left and right. A window to set the inverting is shown respectively in front of the pull-down lists of the inputs and behind the pull-down list of the output. With this inverting, additional logical operators like NAND and NOR can be designed. Cascading of logic gates can be used to generate logical operators beyond the standard operators, such as XOR or XNOR.

In the lower part of the configuration page, there is a enable field. With this, the gate can be enabled or blocked.

The objects to be used can be selected in the 4 pull-down lists under *Input* in the caption field. The objects that were released in the ETS configuration as additional functions for this are available.

The operator AND or OR is selected in the pull-down field under *Function* in the caption field.

The object to be used can be selected in the pull-down field under *Output* in the caption field. The result of the logical operation is written in there. The objects that were released after the ETS configuration as additional functions for this are available.

Note:

Objects that were already used in an output of a previous logic function are no longer shown for selection in the next output.

Each event at an input leads to a transmission event at the output, irrespective of whether the values in the inputs or the value at the output change.

Note:

Care should be taken that different objects are used for the logic gate outputs than for the logic gate inputs, especially when cascading logic gates. Avoid feedback loops. The constant transmission events could lead to excessive bus load!

After the logic gate has been completely configured, this setting must be saved using the Save button in the header. This allows these settings to remain preserved after a reset. These previously configured and saved logic gates are marked with an "*" in the pull-down list of all 32 logic functions. This makes it clear which of the 32 logic gates are already occupied.

With the Delete button in the header, all settings of the gate, the inputs and outputs, the link, the release and inverting, can be deleted. The gate is now released for a changed setting again.

After the initialisation of the panel (restart), the states of the logic inputs are set to undefined. Only an event on the corresponding object by a write or read process activates the logic for this input. A logic gate will send an output value if a valid input condition is present.

This principle is explained by the following two examples:

Example OR:

As soon as at least one input of the gate receives the value "1", the output is set to the value "1". This operation is unambiguous, independent of the undefined state of the other inputs. In order to set the output to the value "0", all inputs must have the defined state "0".

Example AND:

As soon as at least one input of the gate receives the value "0", the output is set to the value "0". This operation is unambiguous, independent of the undefined state of the other inputs. In order to set the output to the value "1", all inputs must have the defined state "1".

2.4.4 Operation and function of the configuration page for presence simulation

With the panel, a presence simulation can be carried out via the KNX system. The presence simulation can record the activities in a building that are visible from the outside to simulate their presence when the users are absent, by triggering the recorded activities in the same chronological sequence. Manually set events are also triggered at the set times.
This simulation thus resembles a sequence of scheduled commands carried out in a defined period.
These scheduled commands refer exclusively to objects that have been configured in the panel as a function for the presence simulation.
Foreign objects and thus other external functions in the KNX system are not recorded by the panel.

You call up the configuration page for presence simulation with the fourth button on the configurations overview page (see section 2.4. *Operation and function of the configuration page*).

If configured accordingly, this page can be called also by an additional button in the footer of the ten main pages.

The page is depicted as follows (see figure 14).

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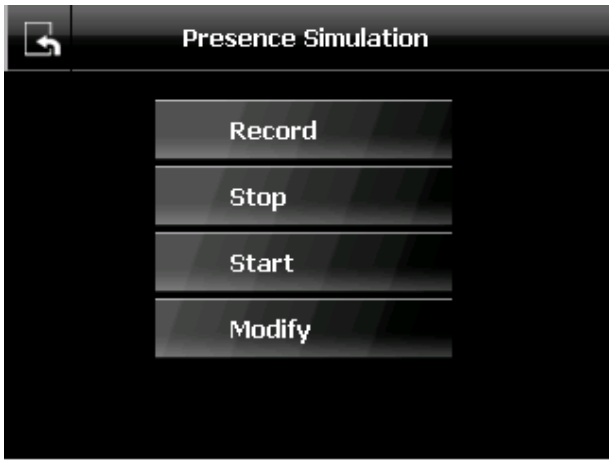

Fig. 14: Configuration page for the presence simulation

All the standard or additional functions that have been released via the ETS configuration for the presence simulation (see section 3.3 *Communication objects and parameters of the standard functions of the main pages 1 to 10* and *3.4 Communication objects and parameters of the additional functions 1 to 60)* will be taken into account in the presence simulation.

The presence simulation is started manually via the first button *Start*.

A green circle on the right in the header indicates this simulation mode.

During this simulation, no recording or editing of events can be carried out.

The presence simulation is terminated with the *Stop* button. The green indicator in the header goes off.

This means that the *Record* or *Modify* modes are free to be activated again.

The recording of the simulation can be started with the recording button.

In addition a red circle appears on the right in the header.

During the recording, the simulation or processing of events is once again blocked.

If it is not terminated manually first, the recording stops automatically after a period of one week or after approximately 1,000 recorded events.

The *Stop* Button is used to manually exit the recording. The red indicator in the header goes off.

This means that the *Simulation* or *Modify* modes are free to be activated again.

The resolution both for recording the events as well as the simulation is in steps of 1 minute. This means that the recording of changes of value of an object within a minute is not possible. The last value of the object in a minute is always the one that is saved. This operating principle is shown in the following diagram (see figure 15).

The recorded events can be subsequently edited or supplemented with additional events. Unwanted events can be deactivated.

The *Modify* button opens up a mode to edit the time entries of the functions.

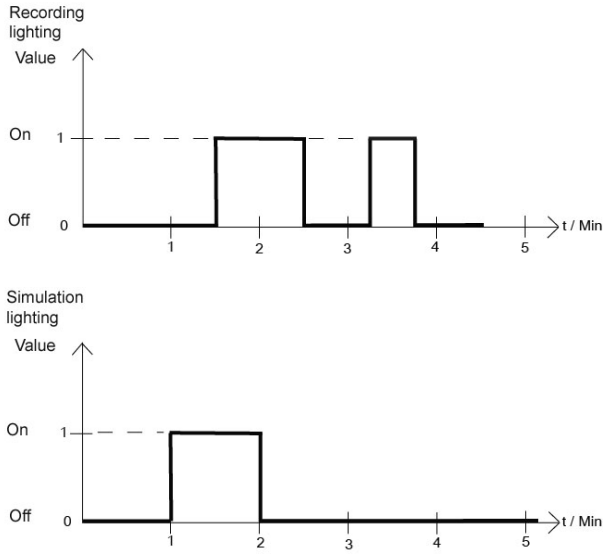

Fig. 15: operating principle recording and simulation

This page to edit the simulation is similar to the configuration page for schedule programs and is shown as follows (see figure 16).

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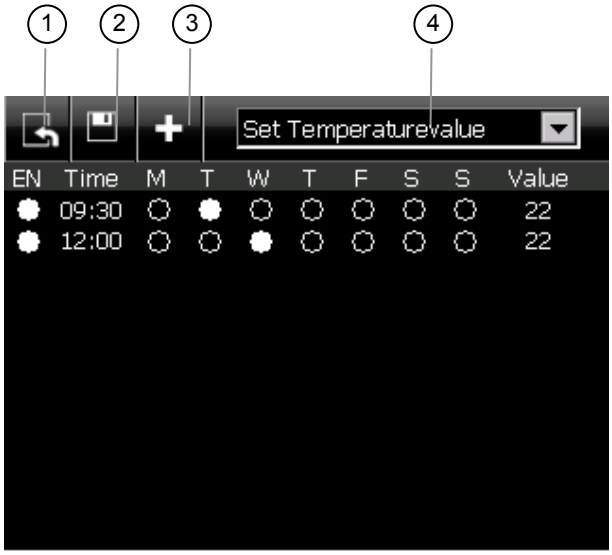

Fig. 16: Editing mode of the presence simulation

In the upper part is the header. On the left is the Back button (1) to jump to the superordinate presence simulation.

On the right next to the Back button is the Save button (2). With this button all schedule entries are saved in fixed form. This means that these settings will remain preserved after a reset. A beep sounds as the values are saved. The Plus button (3) next to the Save button inserts a new schedule command.

In the middle of the header is a pull-down field (4) for the selection of the function that is to be carried out at the corresponding times. All the standard or additional functions that were released via the ETS configuration for the schedule programs (see section 3.3 *Communication objects and parameters of the standard functions of the main pages 1 to 10* and *3.4 Communication objects and parameters of the additional functions 1 to 60*) are made available.

The previously configured and saved functions are marked with a "*" in the pull-down list. This is how it is clear which of the timer switching functions are already occupied and linked with an object.

The functions in the pull-down field are displayed as allocated to the respective main pages on which they are shown or to which they are subordinated. The name of the main page will be shown in hyphens e.g. -*Conference 1* - and the functions will be shown below it. Additional functions on detail pages that are assigned to no main pages and therefore can not be displayed for operation from there are shown at the end of the selection box.

After selecting the desired object, the switching commands defined for this object previously are displayed if appropriate (see figure 16). These commands were already recorded for the presence simulation. On the other hand a new schedule command may be defined for the desired object with the Plus button. Another input page is then opened for this (see figure 17). This editing window can also be reached by clicking on an existing scheduled command point.

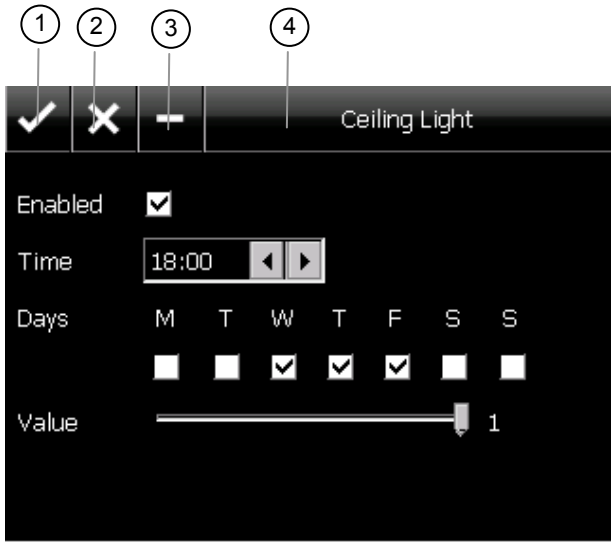

Fig. 17: Settings for schedule points

On the right next to the acknowledgement button (1), Cancel button (2) and Delete button (3), the name of the function (4) appears, e.g. *Floor lighting*.

Among them is a release field. With this, the schedule function can be released or blocked.

In the schedule window, the switching time is set with the arrow keys to the left and right.

Below that, the days of the week on which the schedule command is to be carried out are marked.

The slide control is used to set the value for the schedule point. The presentation and scaling of the slide control appears corresponding to the selected function or the data type in the ETS configuration.

Example scaling:

Switch on/off: Scaling from 0... 1, increment: 1

Dimming on/off: Scaling from 0... 1, increment: 1

Switching with forced control: Scaling from 0...3, increment: 1

Shutter up/down: Scaling from 0... 1, increment: 1

Set value 1 byte (0..100%), increment: 10%: Scaling from 0... 100, increment: 10

Set temperature level (2 byte), value variable 0..150°C variable set: Scaling from 0... 150, increment: 1

Set counter value 2 byte fixed value: Scaling fixed to the set value; Change not possible

Set heating operating mode, with automatic operating mode: Scaling from 0 (auto)... 4 (frost/heat protection), increment: 1

Heating fan setting, 5 steps (0%, 20%..100%) scaling from 0...100, increment: 20

With the acknowledgement button in the left side of the header, the setting is adopted and the navigation jumps back to the editing mode of the presence simulation.

With the Cancel button one can jump back to the editing mode of the presence simulation without adopting the current setting.

The Delete button is used to delete a previously defined schedule command. A security query appears before this element is deleted.

A presence simulation is interrupted by a power failure. It is continued after power recovery with the next schedule entry.

If there is a power failure during a recording of events, this interrupted recording is deleted and the previous complete recording is used instead.

2.4.5 Operation and function of the configuration page for schedule programs

You call up the configuration page for time programs with the fifth button on the configurations overview page (see section 2.4. *Operation and function of the configuration page*).

With a corresponding configuration, this page can also be called via an additional button in the footer of the 10 main pages.

The configuration page for schedule programs allows the user to set the schedule commands for functions provided for this purpose. The end user can change these settings himself directly on the panel. The page is shown as follows (see figure 18).

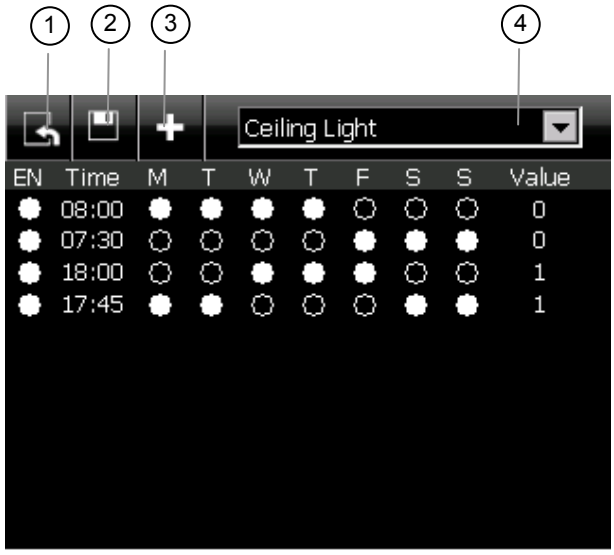

Fig. 18: Configuration page for schedule programs

In the upper part is the header. As usual, the Back button (1) for jumping to the previous page, via which the timer program configuration was called up, is on the left.
To the right of the Back button is the Save button (2). With this button all schedule entries are saved in non-volatile memory. This allows these settings to remain preserved after a reset. A beep sounds as the values are

saved. The Plus button (3) next to the Save button inserts a new schedule command.
In the middle of the header is a pull-down field (4) for the selection of the function that is to be carried out at the corresponding schedule commands.
All standard or additional functions are made available that were released via the ETS configuration for the schedule programs (see section *3.3 Communication objects and parameters of the standard functions of the main pages 1 to 10* and *3.4 Communication objects and parameters of the additional functions 1 to 60)*.
Any number of schedule commands can then be assigned to any released function.
The previously configured and saved functions are marked with a "*" in the pull-down list. This is how it is clear which of the timer switching functions are already occupied and linked with an object.
The functions in the pull-down field are displayed as allocated to the respective main pages on which they are shown or to which they are subordinated. The name of the main page will be shown in hyphens e.g. -*Conference 1* - and the functions will be shown below it.
Additional functions on detail pages that are assigned to no main page and therefore can not be displayed for operation are shown at the end of the selection box.
After the selection of the desired object, any switching commands that may already have been defined for this object are shown (see figure 18). On the other hand a new schedule command may be defined for the desired object with the Plus button. Another input page is then opened (see fig. 19). This editing window can also be reached by clicking on an existing schedule command.

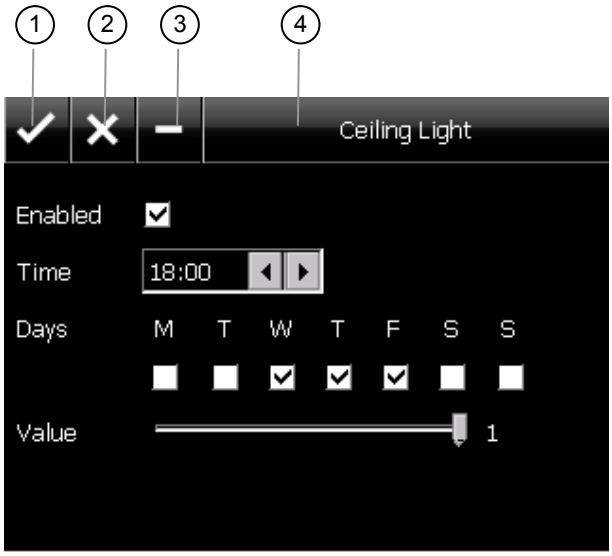

Fig. 19: Settings for schedule commands

On the right next to the acknowledgement button (1), Cancel button (2) and Delete button (3), the name of the function (4) appears, e.g. *Floor lighting*.

Below that is a release field. With this, the schedule function can be released or blocked.

In the schedule window, the schedule command is set with the arrow buttons on the left and right.

Below that, the days of the week on which the schedule command is to be carried out are marked.

The slide control is used to set the value for the schedule command. The presentation and scaling from the slide control appears corresponding to the selected function or the data type in the ETS configuration.

Example scaling:

Switch on/off: Scaling from 0... 1, increment: 1

Dimming on/off: Scaling from 0... 1, increment: 1

Switching with forced control: Scaling from 0...3, increment: 1

Shutter up/down: Scaling from 0... 1, increment: 1

Set value 1 byte (0..100%), increment: 10%:
Scaling from 0... 100, increment: 10

Set temperature level (2 byte), value variable 0..150°C:
Scaling from 0... 150, increment: 1

Set counter value 2 byte fixed value:
Scaling fixed to the set value; change not possible

Set heating operating mode, with automatic operating mode: Scaling from 0 (auto)... 4 (frost/heat protection), increment: 1

Heating fan setting, 5 steps (0%, 20%..100%) scaling from 0...100, increment: 20

With the acknowledgement button in the left side of the header, the setting is adopted and the navigation jumps back to the general configuration page for schedule programs.

With the Cancel button one can jump back to the general configuration page for schedule programs without adopting the current setting.

The Delete button is used to delete a previously defined switching command. A security query appears before this element is deleted.

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Example:

The switching command shown in fig. 19 is released and at 18:00 every Wednesday, Thursday and Friday switches on the light with the value 1.

2.4.6 Operation and function of the configuration page for the trending module

You call up the configuration page for the trending module with the sixth button on the configurations overview page (see section *2.4. Operation and function of the configuration page*).

The trending module allows a graphic depiction of status values over a timeframe to be set. This is how physical parameters such as temperatures, wind speeds, brightnesses, together with energy and counter readings, as well as outputs can be recorded and displayed. You call up trend depiction both from the status functions on the main pages and from the status functions on the detail pages.

Note:

The trending module function is available from firmware release V1.1.1 and later.

The configuration page for the trending module allows the user to set the timeframe in question, the method of recording and the depicted area. The end user can make these settings directly on the panel, individually and personally. The page is depicted as follows (see figure 20).

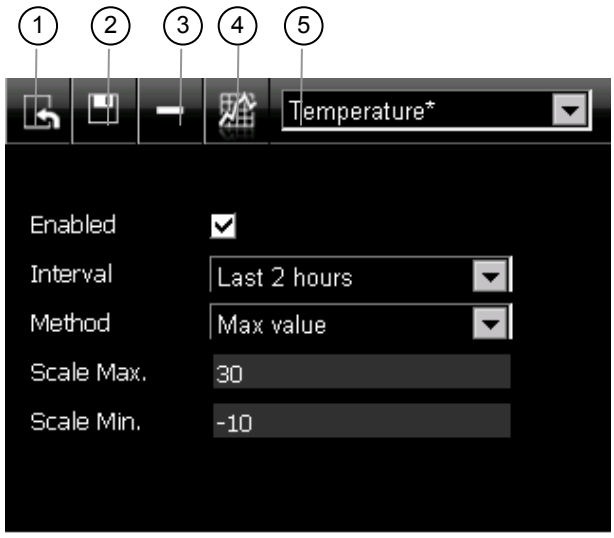

Figure 20: Configuration page for the trending module

The header is in the upper area. As usual, the Back button (1) for jumping to the previous page, via which the trending module configuration was called up, is on the left.
The Save button (2) is on the right, next to the Back button. This button saves all trend settings. In this way, these settings remain after a reset. This saving is accompanied by a beep. The Delete button (3) on the right, by the Save button, is used to delete all trend settings. The button (4) on the right by the Delete button calls up the configured and saved trend depiction.
There is a pull-down field (5) in the centre of the header for selecting the functions which are available for a trend configuration.
A trend configuration and representation is possible for the standard and supplementary functions: 1-byte status display, 2-byte status display and 4-byte status display (see section *3.3 Communication objects and parameters for the standard functions on main pages 1 to 10 and refer also to section 3.4 Communications objects and supplementary function parameters for additional functions 1 to 60*) are possible.
The previously configured and saved functions are marked with a "*" in the pull-down list. This is how it is clear which of the trends is already occupied and linked with an object.
There is a release field below it. In this way, you release or bar trend depiction for the function.

In addition to the timeframe field, there is a pull-down window for selecting the time depiction area. There is an option to select a range of 2 hours, 6 hours, 12 hours, 24 hours, 48 hours a week or one month. Depending on

this setting, the last time slot is used to collect, process and store trend data *(see below Work instruction for data storage and analysis)*.

Besides the methods field, there is a pull-down window for the choice of the relevant values in the time frame. Either the average, minimum or maximum values for the time frame in question can be determined and used for illustration.

Besides the maximum scaling and minimum scaling fields, there is in each case an entry filed for limiting the illustration area on the y-axis of the trend curve. After pressing on the adjacent number fields, the following keypad opens for entering a numeric lower or upper limit or for entering a sign (see figure 21).

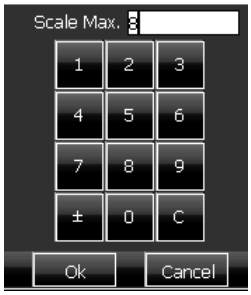

Figure 21: Keypad for entering the scaling

According to the dimension of the status value to be depicted, a value for the lower and upper scaling between the following limits can be set.

Scaling:

Status display 1 bytes: 0...100

Status display 2 bytes: -671088...670760

Status display 4 bytes: -2147483648...2147483647

Working principle for data storage and analysis:

The data to be entered for the relevant object will be collected initially in a buffer.

If recorded data, e.g. temperatures, occur very frequently (1 event/second) and if these trends are stored and displayed over an extended timeframe, e.g. 1 week, data volume must be reduced. This occurs over intermediate intervals (see table). Depending on the method selected, the arithmetic mean will be formed for all data in the buffer or within the interim interval, or the minimum or maximum value calculated. If no values are entered in an interim interval, the value for the previous interval will be assumed. The calculated mean and interim values will be stored temporarily in the panel's RAM. If a buffer or an interim interval has been read out and processed, it will be deleted and new data collected.

In the final analysis, the data intervals are the values which are stored and depicted graphically (see table).

The method described here is used for data reduction.

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Trend depiction period	Data interval	Interim interval	Interim interval	Interim interval	Interim interval	Interim interval
Last month	6 hours	3 hours	1 hour	30 minutes	10 minutes	5 minutes
Last week	4 hours	1 hour	30 minutes	10 minutes	5 minutes	
Last 48 hours	60 minutes	10 minutes	5 minutes			
Last 24 hours	30 minutes	10 minutes	5 minutes			
Last 12 hours	20 minutes	10 minutes	5 minutes			
Last 6 hours	10 minutes					
Last 2 hours	5 minutes					

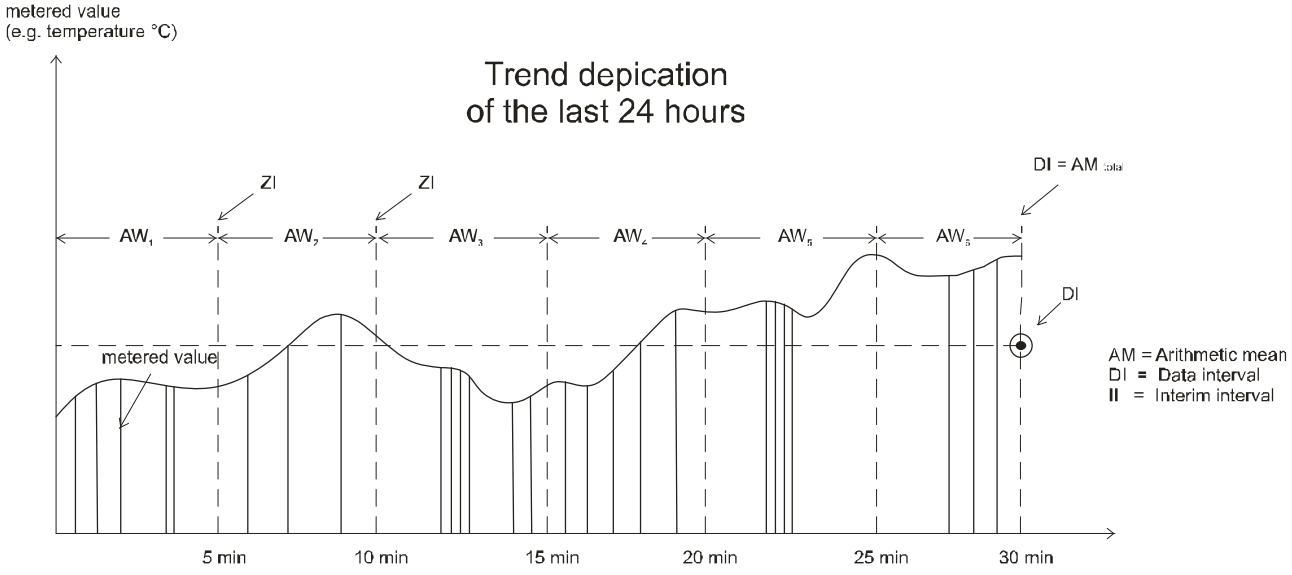

Figure 22: Example of a trend depiction over 24 hours

Ex.:

A trend is depicted over 24 hours.

The configured method was that arithmetic means would be computed and analyzed.

After 5 minutes, the first interim interval is ended and a mean value MW_1 is formed from all the values recorded in this period. The data for forming the average is then deleted from the buffer.

The values recorded in the next 5 minutes are combined to generate a mean value MW_2 and the data for forming the mean is again deleted from the buffer.

Because a total of 10 minutes has now elapsed, the next interim interval is ended and a unitary average MW_{12} is formed from the first computed average MW_1 and the second computed average MW_{12} and the two former mean values are discarded.

The values recorded in the next 5 minutes are combined to generate a mean value MW_3 and the data for forming the mean is again deleted from the buffer.

The values recorded in the next 5 minutes are combined to generate a mean value MW_4 and the data for forming the mean is again deleted from the buffer.

Now, in other words after 20 minutes, a unitary mean MW_{34} is formed from the third computed mean value MW_3 and the fourth computed mean value MW_4 and both former mean values MW_3 and MW_4 are discarded.

The values recorded in the next 5 minutes are combined to generate a mean value MW_5 and the data for forming the mean is again deleted from the buffer.

The values recorded in the next 5 minutes are combined to generate a mean value MW_6 and the data for forming the mean is again deleted from the buffer.

Now, in other words after 30 minutes, a unitary mean MW_{56} is formed from the fifth computed mean value MW_5 and the sixth computed mean value MW_6 and both former mean values MW_5 and MW_6 are discarded.

After 30 minutes, a total mean MW_{tot} is formed from the previously computed means MW_{12}, MW_{34} and MW_{56}

This value after 30 minutes equals the data interval DI. It is accordingly depicted in the graphic representation of the trend as a base.

If the configuration has ended and stored with the Save button (2), the graphic depiction (see figure 23) can be called up with the trend button (4).

The status functions configured in this way on the main or detail pages then include on the right a trend button to call up the graphic depiction (see figure 23).

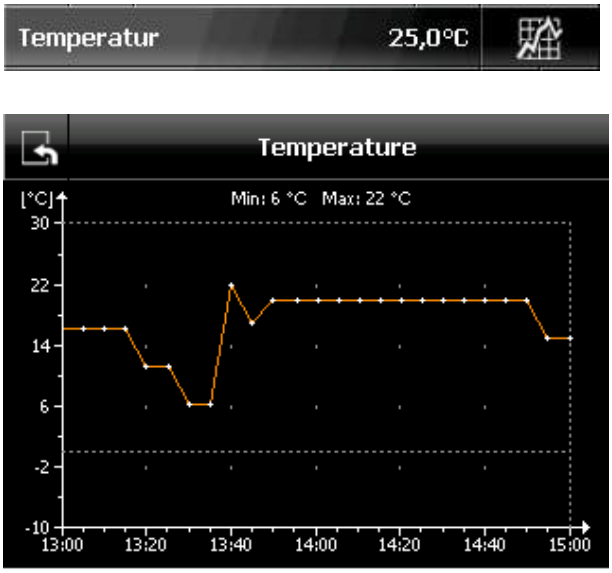

Figure 23: graphic depiction of status values

The trend shows the movement of the status function (temperature in °C) over the set period (2 hours) looking backwards from the time when the page was called up. It is represented by an orange-yellow line. The data intervals can be recognized as white points on the graph. The scaling on the X- and Y-axes depends on the set illustration area (max. scaling: 30, minimum scaling: -10) and the period. The scaling will also be matched ideally to the surface area made available for the illustration. Graphic trends which are outside the Y-scaling will be shown as dotted lines. If the selected status function is connected with a physical unit, e.g. for 2 byte or 4 byte values, these are to be indicated on the Y-axis.

The graphic illustration of the trend displays the minimum and maximum values of the data intervals as a discrete number with a physical unit.

The Back button returns you to the former page, via which the trend depiction was called up.

2.5 Operation and function of the alarm page

The panel offers 16 alarm functions. In addition, the functions *Status display 1 bit* from the 60 additional functions can be used as alarm messages if they were released as an alarm function. In total, up to 76 alarm messages can be managed.

Once an alarm condition has been met, this alarm is activated and shown on the alarm page. The alarm page

is called up automatically. In addition, the alarm page can also be called up via the corresponding function button on the menu screen.
The screen is shown as follows (see figure 24).

Fig. 24: Alarm page

Again, the header is shown in the upper area. As with the previous pages, the page caption (1), as well as the date and time (2) are shown. On the left, as usual, is the Home Button (3) to jump directly to the menu page.

If "Common acknowledgment of activated alarms" has been set in the ETS configuration (see section *3.6 Communication objects and parameters for the alarms*), an acknowledgement button (4) will appear right next to the Home button.

Underneath the header, all pending alarms are shown in the order in which they arrived. The alarm with the most recent time stamp is at the top.

An alarm line consists of the alarm symbol. This is assigned to the alarm function via the ETS configuration.

Next is the time stamp for the activation of the alarm. In the field Description is the alarm text, also described via the ETS configuration. On the right next to this is the alarm value, followed by an acknowledgement button. With this acknowledgment button, an individual acknowledgment of each alarm takes place.

The following symbols are available for alarm notifications. The symbols can be specifically adjusted depending on clients or projects. The symbols can be loaded to the flash card via the USB interface (see section *2.9 USB and removable media*).

 Symbol 1 (alarm general)

 Symbol 2 (bolt)

 Symbol 3 (alarm bell)

 Symbol 4 (alarm flashlight)

 Symbol 5 (attention !)

 Symbol 6 (attention ?)

 Symbol 7 (window)

 Symbol 8 (door)

 Symbol 9 (info message)

 Symbol 10 (wind)

 Symbol 11 (rain)

 Symbol 12 (frost)

 Symbol 13 (temperature)

 Symbol 14 (first aid)

 Symbol 15 (fire)

 Symbol 16 (service/maintenance)

In the alarm list, the current value of the alarm object is shown every time the alarm page is called up. As long as the alarm is active, this value is shown in red. As soon as the alarm is no longer active (i.e. the value of the alarm object no longer meets the alarm condition), the value is shown in green. Irrespective of whether the alarm condition has been met or not, the alarms are shown in the alarm list if they have not yet been acknowledged.

The acknowledgment button for individual acknowledgment disappears after the alarm has been acknowledged.

Alarms are removed from the alarm list when the values of the alarm object no longer meets the alarm condition and the alarm has been acknowledged either collectively or individually via the acknowledgement button.

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Acknowledging an alarm leads to the immediate termination of the alarm tone, as long as this has been set in the ETS configuration (see section *3.6 Communication objects and parameters for the alarms*). In case of several active alarms that have not been acknowledged, then the individual acknowledgement of a single alarm already leads to the termination of the alarm tone.

If the panel is not operated within a configured time, then the logo page or slide show will become active. The alarm page will then be faded out. As long as the alarm is active and has not been acknowledged, the alarm tone will continue to sound. If the panel is not operated in an additional configured time, then the device will go into idle mode and the alarm tone will terminate.

If another alarm occurs during idle mode or during the logo / slide show, then the alarm page is shown with the active alarm. The alarm tone sounds again. If the display is operated again during idle mode or during the logo / slide show, the alarm page is displayed.

When the panel is restarted, the alarm list is initially erased. All object values are set to an undefined state. By querying the object values on restart (prerequisite for this is the ETS configuration for a one-time read request of the status objects), all current values are again checked for the alarm condition and entered on the alarm page accordingly. The status objects with a set update flag are queried. This allows for the alarm page to be up to date shortly after the device is restarted.

Note:

During the configuration of the alarms it should be ensured that the objects of the alarm-initiating devices have the read flag set. These objects are connected to the respective alarm objects via the group addresses.

The alarm conditions to activate an alarm depend on the respective data type of the object. The alarm conditions and the data type to be used are set with the ETS configuration (see section *3.6 Communication objects and parameters for the alarms*).

The following alarm conditions will trigger an alarm:

if the value of the alarm object:

is equal to the threshold value (always)

is greater than the threshold value

is smaller than the threshold value

is greater than or equal to the threshold value:

is smaller than or equal to the threshold value

is equal to the threshold value (unique)

exceeds the threshold value (rising flank)

falls below the threshold value (falling flank)

is equal to the threshold value (always)

Whenever the value of the alarm object is equal (=) to the threshold value, an alarm is triggered. The value is shown in red. Every time the alarm condition is met again, the time stamp is updated.

If the value of the alarm object (≠) is not identical to the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value (≠) not equal to the threshold value does not lead to the values being updated on the display.

is greater than the threshold value:

Whenever the value of the alarm object is greater than the threshold value, an alarm is triggered. The value is shown in red. Every time the alarm condition is met again, the time stamp is updated.

If the value of the alarm object is smaller than or equal to the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value smaller than or equal to the threshold value does not lead to the values being updated on the display.

is smaller than the threshold value

Whenever the value of the alarm object is smaller than the threshold value, an alarm is triggered. The value is shown in red. Every time the alarm condition is met again, the time stamp is updated.

If the value of the alarm object is larger than or equal to the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value greater than or equal to the threshold value does not lead to the values being updated on the display.

is greater than or equal to the threshold value:

Whenever the value of the alarm object is greater than or equal to (=) the threshold value, an alarm is triggered. The value is shown in red. Every time the alarm condition is met again, the time stamp is updated.

If the value of the alarm object is smaller than the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value smaller than the threshold value does not lead to the values being updated on the display.

is smaller than or equal to the threshold value:

Whenever the value of the alarm object is smaller than or equal to (=) the threshold value, an alarm is triggered. The value is shown in red. Every time the alarm condition is met again, the time stamp is updated.

If the value of the alarm object is greater than the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value greater than the threshold value does not lead to the values being updated on the display.

is equal to the threshold value (unique):

Whenever the value of the alarm object is equal to the threshold value, an alarm is triggered. The value is shown in red. The current time stamp is shown. An additional alarm, i.e. when the alarm condition is met again, is not shown as a new alarm and thus does not lead to the time stamp or the alarm list being updated.

If the value of the alarm object (≠) is not equal to the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value not equal to the threshold value does not lead to the values being updated on the display.

If an alarm value not equal to the threshold value has now been received and if as a consequence the alarm condition is met again (value of alarm object = threshold value), then this alarm is shown in the alarm list with the current time stamp.

exceeds the threshold value (rising flank)

Whenever the value of the alarm object is smaller than the threshold value, an alarm is triggered. The value is shown in red. The current time stamp is shown. An additional alarm, i.e. when the alarm condition is met again, is not shown as a new alarm and thus does not lead to the time stamp or the alarm list being updated.

If the value of the alarm object is smaller than the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value smaller than or equal to the threshold value does not lead to the values being updated on the display.

If an alarm value smaller than or equal to the threshold value has now been received and if as a consequence the alarm condition is met again (value of alarm object is greater than threshold value), then this alarm is shown in the alarm list with the current time stamp.

Falls below the threshold value (falling flank)

Whenever the value of the alarm object is smaller than the threshold value, an alarm is triggered. The value is shown in red. The current time stamp is shown. An additional alarm, i.e. when the alarm condition is met again, is not shown as a new alarm and thus does not lead to the time stamp or the alarm list being updated.

If the value of the alarm object is larger than or equal to the threshold value and if the alarm has not yet been acknowledged, the value is shown in green. A renewed change of the alarm value greater than or equal to the threshold value does not lead to the values being updated on the display.

If an alarm value greater than or equal to the threshold value has now been received and if as a consequence the alarm condition is met again (value of alarm object is smaller than threshold value), then this alarm is shown in the alarm list with the current time stamp.

Note:

If after a restart of the panel the equipment is initialised and all object values of the alarm list were set to an undefined condition, then each alarm event that was received by a write or read request and for which the alarm condition has been met leads to an alarm notification.

This also applies to the triggering conditions: exceeds threshold value (rising flank) and falls below threshold value (falling flank).

This ensures that all alarm states can be shown automatically after the panel is restarted.

Alarm function via a text message:

It is possible to use a text message as a triggering condition for the first two alarm objects via the ETS

configuration (see section *3.6 Communication objects and parameters for the alarms*). Whenever any arbitrary text is received, an alarm is triggered. The text appears in red in the description field. Every time another text message is received, the time stamp is updated. After the text message is acknowledged, it is deleted.

Additional function "Status display 1 bit" as additional alarm function

In addition to the classic 16 alarm functions, the functions *Status display 1 bit* from the 60 additional functions can be used as alarm messages if they were released as an alarm function.

If the value of the additional function *Status display 1 bit* = TRUE "1", then an alarm is triggered. The value is shown in red. The current time stamp is shown. If an alarm is displayed by additional functions, then no alarm tone sounds. Additional alarm events with the value of the additional function *Status display 1 bit* = TRUE "1" do not change the time stamp.

If the value of the additional function *Status display 1 bit* to = "0" and if the alarm has not yet been acknowledged, the value is shown in green. Additional alarm events with the value of the additional function *Status display 1 bit* = TRUE "0" do not change the time stamp.

Only a renewed alarm event with the value of the additional function *Status display 1 bit* = TRUE "1" updates the time stamp.

This alarm function with the additional function *Status display 1 bit* in its functionality corresponds to the alarm condition *exceeds threshold value (rising flank)*.

2.6 Operation and editing of the logo / slide show

The third button in the footer enables the logo / slide show on the menu page.

If configured accordingly, this logo / slide show also can be called up by an additional button in the footer of the ten main pages.

Pushing this button will manually start the logo / slide show. It is shown in full screen mode.

The images that are to be shown as the logo screen or in sequence as a slide show are on the flash card of the panel (see section *2.9 USB and removable media*). The operator has the option to change the pictures for the logo / slide show, as well as to delete them or add to them. There is also the option to file the pictures in various sub-folders under the folder *photos*\..., isolated by topic (see section *2.11 Logo/slide show images*).

If the display is touched in the lower area during the logo / slide show in a strip approx. 1 cm from the lower screen edge, a control bar appears on the bottom edge (see figure 25).

Figure 25: Logo / slide show with control bar

4 keys are displayed in the control bar. The button (1) displays the next image in the collection. The button (3) displays the previous image in the collection. Both buttons together pause the automatic logo / slide show. Button (2) is the "Play/Stop" key. The "Play" feature starts the logo/slide show. The logo / slide show shows the pictures automatically with the set picture change times. The "Stop " feature halts the logo / slide show. The control bar puts the logo / slide show into a pre-run mode. You can control the display of the images manually.
If the buttons in the control bar are not used for approx. 10 seconds, the control bar is faded out.

Button (4) produces a switch to configuration mode for the logo / slide show (see figure 26).

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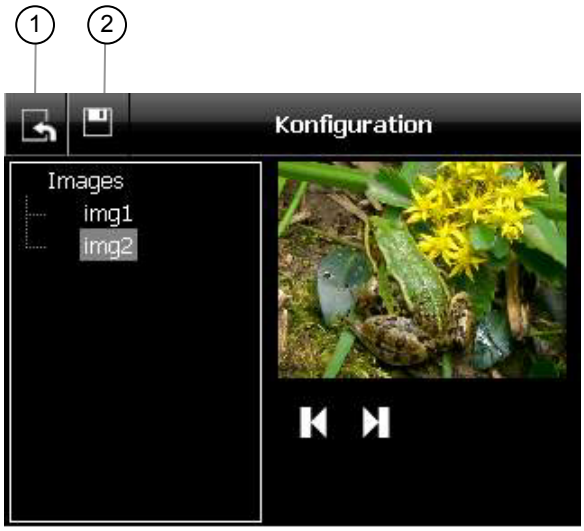

Figure 26: Logo/slide show configuration mode

The left half of the configuration page shows the selection tree "*Images*" with the sub-folders in which the pictures are. This selection tree equates to the directory tree \photos on the data medium. Choosing a relevant sub-folder will select it as the active folder for the logo / slide show.

The right half of the configuration page then displays in each case the first image within the selected folder as a smaller scale preview. You can also choose additional images in the selected folder with both arrow keys under the preview image.

Button (2) accepts the sub-folder set for the logo / slide show as the default setting. This set sub-folder is re-used after a system restart. In this way, the Save button (2) appears only if a sub-folder other than the default sub-folder for the logo / slide show has been selected. If the sub-folder for the logo / slide show is changed without saving, these images are used for the logo / slide show pending a system restart.

The Back button (1) returns you to full screen mode for the logo / slide show.

If the top part of the display is touched, the logo / slide show ends. The last screen used will then be shown.

Note:

In the logo/slide show feature, pre-run mode and the configuration page are only available from firmware release V1.1.1.

2.7 Enabling sleep mode

The fourth button in the footer on the menu page puts the display to rest status.
With a corresponding configuration, the rest status of the display can also be enabled by an additional key in the footer of the 10 main pages.

The rest status can be configured. The display is either completely dark or it can be lightened by 10% - 30% with an illumination screen. When configuring a low light level, the images of the logo / slide show are to be perceived in the background.
If the display is in the rest state and you press at any point on the display interface, the logo / slide show or the last page used will be shown, depending on the configuration.

2.8 Operation and input of the password via the password page

All ten main pages but also the configuration pages for system settings, for logic functions, for schedule programs, for scene programs and for the presence simulation can be protected individually with passwords. Different passwords can be specified for all 10 main pages and all configuration pages. The passwords are set via the ETS configuration (see section *3.1 General communication objects and parameters* and *3.2 Communication objects and parameters of the main pages 1 to 10)*.
Only numbers are used as passwords.
The passwords can be up to 5 numbers long, i.e. 1...99999. The standard setting 0 means no password.

Example:
If the password "123" is set via the ETS configuration, this sequence of numbers is expected accordingly on the password page.

Main pages that are password-protected are indicated with a small *Lock* symbol on the buttons of the menu screen.

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A password protection of the configuration pages is not indicated with a symbol.

After calling up a password-protected main or configuration page, the following button keypad appears (see figure 27).

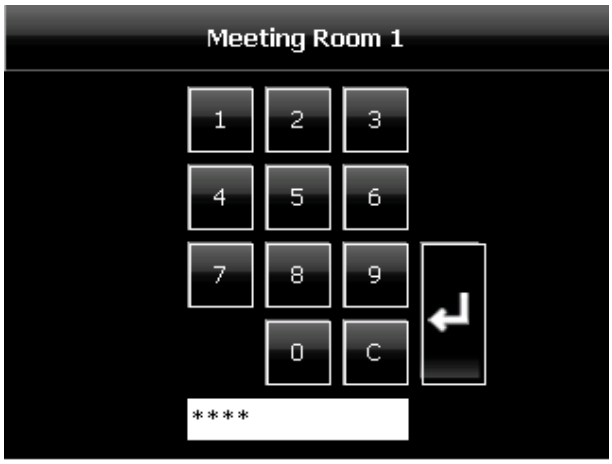

Fig. 27: Keypad for password query

The password can be entered with the number buttons of the keypad and confirmed with the Enter key. The entered numbers are shown in hidden form as little crosses in the white field.

The name of the wanted page which is called up after a correct password is entered will be indicated via the number keys.

If the correct password is entered, the desired screen will open. If an incorrect password is entered, the navigation automatically jumps back to the menu page.

Note:

This keypad depiction with page display is the same as that for firmware release V1.1.1.

Note:

If the password for a protected page is forgotten, it is possible to view the password in the ETS configuration, see sections *3.1 General communication objects and parameters* and *3.2 Communication objects and parameters of the main pages 1 to 10)*.

2.9 USB and removable media

The touch panel, aside from the KNX communication interface has an additional USB interface and a removable data carrier. This flash card contains the different image files for the:

- symbols of the standard function buttons
- symbols of the additional function buttons
- symbols of the functions' feedback messages
- symbols of the function buttons
- symbols of the additional buttons
- Symbols of the alarms
- logo / slide show

In addition it is possible to save new software updates and data on the flash card.

To communicate with the removable data carrier, a USB connection must be established with the panel. The panel has a mini USB socket on the front for this purpose (see figure 28).

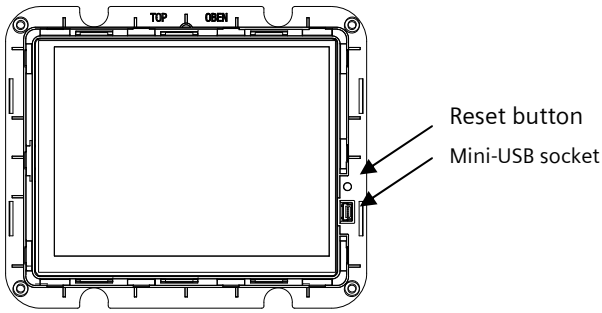

Fig. 28: Mini USB socket

In order to make this socket accessible, the passepartout frame and, if necessary, the design frame must be removed.

The supplied USB cable is used to connect the panel to the mini USB jack to the PC. Please use only the cable provided (mini USB type B - > USB type A, length 1 m).

Now a connection to a PC or a laptop computer is established automatically. The panel registers as a removable data carrier on the attached PC or laptop computer or it is recognised as new hardware by the PC or laptop computer.

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Corresponding to the respective drive designation of your PC, the data structure on the removable media using, for example, Windows Explorer is shown as follows:

F:\data

\DESIGN-1

\DESIGN-2

\DESIGN-3

\DESIGN-4

\photos

\update

The desired changes regarding symbols, photos or updates can now be carried out.

After these changes are made, the USB cable can be disconnected from the panel (removing hardware certain before about the Windows toolbar). The panel must now be restarted (disconnecting the mains supply or pushing the reset button). All changes are now adopted.

2.10 Display and adjustment of the symbols

The display of the different symbols is optimally coordinated with the 4 existing design styles "magic", "modern", "classic" and "elegant". Sophisticated styles for operation and feedback notifications have already been specified. The large selection of symbols for all kinds of functions already covers a broad application portfolio.

All symbols are freely accessible and can be adjusted or replaced individually. If the extensive range of symbols should not be sufficient, these can be modified on the basis of the existing symbols, or new symbols can be provided. The existing image files should be used so that the type (JPG, BMP, GIF..) and image size (e.g. 320 x 240 pixel) can be used as a template.

Note:

Before changing or editing the image files, these should be saved beforehand.

To edit the image files, a USB connection to the panel is necessary, as described above.

The symbols are in the *DESIGN* directories on the flash card.

DESIGN-1 contains the symbols of the style "magic".

DESIGN-2 contains the symbols of the style "modern".

DESIGN-3 contains the symbols of the style "classic".

DESIGN-4 contains the symbols of the style "elegant".

2.10.1 Symbols of the alarm messages

The symbols that are available for the different alarm messages are in the directory:

DESIGN\images\alarm

In the section *2.5 Operation and function of the alarm screen*, these symbols are shown with their descriptions.

The different symbols can be assigned to the respective alarm messages via the ETS configuration.

2.10.2 Symbols of the standard and additional functions:

The symbols that are available for the different command buttons of the standard and additional functions are in the directory:

DESIGN\images\commands

The following symbols are available for the command buttons:

Note:

The symbols are shown by way of example in the "magic" design style.

Symbol 1 (general on/off style 1)

Symbol 2 (general on/off style 2)

Symbol 3 (general on/off style 3)

Symbol 4 (light style 1)

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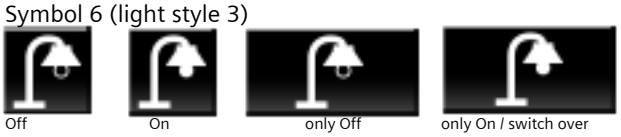
Symbol 5 (light style 2)

Off | On | only Off | only On / switch over

Symbol 6 (light style 3)



Off | On | only Off | only On / switch over

Symbol 7 (dimming style 1)

Off / darker | On / brighter | not used | not used

Symbol 8 (dimming style 2)

Off / darker | On / brighter | not used | not used

Symbol 9 (Licht dimmen Style 3)

Off / darker | On / brighter | not used | not used

not used | not used | not used | not used

not used | not used | not used | not used

not used | not used | not used | not used

Symbol 10 (shutters)

Up / Open | Down / Closed | not used | not used

Symbol 11 (sun protection)

Up / Open | Down / Close | not used | not used

Symbol 12 (adjustment +/-)

Set value / temperature (value variable)

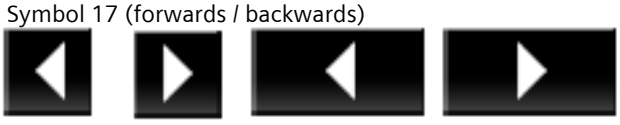
Symbol 13 (arrow style 1)

Symbol 14 (arrow style 2)

Symbol 15 (volume)

Symbol 16 (start / stop)

Symbol 17 (forwards / backwards)



Symbol 18 (begin / end)

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Symbol 19 (forwards / backwards)

Symbol 20 (presence)

Symbol 21 (temperature)

Symbol 22 (boiler)

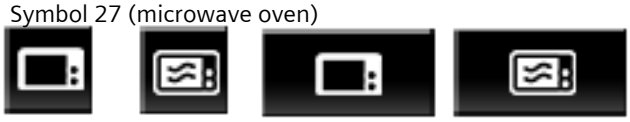
Symbol 23 (dishwasher)

Symbol 24 (coffee machine)

Symbol 25 (stove)

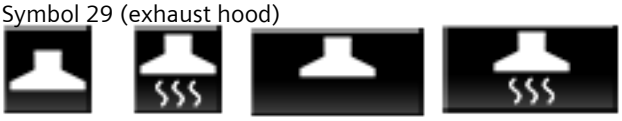
Symbol 26 (refrigerator)

Symbol 27 (microwave oven)



Symbol 28 (iron)

Symbol 29 (exhaust hood)



Symbol 30 (washing machine)

Symbol 31 (socket outlet)

Symbol 32 (TV)

Symbol 33 (computer)

Symbol 34 (monitor)

Symbol 35 (printer)

Symbol 36 (fax)

Symbol 37 (audio)

Symbol 38 (heating)

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Symbol 39 (window)

Symbol 40 (presence / comfort)

Symbol 41 (night reduction)

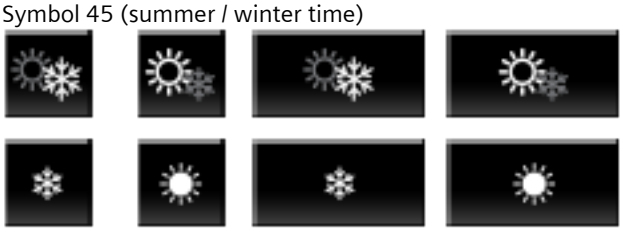
Symbol 42 (frost protection)

Symbol 43 (heat protection)

Symbol 44 (set temperature)

Set heating operating mode

Symbol 45 (summer / winter time)



Symbol 46 (marquee)

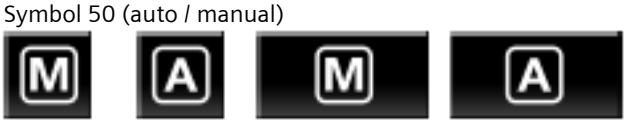
Symbol 47 (screen)

Symbol 48 (projector)

Symbol 49 (fan adjustment)

Heating fan setting

Symbol 50 (auto / manual)



Symbol 51 (scene recall)

Set value / temperature / counter vallue (fixed value), call up scene

Symbol 52 (scene recall / program)

The different symbols can be assigned to the respective functions via the ETS configuration.

The first symbol, on the left in the table, is assigned to the object value 0, and the second symbol is assigned to the object value 1. The fourth symbol, on the right in the table, is used for the toggle function.

For some functions, fixed symbols are saved, such as for:

- set value 1 byte (0... 100%)
- set temperature value (2 byte)
- set counter value
- recall/program scene
- set heating operating mode
- heating fan adjustment

Note:

The pictures for the symbols of the functions are of the file type bmp. The small symbols have a size of 32 x of 32 pixels. The large symbols (toggle function) have a size of 64 x of 32 pixels.

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2.10.3 Symbols of the feedback messages of the functions:

The symbols that are available for the different feedbacks of the standard- and additional functions are in the directory:

DESIGN\images\states

The same symbols are used for the feedback messages as already shown above for the standard and additional functions.

The different symbols can be assigned to the respective feedback messages via the ETS configuration.

For some feedback messages, fixed symbols are saved, such as for:

- Set heating operating mode

- Heating fan adjustment

Note:

The pictures for the symbols of the feedback messages are of the file type bmp. They have a size of 32 x of 32 pixels.

2.10.4 Symbol of the function buttons:

The symbols for the 4 functional buttons on the main pages are in the directory:

DESIGN\images\links

In the section *2.1 General operation* these symbols are shown in the design style "magic" along with their function.

These function buttons are firmly set with their navigation to the corresponding configuration and special pages and with the corresponding symbol and can not be changed via the ETS configuration (see section *2.1 General operation*).

Note:

The pictures for the symbols of the function buttons are of the file type bmp. They have a size of 53 x of 46 pixels.

2.10.5 Symbols of the additional buttons

The symbols for the additional buttons on the main pages are in the directory:

DESIGN\images\links

In the section *2.2 Operation and function of the main pages* these symbols are shown in the design style "magic" along with their function.

The symbols and the allocation of the function for the keys are set via the ETS configuration (see section *3.2 Communication objects and parameters of the main pages 1 to 10*).

Note:

The pictures for the symbols of the function buttons are of the file type bmp. They have a size of 53 x of 46 pixels.

2.11 Pictures of the logo / slide show

The panel can display a special picture as the logo page or several pictures in a cycle as a slide show.

The logo page is also shown as a starting page after a restart of the panel (see section *2.1 General operation*).

The pictures for the logo / slide show are in the directory:

\photos

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It is possible to save the images in various sub-folders under the folder *photos*\..., topically isolated, e.g.:

*photos**subfolder 1*

*photos**subfolder 2*

*photos**subfolder 3*

(see section *2.6 Operation and editing of the logo / slide show* and section *2.9 USB and Removable Media*).

The photos in this directory can be changed or deleted, or new photos can be added. The photos are shown in alphanumerical sequence according to file name. The first photo is the start or logo page. If there is only a single image in the folder *photos,* then this is shown permanently.

Note:

The pictures for the logo / slide show are of the file type jpg. They have a size of 320 x of 240 pixels. The maximum size per picture is 500 KB.

Altogether, 500 MB are available for the pictures.

2.12 Software update

The panel makes it possible to carry out a firmware update if this is made available by the manufacturer. The current version of the device firmware is shown on the configuration page for system settings (see section *2.4.1 Operation and function of the configuration page for system settings*). A new device firmware is made available in the form of a file: *UpgradeUP588_V111.exe*.

This executable file starts the touch display UP588 upgrade tool (see figure 29: Touch Display UP588 Upgrade Tool).

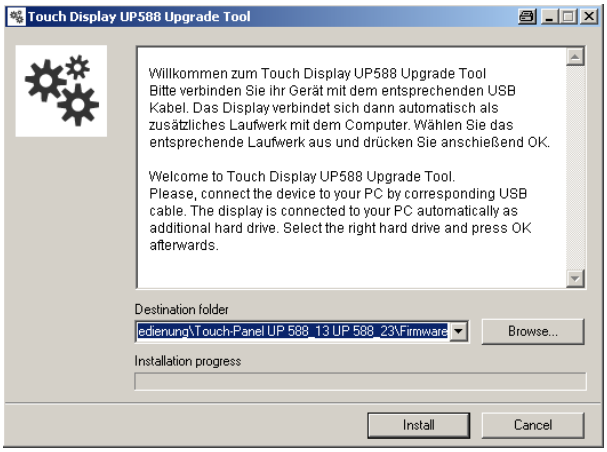

Figure 29: Touch Display UP588 Upgrade Tool).

Follow the instructions on the Welcome page. Select the relevant data medium via the Browse button. This is shown in the browser as a local data medium, e.g.: *F:*\

The Install button starts the installation. This is indicated accordingly on the progress bars.

The following data structure is also on the removable media:

F:\data

\DESIGN-1

\DESIGN-2

\DESIGN-3

\DESIGN-4

\photos

\update

This new update file, updatexxx.tpc, is stored in the directory *update* (see section *2.9 USB and data medium change*).

The USB connection is terminated. After this, the panel must be restarted (disconnection of mains supply or pushing the reset button).

The new update is now activated.

The file *update xx.tpc* was deleted from the directory *update*. The current version of the device firmware must now be verified in the system settings.

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2.13 Data protection

Some user-specific functions such as the modules schedule programs, scene programs, logic, presence simulation and trending module are configured directly on the panel or recorded on the panel.

So that the settings of these functions can be saved and, if necessary, recalled, it is possible to access the directories *Logic, Scenes, Schedules* in the subdirectory *data* via the USB connection. The files with the suffixes .bin or .list can be found in the respective subdirectories.

The schedule programs, scene programs, logic programs configured on the panel and the presence simulation are saved in these files.

In particular in the case of very extensive programs it is recommended to save the entire folder *data* after the configuration has been completed. Again, the USB connection is used for this.

In case the devices need to be exchanged, the protected data of the programs can easily be loaded into a new device. The prior state is recalled immediately.

If a trending function has been configured with the touch panel and the corresponding values recorded, all these data intervals will be recorded hourly in a xml file, *trends.xml*. The set time for consideration, the recording methods and the scaling of the Y-axis will in each case be stored in this file (see section *2.4.6 Operation and Functioning of the Configuration Page for the Trending Module)*.
If the configured trending functions on the touch panel are changed and/or deleted, then the trend recordings in the .xml file will also be resaved or deleted. Recorded data intervals, which are before the set consideration period, will also be deleted in the xml file.
The file *trends.xml* is also in the sub-directory *data\Trending*.

Note:

The trending module feature and therefore the opportunity of data removal from a xml file is available from firmware release V1.1.1.

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3. Communication objects

The communication objects listed in the following are available for the colour-touch-panel. Which of them are visible and which can be linked with group addresses is determined by setting the parameters.

Maximum number of group addresses: 254
Maximum number of allocations: 255

Note:
The number and kind of visible objects can vary. All objects are never available at the same time.

3.1 General communication objects and parameters

The next picture shows the parameter window that pops up after you choose the ETS function "Edit Parameters..." in an as yet unconfigured device (see figure 30). The parameter settings "General" are visible in particular.

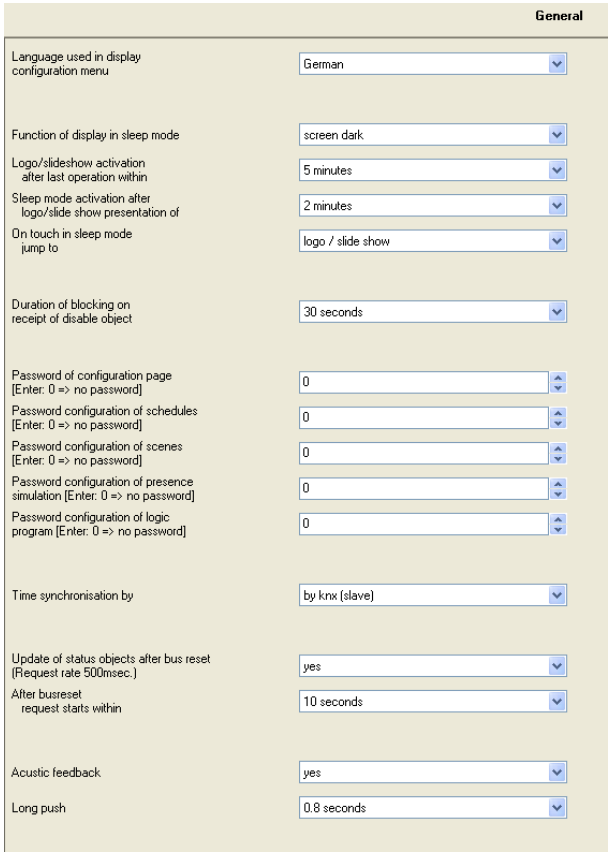

Fig. 30: "General" parameters window

Parameter	Settings
Language used in display configuration menu	**German** English French Dutch Italian Spanish Portuguese Greek Turkish Swedish Chinese Korean Russian
This parameter is used to set the language of the configuration pages on the display. The control areas, headings and descriptions on these pages are displayed in the adjusted national language. The language of the menu page, main pages and detail pages (headings and description texts of the functions) is independent of the parameter settings. It derives from the corresponding text inputs in the description fields for page description and description of the functions.	
Function of display in sleep mode	**screen dark** screen backlight value 10% screen backlight value 20% screen backlight value 30%
This parameter is used to set whether the screen is completely darkened in sleep mode or whether the logo / slide show is dimmed with a lighting value of 10%, 20% or 30% in sleep mode.	

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Parameter	Settings
Logo/slideshow activation after last operation within	10 seconds 30 seconds 1 minute 2 minutes 3 minutes 4 minutes **5 minutes** 6 minutes 10 minutes 15 minutes 20 minutes 25 minutes 30 minutes
This parameter is used to set a time. If the device is not operated within this time, then the logo / slide show is started automatically. If the panel is touched, the logo / slide show is terminated. The last page viewed will then be shown.	

Parameter	Settings
Sleep mode is activation after logo/ slide show presentation of	10 seconds 30 seconds 1 minute **2 minutes** 3 minutes 4 minutes 5 minutes 6 minutes 10 minutes 15 minutes 20 minutes 25 minutes 30 minutes no automatically rebound
This parameter is used to set the display duration of the logo / slide show. If the logo / slide show is not interrupted by an operation, the panel automatically goes to sleep mode once this time expires. The setting "no automatically rebound" means that the logo / slide show will be shown permanently. Touching the panel terminates the logo / slide show. The last page viewed will then be shown.	
On touch in sleep mode jump to	**logo / slide show** last operated page
This parameter is used to adjust whether after touching the panel in sleep mode the logo / slide show is to be started or the last page viewed is to be opened.	

Parameter	Settings
Duration of blocking on receipt of disable objrct	10 seconds 20 seconds **30 seconds** 1 minute
This parameter is used to set a time. On receiving the value "1" in object 4 (button operation), the operation of the panel is blocked for the set time. The logo / slide show is displayed during this. During this time, the display can, for example, be cleaned without triggering unwanted functions (cleaning function)	

Parameter	Settings
Password of configuration page [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the configuration page for system settings. Only numbers can be used. The value "0" means no password protection for the page.	

Parameter	Settings
Password configuration of schedule [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the configuration page for the schedule programs. Only numbers can be used. The value "0" means no password protection for the page.	

Parameter	Settings
Password configuration of scenes [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the configuration page of the scene programs. Only numbers can be used. The value "0" means no password protection for the page.	

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Parameter	Settings
Password configuration of presence simulation [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the configuration page of the presence simulation. Only numbers can be used. The value "0" means no password protection for the page.	

Parameter	Settings
Password configuration of logic program [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the configuration page for logic functions. Only numbers can be used. The value "0" means no password protection for the page.	

Parameter	Settings
Time synchronisation	by device (master) **by KNX (slave)**
This parameter is used to set whether the time signal of the internal real-time should be used to display the current date and time. In the configuration page of the system setting, 2 input fields appear to configure the date and time up-to-date. With the setting "by KNX (slave)" the date and time is synchronised with the two communication objects 0 (time setting) and 1 (date setting) via an external schedule (e.g. DCF-77 receiver) in the KNX system. Note: Due to the limited accuracy (< 5 seconds per week), it is recommend to use an external schedule in the KNX system	
Time interval for cyclical sending of time and date	1 minute 2 minutes 5 minutes 10 minutes 30 minutes 1 hour ... 24 hours
This parameter only appears if the previous parameter was set to "by device master". This parameter is used to set in which cycle the date and time are to be sent via the KNX bus. The two communication objects 0 (time setting) and 1 (date setting) are used for this.	

Parameter	Settings
Update of status objects after bus reset (Request rate 500 msec.)	No **Yes**
This parameter is used to set whether a query of all configured status objects is to take place after a bus reset. Note: Since it is possible that over 100 status objects need to be queried, this process can lead to an increased bus load. This becomes even more serious if several touch panels are used within a KNX system. Because of this, care should be taken that the beginning of the status query is offset in time!	
After busreset request starts within	**10 seconds** 20 seconds 30 seconds 1 minute 2 minutes 3 minutes 4 minutes 5 minutes
This parameter only appears if the previous parameter was set to "yes". This parameter is used to set the time offset after the query of the status objects after a bus reset starts.	

Parameter	Settings
Acoustic feedback	No **Yes**
This parameter is used to set whether the push of a button to trigger commands should be accompanied by an accoustic signal, a short beep.	

Parameter	Settings
Long push	0.5 seconds **0.8 seconds** 1 seconds 1.2 seconds 1.5 seconds
This set time serves to differentiate between a long push of a button or a short push of a button. If a button is pushed for longer than the set time, then the panel interprets this as a long button push. Note This distinction is used with the functions dimming and shutter.	

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The following communication objects are always available for the general functions of the touch panel regardless of the configuration.

Obj	Object name	Function	Type	Flag
0	Time setting	Time	3 byte	KSÜA/KLÜ
With this object, the time can be received from and synchronised with an external clock in the KNX system by the bus (by KNX slave). With this object the time can be sent cyclically on the bus (by device master).				

Obj	Object name	Function	Type	Flag
1	Date setting	Date	3 byte	KSÜA/KLÜ
With this object, the date can be received from and synchronised with an external clock in the KNX system by the bus (by KNX slave). With this object the date can be sent cyclically on the bus (by device master).				
2	Activate sleep mode	1= activate	1 bit	KS
With this object the sleep mode of the display can be switched on (value = 1) or the sleep mode switched off (value = 0) via the bus.				
3	Contact in sleep mode	Switch On	1 bit	KÜ
If the panel is in idle mode, then the "value = 1" is sent via the object if the panel is touched (e.g. basic lighting ON).				

Obj	Object name	Function	Type	Flag
4	Operation of buttons	1= blocked	1 bit	KS
If "value = 1" is received via this object, then the operation of the panel is blocked for a pre-configured time. The logo / slide show appears (cleaning function). If "value = 0" is received via this object, then the panel can be used again, the logo / slide show can be aborted by touching the display.				

3.2 Communication objects and parameters of the main pages 1 to 10

If the parameter setting "Page 1" is selected on the left side, then the following view will appear (see fig. 31). The same parameter window appears for the parameter setting for "Page 2" to "Page 10".
With this configuration, the settings for the presentation of the 10 main pages are carried out.

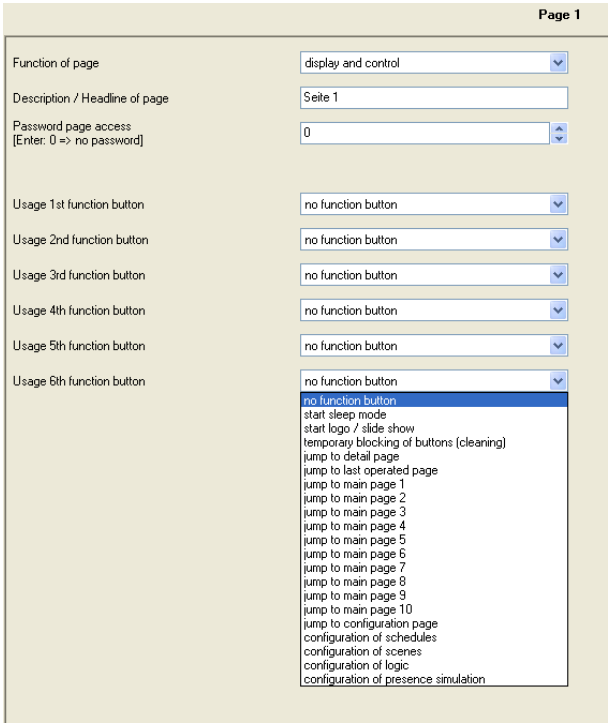

Fig. 31: Parameter window "Page 1"

Parameter	Settings
Function of page	page inactive **display and control**
This parameter is used to set whether the corresponding main page is to be displayed or whether it is inactive. If the parameter is set to "page inactive", the following settings for the function of the auxiliary buttons are not shown. If the parameter is set to "display and control", then the corresponding page is shown. The functions can be defined for this. Note: The default setting "display and control" is only set on page 1. The pages 2 to 10 are inactive by default.	

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Parameter	Settings
Description / Headline of page	**Seite 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown in the header of the respective main page on the display. At the same time it appears on the menu page for the navigation to the respective main page.	

Parameter	Settings
Password page access [Enter 0 => no password]	**0..**99999
This parameter is used to define a 5-digit password as access protection for the respective main screen. Only numbers can be used. The value "0" means no password protection for the page. If a password has been defined for this main page, then a "lock" symbol will appear on the menu page of the display.	

Parameter	Settings
Usage 1st function button	**no function button** start sleep mode start logo / slide show temporarily blocking buttons (cleaning) jump to detail page jump to last operated page jump to main page 1 jump to main page 2 jump to main page 3 jump to main page 4 jump to main page 5 jump to main page 6 jump to main page 7 jump to main page 8 jump to main page 9 jump to main page 10 jump to configuration page configuration of schedules configuration of scenes configuration of logic configuration of presence simulation
This parameter is used to select the functions of the 2nd - 6th additional buttons on this main page. (see section *2.2 Operation and function of the main pages*)	
Symbol of 1st function button	symbol 1 (start sleep mode) symbol 2 (activate logo / slide show) ... symbol 48
This parameter only appears if a function was selected in the above configuration. This parameter is used to select a corresponding symbol for the function of the 1st additional button. In the basic setting, a corresponding symbol is offered for the selected function. (These symbols are shown in the section *2.2 Operation and function of the main pages*)	

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Parameter	Settings
Usage 2nd – 6th function button	**no function button** start sleep mode ... configuration of logic configuration of presence simulation
This parameter is used to select the functions of the 2nd - 6th additional button on this main page. (see section *2.2 Operation and function of the main pages*)	
Symbol of 2nd– 6th function button	symbol 1 (start sleep mode) symbol 2 (activate logo / slide show) ... symbol 48
This parameter only appears if a function was selected in the above configuration. This parameter is used to select a corresponding symbol for the function of the 2nd – 6th additional button. In the basic setting, a corresponding symbol is offered for the selected function. (These symbols are shown in the section *2.2 Operation and function of the main pages*)	

3.3 Communication objects and parameters of the standard functions of the main pages 1 to 10

On the max. 10 main pages of the panel, a total of 50 standard functions can be realised – a maximum of 5 on every main page. The KNX standard function is selected via a parameter.
If on the left side of the parameter setting "Functions 1..5", respectively below the appropriate page 1..10, is selected, then the following view appears (see fig. 32).
The same parameter window appears for the standard functions for "Page 2" to "Page 10".

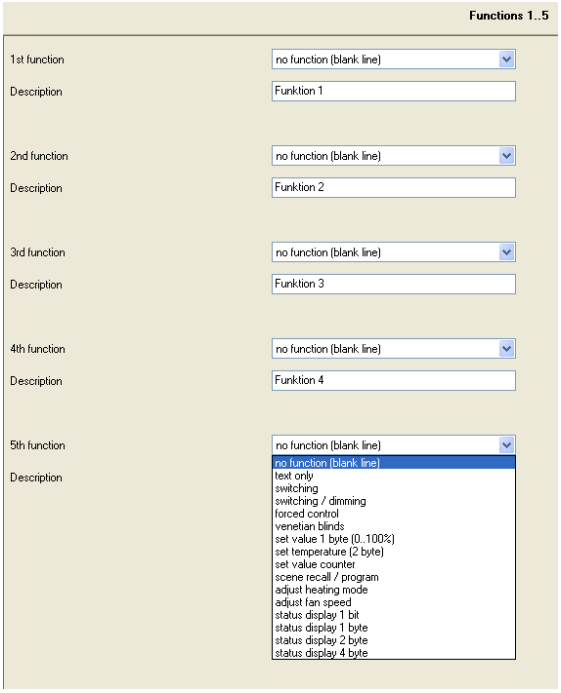

Fig. 32: Parameter window "Functions 1..5"

Parameter	Settings
1st function **2nd function** **3rd function** **4th function** **5th function**	**no function (blank line)** text only switching switching / Dimming forced control venetian blinds set value 1 byte (0...100 %) set temperature (2 byte) set value counter scene recall / program adjust heating mode adjust fan speed status display 1 bit status display 1 byte status display 2 byte status display 4 byte
This parameter is used to select the KNX standard function. With the setting "no function (blank line)", a blank line is generated in the corresponding place on the respective main page. With the setting "text only" a description text, without a function, can be produced on the respective main page in the corresponding line. (see also section *2.2 Operation and function of the main pages*)	

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Depending on the selected KNX standard function, up to 5 sub-parameters are offered in the ETS configuration window. Every standard function contains 3 communication objects.
In particular, the following sub-parameters and communication objects are present for the respective functions:

3.3.1 Standard function: no function

This function serves to structure the main page composition. It produces a blank line in the corresponding place on the main page.
During the selection of this function, the following parameters are shown.

Parameter	Settings
Description	**Funktion 1**
A description text of up to 20 characters can be entered in this input field. This description text is not shown on the display. It is intended for internal description.	

No communication objects are generated by this function.

3.3.2 Standard function: Text only

This function serves to structure the main page composition. In the corresponding line of the main page, a description text can be shown.
During the selection of this function, the following parameters are shown.

Parameter	Settings
Description	**Funktion 1**
A description text of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	

No communication objects are generated by this function.

3.3.3 Standard function: Switching

With this function, switching functions with one button or two buttons can be realised. By pushing a button, the corresponding command message (ON/OFF/Toggle) is sent immediately.

Parameter	Settings
Description	**Funktion 1**
A description text of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Type of buttons	On/Off **Off / On** On Off Toggle
This parameter is used to define the switching direction of the button and the button type. The button type "On / Off" is used to switch ON and OFF with two corresponding buttons. The button type "Off / On" is used to switch OFF and ON with two corresponding buttons. The button type "On" is used to switch ON with a broad button. The button type "Off" is used to switch OFF with a broad button. The button type "Toggle" is used to switch Toggle with a broad button.	
Status feedback	no status **status by symbol** status value (0...100%)
This parameter is used to set the kind of feedback. Depending on this setting, the data type of the communication object is shown. The status feedback is received via the group address of this object. With the parameter "no status", the object is not shown.	
Symbol on buttons	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 4 (light style 1)** ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	

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Parameter	Settings
Symbols of status feedback	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 4 (light style 1)** ... symbols 64
This parameter only appears if the parameter "status by symbol" was selected above. This parameter is used to select the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scene or schedule program or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

The following communication objects are available for this function:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Switch, On / Off	1 bit	KSÜ
This object is used to send a 1 bit switching data telegram if a button is pushed.				

Obj	Object name	Function	Type	Flag
6	Page 1, Function 1	1= blocked	1 bit	KSÜA
This object can be used to lock the operation of the function. if the "value = 1" is received via this object, then the control buttons are not shown on the display.				
7	Page 1, Function 1	Status, On / Off	1 bit	KSÜA
Corresponding to the received value of this object, the feedback symbol is displayed. This data type for the feedback message is shown if the parameter "status by symbol" was set.				
7	Page 1, function 1	Status, value	1 byte	KSÜA
The received value of the object is displayed as the feedback value. This data type for the feedback message is shown if the parameter "status value (0..100 %)" was set.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..154 are used identically accordingly.

3.3.4 Standard function: Switching/Dimming with stop message

This function is used for switching and dimming with two buttons. With a pair of buttons, a brief push of the buttons the lights can be switched on or off, while a longer push of the button can be used to dim the lights brighter or darker. It is adjustable which button is to be used for switching off and dimming darker or switching on and dimming brighter.
The time that differentiates between a short and a long push can be configured.
When dimming, on detecting a long push of the button, a dimming message "brighter" or "darker" is sent; when the button is released, a stop message is sent.

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Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Usage of buttons	on / off – brighter / darker **off / on – darker / brighter**
This parameter is used to define the switching direction of the button. The button direction "on / off – brighter / darker" is used to switch ON and OFF with a short push of the button. The left button triggers the ON command. The right button triggers the OFF command. The button direction "on / off – brighter / darker" is used to dim up and down with a long push of the button. The left button triggers the brighter command. The right button triggers the darker command. The button direction "off / on – darker / brighter" is used to switch OFF and ON with a short push of the button. The left button triggers the OFF command. The right button triggers the ON command. The button direction "off / on – darker / brighter" is used to dim down and up with a long push of the button. The left button triggers the darker command. The right button triggers the brighter command.	
Status feedback	no status / no disable no status with disable object **status by symbol** status value (0..100%)
This parameter is used to set whether a blocking object or feedback object is present. If the announcement of a feedback is configured, this can be displayed via a symbol or a value (0...100%). Depending on this setting, the data type of the communication object is shown. The status feedback is received via the group address of this object.	

Parameter	Settings
Symbols on buttons	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 7 (dimming style 1)** ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	
Symbol of status feedback	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 7 (dimming style 1)** ... symbols 64
This parameter only appears if the parameter "status by symbol" was selected in the configuration above. This parameter is used to select the suitable symbol for the feedback notification. (see section *2.10.3 Symbols of the feedback messages of the functions*)	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scene or schedule program or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

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The following communication objects are available for this function:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Switch, On / Off	1 bit	KSÜ
A 1 bit switching data telegram is sent via this object after a short push of the button.				
6	Page 1, Function 1	Dimming, Brighter/Darker	4 bits	KÜ
A 4 bit dimming data telegram is sent via this object after a long push of the button and the stop message may be sent.				
7	Page 1, Function 1	1= blocked	1 bit	KSÜA
This object only appears if " no status with disable object" was selected in the above configuration. The operation of the function can be blocked with this object. If the "value = 1" is received via this object, then the control buttons on the display are hidden.				
7	Page 1, Function 1	Status, On / Off	1 bit	KSÜA
This parameter only appears if "status by symbol" was selected in the above configuration. According to the received value of this object, the feedback symbol is displayed.				
7	Page 1, Function 1	Status, value	1 byte	KSÜA
This object only appears if " status value (0..100%)" was selected in the above configuration. The received value of the object is displayed as feedback value.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..154 are used identically accordingly.

3.3.5 Standard function: Switching with forced control

This function can be switched forced control ON and forced control OFF and the forced control can be deactivated. The appropriate command (forced control ON or forced control OFF) is sent immediately after a short push of the button. After a long push of the button, a command to deactivate the forced control is sent.
Actuators with forced control input permit an override of certain actuator outputs by central control interventions. For example, in energy saving or night mode the switching on of specific lights or loads can be compulsorily prevented. The panel makes the manual activation of the forced control or the deactivation of an automatically activated forced control possible.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Type of Buttons	On / Off **Off / On**
This parameter is used to define the switching direction of the button. In the button direction "On / Off", a short push of the left button triggers the function forced control ON. In the button direction "On / Off", a short push of the left button triggers the function forced control OFF. In the button direction "OFF / ON", a short push of the left button triggers the function forced control OFF. In the button direction "OFF / ON", a short push of the right button triggers the function forced control. A long push of the button (> 2 sec.) of the left or the right button triggers the deactivation of the forced control.	
Status feedback	no status **status by symbol** status value (0..100%)
This parameter is used to set the type of feedback. Depending on this setting, the data type of the communication object is shown. The status feedback is received via the group address of this object. With the parameter "no status", the object is hidden.	

Parameter	Settings
Symbol on buttons	**symbols 1 (gen. on / off style 1)** symbols 2 (gen. on / off style 2) ... symbols 64
This parameter is used to set the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	

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Parameter	Settings
Symbol of status feedback	**symbols 1 (gen. on / off style 1)** symbols 2 (gen. on / off style 2) ... symbols 64
This parameter only appears if in the above configuration "status by symbol" was selected. This parameter is used to set the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Forced control, On / Off	2 bits	KSÜ
With this object, a short push of the button leads to a 2 bit switching data telegram with the values "2" (forced control OFF) or "3" (forced control ON) being sent. A long push of the button (>2 sec.) sends a 2 bit switching data telegram with the value "0" (forced control deactivated).				
6	Page 1, function 1	1= blocked	1 bit	KSÜ
With this object, the operation of the function can be blocked. If the "value = 1" is received via this object, the control buttons on the display are hidden				

Obj	Object name	Function	Type	Flag
7	Page1, Function 1	Status, On / Off	1 bit	KSÜA
According to the received value of this object, the feedback symbol is displayed. This data type for the feedback message is shown if the parameter "status by symbol" was set.				
7	Page1, Function 1	Status, value	1 byte	KSÜA
The received value of the object is displayed as feedback value. This data type for the feedback message is shown if the parameter "status value (0..100 %)" was set.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..154 are used identically accordingly.

3.3.6 Standard function: Venetian blinds

This function serves the control of venetian blinds functions with two buttons.
With a pair of buttons it is possible, with a long push, to move the solar protection up or down as defined, as well as stop the movement or move the slats by one step with a short push of a button.
It can be configured with which button the sun protection is to be moved up and if necessary the slats are to be opened by one step or the sun protection is moved down and if necessary the slats are to be closed by one step.
The time that differentiates between a short and a long push can be configured.

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Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Usage of buttons	up / down – open / close **down / up – close / open**
This parameter is used to define the switching direction of the button. The button direction "up / down – open / close" serves to move the shutter up and down with a long push of the button. The left button triggers the up command. The right button triggers the down command. The button direction "up / down – open / close" serves to gradually adjust the slats with a short push of the button. The button direction "down / up – close / open" serves to move the shutter down and up with a long push of the button. The left button triggers the down command. The right button triggers the up command. The button direction "down / up – close / open" serves to gradually adjust the slats with a short push of the button.	
Status feedback	no status / no disable no status with disable object **status by symbol** status value (0..100%)
This parameter is used to set whether a blocking object or an feedback object is present. If the display of a feedback message is configured, this can be displayed via a symbol or via a value (0..100%). Depending on this setting, the data type of the communication object is shown. The status feedback is received via the group address of this object.	

Parameter	Settings
Symbol on buttons	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 10 (shutter)** ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	

Parameter	Settings
Symbol of status feedback	symbols 1 (gen. on / off style 1) symbols 2 (gen. On / off style 2) ... **symbols 10 (shutter)** ... symbols 64
This parameter only appears if "status by symbol" was selected in the above configuration. This parameter is used to select the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly, these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Slats, Open / Close	1 bit	KSÜ
A short push of the button sends a 1 bit switching data telegram via this object. If the sun blind was previously moved down, then any short push of a button sends a command "Stop / Slat Closed". If it was previously moved up, then any short push of a button sends a command "Stop / Slat Open".				

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Obj	Object name	Function	Type	Flag
6	Page 1, Function 1	Blind, Up / Down	1 bit	KSÜ
A long push of the button sends a 1 bit moving command via this object. The sun blind receives the command "Up" or "Down".				
7	Page 1, Function 1	1= blocked	1 bit	KSÜA
This object only appears if "no status with disable object" was selected in the above configuration. The operation of the function can be blocked via this object. If the "value = 1" is received via this object, the control buttons on the display are hidden				
7	Page 1, Function 1	Status, On / Off	1 bit	KSÜA
This parameter only appears if "status by symbol" was selected in the above configuration. According to the received value of this object, the feedback symbol is displayed.				
7	Page 1, Function 1	Status, value	1 byte	KSÜA
This object only appears if "status value (0..100%)" was selected in the above configuration. The received value of the object is displayed as feedback value.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..154 are used identically accordingly.

3.3.7 Standard function: Set value 1 byte (0... 100%)

This function serves to send fixed or variable 8-bit values within the range of 0...100%.
A button can be assigned its own 8-bit value, e.g. to dim the corresponding lights to a configured value with the push of a button or to set the speed of an exhaust fan.
When sending changeable 8-bit values, the value is changed incrementally upward or downward via two buttons. The increment is configured. With the left button the temperature level is lowered gradually. With the right button the value is raised gradually. Only with each new push of the button is the value to be sent raised or lowered.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Function of buttons	send constant value **value variable (+/-)**
This parameter is used to set whether a fixed value or an incrementally changeable value is to be sent.	
Step size on button press	1% 5% **10%** 20% 25% 33% 50%
This object only appears if "value variable (+/-)" was selected in the above configuration. This parameter is used to set the increment by which the value that is sent with the push of the left button is reduced or by which the value that is sent with the push of the right button is increased.	
Constant value on button press	**0...**100
This object only appears if "send constant value" was selected in the above configuration. This parameter is used to allocate a fixed 8-byte value. This is sent via a push of a button.	

Parameter	Settings
Status Feedback	no status **status value (0..100%)**
This parameter is used to set the feedback message. If the parameter "status value (0..100%)" is set, then the sent value between 0..100% is sent as feedback. If the parameter "no status" is set, then no feedback value is shown.	

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Parameter	Settings
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedule and presence simulation scenes, schedule and presence simulation
This parameter is used to set whether this function is used in the scene or schedule program or in presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Set value, Value	1 byte	KSÜA
With this object a fixed 8-bit value is sent via a button or an incrementally changed 8-bit value is sent via two buttons.				
6	Page 1, Function 1	1= blocked	1 bit	KSÜA
With this object, the operation of the function can be blocked. If the "value = 1" is received via this object, the control buttons on the display are hidden				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..153 are used identically accordingly.

3.3.8 Standard function: Set temperature (2 byte)

This function serves to send fixed or variable 2-byte floating-point values for temperatures in the range of +/- 3 steps by 0°C, -5..50°C, 0..150°C.
A button can be assigned its own 2-byte temperature value, e.g. to set the target temperature to a configured value with a push of a button. When sending changeable 2-bit temperature values via two buttons, the value in the configured temperature range is changed gradually upward or downward. The increment is configured. With the left button the temperature level is gradually lowered. With the right button the temperature level is gradually increased.
Only with each new push of the button is the temperature value that is to be sent raised or lowered.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Function of buttons	send constant value value variable +/- 3 steps value variable -5..50°C **value variable 0..150°C**
This parameter is used to set whether a fixed temperature value or an incrementally changeable value in a certain temperature range is to be sent. Note: The setting "value variable +/- 3 steps" means 3 switching steps, in the set increment, around 0°C.	
step size	**step size 1°C** step size 2°C step size 3°C step size 5°C step size 10°C step size 15°C
This object only appears if "value variable +/-3 steps", "value variable -5..50°C" or "value variable 0..150°C " was selected in the above configuration. This parameter is used to set the increment by which the temperature level to be sent is reduced with a push of the left button or increased with a push of the right button.	
Constant value on button press	-5°C -4°C .. 0°C ... **20°C** .. 150°C
This object only appears if "send constant value" was selected in the above configuration This parameter is used to allocate a fixed 2-byte floating-point value for temperatures. This temperature value is sent via a push of a button.	

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Parameter	Settings
Status feedback	no status **status value (temperature)**
This parameter is used to set the feedback message. With the parameter "status value (temperature)" the sent value between -5°C... 150°C is shown as feedback. With the parameter "no status", no feedback value is displayed.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Temperature, Value	2 byte	KSÜA
With this object, a fixed 2-byte floating point value for temperatures is sent via one button or an incrementally changed 2-byte floating point value for temperatures is sent via two buttons.				
6	Page 1, Function 1	1= blocked	1 bit	KSÜA
With this object, the operation of the function can be blocked. If the "value = 1" is received via this object, the control buttons on the display are hidden				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..153 are used identically and accordingly.

3.3.9 Standard function: Set value counter

This function serves to send fixed 1 byte, 2 byte or 4 byte counter values.
A button can be assigned its own counter value, e.g. to reset a counter to a defined basic value with a push of a button.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Function of buttons	**set constant value 1 byte** set constant value 2 byte set constant value 4 byte
This parameter is used to set the data format in which the fixed counter value is to be sent.	
Constant value on button press	**0**..255
This object only appears if "set constant value 1 byte" was selected in the above configuration. This parameter is used to assign a fixed 1-byte counter value in the range of 0..255. This counter value is sent via a push of the button.	

Parameter	Settings
Constant value x100 on press	**0**..100
This object only appears if "set constant value 2 byte" was selected in the above configuration. This parameter is used to assign a fixed 2-byte counter value in the range of 0..10000. The entered counter values are multiplied by 100 automatically. This counter value is sent via a push of the button. Note: Thus the complete data range of 0..65535 can not be set for 2-byte counter values.	
Constant value x1000 on press	**0**..100
This object only appears if "set constant value 4 byte" was selected in the above configuration. This parameter is used to assign a fixed 4-byte counter value in the range of 0..100000. The entered counter values are multiplied by 1000 automatically. This counter value is sent via a push of the button. Note: Thus the complete data range of 0..4294967295 can not be set for 4-byte counter values.	

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Parameter	Settings
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Set value, Value	1 byte	KSÜA
This object only appears if "set constant value 1 byte" was selected in the above configuration. With this object a fixed 1-byte counter value is sent via a button.				
5	Page 1, Function 1	Set value, Value	2 byte	KSÜA
This object only appears if "set constant value 2 byte" was selected in the above configuration. With this object a fixed 2-byte counter value is sent via a button.				
5	Page 1, Function 1	Set value, Value	4 byte	KSÜA
This object only appears if "set constant value 4 byte" was selected in the above configuration. With this object a fixed 4-byte counter value is sent via a button.				
6	Page 1, Function 1	1= blocked	1 bit	KSÜA
With this object, the operation of the function can be blocked. If the "value = 1" is received via this object, the control buttons on the display are hidden				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..153 are used identically accordingly.

3.3.10 Standard function: Scene recall / program

With the functions Scenes 1-bit, recall/program and Scenes 8-bits, recall/program it is possible for the user to reprogram a device to 1-bit scene control, scene components for 8-bit scene control or actuators with integrated 8-bit scene control, i.e. assign other brightness values or switching states to the individual groups of the respective scene without changing the project planning with the ETS.

For Scenes 1-bit, recall/program, a scene can be called up with a short push of the button and saved with a long push of the button, with a communication object serving to program a scene and a second to recall a program scene.
Calling up and saving the scenes is handled by a 1-bit switching command, in which a "0"- data telegram calls up the scene 1 and a "1"- data telegram program the scene 2.

For Scenes 8-bit, recall/program, the scene with the configured number (1..64) can be called up with a short push of the button and programed with a long push of the button.
During this, a single communication object is used to transfer both the command for saving a scene as well as the command to call up a saved scene and the number of the desired scene. The bits 0 - 5 of the 8-bit scene data telegrams determine the scene number (1 - 64) and the highest-value bit 7, whether the scene is to be called up (bit = 0) or programed (bit = 1). Bit 6 is not used.

Before saving a scene, the affected actuators with the buttons / sensors provided for the purpose have to be set to the desired brightness values or switching states. The receipt of a data telegram for saving causes the addressed scene components or actuators with integrated scene control to be requested to query the currently set brightness values and switching status of the actuators and program them in the corresponding scene.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	

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Parameter	Settings
Scene function	scenes 1-bit, recall / program **scenes 8-bit, recall only** scenes 8-bit, recall / program scenes internally recall
This parameter is used to set whether a 1 bit or an 8 bit scene is to be only recall or recall and programed. The scene number, the communication objects, the scene philosophy are thus defined, see the introductory section *3.3.10 Standard function: Recall/program scene*.	

Parameter	Settings
Object value for 1 Bit scene (0: Scene 1, 1: Scene 2)	**0** 1
This object only appears if "scenes 1-bit, recall / program" was selected in the above configuration. This parameter is used to recall or program scene 1 with the object value = 0. With object value = 1, scene 2 is recall or programed.	
Scene number (Scene 1..64)	**1..**64
This object only appears if "Scenes 8-bit, recall only", "Scenes 8-bit, recall / program" and "scenes internally recall" was selected in the above configuration. This parameter is used to define the scene number in the range 1-64, which is recall by a short push of the button or programed with a long push of the button.	
Symbol on buttons	symbols 1 (gen. on /off style 1) symbols 2 (gen. on / off style 2) ... **symbols 51 (scene recall)** symbols 52 (scene recall / program) ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.12.2 Symbols of the standard and additional functions*)	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Scene recall, Scene 1/2	1 bit	KSÜ
This object only appears if "scenes 1-bit, recall / program" was selected in the above configuration. With this object a 1-bit command is sent to call up the scene 1/2 with a short push of the button.				

Obj	Object name	Function	Type	Flag
6	Page 1, Function 1	Scene program, Scene 1/2	1 bit	KSÜ
This object only appears if "scenes 1-bit, recall / program" was selected in the above configuration. With this object a 1-bit command is sent to program the scene 1/2 with a long push of the button.				
5	Page 1, Function 1	Scene recall, Scene 1..64	1 byte	KSÜ
This object only appears if "scenes 8-bit, recall only" was selected in the above configuration. With this object an 8-bit command is sent to call up the scene 1..64 with a push of the button.				
5	Page 1, Function 1	Scene recall / program	1 byte	KSÜ
This object only appears if "scenes 8-bit, recall / program" was selected in the above configuration. With this object, if a button is pushed for a short time, an 8-bit command to call up the scene 1..64 is sent and if a button is pushed for a long time, then an 8-bit command to program the scene 1..64 is sent.				

Note:
If "scenes internally recall" has been set in the above configuration, then no communication object is displayed.
The internal scenes are set directly in the scene program on the panel and programed (see section 2.4.2 *Operation and function of the configuration page for scene programs)*.

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..153 are used identically accordingly.

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3.3.11 Standard function: Set heating operating mode

With this function the operation mode for the heating system is set. Every operation mode sets its own target value for heating.
It is possible to transmit the operation modes via three 1-bit objects, one for comfort mode, one for standby mode and one for night mode.
Alternatively, the operation mode can be transmitted via a 1-byte object. In addition, the operation mode frost / heat protection can be set. Operation with or without automatic mode can be configured.
The selected operation mode is shown with a feedback symbol (see section *2.10.3 Symbols of the feedback messages of the functions*).

Note:
With the room temperature thermostats UP 237, UP 252, UP 253, UP 254 (based on BCU1/2), central setting of the mode with the touch panel via 1-bit objects is not possible!

Parameter	**Settings**
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Adjustment of operation mode	**1 bit objects: comfort, standby, night** 1 byte object with auto mode 1 byte object without auto mode
This parameter is used to set whether the selection of the operation mode is to be made via 1 bit objects for the settings comfort, standby and night mode or via a 1 byte object for the settings comfort, standby, night mode or frost / heat protection. In addition, the setting can be set with or without automatic mode.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs
This object only appears if "1 byte object with/without auto mode" was selected in the above configuration. This parameter is used to set whether this function is used in the scenes and/or schedule program. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	1= comfort On	1 bit	KSÜ
This object only appears if "1 bit objects: Comfort, standby, night" was selected in the above configuration. With the comfort mode setting, the value "1" is sent via this 1-bit object. Comfort mode is switched on.				
6	Page 1, Function 1	1= standby On	1 bit	KSÜ
This object only appears if "1 bit objects: Comfort, standby, night" was selected in the above configuration. For the night mode setting, the value "1" is sent via this 1-bit object. Standby mode is switched on.				
7	Page 1, Function 1	1= night On	1 bit	KSÜ
This object only appears if "1 bit objects: Comfort, standby, night" was selected in the above configuration. For the night mode setting, the value "1" is sent via this 1-bit object. Night mode is switched on.				
5	Page 1, Function 1	Heating mode, Value	1 byte	KSÜA
This object only appears if "1 byte object with/without auto mode" was selected in the above configuration. Depending on the selected mode, the following values are sent via the 1 byte object: Automatic mode: Value = "0" Comfort mode: Value = "1" Standby mode: Value = "2" Night mode: Value = "3" Protection mode: Value = "4" Note: With the setting "1 byte object without auto mode", the value "0" is not sent in the 1 byte object.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..154 for the setting "1 bit objects: Comfort, Standby, Night" or 8... 152 for the setting "1 byte object with/without auto mode" used identically accordingly.

3.3.12 Standard function: Heating fan setting

With this function the fan speed for the heating system is set. Depending on the type of fan, a selection of up to 5 speed levels are available.
These stages are transmitted as a percentage value via a 1-byte object. In addition, automatic mode can be set. This operating mode can be activated via an additional 1-bit object.
The selected fan stage is displayed via a feedback symbol (see section *2.10.3 Symbols of the feedback messages of the functions*).

Parameter	**Settings**
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Fan type	1-speed fan (0%, 100%) 2-speed fan (0%, 50%, 100%) **3-speed fan (0%, 33%, ...100%)** 4-speed fan (0%, 25%,... 100%) 5-speed fan (0%, 20%,... 100%)
This parameter is used to select the number of speeds depending on the type of fan. A certain stage is determined by the manually specified percentage value.	
Auto mode possible	**No** Yes
This parameter is used to generate an additional 1-bit object. The fan is switched from manual operation to automatic mode via this object. The fan speeds are provided automatically by a controller.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Fan speed, Value	1 byte	KSÜ
This object sends the current fan speed in manual mode. The following applies for a 1-speed fan: Exhaust off: Value = "0%" Exhaust on: Value = "100%" The following applies for a 2-speed fan: Exhaust off: Value = "0%" Fan speed 1: Value = "50%" Fan speed 2: Value = "100%" The following applies for a 3-speed fan: Exhaust off: Value = "0%" Fan speed 1: Value = "33.3%" Fan speed 2: Value = "66.6%" Fan speed 3: Value = "100%" The following applies for a 4-speed fan: Exhaust off: Value = "0%" Fan speed 1: Value = "25%" Fan speed 2: Value = "50%" Fan speed 3: Value = "75%" Fan speed 4: Value = "100%" The following applies for a 5-speed fan: Exhaust off: Value = "0%" Fan speed 1: Value = "20%" Fan speed 2: Value = "40%" Fan speed 3: Value = "60%" Fan speed 4: Value = "80%" Fan speed 5: Value = "100%"				

Obj	Object name	Function	Type	Flag
6	Page1, Function 1	1= Fan automatic On	1 bit	KSÜ
This object only appears if "Auto mode possible" with "yes" was set in the above configuration. Via this 1-bit object, the value "1" activates the automatic mode and the value "0" deactivates it (manual mode).				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..153 in case of automatic mode or 8... 152 without automatic mode are used identically accordingly.

3.3.13 Standard function: Status display 1-bit

With this function, status messages of 1-bit objects can be displayed. It is possible to show these switching states as value "0" or "1" or with application-specific symbols (see section *2.10.3 Symbols of the feedback messages of the functions*). This makes it possible, for example, to visualise the state of window and doors. All kinds of digital states can be shown clearly by using the symbol library.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	
Status feedback by	value (0/1) **symbol**
This parameter is used to set the feedback message. With the parameter "value (0/1)", the value of the 1-bit object is displayed directly. With the parameter "symbol", the respective value of the object is reflected by two different symbols.	

Parameter	Settings
Symbol	**symbols 1 (gen. on / off style 1)** symbols 2 (gen. on / off style 2) ... symbols 64
This parameter only appears if in the above configuration "Status feedback by" was set to "Symbol". This parameter is used to select the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Status, On / Off	1 bit	KSÜA
A value of "0" or "1" is received by this 1-bit object. This status is shown directly or via a symbol.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..152 are used identically accordingly.

3.3.14 Standard function: Status display 1-byte

With this function, status messages of 1-byte objects can be displayed. These feedback messages can be displayed as whole numbers in the range 0...255 or as a percentage value in the range 0..100%. This makes it possible, for example, to visualise the brightness value of a dimmer or the number of revolutions of an exhaust fan.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	

Parameter	Settings
Status feedback by	**percentage value (0..100%)** value absolute (0..255)
This parameter is used to set the feedback message. With the parameter "percentage value (0..100%)", the value of the 1-byte object is displayed as a proportional value from 0 to 100%. With the parameter "value absolute (0..255)", the value of the 1-byte object is displayed as a whole number from 0 to 255.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Status, Value	1 byte	KSÜA
A value between "0..100%" or between "0..255" is received as a status by this 1-byte object.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..152 are used identically accordingly.

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3.3.15 Standard function: Status display 2-byte

With this function 2 byte floating-point numbers can be displayed as status messages. The number the decimal places can be configured for the presentation. The unit for this value can be selected. This is shown after the numerical value. This makes it possible, for example, to visualise outside temperature in °C, wind velocity in m/s or outside brightness in lux.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	

Parameter	Settings
Unit	no unit (float value) no unit (counter value) °C °F hPa Pa kW W/m² m/s km/h lx % Humidity s A V
This parameter is used to set the corresponding unit, that is shown behind the numerical value in the status message. If "no unit (float value)" is selected, then a pure floating point value, without unit, is shown. If "no unit (counter value)" is selected, then a pure counter value, without unit, is shown. The following units or Datapoint types are available for selection: Temperature in °C, ID: 9.001 Temperature in °F, (converted from °C) Pressure in hPa, (converted from Pa) Pressure in Pa, ID: 9.006 Power in kW, ID: 9.024 Electromagn. radiation in W/m ², ID: 9.022 Speed in m/s, ID: 9.005 Speed in km/h, (converted from m/s) Brightness in lx, ID: 9.004 Humidity in %, ID: 9.007 Time in s, ID: 9.010 Current in A, (converted from mA) Voltage in V, (converted from mV)	
Decimal places	0 **1** 2
This parameter is used to set the number of decimal places to be shown after the comma.	

With this function the following communication objects are available:

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Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Status, Value	2 byte	KSÜA
The floating-point value is received as status by this 2-byte object.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..152 are used identically accordingly.

3.3.16 Standard function: Status display 4 byte

With this function 4 byte floating-point numbers can be displayed as status messages. The number of decimal places can be configured for the presentation. The unit for this value can be selected. This is shown after the numerical value. This makes it possible, for example, to visualise the electrical energy or electrical output of an energy counter.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the main page.	

Parameter	Settings
Unit	no unit (float value) no unit (counter value) °C °F hPa Pa kWh (input value in J) kWh (input value in Wh) kW m³ Hz
This parameter is used to set the corresponding unit that is shown behind the numerical value in the status message. If "no unit (float value)" is selected, then a pure floating point value, without unit, is shown. If "no unit (counter value)" is selected, then a pure counter value, without unit, is shown. The following units or Datapoint types are available for selection: Temperature in °C, ID: 14.068 Temperature in °F, (converted from °C) Pressure in hPa, (converted from Pa) Pressure in Pa, ID: 14.058 Energy in kWh, (converted from J) Energy in kWh, (converted from Wh) Power in kW, (converted from W) Volume in m³ ID: 14.076 Frequency in Hz ID: 14.033	
Decimal places	0 **1** 2
This parameter is used to set the number of decimal places to be shown after the comma.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
5	Page 1, Function 1	Status, Value	4 byte	KSÜA
The floating-point value is received as status by this 4-byte object.				

If all functions 1..5 on all 10 main pages are used, then the communication objects 8..152 are used identically accordingly.

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3.4 Communication objects and parameters of the additional functions 1 to 60

In addition to the previously described 50 standard functions, 60 additional functions can be defined. These additional functions can be shown on a detail page that is subordinate to the main page (see section *2.3 Operation and function of the detail pages*).
The max. 60 additional functions can be distributed on up to 10 detail pages. For example, all 60 additional functions can be arranged on a detail page. Ideally, an allocation of 6 additional functions to one detail page is provided.
In contrast to the standard functions, only one communication object is available for each additional function. Additional functions therefore have a limited functionality as compared to standard functions.
The additional function is selected via a parameter.
If the parameter setting "Additional functions 1..6" or "Additional functions 7..12" to "Additional functions 50..60)" is selected on the left side, the following view will appear accordingly (see figure 33).

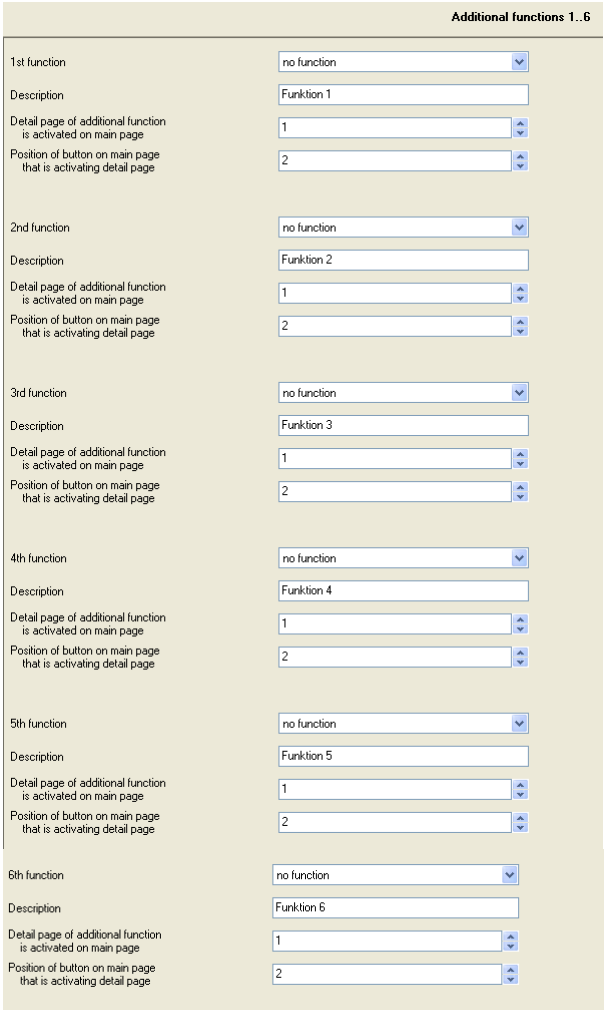

Fig. 33: Parameter window "Additional functions 1...6"

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Parameter	Settings
1st function **2nd function** **3rd function** **4th function** **5th function** **6th function**	**no function** text switching forced control (2 bit) set value 1 byte set temperatures(2 byte) set value counter scene recall / program adjust heating mode adjust fan speed status display 1 bit status display 1 byte status display 2 byte
This parameter is used to select the additional function. The setting "no function" does not generate a blank line on the detail page. With the setting "text", a description text, without function, can be generated on the detail page in the appropriate line. (see section *2.3 Operation and function of the detail pages*)	

Depending on the selected additional function, up to 5 subparameters are offered in each ETS parameter window respectively. Every additional function contains a communication object.
In detail, the following subparameters and communication objects are present for the respective functions:

3.4.1 Additionl function: no function

This function makes it possible to set up a detail page without additional functions. This option ensures that no function is already used in the standard setting.
When selecting this function, the following parameters are shown.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective screen of up to 20 characters can be entered in this input field. This description text is not shown on the display. It is used for internal description within the ETS.	

Parameter	Settings
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

No communication objects are generated by this function.

3.4.2 Additional function: Text only

This function serves to structure the detail page composition. On the detail page, a description text can be shown.
When selecting this function, the following parameters are shown.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description text is shown on the display. The description text appears on the display in the place after the last configured KNX function. If "text" was set for the previous functions on the detail page, then the description appears at the top of the page.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

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Parameter	Settings
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

No communication objects are generated by this function.

3.4.3 Additional function: Switching

With this function, switching functions with one button or two buttons can be realised. By pushing a button, the corresponding command message (ON/OFF/Toggle) is sent immediately.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Button type	On/Off **Off / On** On Off Toggle
This parameter is used to define the switching direction of the button and the button type. The button type "On / Off" is used to switch ON and OFF with two corresponding buttons. The button type "Off / On" is used to switch OFF and ON with two corresponding buttons. The button type "On" is used to switch ON with a broad button. The button type "Off" is used to switch OFF with a broad button. The button type "Toggle" is used to switch Toggle with a broad button.	

Parameter	Settings
Status feedback	no status **status by symbol**
This parameter is used to set the feedback message. With the parameter "status by symbol", the value of the switching object is evaluated and this condition is displayed via the selected symbol. With the parameter "no status", no feedback value is displayed.	
Symbol on buttons	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 4 (light style 1)** ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	
Symbols of status feedback	symbols 1 (general on / off style 1) symbols 2 (general on / off style 2) ... **symbols 4 (light style 1)** ... symbols 64
This parameter only appears if "status by symbol" was selected in the above configuration. This parameter is used to select the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	

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Parameter	Settings
Function enabled for	**no usage in programs** scenes schedules logic programs and scenes scenes and schedules logic programs and scenes logic programs and schedules logic, schedules and scenes presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation logic and presence simulation scenes, logic and presence simulation schedules, logic and presence simulation scenes, schedules, logic, presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation and/or in the logic function. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
Wih this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Switch, On / Off	1 bit	KSÜA
With this object a 1-bit switching data telegram is sent when a button is pushed.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used accordingly identically.

3.4.4 Additional function: Switching with forced control

This function can switch forced control ON and forced control OFF as well as deactivate the forced control. The appropriate command (forced control ON or forced control OFF) is sent immediately after a short push of the buttons. After a long push of the button, a command to deactivate the forced control is sent.
Actuators with forced control input permit an over-regulation of certain actuator outputs by central control interventions. For example, in energy saving or night mode the switching on of specific lights or loads can be compulsorily prevented. The panel makes manual activation of the forced control or the deactivation of an automatically activated forced control possible.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	

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Parameter	Settings
Type of buttons	On / Off **Off / On**
This parameter is used to define the switching direction of the button. In the button direction "On / Off", a short push of the left button triggers the function forced control ON. In the button direction "On / Off", a short push of the left button triggers the function forced control OFF. In the button direction "OFF / ON", a short push of the left button triggers the function forced control OFF. In the button direction "OFF / ON", a short push of the right button triggers the function forced control. A long push of the button (> 2 sec.) of the left or the right button triggers the deactivation of the forced control.	
Symbols on buttons	**symbols 1 (gen. on / off style 1)** symbols 2 (gen. on / off style 2) ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	
Function enabled for	**no usage in programs** scene programs schedules programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	

Parameter	Settings
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
Wih this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Forced control, On / Off	2 bits	KSÜA
With this object, a short push of the button sends a 2-bit switching data telegram with the values "2" (forced control OFF) or "3" (forced control ON) . With a long push of the button (>2 sec.), a 2-bit switching data telegram with the value "0" (forced control deactivated) is sent.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used accordingly identically.

3.4.5 Additional function: Set value 1 byte

This function serves to send fixed or variable 8-bit values in the range 0...100%.
A button can be assigned its own 8-bit value for example to dim the associated lights to a configured value or to set the speed of an exhaust fan with a push of a button.
When sending changeable 8-bits values via two buttons, the value is changed upward or downward incrementally. The increment is configured. With the left button, the temperature level is lowered incrementally. With the right button, the value is increased incrementally. Only with each new push of the button, the value to be sent is increased or lowered.

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Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Function of buttons	send constant value **value variable (+/-)**
This parameter is used to set whether a fixed value or an incrementally changeable value is to be sent.	
Step size on button press	1% 5% **10%** 20% 25% 33% 50%
This object only appears if "value variable (+/-)" was selected in the above configuration. This parameter is used to set the increment by which the value to be sent is reduced with a push of the left button or by which the value to be sent is increased with a push of the right button.	
Constant value on button press	**0...**100
This object only appears if in the above configuration "send constant value" was selected. This parameter is used to assign a fixed 8-byte value. This is sent via a push of the button.	
Status feedback	no status **status value (0...100%)**
This parameter is used to set the feedback message. With the parameter "status value (0..100%)", the sent value between 0..100% is shown as feedback. With the parameter "no status", no feedback value is shown.	

Parameter	Settings
Function enabled for	**no usage in programs** scene programs schedules programs scene and schedule programs presence simulation scenes and presence simulation schedules and presence simulation scenes, schedules and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional Function 1	Set value, Value	1 byte	KSÜA
With this object, a fixed 8-bit value is sent via a button or an incrementally changed 8-bit value is sent via two buttons.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

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3.4.6 Additional function: Set temperature (2 byte)

This function serves to send fixed or variable 2-byte floating-point values for temperatures in the range of +/- 3 steps by 0°C, -5..50°C, 0..150°C.
A button can be assigned its own 2-byte temperature value, e.g. to set the target temperature to a configured value with a push of a button. When sending changeable 2-bit values via two buttons, the value is changed upward or downward incrementally. The increment is configured. With the left button, the temperature level is lowered incrementally. With the right button, the temperature level is increased incrementally. Only with each new push of the button is the temperature level to be sent increased or lowered.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Function of buttons	**send constant value** value variable +/-3 steps value variable -5..50°C value variable 0..150°C
This parameter is used to set whether a fixed temperature value or an incrementally changeable temperature value in a set temperature range is to be sent. Note: The setting "value variable +/- 3 steps" means 3 switching steps, in the set increment, around 0°C.	
step size	**step 1°C** step 2°C step 3°C step 5°C step 10°C step 15°C
This object only appears if "value variable +/- 3 steps", "value variable -5..50°C" or "value variable 0..150°C" was selected in the above configuration. This parameter is used to set the increment by which the temperature value to be sent is reduced with a push of the left button or by which the temperature value to be sent is increased with a push of the right button.	

Parameter	Settings
Constant value on button press	-5°C -4°C .. 0°C ... **20°C** .. 150°C
This object only appears if "send constant value" was selected in the above configuration. This parameter is used to assign a fixed 2-byte floating point value for temperatures. This temperature value is sent via a push of the button.	
Status feedback	no status **status value (temperature)**
This parameter is used to set the feedback message. With the parameter "status value (temperature)", the sent value between -5°C... 150°C is shown as feedback. With the parameter "no status", no feedback value is displayed.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedule programs and presence simulation scenes, schedule programs and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main screen from which the subordinate detail screen is opened is selected. The auxiliary function is shown on this detail screen.	

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Parameter	Settings
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main screen from which the subordinate detail screen is opened is selected. The additional function is shown on this detail screen.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Temperature, Value	2 byte	KSÜA
With this object, a fixed 2-byte floating-point value for temperatures is sent via a button or an incrementally changed 2-byte floating-point value for temperatures is sent via two buttons.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.7 Additional function: Set value counter

This function serves to send fixed 1 byte or 2 byte counter values.
A button can be assigned its own counter value, e.g. to reset a counter to a defined basic value with a push of a button.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Function of buttons	**send constant value 1 byte** send constant value 2 byte
This parameter is used to set in which data format the fixed counter value is to be sent.	

Parameter	Settings
Constant value on button press	**0**..255
This object only appears if "send constant value 1 byte" was selected in the above configuration. This parameter is used to assign a fixed 1-byte counter value in the range 0..255. This counter value is sent via a push of the button.	
Constant value x100 on button press	**0**..100
This object only appears if "send constant value 2 byte" was selected in the above configuration. This parameter is used to assign a fixed 2-byte counter value in the range 0..10000. The entered counter values are multiplied by 100 automatically. This counter value is sent via a push of the button. Note: Thus the complete data range 0..65535 for 2-byte counter values can not be set.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs presence simulation scenes and presence simulation schedule programs and presence simulation scenes, schedule programs and presence simulation
This parameter is used to set whether this function is used in the scenes and/or schedule program and/or in the presence simulation. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

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Parameter	Settings
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Set value, Value	1 byte	KSÜA
This object only appears if "send constant value 1 byte" was selected in the above configuration. With this object a fixed 1-byte counter value is sent via a button.				
155	Additional function 1	Set value, Value	2 byte	KSÜA
This object only appears if "send constant value 2 byte" was selected in the above configuration. With this object a fixed 2-byte counter value is sent via a button.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.8 Additional function: Scene recall / program

With the functions Scenes 8-bit, recall/program it is possible for the user to reprogram scene components for 8-bit scene control or actuators with integrated 8-bit scene control, i.e. assign other brightness values or switching states to the individual groups of the respective scene without changing the project planning with the ETS.

With Scenes 8-bit, recall/program, the scene with the configured number (1... 64) can be called up with a short push of the button and saved with a long push of the button.
Both the command to program a scene and the command to call up a saved scene and the number of the desired scene are transferred using a single communication object. The bits 0 - 5 of the 8-bit scene data telegrams determine the scene number (1 - 64) and the highest-value bit 7, whether the scene is to be called up (bit = 0) or programed (bit = 1). Bit 6 is not used.
Before saving a scene, the affected actuators with the buttons / sensors provided for the purpose have to be set to the desired brightness values or switching states. The reception of a data telegram to save results in the addressed scene controllers or actuators with integrated scene control being requested to query the currently set brightness values and switching states from the actuators and to program them in the corresponding scene.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Scene function	**scenes 8-bit, recall only** scenes 8-bit, recall / program scenes internally recall
This parameter is used to set whether an 8-bit scene is to be only recall or recall and programed. The scene number, the communication objects, the scene philosophy are thus defined, see the introductory section *3.4.8 Additional function: Scene recall/program*.	
Scene number (Scene 1..64)	**1..**64
This parameter is used to define the scene number in the range 1-64, which is recall with a short push of the button programed with a long push of the button.	
Symbol on buttons	symbols 1 (gen. on / off style 1) symbols 2 (gen. on / off style 2) ... **symbols 51 (scene recall)** symbols 52 (scene recall / program) ... symbols 64
This parameter is used to select the suitable symbol for the control buttons. (see section *2.10.2 Symbols of the standard and additional functions*)	

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Parameter	Settings
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Scene recall, Scene 1..64	1 byte	KSÜ
This object only appears if "scenes 8-bit, recall only" was selected in the above configuration. With this object an 8-bit command is sent to call up the scene 1..64 with a push of the button.				
155	Additional function 1	Scene recall / program	1 byte	KSÜ
This object only appears if "scenes 8-bits recall / program" was selected in the above configuration. With this object, if a button is pushed for a short time, an 8-bit command to call up the scene 1..64 is sent and if a button is pushed for a long time, then an 8-bit command to program the scene 1..64 is sent.				

Note:
If "scenes internally recall" was selected in the above configuration, then no communication object is displayed.
The internal scenes are set directly in the scene program on the panel and programed (see section *2.4.2 Operation and function of the configuration page for scene programs*).

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.9 Additional function: Set heating operating mode

With this function, the operation mode for the heating system is set. Every operating mode establishes a separate target value for heating.
It is possible to transmit the operating modes via a 1-byte object. The operation modes comfort mode, standby mode, night mode and frost / heat protection can be set. The operation can be configured with or without automatic mode.
The selected operation mode is displayed via a feedback symbol (see section *2.10.3 Symbols of the feedback messages of the functions*).

Note:
With the room temperature thermostats UP 237, UP 252, UP 253, UP 254 (based on BCU1/2), central setting of the mode with the touch panel via 1-bit objects is not possible!

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Adjustment of operation mode	**1 byte object with auto mode** 1 byte object without auto mode
This parameter is used to set whether the selection of the operation modes comfort mode, standby mode, night mode or frost / heat protection are to be set with or without automatic mode.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs
This parameter is used to set whether this function is used in the scenes and/or schedule program. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

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Parameter	Settings
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Heating mode, Value	1 byte	KSÜA
This object only appears if "1 byte object with/without auto mode" was selected in the above configuration. Depending on the selected mode, the following values are sent via the 1-byte object:				
Automatic mode: Value = "0" Comfort mode: Value = "1" Standby mode: Value = "2" Night mode: Value = "3" Protection mode: Value = "4" Note: With the setting "1 byte object without auto mode", the value "0" is not sent in the 1 byte object.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.10 Additional function: Heating fan setting

With this function, the operation mode for the heating system is set. Depending on the fan type, a selection of up to 5 fan speed levels is available.
These stages are transmitted incrementally via a 1-byte object.
The selected fan stage is displayed via a feedback symbol (see section *2.10.3 Symbols of the feedback messages of the functions*)

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Fan type	1-speed fan (0%, 100%) 2-speed fan (0%, 50%,... 100%) **3-speed fan (0%, 33%,... 100%)** 5-speed fan (0%, 25%,... 100%) 5-speed fan (0%, 20%,... 100%)
Depending on the fan type, the number of speeds is selected via this parameter. A certain stage is preset with the manual specification of a percentage value.	
Function enabled for	**no usage in programs** scene programs schedule programs scene and schedule programs
This parameter is used to set whether this function is used in the scene and/or schedule program. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

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Obj	Object name	Function	Type	Flag
155	Additional function 1	Fan speed, Value	1 byte	KSÜ

This object sends the current fan speed.
The following applies for a 1-speed fan:
Exhaust off: Value = "0%"
Exhaust on: Value = "100%"
The following applies for a 2-speed fan:
Exhaust off: Value = "0%"
Fan speed 1: Value = "50%"
Fan speed 2: Value = "100%"
The following applies for a 3-speed fan:
Exhaust off: Value = "0%"
Fan speed 1: Value = "33.3%"
Fan speed 2: Value = "66.6%"
Fan speed 3: Value = "100%"
The following applies for a 4-speed fan:
Exhaust off: Value = "0%"
Fan speed 1: Value = "25%"
Fan speed 2: Value = "50%"
Fan speed 3: Value = "75%"
Fan speed 4: Value = "100%"
The following applies for a 5-speed fan:
Exhaust off: Value = "0%"
Fan speed 1: Value = "20%"
Fan speed 2: Value = "40%"
Fan speed 3: Value = "60%"
Fan speed 4: Value = "80%"
Fan speed 5: Value = "100%"

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.11 Additional function: Status display 1-bit

With this function, status messages of 1-bit objects can be displayed. It is possible to show these switching states as value "0" or "1" or with application-specific symbols (see section *2.10.3 Symbols of the feedback messages of the functions*). This makes it possible, for example, to visualise the state of window and doors. All kinds of digital states can be shown clearly by using the symbol library.
In addition, it is possible to show these status messages as alarm messages. The 1-bit objects are displayed on the chronological alarm list with current time stamp. See section *2.5 Operation and function of the alarm page*.

An alarm symbol cannot be selected for these alarms. An alarm sound can also not be activated. These alarm messages are always displayed with the symbol 1 (General alarm).

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Status feedback by	value (0/1) **symbol**
This parameter is used to set the feedback message. With the parameter "value (0/1)", the value of the 1-bit object is displayed directly. With the parameter "symbol", the respective value of the objects is reflected by two different symbols.	
Symbol	**symbols 1 (gen. on / off style 1)** symbols 2 (gen. on / off style 2) ... symbols 64
This parameter only appears if "Status feedback by" was set to "symbol" in the above configuration. This parameter is used to select the suitable symbol for the feedback message. (see section *2.10.3 Symbols of the feedback messages of the functions*)	

Parameter	Settings
Function enabled for	**no usage in programs** usage as additional alarm usage in logic programs usage as alarm and in logic
This parameter is used to set whether this function is used as alarm and/or logic function. Accordingly these functions in the individual programs are displayed by name and can be functionally integrated there.	
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

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Parameter	Settings
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Status, On / Off	1 bit	KSÜA
A value of "0" or "1" is received by this 1-bit object. This status is shown directly or via a symbol.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.12 Additional function: Status display 1-byte

With this function, status messages of 1-byte objects can be displayed. These feedback messages can be displayed as whole numbers in the range 0...255 or as a percentage value in the range 0..100%. This makes it possible, for example, to visualise the brightness value of a dimmer or the number of revolutions of an exhaust fan.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	
Status feedback by	**percentage (0..100%)** value absolute (0..255)
This parameter is used to set the feedback message. With the parameter "percentage (0..100%)", the value of the 1-byte object is displayed as a percentage value from 0 to 100%. With the parameter "value absolute (0..255)" the value of the 1-byte of the object is displayed as a whole number from 0 to 255.	

Parameter	Settings
Detail page of additional function is activated on main page	**1**..10
With this input field, the main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	
Position of button on main page that is activating detail page	1,**2**..6
With this input field, one of the 6 additional buttons in the footer of the respective main page from which the subordinate detail page is opened is selected. The additional function is shown on this detail page.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Status, Value	1 byte	KSÜA
The value between "0..100%" or between "0..255" as status is received as status via this 1-byte object.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.4.13 Additional function: Status display 2-byte

With this function 2 byte floating-point numbers can be displayed as status messages. The number of decimal places can be configured for the presentation. The unit for this value can be selected. This is shown after the numerical value. This makes it possible, for example, to visualise outside temperature in °C, wind velocity in m/s or outside brightness in lux.

Parameter	Settings
Description	**Funktion 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description is shown on the display, in the corresponding place on the detail page.	

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Parameter	Settings
Unit	no unit (float value) no unit (counter value) °C F hPa Pa kW W/m² m/s km/h lx % Humidity s A V
This parameter is used to set the corresponding unit that is shown behind the numerical value in the status message. With the selection "no unit(float value)", a pure floating point value without unit is shown. With the selection "no unit (counter value)", a pure counter value without unit is shown. The following units or Datapoint types are available for selection: Temperature in °C, ID: 9.001 Temperature in °F, (converted from °C) Pressure in hPa, (converted from Pa) Pressure in Pa, ID: 9.006 Power in kW, ID: 9.024 Electromagn. radiation in W/m ², ID: 9.022 Speed in m/s, ID: 9.005 Speed in km/h, (converted from m/s) Brightness in lx, ID: 9.004 Humidity in %, ID: 9.007 Time in s, ID: 9.010 Current in A, (converted from mA) Voltage in V, (converted from mV)	
Decimal places	0 **1** 2
This parameter is used to set the number of decimal places to be shown after the comma.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
155	Additional function 1	Status, Value	2 byte	KSÜA
The floating-point value is received as status by this 2-byte object.				

If all additional functions 1..60 are used, then the communication objects 156..214 are used identically accordingly.

3.5 Communication objects and parameters for the scenes

Up to 64 scenes can be recall and programed with the panel.
The programming of these scenes takes place directly on the panel via the configuration page for scene programs, see section *2.4.2 Operation and function of the configuration page for scene programs*.
All released standard or additional functions are available for configuration.
When activating the scene module via the ETS configuration, an 8-bit communication object is made available to recall the 64 scenes via the bus.

If the parameter setting "Scenes" is selected on the left side, the following view appears (see fig. 34).

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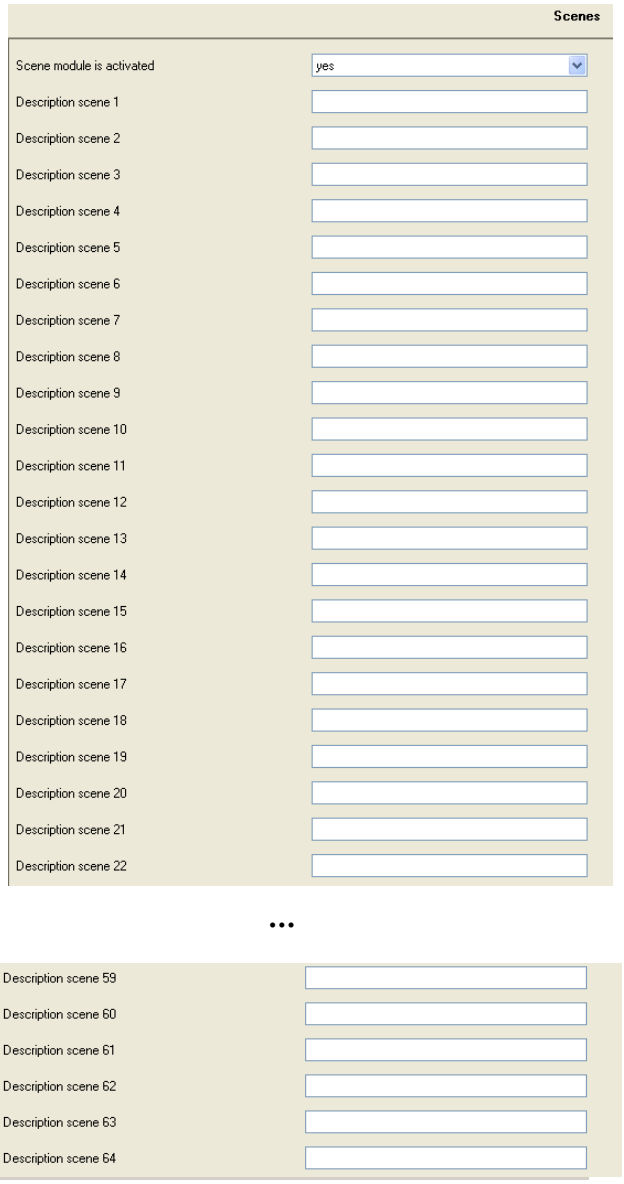

Fig. 34: Scene module

On this page, the scene module is activated and all 64 scenes are identified.

In detail, the following parameters and communication objects are present for the respective functions:

Parameter	Settings
Scene module is activated	**No** Yes
The internal scene module is activated via this input field. Depending on this setting, the 64 scenes are displayed for identification and the 8-bit communication object 248 is shown.	
Description scene 1 **...** **Description scene 64**	
This parameter only appears if "Yes" was set in the above configuration and the scene module is activated. A description text of up to 20 characters for scenes 1 to 64 respectively can be entered in this input field. Thus a name can be assigned to all 64 internal scenes. This scene name is shown in the pull-down field in the scene program on the panel. A function-specific naming and identification is thus provided.	

With this function the following communication objects are available:

Obj	Object name	Function	Type	Flag
248	Scene 1..64	Internal scene, recall	1 byte	KS
This parameter only appears if "Yes" was set in the above configuration and the scene module is activated. With a push of the button an 8-bit command is sent to recall the scene 1..64 via this object.				

3.6 Communication objects and parameters for the alarms

16 separate alarm or event functions are available in the panel. 16 communication objects are used for this.
If an object is used as an alarm function, the resolved alarms are shown in chronological order with current time stamp, the respective symbol and the corresponding designation on the alarm page. See section *2.5 Operation and function of the alarm page*.
If an alarm is triggered or acknowledged, a 1-bit output object is activated.
If an object is used as an event function, it does not appear on the alarm list. If a trigger condition is met, a 1-bit output object is activated.

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Objects in different data formats are available to activate the alarms or events:
1-bit data telegrams
1-byte data telegrams
2-byte data telegrams (floating point value)
2-byte data telegrams (counter value)
4-byte data telegrams (counter value), (only in Alarm / Event 1 and 2)
14-byte text messages, (only in Alarm / Event 1 and 2)

Different logical operators or threshold values can be set in this regard.

If the parameter setting "General alarm" is selected on the left side, the following view appears (see fig. 35).

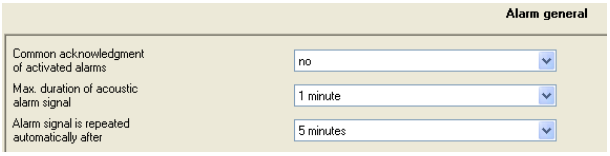

Fig. 35: Alarm configuration general

The superordinate alarm properties can be set with the parameter screen General alarms.

In detail, the following parameters and communication objects are present for the respective functions:

Parameter	Settings
Common acknowledgment of activated alarms	**No** Yes
This input field is used to set whether all pending alarms are to be acknowledged at the same time via a joint acknowledgement button. With the setting "Yes", an acknowledgment button is generated in the top left corner in the header of the alarm page. The central acknowledgement is optional for the individual acknowledgment of the alarms. An individual acknowledgment is generally available.	

Parameter	Settings
Max. duration of acoustic alarm signal	10 seconds 30 seconds **1 minute** 2 minutes 3 minutes 4 minutes 5 minutes 6 minutes 10 minutes 15 minutes 20 minutes 25 minutes 30 minutes
This input field is used to set the time after which the accoustic signal is to be switched off. The alarm tone will sound for the duration of this configured time if the alarm is pending and has not been acknowledged.	
Alarm signal is repeated automatically after	10 seconds 30 seconds 1 minute 2 minutes 3 minutes 4 minutes **5 minutes** 6 minutes 10 minutes 15 minutes 20 minutes 25 minutes 30 minutes
This input field is used to set the time after which the accoustic signal is to sound again after it was switched off automatically. This configured time only works if the setting "repeat alarm signal perioddically" was selected in the following configuration of the individual alarms. In order for the alarm tone to repeat, the alarm must be pending and not be acknowledged.	

With these parameters, the following communication object is available:

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Obj	Object name	Function	Type	Flag
247	Central acknowledgement alarms:	1= central acknowledgement	1 bit	KÜ
This object only appears if "Yes" was selected in the above configuration and a joint acknowledgment of all pending alarms was activated. A central acknowledgement of the value "1" via a 1-bit object was sent via this object				

The specific parameters for the individual alarm functions or events can be set on the parameter pages Alarm / Event 1 to 16.
If the parameter setting "Alarm / Event 1" is selected on the left side, the following view appears (see fig. 36).
The same parameter window appears for Alarm / Event 2 to Alarm / Event 16.

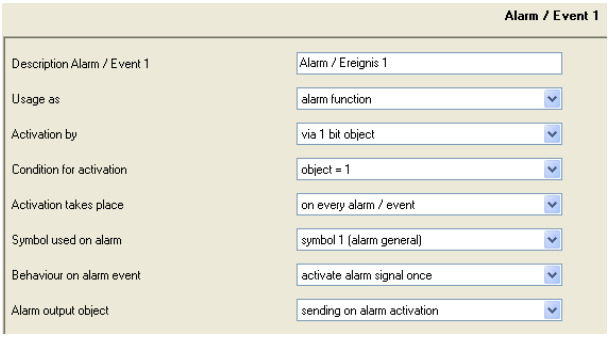

Fig. 36: Configuration Alarm / Event 1

In detail, the following parameters and communication objects are present:

Parameter	Settings
Description Alarm / Event 1	**Alarm / Ereignis 1**
A description text for the respective page of up to 20 characters can be entered in this input field. This description text is displayed on the alarm page of the display as description of the alarm.	
Usage as	**event** alarm function
This input field can be used to set whether the object is used in an alarm function or in an event. If an alarm function has been selected, then an alarm is shown on the alarm page of the panel if the value of the object meets the triggering condition. If an event is selected, the value of a 1-bit output object is set to "1" if the value of the object meets the condition.	

Parameter	Settings
Activation by	via 1 bit object via 1 byte object via 2 byte object (float) via counter value 2-byte via counter value 4-byte via text message
This parameter is used to set in which data format the triggering object for the activation of an alarm or an event will be received. The triggering condition or the threshold value for the activation appears according to this format. If "via text message" is set as the data format of the triggering object, then for an alarm function the value content of the 14-byte character string is shown as an alarm message directly on the display. Every time a value content is received in the triggering object, an alarm is activated. If no sign is received in the triggering object, then no alarm is triggered. If "via text message" is set as the data format of the triggering object, then for an event the value of the 1-bit output object is set to "1" and sent, if a value content is received in the triggering object. If no sign is received in the triggering object, then the value of the 1-bit original object is set to "0" if an event was previously active. Note: The data format 4-byte counter and text message is only offered for the Alarm / Event 1 and Alarm / Event 2.	
Condition for activation	object = 0 **object = 1**
This parameter only appears if "via 1 bit object" was set in the above "Activation by" configuration. This parameter is used to set for which value of the 1-bit triggering object an alarm or an event is to be activated.	
Activation threshold	0..**128**..255
The selection range of this parameter only appears if "via 1-byte object" was set in the above "Activation by" configuration. This parameter is used to set which threshold value of the 1-byte triggering object is to be compared to activate an alarm or an event. Different logical operators are offered for selection in the following.	

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Parameter	Settings
Activation threshold	-32767..**21**..32766
The selection range of this parameter only appears if "via 2-byte object (float)" was set in the above "Activation by" configuration. This parameter is used to set which threshold value of the 2-byte triggering object is to be compared to activate an alarm or an event. Different logical operators are offered for selection in the following.	
Activation threshold	0..**1028**..65535
The selection range of this parameter only appears if "via counter value 2-byte" was set in the above "Activation by" configuration. This parameter is used to set which threshold value of the 2-byte counter triggering object is to be compared to activate an alarm or an event. Different logical operators are offered for selection in the following.	
Activation threshold	0..**10.000** .. 4.294.967.295
The selection range of this parameter only appears if "via counter value 4-byte" was set in the above "Activation by" configuration and for the Alarm / Event 1 and Alarm / Event 2. This parameter is used to set which threshold value of the 4-byte counter triggering object is to be compared to activate an alarm or an event. Different logical operators are offered for selection in the following.	
Activation takes place	on every alarm / event **on first alarm / event only**
This parameter only appears if "via 1 bit object" was set in the above "Activation by" configuration. With the setting "on every alarm / event", an alarm is triggered or the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object (=) is identical to the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. With the setting "on first alarm / event only", if the value of the triggering object (=) is identical to the configured threshold value, an alarm is triggered one time only or the value of the 1-bit output object is set to "1" and sent one time only. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. Note: For the description of the alarm behaviour and the alarm display, see also section *2.5 Operation and function of the alarm page*.	

Parameter	Settings
Activation if value	equal to threshold (always) greater than threshold less than threshold greater or equal to threshold less or equal to threshold **equal to threshold (once)** threshold exceeded (rising edge) threshold falling bellow (falling edge)
This parameter only appears if "via 1-byte object", "via 2-byte object (float)", "via counter value 2-byte" or "via counter value 4-byte" was set in the above "Activation by" configuration. This parameter is used to select the logical operator in relation to the previously set threshold value. With the setting "equal to threshold value (always)", an alarm is triggered or as an event the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object (=) is identical to the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. With the setting "greater than threshold value", an alarm is triggered or as an event the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object is greater than the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. With the setting "less than threshold value", an alarm is triggered or as an event the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object is smaller than the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. With the setting "greater or equal threshold value", an alarm is triggered or as an event the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object is greater than or equal to the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active. With the setting "less or equal to threshold value", an alarm is triggered or as an event the value of the 1-bit output object set to "1" and sent whenever the value of the triggering object is smaller than or equal to the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active.	

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With the setting "equal to threshold value (once)", an alarm is triggered one time only or the value of the 1-bit output object set to "1" and sent one time only when the value of the triggering object (=) is identical to the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active.

With the setting " threshold exceeded (rising edge)", an alarm is triggered one time only or as an event the value of the 1-bit output object set to "1" and sent one time only when the value of the triggering object is greater than the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active.

With the setting "threshold falling bellow (falling edge)", an alarm is triggered one time only or as an event the value of the 1-bit output object set to "1" and sent one time only when the value of the triggering object is smaller than the configured threshold value. With an event, the 1-bit output object with the value "0" is only sent if the event was previously active.

Note:
For the description of the alarm behaviour and the alarm display, see also section *2.5 Operation and function of the alarm page*.

Symbol used on alarm	**symbol 1 (alarm general)** symbol 2 (bolt) symbol 3 (alarm bell) symbol 4 (alarm flashlight) symbol 5 (attention!) ... symbol 24

This parameter is used to select the suitable symbol for the alarm message. This symbol is shown with the alarm message on the alarm page of the panel before the time stamp and the alarm description.

(see section *2.5 Operation and function of the alarm page*)

Parameter	Settings
Behaviour on alarm event	without alarm signal **activate alarm signal once** repeat alarm signal periodically

This parameter only appears if "alarm function" was set in the above "Usage as" configuration.

This parameter is used to set whether and how the triggering of an alarm is to be communicated accoustically.

With the setting "without alarm signal", no acoustic signal is emitted when an alarm is triggered. The alarm is showns silently on the display.

With the setting " activate alarm signal once", an alarm tone is sounded once for a certain configured time when an alarm is triggered.

With the setting "repeat alarm signal periodically", an alarm tone is sounded for a certain configured time when an alarm is triggered. After this alarm tone, the alarm message is shown silently for a certain configured time, and then is sounded again.

Alarm output object	sending on acknowledgment **sending on alarm activation**

This parameter only appears if "alarm function" was set in the above "Usage as" configuration.

This parameter is used to set after which alarm event a 1-bit output object is to be sent.

With the setting "sending on acknowledgment", after an alarm acknowledgement on the alarm screen of the panel, the value of the output object is set to "1" and sent.

With the setting "sending on alarm activation", the value of the output object is set to "1" and sent when the alarm is triggered.

With these parameters, the following communication object is available:

Obj	Object name	Function	Type	Flag
215	Alarm / Event 1	Alarm / Event, On / Off	1 bit	KSÜA
215	Alarm / Event 1	Alarm / Event, Value	1 byte	KSÜA
215	Alarm / Event 1	Alarm / Event, Value	2 byte	KSÜA
215	Alarm / Event 1	Alarm / Event, Value	4 byte	KSÜA

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215	Alarm / Event 1	Alarm / Event, Text message	14 byte	KSÜA
These objects appear in the different data formats depending on the configuration. The value content of these objects is compared with a triggering condition or with a configured threshold value. If the condition is met, an alarm is triggered or an event activated. This object leads to the triggering of an alarm or event.				
216	Alarm / Event 1	1= alarm active	1 bit	KÜ
This object only appears if "sending on alarm activation" and thus an "alarm function" was selected in the above configuration. If the alarm condition was met and thus an alarm was triggered, the value of this object is set to "1" and sent.				
216	Alarm / Event 1	1= alarm acknowledged	1 bit	KÜ
This object only appears if "sending on acknowledgment" and thus an “alarm function" was selected in the above configuration. If, after an alarm was triggered, the alarm was acknowledged on the display, the value of this object is set to "1" and sent.				
216	Alarm / Event 1	1= event triggerd	1 bit	KÜ
This object only appears if "event" was selected in the above "Usage as" configuration. If the alarm condition was met and thus an alarm was triggered, the value of this object is set to "1" and sent. The value "0" of the object is only sent if the event was previously activated.				

If all alarm functions 16..60 are used, then the communication objects 217..246 are used identically accordingly.

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4. Planning Aid

This planning aid is intended to support you in the design and labelling of the most important illustration pages on the colour touch panel. It will provide you with a basis for project agreements with project managers and customers.
These forms can also be filed as project documentation in the revision documents.
For this purpose, templates of the menu page, the main pages and the detail pages have been added. Please print out the templates. You will need one copy of the menu page, the main pages and the detail pages, in each case a maximum of ten copies (see figure 5: Operating concept).

The fields on the menu page incorporate the maximum ten names from the main pages. These names are then to be accepted in each case as the page description of the maximum 10 main pages and the detail pages allocated to these.

In the 5 functional block fields, the main pages bear the names of the standard functions. In the footer, they have a number for the function of the additional key and the symbol to be used or a symbol number in the 6 fields. You will see a legend on the right.

In the 6 detail page fields are the names of the additional functions.

This written project plan now gives them a good overview of the project planning for correct configuration with the ETS (Engineering Tool Software) project planning tool

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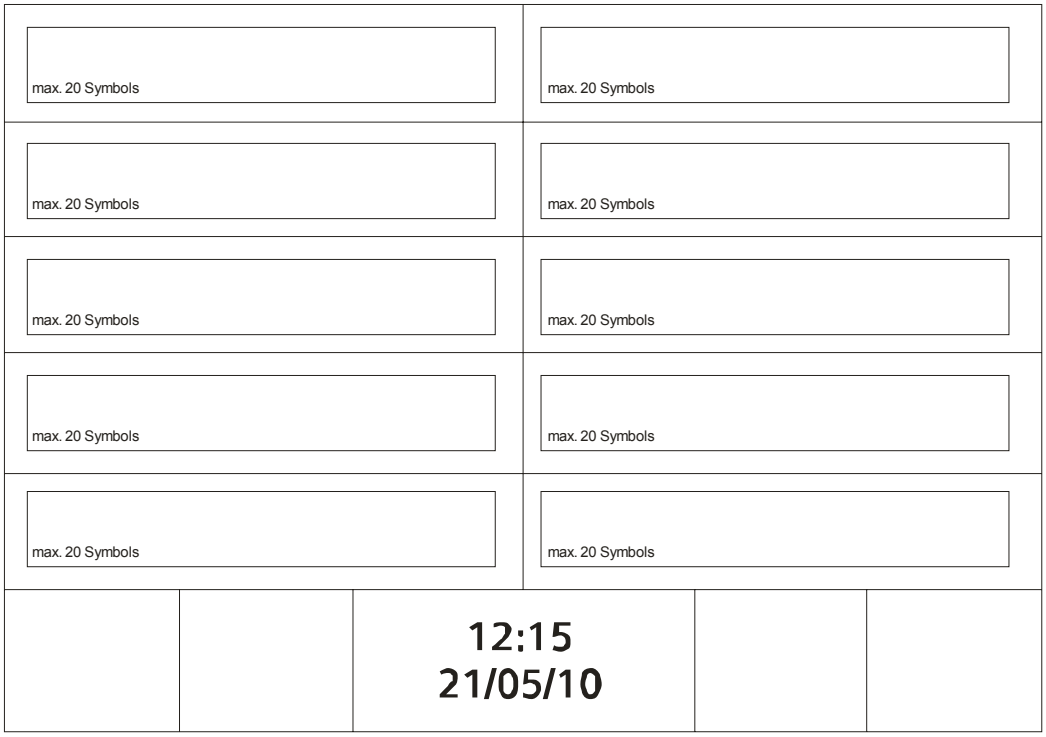
Menu Page



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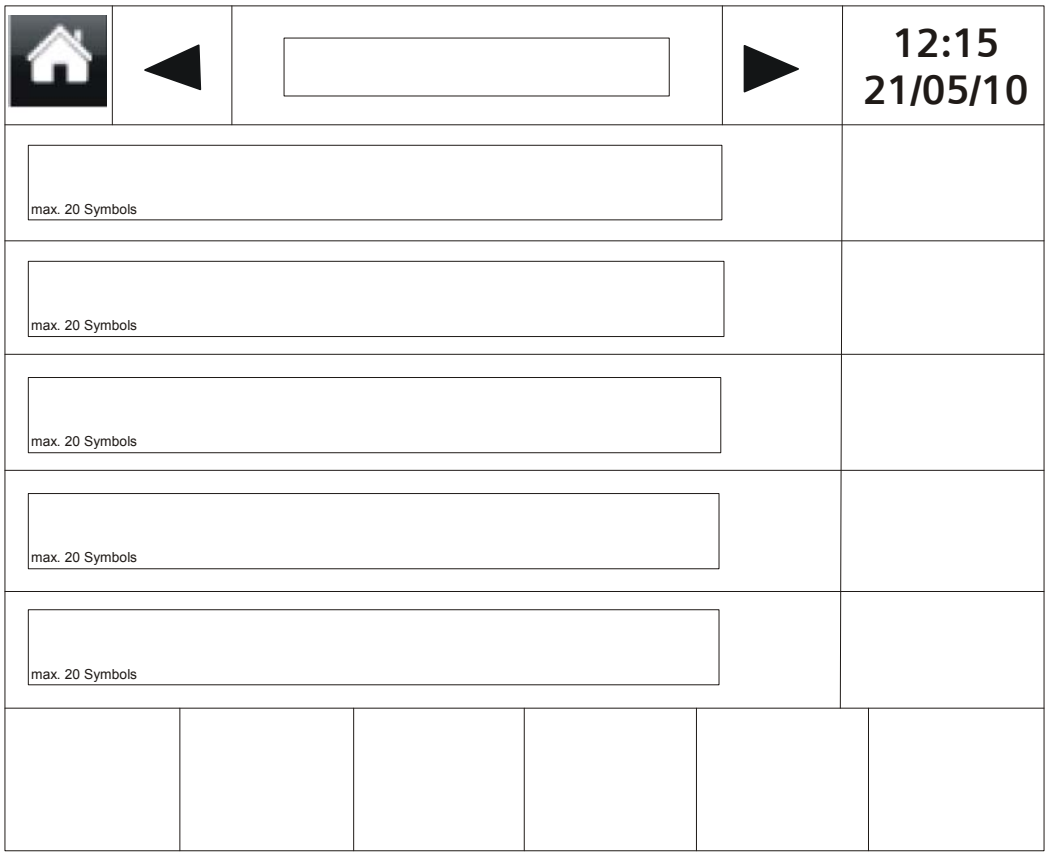
Main Page



Function	1	no function button
Function	2	start sleep mode
Function	3	start logo / slide show
Function	4	disable
Function	5	jump to detail page
Function	6	jump to last operated page
Function	7	jump to main page 1
Function	8	jump to main page 2
Function	9	jump to main page 3
Function	10	jump to main page 4
Function	11	jump to main page 5
Function	12	jump to main page 6
Function	13	jump to main page 7
Function	14	jump to main page 8
Function	15	jump to main page 9
Function	16	jump to main page 10
Function	17	jump to configuration page
Function	18	configurate the schedule programs
Function	19	configurate the scene programs
Function	20	configurate the logic
Function	21	configurate the presence simulation

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Symbols

S 1  start sleep mode

S 2  activate logo / slide show

S 3  cleaning mode

S 4  disable

S 5  jump to detail page

S 6  jump to last operated page

S 7  jump to main page 1

S 8  jump to main page 2

S 9  jump to main page 3

S 10  jump to main page 4

S 11  jump to main page 5

S 12  jump to main page 6

S 13  jump to main page 7

S 14  jump to main page 8

S 15  jump to main page 9

S 16  jump to main page 10

S  jump to configuration page

S 18  configurate the schedule programs

S 19  configurate the scene programs

S 20  configurate the logic

S 21  Presence simulation

S 22  weather data

S 23  audio control

S 24  lighting

S 25  sun protection

S 26  HVAC

S 27  central control

S 28  configuration functions

S 29  workroom

S 30  living room

S 31  dining room

S 32  children room

S 33  bedroom

S 34  kitchen

S 35  bathroom

S 36  toilet

S 37  exercise room

S 38  basement

S 39  studio

S 40  garden

S 41 staircase

S 42 garage

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Detail Page

	12:15 21/05/10	
max. 20 Symbols		
max. 20 Symbols		
max. 20 Symbols		
max. 20 Symbols		
max. 20 Symbols		
max. 20 Symbols		