

TP35A01KNX

EVO21 – TOUCH PANEL 3,5" KNX



# USER MANUAL

Version 1.0

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## 2. General

The TP35A01KNX products were developed for visualization and control applications in KNX systems, they support a wide range of functions:

Switching and dimming, status display, RGB control, On/Off switching of several devices, alarm functions, display and setting of heating control parameters, multiroom functions, astronomical weekly timer, clock timer, data logging ...

Each page and element can be protected by global or dedicated PIN and there is also the possibility for a custom layout.

The Associated ETS-Application is TP35A01KNX\_V2.knxprodBehavior at Bus Voltage Recovery

All settings and the ETS programming will be preserved.

### 2.1. Download Button

#### 2.1.1. Others

The download button is located on the back side of the device. On some models it is hidden under the label on the back side. There is also a software button in the system settings under [System & SD-card](#).

#### 2.1.2. AC4

There is only a software button in the system settings under [System & SD-card](#).

### 2.2. Factory reset

#### 2.2.1. Others

Disconnect USB and AUX. Hold the download button while connecting USB or AUX and wait until the touchscreen calibration appears on screen. Normally, this takes 40-60 seconds. After pressing the 5 calibration points the device is reset.

#### 2.2.2. AC4

Disconnect USB and AUX and reconnect one of them. Press the touch screen anywhere when the penguins appear and hold until the reset menu is displayed. Confirm by pressing reset.

### 3. ETS Application Description

#### 3.1. General

General		Master PIN	0								
Page 1	Element 1:	Use PIN for settings dialog	<input checked="" type="radio"/> No <input type="radio"/> Yes								
	Element 2:	Layout	2X4-Layout								
	Element 3:	Icon theme	<input checked="" type="radio"/> Bright <input type="radio"/> Dark ( for bright surfaces )								
	Element 4:		<table border="1"><tr><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td></tr><tr><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td></tr></table>	1	2	3	4	5	6	7	8
	1	2									
	3	4									
	5	6									
	7	8									
	Element 5:	Display menu page	<input checked="" type="radio"/> No <input type="radio"/> Yes								
Element 6:	Display user language chooser	<input checked="" type="radio"/> No <input type="radio"/> Yes									
Element 7:	Page scheme	<input checked="" type="radio"/> 5 Pages / 1 Alarm Page <input type="radio"/> 6 Pages									
Element 8:	Global format identifiers										
+ Page 2	Additional identifiers										
+ Page 3	Page 1 Name [ ;Format ]										
+ Page 4	Use PIN for Page2	<input checked="" type="radio"/> No <input type="radio"/> Yes									
+ Page 5	Page 2 Name [ ;Format ]										
+ Alarm Page	Use PIN for Page3	<input checked="" type="radio"/> No <input type="radio"/> Yes									
	Page 3 Name [ ;Format ]										
	Use PIN for Page4	<input checked="" type="radio"/> No <input type="radio"/> Yes									
	Page 4 Name [ ;Format ]										
	Use PIN for Page5	<input checked="" type="radio"/> No <input type="radio"/> Yes									
	Page 5 Name [ ;Format ]										
	Use PIN for Page6	<input checked="" type="radio"/> No <input type="radio"/> Yes									
	Page 6 Name [ ;Format ]										
	Use RTC	<input checked="" type="radio"/> No <input type="radio"/> Yes									
	Use logic functions	<input checked="" type="radio"/> No <input type="radio"/> Yes									

##### 3.1.1. Master PIN

Defines the default Pin that can be used to protect pages, elements or settings. It has to be enabled separately in the Parameters.

Examples:

Value 0: Disables the PIN even if enabled for specific object, unless there is a local PIN defined in the Format field.

Value 1: The pin is 0001

Value 1234: The pin is 1234

##### 3.1.2. Use Pin for settings dialog

If set to YES, the Master PIN is used to secure the system settings page. This only works if the master pin is not 0.

### 3.1.3. Layout

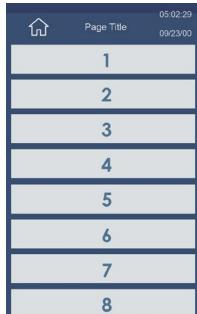
Defines how the 8 Elements are position on the Pages. If not all 8 elements are used, then it depends on the settings [Expand horizontal](#) and [Expand vertical](#) how the page is filled.

#### 2x4-Layout

Default

1	2
3	4
5	6
7	8

AC4 in vertical orientation

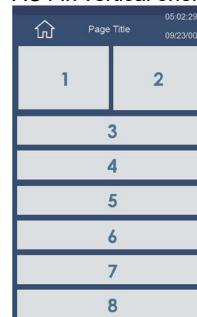


#### 2+6-Layout

Default

1	3
	4
	5
	6
2	7
	8

AC4 in vertical orientation



#### Custom Layout

This Layout option give the user more freedom in setting up the pages and configuring other options.

Pro	Con
Elements can be positioned freely	Requires a USB connection for commissioning and updates
Icon selection with preview	Requires additional Software (TP35A01KNX-Creator)
User defined icons	
User defined screensaver	
Design background images	

#### Object Identifiers

Copy the "Project string" form the TP35A01KNX\_IT-Creator and paste it in the "Object Identifiers" field.

When the Custom Layout is used, part of the Application is programmed via USB by the TP35A01KNX-Creator. But the Group Objects and connected Group addresses have to be programmed with the ETS.

The correct group objects are only available if the up-to-date "Project string" is inserted.

General	Master PIN	0
+ Page 1	Use PIN for settings dialog	<input checked="" type="radio"/> No <input type="radio"/> Yes
+ Page 2	Layout	Custom Layout
+ Page 3	Icon theme	<input checked="" type="radio"/> Bright <input type="radio"/> Dark ( for bright surfaces )
	Object Identifiers	0000000000000000;0000000000000000;000000000000

### 3.1.4. Icon theme

Selection of the available standard icon color theme. This also sets the invers background color.

#### Bright



Bright icons, dark background

#### Dark



Dark icons, bright background

### 3.1.5. Display menu page

#### No

There is no menu page, the device displays page 1 at startup. There are arrows in the top corners to get from one page to the next. It is also possible to setup the JUMP format parameter for elements, to switch between pages.

#### Yes

The device shows a menu page on startup. There are different styles available, selectable by setting parameter MTYPE to the corresponding value in the [Global format identifiers](#) or [Additional identifiers](#) field.

The text and Icon displayed in the menu can be selected by setting Page X Name and ICO in the [Page X Name \[ ;Format \] Field](#). If no ICO or Name is defined the Button is displayed blank.

Global format identifiers

:;MTYPE=1

Additional identifiers

Page 1 Name [ ;Format ]

Schalter;ICO=ONOFF\_b\_off

**MTYPE=0**



**MTYPE=1**



**MTYPE=2**



**MTYPE=3**



### 3.1.6. Display user language chooser

Enables a flag button in the top left corner on the display. This button opens a selection menu with options for different languages. It is also possible upload custom translation files, to also translate text defined in the ETS parameters. For further information see [Translation / Localization](#).



### 3.1.7. Page scheme

#### 5 Pages / 1 Alarm Page

5 normal Pages and 1 Alarm Page.

Further information about the alarm page, see [Alarm Page](#).

#### 6 Pages

6 normal Pages.

### 3.1.8. Global format identifiers

If this field is full, use the [Additional identifiers](#) field. It can be used in the same manner.

This field is used for global parameter settings.

The text before the first ; (semicolon) is displayed as title on the menu page. If no title is used, then the first symbol in the field has to be a semicolon.

Possible Parameter	
STDLONG	=500
STDREP	=300
INVSCR	Invert object number 4 IO ( <a href="#">System Object Nr 1-5</a> )
INVONOFF	Invert object number 3 IO ( <a href="#">System Object Nr 1-5</a> )

### Example for menu title

Global format identifiers: Hauptmenü; MTYPE=1



### 3.1.9. Additional identifiers

This field can be used in the same way as the [Global format identifiers](#) field.

### 3.1.10. Page X Name [ ;Format ]

The text before the first ; (semicolon) is displayed on the menu page button and as title on the page itself. If no title is used, then the first symbol in the field has to be a semicolon.

Possible parameter	
ICO	=TERRACE
	Icon for the menu page (see <a href="#">Icons</a> ). Icon name without file extension.
LOGIC	=fooName(arg)
	Logic triggered when pressing menu page button. Disables the automatic page jump, so the logic function has to call sys.set_page(pageNr_int).
PIN	=2340
	Define 4-digit pin for this page. Overwrites Master PIN if enabled.
Custom layout parameter	
T	=x,y,color
	Time on page. Example: T=180,65,8,#fffff
D	=x,y,color
	Date on page. Example: D=120,220,8,#fffff
S	=x,y,w,h,(icon)
	System settings link. Example: S=280,220,8,0,#fffff
C	=x,y,digits,color
	Internal temperature. Example: C=280,220,8,0,#fffff
C1	=x,y,obj,digits,postfix,color
	Group object value.

### Examples

Schalter;ICO=ONOFF_b off	Page name: Schalter, Menu Icon: ONOFF_b off
;ICO=POOL,PIN=1234	No page name, Menu Icon: POOL, Pin to access page:1234

### 3.1.11. Page 6 Name [ ;Format ] (Alarm)

If "5 Pages / 1 Alarm Page" is selected for ETS parameter [Page scheme](#) the following parameter are available for the alarm page 6.

Additional parameter	
BEEPOFF	=3
	Number of beeps before the acoustic alarm signals is switched off (undefined = infinite beeps).
RESCAN	=5
	Rescan alarm group objects after x seconds.
SILENT	
	Silent alarm.
AUTOHIDE	
	End alarm if the condition is not met anymore.

### 3.1.12. Use PIN for PageX

If set to YES, the Master PIN is used to secure the page. This only works if Master Pin is not 0 or a PIN is defined in Page X Name [ ;Format ].

### 3.1.13. Use RTC

Enables the room temperature controller.

### 3.1.14. Use logic functions

Enable the LUA logic block and logic group objects. For further information see [Logic](#).

#### Logic scheme

The “Internal Only” option can be used, if no additional group objects are need for the logic.

Scheme	1 Bit	1 Byte	Available group objects	2-Byte	4-Byte
Internal Only	0	0		0	0
IO-Scheme 1	10	8		8	5
IO-Scheme 2	23	4		2	2
IO-Scheme 3	15	12		2	2

## 3.2. Page X, Element X

Each of the 6 Pages can be populated with up to 8 Elements. Each of these Elements has a separate page for its configuration in the ETS.

### 1.8.2 TouchIT-Custom\_A4-1 > Page 1 > Element 1:

General
Descriptor

Object Type

1 Bit

— Page 1

Element 1:	Element Type	None
Element 2:	Element Size	Normal
Element 3:	Interactive	<input type="radio"/> No <input checked="" type="radio"/> Yes
Element 4:	Use Element PIN	<input checked="" type="radio"/> No <input type="radio"/> Yes
Element 5:	Align steps	<input type="radio"/> No <input checked="" type="radio"/> Yes
Element 6:	Expand horizontal	<input type="radio"/> No <input checked="" type="radio"/> Yes
Element 7:	Expand vertical	<input type="radio"/> No <input checked="" type="radio"/> Yes
Element 8:	Name [ ;Format ]	<input type="text"/>

+ Page 2

+ Page 3

### 3.2.1. Descriptor

ETS internal parameter, used to label the group objects and list entry in the parameter's menu.

### 3.2.2. Object Type

General selection of datatype or function for the element.

### 3.2.3. Element Type

Selecting the explicit type for the element. For all available “Element Types” with examples and description see [Element Type](#).

### 3.2.4. Element Size

Determines which icon and font size is used for the element. The font size can be adjusted in the system settings on the device. The icon size is predefined 18, 28, 48, 88 pixels for Small, Normal, Large, X-Large.



### 3.2.5. Interactive

If set to No, the Element is only used to display a value. This means that on the display there is no interaction with the element possible.

### 3.2.6. Use Element PIN

If set to YES, the Master PIN is used to secure the element. This only works if Master Pin is not 0 or a local PIN is defined in [Page X Name \[ ;Format \]](#).

### 3.2.7. Align steps

Round value up or down to align with the defined step size.

#### Example

Step size is 50 and current value is 130.

With align steps next values are 100 or 150.

Without align steps next values are 80 or 180.

### 3.2.8. Expand horizontal

Expand the element horizontally as far as possible to the adjacent grid areas.

### 3.2.9. Expand vertical

Expand the element vertically as far as possible to the adjacent grid areas.

### 3.2.10. Name [ ;Format ]

This field is optional. It allows the naming and further adjustments of the selected "Element Type".

The name is defined before the first semicolon (;) if it is omitted, a semicolon has to be inserted before the first format parameter.

The name is displayed above the element. This name is also displayed in submenus of some element types, e.g. Timer, Datalogging, ....

A detailed description with examples for all the available Element types can be found in section [Element Type](#).

### 3.3. Group Objects

#### 3.3.1. System Object Nr 1-5

Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
1	I Time	System Time input			3 bytes	C	R	W	T	U	time of day	Low
2	I Date	System Date input			3 bytes	C	R	W	T	U	date	Low
3	IO On/Off	System On/off			1 bit	C	R	W	T	U	switch	Low
4	IO Standby	System Standby			1 bit	C	R	W	T	U	switch	Low
5	I LED	System LED			1 byte	C	R	W	T	U	percentage (0..100%)	Low

Obj Nr	Name	Description
1	I Time	Set or update the device system time
2	I Date	Set or update the device system date
3	IO On/Off	<p>Out:</p> <p>0: Device off 1: Device on (also if screensaver is displayed)</p> <p>In:</p> <p>0: Device off 1: Device on, display page 1 or menu</p>
4	IO Standby	<p>Out:</p> <p>0: Device off 1: Device on, displays screensaver</p> <p>In:</p> <p>0: No action 1: Device on, display screensaver</p>
5	I LED	Allows the control of the notification LED available in some hardware configurations

Object nr 3 can be inverted with the INVONOFF parameter and object nr 4 can be inverted with the INVSCR parameter in the [Global format identifiers](#) field.

#### 3.3.2. RTC Object Nr 6-31

The available objects depend on the selected room temperature controller.

#### 3.3.3. Logic Object Nr 32-62

The available Objects depend on the selected scheme. For further information see [Logic](#).

#### 3.3.4. Element Types Object Nr 63-254

Each element type selected in the ETS parameters enables up to 4 associated group objects. Each group object starts with two point separated numbers, indicating page followed by element nr. After the group object name the [Descriptor](#) is added separated by \_ (underscore).

E.g. "6.8-D IO, Switching 4\_test" indicates page 6 element nr 8 and descriptor test.

For further information about all available element types go to [Element Type](#).

## 4. Element Type

### 4.1. 1 Bit

Image	Nr.	Element Type
	Data type	Format
1-bit-ON/OFF-Toggle-Text Ein	1	<b>1-bit-ON/OFF-Toggle-Text</b> B0, B1, ICO, TC, BCOL, NOBG, BSWAP, RDRQ, PIN, LOGIC, AL, AH
1-bit-ON/OFF-Toggle-Picture 	2	<b>1-bit-ON/OFF-Toggle-Picture</b> IMGSET, ICO, NOBG, BSWAP, RDRQ, PIN, LOGIC, AL, AH
1-bit-ON/OFF-Toggle-Text with Value Aus Ein	3	<b>1-bit-ON/OFF-Toggle-Text with Value</b> W, B0, B1, L0, L1, ICO, TC, LCOL, BCOL, NOBG, BSWAP, LSWAP, RDRQ, PIN, LOGIC, AL, AH
1-bit-ON/OFF-Toggle-Picture with Value 	4	<b>1-bit-ON/OFF-Toggle-Picture with Value</b> W, IMGSET, ICO, NOBG, BSWAP, LSWAP, RDRQ, PIN, LOGIC, AL, AH
Aus Aus Ein	5	<b>1-bit-ON/OFF-Text with Value</b> W, B0, B1, L0, L1, ICO, TC, LCOL, BCOL, NOBG, BSWAP, LSWAP, RDRQ, PIN, LOGIC, AL, AH
1-bit-ON/OFF-Picture with Value 	6	<b>1-bit-ON/OFF-Picture with Value</b> W, IMGSET, ICO, NOBG, BSWAP, LSWAP, RDRQ, PIN, LOGIC, AL, AH
1-Bit-Value-Pushbutton 	40	<b>1-Bit-Value-Pushbutton</b> LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR
1-bit-Quad-ON/OFF-Status/Toggle-Text Off Off Off Off	85	<b>1-bit-Quad-ON/OFF-Status/Toggle-Text</b> W, LABELS, ICO, TC, N, NOBG, RDRQ, PIN, ALARM
1-bit-Quad-ON/OFF-Status/Toggle-Picture 	86	<b>1-bit-Quad-ON/OFF-Status/Toggle-Picture</b> W, IMGSETS, ICO, N, NOBG, RDRQ, PIN, ALARM
1-bit-Quad-Value-Pushbutton-Text On On On On	87	<b>1-bit-Quad-Value-Pushbutton-Text</b> W, LABELS, PRESS, ICO, N, J1, J2, J3, J4, NOBG, PIN
1-bit-Quad-Value-Pushbutton-Picture 	88	<b>1-bit-Quad-Value-Pushbutton-Picture</b> W, PRESS, IMGSETS, ICO, N, J1, J2, J3, J4, NOBG, PIN

#### 4.1.1. 1-bit-ON/OFF-Toggle-Text

Element Type Nr. 1

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		
Format		
B0 =Off		Text on the button for value 0.
B1 =On		Text on the button for value 1.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName (arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-bit values.		
Example		
1-bit-ON/OFF-Toggle-Text		1-bit-ON/OFF-Toggle-Text
Ein		
Light		Light; B0=Off; B1=On
On		
Door		Door; ICO=TERRACE; B0=CLOSE; B1=OPEN
OPEN		
Nursery		Nursery; TC=red
Ein		

#### 4.1.2. 1-bit-ON/OFF-Toggle-Picture

Element Type Nr. 2

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		

Format		
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName (arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.

Info		
Element to send and receive a 1-bit values.		

Example		
1-bit-ON/OFF-Toggle-Picture		1-bit-ON/OFF-Toggle-Picture
Socket		; IMGSET=ONOFF
Socket		
Kitchen		Kitchen; ICO=KITCHEN; IMGSET=LIGHT
Kitchen		

#### 4.1.3. 1-bit-ON/OFF-Toggle-Text with Value

Element Type Nr. 3

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B0 =Off		Text or icon on the button for value 0. Icon filename without file extension.
B1 =On		Text or icon on the button for value 1. Icon filename without file extension.
L0 =Off		Text or icon on the label for value 0. Icon filename without file extension.
L1 =On		Text or icon on the label for value 1. Icon filename without file extension.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
LSWAP		Swap the contents on the label, so it shows the opposite of the input value.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName(arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-bit values.		
Example		
1-bit-ON/OFF-Toggle-Text with Value		1-bit-ON/OFF-Toggle-Text with Value
Aus	Ein	
Button swap		Button swap;B0=Off;B1=On;L0=Off;L1=On;BSWAP
Off	Off	
Label swap		Label swap;B0=Off;B1=On;L0=Off;L1=On;LSWAP
On	On	
No background		No background;B0=Off;B1=On;L0=Off;L1=On;NOBG
Off	On	
Nursery		Nursery;B0=HEATING;B1=COOLING;L0=CHILD_1;L1=Text
Nursery		
Text		



#### 4.1.4. 1-bit-ON/OFF-Toggle-Picture with Value

Element Type Nr. 4

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
LSWAP		Swap the contents on the label, so it shows the opposite of the input value.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName (arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.

Info
Element to send and receive a 1-bit values.

Example	
1-bit-ON/OFF-Toggle-Picture with Value	1-bit-ON/OFF-Toggle-Picture with Value
	; IMGSET=ONOFF
Light	Light; IMGSET=LIGHT1
Light	Light; IMGSET=LIGHT1
Light	Light; IMGSET=LIGHT; NOBG

#### 4.1.5. 1-bit-ON/OFF-Text with Value

Element Type Nr. 5

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B0 =Off		Text or icon on the button for value 0. Icon filename without file extension.
B1 =On		Text or icon on the button for value 1. Icon filename without file extension.
L0 =Off		Text or icon on the label for value 0. Icon filename without file extension.
L1 =On		Text or icon on the label for value 1. Icon filename without file extension.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
LSWAP		Swap the contents on the label, so it shows the opposite of the input value.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName(arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-bit values.		
Example		
1-bit-ON/OFF-Text with Value		
Simple;B0=OFF;B1=ON;L0=OFF;L1=ON		
Simple;B0=OFF;B1=ON;L0=LIGHT_b_off;L1=LIGHT_b_on		
;B0=OFF ;B1=ON ;L0=OFF ;L1=ON ;NOBG		
Color;TC=#FF5733;		
Color 2;BCOL=green;LCOL=#FF0000		

#### 4.1.6. 1-bit-ON/OFF-Picture with Value

Element Type Nr. 6

ETS Group Objects		
A IO, Switching	1 bit	Main group object.
B Input, Feedback	1 bit	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
BSWAP		Swap the contents on the button, so if pressed, it outputs the opposite of what it shows on the button.
LSWAP		Swap the contents on the label, so it shows the opposite of the input value.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC =fooName (arg)		Call a LUA logic function on button press.
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.

Info	
Element to send and receive a 1-bit values.	

Example	
1-bit-ON/OFF-Picture with Value	1-bit-ON/OFF-Picture with Value
OnOff	OnOff; IMGSET=ONOFF
Light	Light; ICO=LIGHT1_b_off; IMGSET=LIGHT
Reading	Reading; IMGSET=LIGHT3; NOBG

#### 4.1.7. 1-Bit-Value-Pushbutton

Element Type Nr. 40

ETS Group Objects		
A Output, Value	1 bit	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	1 bit	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		

Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

Info	
	Element to send 1-bit values on button press and/or release.

Example	
1-Bit-Value-Pushbutton	1-Bit-Value-Pushbutton
	; PRESS=1; IMG=SEND
Play	Play; RELEASE=0; IMG=PLAY
Stop	Stop; RELEASE=1; LABEL=Stop; TC=red
Play	Play; RELEASE=0; LABEL=Play; ICO=SAUNA; TC=green

#### 4.1.8. 1-bit-Quad-ON/OFF-Status/Toggle-Text

Element Type Nr. 85

<b>ETS Group Objects</b>		
A IO, Switching 1	1 bit	Group object for the associated channel.
B IO, Switching 2	1 bit	Group object for the associated channel.
C IO, Switching 3	1 bit	Group object for the associated channel.
D IO, Switching 4	1 bit	Group object for the associated channel.
<b>Format</b>		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
LABELS =ON,OFF,ON,OFF		Text for each button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
N =2		Number of buttons displayed.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
ALARM		Acoustic alarm if the value is 1.
<b>Info</b>		
Element to send and receive 4 x 1-bit values.		
LABELS = Label button 1 for value 1, Label button 1 for value 0, Label button 2 for value 1, Label button 2 for value 0, ...		
<b>Example</b>		
1-bit-Quad-ON/OFF-Status/Toggle-Text		1-bit-Quad-ON/OFF-Status/Toggle-Text
Doors		Doors; LABELS=Open 1,Close 1,Open 2,Close 2,Open 3,Close 3; N=3
Numbers		Numbers; LABELS=10,11,20,21,30,31; N=3
Alarm		Alarm; LABELS=ON 1,OFF 1,ON 2,OFF 2; N=2; ALARM; ICO=WARNING; TC=red

#### 4.1.9. 1-bit-Quad-ON/OFF-Status/Toggle-Picture

Element Type Nr. 86

**ETS Group Objects**

A IO, Switching 1	1 bit	Group object for the associated channel.
B IO, Switching 2	1 bit	Group object for the associated channel.
C IO, Switching 3	1 bit	Group object for the associated channel.
D IO, Switching 4	1 bit	Group object for the associated channel.

**Format**

W =200	Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSETS =BELL,AL,LIGHT	Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
N =2	Number of buttons displayed.
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ	Send a read request for the group object/s on startup.
PIN =2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
ALARM	Acoustic alarm if the value is 1.

**Info**

Element to send and receive 4 x 1-bit values.

**Example**

1-bit-Quad-ON/OFF-Status/Toggle-Picture	1-bit-Quad-ON/OFF-Status/Toggle-Picture
Sockets	Sockets; IMGSETS=ONOFF
Only 3	Only 3; IMGSETS=BELL,AL,LIGHT3; N=3; ICO=DOOR
	; IMGSETS=WINDOW, DOOR; N=2; ALARM; NOBG

#### 4.1.10. 1-bit-Quad-Value-Pushbutton-Text

Element Type Nr. 87

<b>ETS Group Objects</b>		
A Output, Switching 1	1 bit	Group object for the associated channel.
B Output, Switching 2	1 bit	Group object for the associated channel.
C Output, Switching 3	1 bit	Group object for the associated channel.
D Output, Switching 4	1 bit	Group object for the associated channel.
<b>Format</b>		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
LABELS =ON,OFF,ON,OFF		Text for each button.
PRESS =1,0,1,0		Value for each button sent on press.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
N =2		Number of buttons displayed.
J1 =3		Button 1 jump to page x. x is 0..5 for page 1..6.
J2 =2		Button 2 jump to page x. x is 0..5 for page 1..6.
J3 =1		Button 3 jump to page x. x is 0..5 for page 1..6.
J4 =0		Button 4 jump to page x. x is 0..5 for page 1..6.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
<b>Info</b>		
Element to send 4 x 1-bit values.		
LABELS = Label push button 1, Label push button 2, ... PRESS = Value sent push button 1, Value sent push button 2,...		
<b>Example</b>		
	1-bit-Quad-Value-Pushbutton-Text	
	Example; LABELS=ON,OFF,ON,OFF; PRESS=1,0,1,0	
	Only 3; LABELS=1,2,3; N=3; ICO=SCENE2; J1=0; J2=1; J3=2	
	No Button; LABELS=OFF1,OFF2; PRESS=0,0; N=2; NOBG	

#### 4.1.11. 1-bit-Quad-Value-Pushbutton-Picture

Element Type Nr. 88

ETS Group Objects		
A Output, Switching 1	1 bit	Group object for the associated channel.
B Output, Switching 2	1 bit	Group object for the associated channel.
C Output, Switching 3	1 bit	Group object for the associated channel.
D Output, Switching 4	1 bit	Group object for the associated channel.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
PRESS =1,0,1,0		Value for each button sent on press.
IMGSETS =BELL,AL,LIGHT		Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
N =2		Number of buttons displayed.
J1 =3		Button 1 jump to page x. x is 0..5 for page 1..6.
J2 =2		Button 2 jump to page x. x is 0..5 for page 1..6.
J3 =1		Button 3 jump to page x. x is 0..5 for page 1..6.
J4 =0		Button 4 jump to page x. x is 0..5 for page 1..6.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Element to send 4 x 1-bit values.		
PRESS = Value sent push button 1, Value sent push button 2,...		
Example		
1-bit-Quad-Value-Pushbutton-Picture		1-bit-Quad-Value-Pushbutton-Picture
Bells		Bells; IMGSETS=BELL; PRESS=1,1,1,1
No Buttons		No Buttons; IMGSETS=BELL,AL,HC; N=3; NOBG
Door and Window		Door and Window; IMGSETS=DOOR,WINDOW; N=2; PRESS=0,1; ICO=DOOR

## 4.2. 1 Byte

Image	Nr.	Element Type
	Data type	Format
1-Byte-Value-Text-Button 0..255	10	<b>1-Byte-Value-Text-Button 0..255</b>
Down      0      Up	2x 1 Byte	W, B+, B-, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Picture-Button 0..255	11	<b>1-Byte-Value-Picture-Button 0..255</b>
—      0      +	2x 1 Byte	W, IMGSET, IMGVAL, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Slider 0..255	12	<b>1-Byte-Value-Slider 0..255</b>
	2x 1 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
1-Byte-Value-Text-Button -128..127	13	<b>1-Byte-Value-Text-Button -128..127</b>
Down      -21      Up	2x 1 Byte	W, B+, B-, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Picture-Button -128..127	14	<b>1-Byte-Value-Picture-Button -128..127</b>
—      0      +	2x 1 Byte	W, IMGSET, IMGVAL, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Slider -128..127	15	<b>1-Byte-Value-Slider -128..127</b>
	2x 1 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
1-Byte-Value-Text-Button 0..100%	16	<b>1-Byte-Value-Text-Button 0..100%</b>
Down      0%      Up	2x 1 Byte	W, B+, B-, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Picture-Button 0..100%	17	<b>1-Byte-Value-Picture-Button 0..100%</b>
—      3%      +	2x 1 Byte	W, IMGSET, IMGVAL, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Slider 0..100%	18	<b>1-Byte-Value-Slider 0..100%</b>
	2x 1 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
1-Byte-Value-Text-Button 0..360°	19	<b>1-Byte-Value-Text-Button 0..360°</b>
Down      360°      Up	2x 1 Byte	W, B+, B-, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Picture-Button 0..360°	20	<b>1-Byte-Value-Picture-Button 0..360°</b>
—      0°      +	2x 1 Byte	W, IMGSET, IMGVAL, ICO, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
1-Byte-Value-Slider 0..360°	21	<b>1-Byte-Value-Slider 0..360°</b>
	2x 1 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
1-Byte-Value-Pushbutton	41	<b>1-Byte-Value-Pushbutton</b>
	2x 1 Byte	LABEL, PRESS, RELEASE, IMG, ICO, JUMP, NOBG, PIN, LOGIC, LOGICR
1-Byte-Quad-Value/Change 0..255	89	<b>1-Byte-Quad-Value/Change 0..255</b>
NIL      NIL      NIL      NIL	4x 1 Byte	LABELS, PRESS, IMGSETS, ICO, TC, PF, N, RDRQ
1-Byte-Quad-Value/Change -128..+127	90	<b>1-Byte-Quad-Value/Change -128..+127</b>
NIL      NIL      NIL      NIL	4x 1 Byte	LABELS, PRESS, IMGSETS, ICO, TC, PF, N, RDRQ
1-Byte-Quad-Value/Change 0..100%	91	<b>1-Byte-Quad-Value/Change 0..100%</b>
NIL      NIL      NIL      NIL	4x 1 Byte	LABELS, PRESS, IMGSETS, ICO, TC, PF, N, RDRQ
1-Byte-Quad-Value/Change 0..360°	92	<b>1-Byte-Quad-Value/Change 0..360°</b>
NIL      NIL      NIL      NIL	4x 1 Byte	LABELS, PRESS, IMGSETS, ICO, TC, PF, N, RDRQ

#### 4.2.1. 1-Byte-Value-Text-Button 0..255

Element Type Nr. 10

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values.		
Example		
1-Byte-Value-Text-Button 0..255	1-Byte-Value-Text-Button 0..255	
Example	Example; B+=Up; B-=Down; MIN=0; MAX=200; STEPS=10; REP=1000; PF=bits	
Volume	Volume; B+=+; B=-; MIN=0; MAX=11; STEPS=11; ICO=SOUND_up	
Lights	Lights; B+=Add; B-=remove; MIN=0; MAX=10; STEPS=10; NOBG	

#### 4.2.2. 1-Byte-Value-Picture-Button 0..255

Element Type Nr. 11

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values.		
Example		
1-Byte-Value-Picture-Button 0..255		1-Byte-Value-Picture-Button 0..255
Example		Example; IMGSET=PM;MIN=0;MAX=200;STEPS=10;REP=1000
Volume		Volume; IMGSET=SOUND;MIN=0;MAX=11;STEPS=11;ICO=TERRACE
Volume		Volume; IMGSET=SOUND;MIN=0;MAX=11;STEPS=11;NOBG
Light Color		Light Color; IMGSET=PM; IMGVAL=LIGHTQUAL; STEPS=7

#### 4.2.3. 1-Byte-Value-Slider 0..255

Element Type Nr. 12

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.

#### Info

Element to send and receive a 1-Byte values.

#### Example

1-Byte-Value-Slider 0.255	1-Byte-Value-Slider 0..255
	129
Slider	Slider; MIN=20; MAX=55; PF=%
	39 %
ELEMENT12	ELEMENT12; ICO=DOOR_b_on; MIN=20; MAX=100; W=1
	49
ELEMENT	ELEMENT; ICO=VENTIL_COOLING; W=1
	77

#### 4.2.4. 1-Byte-Value-Text-Button -128..127

Element Type Nr. 13

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values.		
Example		
1-Byte-Value-Text-Button -128..127		1-Byte-Value-Text-Button -128..127
Example		Example; B+=UP; B-=DOWN; MIN=-128; MAX=128; STEPS=37; PF= count
Volume		Volume; B+=+; B=- -; MIN=-11; MAX=11; STEPS=22; ICO=SOUND_up
Volume		Volume; IB+=UP; B-=DOWN; MIN=-11; MAX=11; STEPS=22; NOBG

#### 4.2.5. 1-Byte-Value-Picture-Button -128..127

Element Type Nr. 14

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values.		
Example		
1-Byte-Value-Picture-Button -128.127		1-Byte-Value-Picture-Button -128..127
Example		Example; IMGSET=PM;MIN=-100;MAX=100;STEPS=10;REP=1000
Volume		Volume; IMGSET=SOUND;MIN=-11;MAX=11;STEPS=22;ICO=TERRACE
Volume		Volume; IMGSET=SOUND;MIN=-11;MAX=11;STEPS=22;NOBG
Light		Light; IMGSET=PM; IMGVAL=traffic_light;MIN=0;MAX=2

#### 4.2.6. 1-Byte-Value-Slider -128..127

Element Type Nr. 15

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
PF	= °C
MIN	=7
MAX	=10
REP	=500
RDRQ	
PIN	=2342
AL	=0
AH	=1

Tries to in-/de-increase the width of the label to x pixel (or %).  
Icon displayed on the left side of the element. Icon file name without file extension.  
Unit displayed after the value.  
Upper value limit.  
Lower value limit.  
Button press repetition interval in case of long button press, in milliseconds.  
Send a read request for the group object/s on startup.  
Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)  
Alarm lower limit. Only works on alarm Page.  
Alarm upper limit. Only works on alarm Page.

Info	
Element to send and receive a 1-Byte values.	

Example	
1-Byte-Value-Slider -128..127	1-Byte-Value-Slider -128..127
	0
Slider	Slider;MIN=-100;MAX=100;PF=%
	-56 %
ELEMENT	ELEMENT;ICO=DOOR_b_on;MIN=20;MAX=100;W=1
	43
ELEMENT	ELEMENT;ICO=VENTIL_COOLING;W=1
	0

#### 4.2.7. 1-Byte-Value-Text-Button 0..100%

Element Type Nr. 16

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values 0..255 displayed as 0..100%.		
Example		
1-Byte-Value-Text-Button 0..100%		1-Byte-Value-Text-Button 0..100%
Example		Example; B+=Up; B-=Down; MIN=10; MAX=50; STEPS=4; REP=1000; PF= %
Volume		Volume; B+=+; B=- -; STEPS=20; ICO=SOUND_up
Lights		Lights; B+=Add; B-=Remove; MIN=0; MAX=10; STEPS=10; NOBG

#### 4.2.8. 1-Byte-Value-Picture-Button 0..100%

Element Type Nr. 17

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values 0..255 displayed as 0..100%.		
Example		
1-Byte-Value-Picture-Button 0..100%		
Example; IMGSET=PM; PF= %		
Down      5 %      Up		
Volume		
Volume; IMGSET=SOUND; MIN=0; MAX=50; ICO=TERRACE		
Volume; IMGSET=SOUND; MIN=0; MAX=11; STEPS=11; NOBG		
Light Color		
Light Color; IMGSET=PM; IMGVAL=LIGHTQUAL; STEPS=7		

#### 4.2.9. 1-Byte-Value-Slider 0..100%

Element Type Nr. 18

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
PF	= °C
MIN	=7
MAX	=10
REP	=500
RDRQ	
PIN	=2342
AL	=0
AH	=1
	Tries to in-/de-increase the width of the label to x pixel (or %).
	Icon displayed on the left side of the element. Icon file name without file extension.
	Unit displayed after the value.
	Upper value limit.
	Lower value limit.
	Button press repetition interval in case of long button press, in milliseconds.
	Send a read request for the group object/s on startup.
	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
	Alarm lower limit. Only works on alarm Page.
	Alarm upper limit. Only works on alarm Page.

Info	
Element to send and receive a 1-Byte values 0..255 displayed as 0..100%.	

Example	
1-Byte-Value-Slider 0..100%	1-Byte-Value-Slider 0..100%
	57 %
Slider	Slider; MIN=50; MAX=100; PF=%
	50 %
ELEMENT	ELEMENT; ICO=DOOR_b_on; MIN=20; MAX=100; W=1
	100 %
ELEMENT	ELEMENT; ICO=VENTIL_COOLING; W=1
	46 %

#### 4.2.10. 1-Byte-Value-Text-Button 0..360°

Element Type Nr. 19

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values 0..255 displayed as 0..360°.		
Example		
1-Byte-Value-Text-Button 0..360°	1-Byte-Value-Text-Button 0..360°	
Example	Example; B+=Up; B-=Down; MIN=0; MAX=180; STEPS=10; REP=1000; PF= °	
Angle	Angle; B+=+; B=- -; MIN=0; MAX=90; ICO=ACK_b_off	
Angle	Angle; B+=Add; B-=Remove; MIN=0; MAX=10; STEPS=10; NOBG	

#### 4.2.11. 1-Byte-Value-Picture-Button 0..360°

Element Type Nr. 20

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values 0..255 displayed as 0..360°.		
Example		
1-Byte-Value-Picture-Button 0..360°		1-Byte-Value-Picture-Button 0..360°
Example		Example; IMGSET=PM; PF= °
Angle		Angle; IMGSET=UPDOWN5; MIN=0; MAX=90; ICO=ACK_b_off
Angle		Angle; IMGSET=UPDOWN5; MIN=0; MAX=10; STEPS=10; NOBG
Light Color		Light Color; IMGSET=PM; IMGVAL=LIGHTQUAL; STEPS=7

#### 4.2.12. 1-Byte-Value-Slider 0..360°

Element Type Nr. 21

ETS Group Objects		
A IO, Value	1 Byte	Main group object.
B Input, Feedback	1 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 1-Byte values 0..255 displayed as 0..360°.		
Example		
1-Byte-Value-Slider 0..360°		1-Byte-Value-Slider 0..360°
	147°	
Slider		Slider; MIN=180; MAX=360; PF=deg
	100 deg	
ELEMENT		ELEMENT; ICO=DOOR_b_on; MIN=20; MAX=100; W=1
	58 %	
ELEMENT		ELEMENT; ICO=VENTIL_COOLING; W=1
	0 %	

#### 4.2.13. 1-Byte-Value-Pushbutton

Element Type Nr. 41

ETS Group Objects		
A Output, Value	1 Byte	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	1 Byte	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		
Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.
Info		
Element to send 1-Byte values on button press and/or release.		
Example		
		1-Byte-Value-Pushbutton
		;PRESS=42; IMG=SEND
		Play;PRESS=11;RELEASE=33;IMG=PLAY
		Stop;RELEASE=22;LABEL=Stop;TC=red
		Play;RELEASE=0;LABEL=Play;ICO=SAUNA;TC=green

#### 4.2.14. 1-Byte-Quad-Value/Change 0..255

Element Type Nr. 89

ETS Group Objects						
A Input, Value 1	1 Byte	Group object for the associated channel.				
A Input, Value 2	1 Byte	Group object for the associated channel.				
A Input, Value 3	1 Byte	Group object for the associated channel.				
A Input, Value 4	1 Byte	Group object for the associated channel.				
Format						
LABELS =ON,OFF,ON,OFF	Text for each button.					
PRESS =10,0,100,0	Value for each button sent on press. The values are the raw 1 byte values, unscaled.					
IMGSETS =BELL,AL,LIGHT	Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.					
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.					
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).					
PF = °C	Unit displayed after the value.					
N =2	Number of buttons displayed.					
RDRQ	Send a read request for the group object/s on startup.					
Info						
Element to send and receive four 1-Byte values.						
If PRESS is defined the element becomes a quad pushbutton element. In this case LABELS or IMGSETS can be used to set text labels or images for the pushbuttons. The values defined with PRESS are send to the associated group objects.						
Example						
1-Byte-Quad-Value/Change 0..255	1-Byte-Quad-Value/Change 0..255					
<table border="1"> <tr> <td>NIL</td><td>NIL</td><td>NIL</td><td>NIL</td></tr> </table>	NIL	NIL	NIL	NIL		
NIL	NIL	NIL	NIL			
4x1 Byte	4x1 Byte;N=3;PF=lux;					
<table border="1"> <tr> <td>1 lux</td><td>1 lux</td><td>1 lux</td></tr> </table>	1 lux	1 lux	1 lux			
1 lux	1 lux	1 lux				
Pushbutton	Value change menu.					
<table border="1"> <tr> <td>1 lux</td><td>3 lux</td><td>3 lux</td><td>ON</td></tr> </table>	1 lux	3 lux	3 lux	ON	03:07:59 AM 01/01/1970	
1 lux	3 lux	3 lux	ON			
Pushbutton	Pushbutton;N=3;PRESS=1,2,3;LABELS=V1,V2,V3;ICO=TERRACE					
<table border="1"> <tr> <td>V1</td><td>V2</td><td>V3</td></tr> </table>	V1	V2	V3			
V1	V2	V3				
Pushbutton	Pushbutton;N=3;PRESS=1,2,3;IMGSETS=BELL,AL,LIGHT3;ICO=TERRACE					
<table border="1"> <tr> <td>hH</td><td>Bell</td><td>Clock ON</td><td>Light</td></tr> </table>	hH	Bell	Clock ON	Light		
hH	Bell	Clock ON	Light			

#### 4.2.15. 1-Byte-Quad-Value/Change -128..+127

Element Type Nr. 90

ETS Group Objects				
A Input, Value 1	1 Byte	Group object for the associated channel.		
A Input, Value 2	1 Byte	Group object for the associated channel.		
A Input, Value 3	1 Byte	Group object for the associated channel.		
A Input, Value 4	1 Byte	Group object for the associated channel.		
Format				
LABELS =ON,OFF,ON,OFF	Text for each button.			
PRESS =10,0,100,0	Value for each button sent on press. The values are the raw 1 byte values, unscaled.			
IMGSETS =BELL,AL,LIGHT	Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.			
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.			
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).			
PF = °C	Unit displayed after the value.			
N =2	Number of buttons displayed.			
RDRQ	Send a read request for the group object/s on startup.			
Info				
Element to send and receive four 1-Byte values.				
If PRESS is defined the element becomes a quad pushbutton element. In this case LABELS or IMGSETS can be used to set text labels or images for the pushbuttons. The values defined with PRESS are send to the associated group objects.				
Example				
1-Byte-Quad-Value/Change -128..+127	1-Byte-Quad-Value/Change -128..+127			
NIL NIL NIL NIL				
Count	Count;N=3;PF= bit;			
1 bit 1 bit -11 bit				
04:48:29 AM 01/01/1970	Value change menu.			
Pushbutton	Pushbutton;N=3;PRESS=-1,0,1;LABELS=V-1,V0,V1;ICO=TERRACE			
Pushbutton	Pushbutton;N=3;PRESS=-1,0,1;IMGSETS=BELL,AL,LIGHT3;ICO=TERRACE			

#### 4.2.16. 1-Byte-Quad-Value/Change 0..100%

Element Type Nr. 91

ETS Group Objects							
A Input, Value 1	1 Byte	Group object for the associated channel.					
A Input, Value 2	1 Byte	Group object for the associated channel.					
A Input, Value 3	1 Byte	Group object for the associated channel.					
A Input, Value 4	1 Byte	Group object for the associated channel.					
Format							
LABELS =ON,OFF,ON,OFF	Text for each button.						
PRESS =10,0,100,0	Value for each button sent on press. The values are the raw 1 byte values, unscaled.						
IMGSETS =BELL,AL,LIGHT	Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.						
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.						
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).						
PF = °C	Unit displayed after the value.						
N =2	Number of buttons displayed.						
RDRQ	Send a read request for the group object/s on startup.						
Info							
Element to send and receive four 1-Byte values.							
If PRESS is defined the element becomes a quad pushbutton element. In this case LABELS or IMGSETS can be used to set text labels or images for the pushbuttons. The values defined with PRESS are send to the associated group objects.							
Example							
1-Byte-Quad-Value/Change 0..100%	1-Byte-Quad-Value/Change 0..100%						
<table border="1"> <tr> <td>NIL</td><td>NIL</td><td>NIL</td><td>NIL</td></tr> </table>	NIL	NIL	NIL	NIL			
NIL	NIL	NIL	NIL				
Level	Level;N=3;PF= %;						
20 %	1 %	1 %					
			Value change menu.				
Pushbutton	Pushbutton;N=3;PRESS=64,128,191;LABELS=25%,50%,75%;ICO=TERRACE						
<table border="1"> <tr> <td></td><td>25%</td><td>50%</td><td>75%</td></tr> </table>		25%	50%	75%			
	25%	50%	75%				
Pushbutton	Pushbutton;N=3;PRESS=64,128,191;IMGSETS=BELL,AL,LIGHT;ICO=TERRACE						
<table border="1"> <tr> <td></td><td></td><td></td><td></td></tr> </table>							

#### 4.2.17. 1-Byte-Quad-Value/Change 0..360°

Element Type Nr. 92

ETS Group Objects		
A Input, Value 1	1 Byte	Group object for the associated channel.
A Input, Value 2	1 Byte	Group object for the associated channel.
A Input, Value 3	1 Byte	Group object for the associated channel.
A Input, Value 4	1 Byte	Group object for the associated channel.

Format		
LABELS =ON,OFF,ON,OFF	Text for each button.	
PRESS =10,0,100,0	Value for each button sent on press. The values are the raw 1 byte values, unscaled.	
IMGSETS =BELL,AL,LIGHT	Icon set used for the button/s. The argument is the icon sets name without file extension and without suffix, separated by comma.	
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.	
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).	
PF = °C	Unit displayed after the value.	
N =2	Number of buttons displayed.	
RDRQ	Send a read request for the group object/s on startup.	

Info		
Element to send and receive four 1-Byte values.		

If PRESS is defined the element becomes a quad pushbutton element. In this case LABELS or IMGSETS can be used to set text labels or images for the pushbuttons. The values defined with PRESS are send to the associated group objects.

1-Byte-Quad-Value/Change 0..360°				1-Byte-Quad-Value/Change 0..360°
NIL NIL NIL NIL				
Direction				Direction;N=3;PF=°
2 ° 2 ° 2 °				
Direction				Direction;PRESS=64,128,192,255;LABELS=90°,180°,270°,360°;ICO=TERRACE
90°      180°      270°      360°				
Direction				Direction;N=3;PRESS=64,128,192;IMGSETS=BELL,AL,LIGHT3;ICO=TERRACE

### 4.3. 2 Byte

Image	Nr.	Element Type
	Data type	Format
2-Byte-Value-Text-Button 0..65535	22	<a href="#">2-Byte-Value-Text-Button 0..65535</a>
Down      0      Up	2x 2 Byte	W, B+, B-, ICO, TC, LCOL, BCOL, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Value-Picture-Button 0..65535	23	<a href="#">2-Byte-Value-Picture-Button 0..65535</a>
—      0      +	2x 2 Byte	W, IMGSET, ICO, TC, LCOL, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Value-Slider 0..65535	24	<a href="#">2-Byte-Value-Slider 0..65535</a>
31809	2x 2 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
2-Byte-Value-Text-Button -32768 .. 32767	25	<a href="#">2-Byte-Value-Text-Button -32768 .. 32767</a>
Down      0      Up	2x 2 Byte	W, B+, B-, ICO, TC, LCOL, BCOL, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Value-Picture-Button -32768 .. 32767	26	<a href="#">2-Byte-Value-Picture-Button -32768 .. 32767</a>
—      0      +	2x 2 Byte	W, IMGSET, ICO, TC, LCOL, PF, STEPS, MIN, MAX, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Value-Slider -32768 .. 32767	27	<a href="#">2-Byte-Value-Slider -32768 .. 32767</a>
0	2x 2 Byte	W, ICO, PF, MIN, MAX, REP, RDRQ, PIN, AL, AH
2-Byte-Float-Text-Button	30	<a href="#">2-Byte-Float-Text-Button</a>
Down      0.00°C      Up	2x 2 Byte	W, B+, B-, ICO, TC, LCOL, BCOL, PF, DC, STEPS, MIN, MAX, *, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Float-Picture-Button	31	<a href="#">2-Byte-Float-Picture-Button</a>
—      0.00°C      +	2x 2 Byte	W, IMGSET, ICO, TC, LCOL, PF, DC, STEPS, MIN, MAX, *, REP, NOBG, RDRQ, PIN, AL, AH
2-Byte-Float-Slider	32	<a href="#">2-Byte-Float-Slider</a>
29.86°C	2x 2 Byte	W, ICO, PF, DC, MIN, MAX, *, REP, RDRQ, PIN, AL, AH
2-Byte-Value-Pushbutton	42	<a href="#">2-Byte-Value-Pushbutton</a>
=✉	2x 2 Byte	LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR
2-Byte-Float-Value-Pushbutton	43	<a href="#">2-Byte-Float-Value-Pushbutton</a>
=✉	2x 2 Byte	LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR

### 4.3.1. 2-Byte-Value-Text-Button 0..65535

Element Type Nr. 22

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Value-Text-Button 0..65535		2-Byte-Value-Text-Button 0..65535
Something		Something; PF= count; B+=UP; B-=DOWN; MIN=50; MAX=200; STEPS=75
PPM		PPM; PF= ppm; B+=AUF; B-=AB; MIN=300; MAX=1100; STEPS=400
2Byte-Text		2Byte-Text; ICO=TERRACE; BCOL=red; LCOL=green; NOBG

### 4.3.2. 2-Byte-Value-Picture-Button 0..65535

Element Type Nr. 23

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Value-Picture-Button 0..65535		2-Byte-Value-Picture-Button 0..65535
Something		Something; IMGSET=SHUTTER; PF= count; MIN=50; MAX=200; STEPS=75
PPM		PPM; IMGSET=LIGHT1; MIN=300; MAX=1100; STEPS=400
2Byte-Picture		2Byte-Picture; ICO=TERRACE; TC=green; NOBG

### 4.3.3. 2-Byte-Value-Slider 0..65535

Element Type Nr. 24

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
PF	= °C
MIN	=7
MAX	=10
REP	=500
RDRQ	
PIN	=2342
AL	=0
AH	=1

Tries to in-/de-increase the width of the label to x pixel (or %).  
Icon displayed on the left side of the element. Icon file name without file extension.  
Unit displayed after the value.  
Upper value limit.  
Lower value limit.  
Button press repetition interval in case of long button press, in milliseconds.  
Send a read request for the group object/s on startup.  
Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)  
Alarm lower limit. Only works on alarm Page.  
Alarm upper limit. Only works on alarm Page.

Info	
Element to send and receive a 2-Byte values.	

Example	
2-Byte-Value-Slider 0..65535	2-Byte-Value-Slider 0..65535
31809	
2Byte-Slider	2Byte-Slider;MIN=50;MAX=200
160	
ELEMENT	ELEMENT;ICO=VENTIL_COOLING;W=1
49014	

#### 4.3.4. 2-Byte-Value-Text-Button -32768 .. 32767

Element Type Nr. 25

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Value-Text-Button -32768 .. 32767		2-Byte-Value-Text-Button -32768 .. 32767
Something		Something; PF= count; B+=UP; B-=DOWN; MIN=-2000; MAX=100
PPM		PPM; PF= ppm; B+=AUF; B-=AB; MIN=-300; MAX=800; STEPS=400
2Byte-Text		2Byte-Text; ICO=TERRACE; BCOL=red; LCOL=green; NOBG

#### 4.3.5. 2-Byte-Value-Picture-Button -32768 .. 32767

Element Type Nr. 26

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Value-Picture-Button -32768 .. 32767		2-Byte-Value-Picture-Button -32768 .. 32767
Something	-180	count
PPM	-937	
2Byte-Picture	-2047	

#### 4.3.6. 2-Byte-Value-Slider -32768 .. 32767

Element Type Nr. 27

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
PF	= °C
MIN	=7
MAX	=10
REP	=500
RDRQ	
PIN	=2342
AL	=0
AH	=1

Tries to in-/de-increase the width of the label to x pixel (or %).  
Icon displayed on the left side of the element. Icon file name without file extension.  
Unit displayed after the value.  
Upper value limit.  
Lower value limit.  
Button press repetition interval in case of long button press, in milliseconds.  
Send a read request for the group object/s on startup.  
Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)  
Alarm lower limit. Only works on alarm Page.  
Alarm upper limit. Only works on alarm Page.

Info	
Element to send and receive a 2-Byte values.	

Example	
2-Byte-Value-Slider -32768 .. 32767	2-Byte-Value-Slider -32768 .. 32767
	0
2Byte-Slider	2Byte-Slider;MIN=-200;MAX=200
	-117
ELEMENT	ELEMENT;ICO=VENTIL_COOLING;W=1
	-17417

#### 4.3.7. 2-Byte-Float-Text-Button

Element Type Nr. 30

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
* =100		Multiplier for the displayed value.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Float-Text-Button		2-Byte-Float-Text-Button
Something		Something; PF=°C; B+=UP; B-=DOWN; MIN=-10; MAX=30
PPM		PPM; PF= ppm; B+=AUF; B-=AB; MIN=0; MAX=10; DC=1; *=-100; STEPS=5
2Byte-Text		2Byte-Text; ICO=TERRACE; BCOL=red; LCOL=green; NOBG

#### 4.3.8. 2-Byte-Float-Picture-Button

Element Type Nr. 31

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
* =100		Multiplier for the displayed value.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-Float-Picture-Button		2-Byte-Float-Picture-Button
Something		Something; IMGSET=SHUTTER; PF= count
PPM		PPM; IMGSET=LIGHT1; DC=3; *=0.01;
2Byte-Picture		2Byte-Picture; ICO=TERRACE; TC=green; NOBG

#### 4.3.9. 2-Byte-FLOAT-Slider

Element Type Nr. 32

ETS Group Objects		
A IO, Value	2 Byte	Main group object.
B Input, Feedback	2 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
* =100		Multiplier for the displayed value.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 2-Byte values.		
Example		
2-Byte-FLOAT-Slider		2-Byte-FLOAT-Slider
		29.86°C
2Byte-Slider		2Byte-Slider;MIN=-200.2;MAX=200.2
		200.16°C
2Byte-Slider		ELEMENT; ICO=VENTIL_COOLING; W=1
		200.16°C

#### 4.3.10. 2-Byte-Value-Pushbutton

Element Type Nr. 42

ETS Group Objects		
A Output, Value	2 Byte	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	2 Byte	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		

Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

Info	
	Element to send 2-Byte integer values on button press and/or release.

Example	
2-Byte-Value-Pushbutton	2-Byte-Value-Pushbutton
	; PRESS=42; IMG=SEND
Play	Play; PRESS=11; RELEASE=33; IMG=PLAY
Stop	Stop; RELEASE=22; LABEL=Stop; TC=red
Play	Play; RELEASE=0; LABEL=Play; ICO=SAUNA; TC=green
	Play

#### 4.3.11. 2-Byte-Float-Value-Pushbutton

Element Type Nr. 43

ETS Group Objects		
A Output, Value	2 Byte	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	2 Byte	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		

Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

Info	
	Element to send 2-Byte float values on button press and/or release.

Example	
2-Byte-Float-Value-Pushbutton	2-Byte-Float-Value-Pushbutton
	;PRESS=42.2;IMG=SEND
Play	Play;PRESS=11.1;RELEASE=33.1;IMG=PLAY
Stop	Stop;RELEASE=22.1;LABEL=Stop;TC=red
Play	Play;RELEASE=0.0;LABEL=Play;ICO=SAUNA;TC=green

#### 4.4. 3 Byte

Image	Nr.	Element Type
	Data type	Format
3-Byte-Time 00:00:00	50	<b>3-Byte-Time</b>
	2x3 Byte	ICO, TC, ACTUAL, LONG, RDRQ, PIN
3-Byte-Date 00/00/00	51	<b>3-Byte-Date</b>
	2x3 Byte	ICO, TC, ACTUAL, LONG, RDRQ, PIN

#### 4.4.1. 3-Byte-Time

Element Type Nr. 50

ETS Group Objects		
A IO, Time	3 Byte	Main group object.
B Input, Feedback	3 Byte	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		
Format		
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
ACTUAL		Display the system time/date instead of group object values.
LONG		Use long formatting.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Element to send and receive a 3-Byte Time values.		
If ACTUAL is used, the group objects become inactive and the submenu is disabled.		
Example		
3-Byte-Time	3-Byte-Time	
00:00:00		
3-byte-time	3-byte-time; ICO=CLOCK_ICO; ACTUAL	
(L) 06:55:57		
3-byte-time	3-byte-time; ICO=CLOCK_ICO; LONG; TC=red	
(L) Sun 00:00:00		
Pla 1Bi 1 B 3-b	07:00:12 AM 01/01/1970  Cancel OK	Pressing the value will open a dialog box. By pressing the OK button, the time is sent on the associated group object.
Wed 17 : 01 : 59		
ON		

#### 4.4.2. 3-Byte-Date

Element Type Nr. 51

ETS Group Objects		
A IO, Time	3 Byte	Main group object.
B Input, Feedback	3 Byte	Optional feedback group object. If connected, group object A becomes output only.
N/A		
N/A		
Format		
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
ACTUAL		Display the system time/date instead of group object values.
LONG		Use long formatting.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Element to send and receive a 3-Byte Date values.		
If ACTUAL is used, the group objects become inactive and the submenu is disabled.		
Example		
3-Byte-Date	3-Byte-Date	
00/00/00		
3-byte-date	3-byte-date; ICO=CLOCK_ICO; ACTUAL	
(L) 01/01/70		
3-byte-date	3-byte-date; ICO=CLOCK_ICO; LONG; TC=red	
(L) 27/01/2000		
Pla [ ] 1 Bi 1 B 3-b: (L) 27/01/2000	07:12:39 AM 01/01/1970  January > 2000 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5  Cancel OK	Pressing the value will open a dialog box. By pressing the OK button, the date is sent on the associated group object.

#### 4.5. 4 Byte

Image	Nr.	Element Type
	Data type	Format
4-Byte-Float-Text-Button 	33	<a href="#">4-Byte-Float-Text-Button</a>
Down      0.00°C      Up	2x4 Byte	W, B+, B-, ICO, TC, LCOL, BCOL, PF, DC, STEPS, MIN, MAX, *, REP, INT, UINT, NOBG, RDRQ, PIN, AL, AH
4-Byte-Float-Picture-Button 	34	<a href="#">4-Byte-Float-Picture-Button</a>
—      0.00°C      +	2x4 Byte	W, IMGSET, ICO, TC, LCOL, PF, DC, STEPS, MIN, MAX, *, REP, INT, UINT, NOBG, RDRQ, PIN, AL, AH
4-Byte-Float-Slider 	35	<a href="#">4-Byte-Float-Slider</a>
0.00°C	2x4 Byte	W, ICO, PF, DC, MIN, MAX, *, REP, INT, UINT, RDRQ, PIN, AL, AH
4-Byte-Value-Pushbutton 	44	<a href="#">4-Byte-Value-Pushbutton</a>
=☒	2x4 Byte	LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR
4-Byte-Float-Value-Pushbutton 	45	<a href="#">4-Byte-Float-Value-Pushbutton</a>
=☒	2x4 Byte	LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR

#### 4.5.1. 4-Byte-Float-Text-Button

Element Type Nr. 33

ETS Group Objects		
A IO, Value	4 Byte	Main group object.
B Input, Feedback	4 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
* =100		Multiplier for the displayed value.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
INT		Shift of number range to 4 Byte integer. DPT13.*
UINT		Shift of number range to 4 Byte unsigned integer. DPT12.*
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 4-Byte values.		
Example		
4-Byte-Float-Text-Button		4-Byte-Float-Text-Button
Down	0.00°C	Up
Something		
DOWN	0.000°C	UP
PPM		
AB	400.0 ppm	AUF
2Byte-Text		2Byte-Text; ICO=TERRACE; BCOL=red; LCOL=green; NOBG
↑	Down	0.00°C Up

#### 4.5.2. 4-Byte-Float-Picture-Button

Element Type Nr. 34

ETS Group Objects		
A IO, Value	4 Byte	Main group object.
B Input, Feedback	4 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		
Format		
W =200		Tries to in-/decrease the width of the label to x pixel (or %).
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
STEPS =5		Number of steps between MIN and MAX.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
* =100		Multiplier for the displayed value.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
INT		Shift of number range to 4 Byte integer. DPT13.*
UINT		Shift of number range to 4 Byte unsigned integer. DPT12.*
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL =0		Alarm lower limit. Only works on alarm Page.
AH =1		Alarm upper limit. Only works on alarm Page.
Info		
Element to send and receive a 4-Byte values.		
Example		
4-Byte-Float-Picture-Button		4-Byte-Float-Picture-Button
Something		Something; IMGSET=SHUTTER; PF= %; MIN=-10; MAX=30; DC=3
PPM		PPM; IMGSET=LIGHT1; DC=3; *=0.01;
4Byte-Picture		4Byte-Picture; ICO=TERRACE; TC=green; NOBG

#### 4.5.3. 4-Byte-Float-Slider

Element Type Nr. 35

ETS Group Objects		
A IO, Value	4 Byte	Main group object.
B Input, Feedback	4 Byte	Optional feedback group object. If connected, group object A remains input and output.
N/A		
N/A		

Format		
W	=200	Tries to in-/decrease the width of the label to x pixel (or %).
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
PF	= °C	Unit displayed after the value.
DC	=2	Number of decimal places displayed.
MIN	=7	Upper value limit.
MAX	=10	Lower value limit.
*	=100	Multiplier for the displayed value.
REP	=500	Button press repetition interval in case of long button press, in milliseconds.
INT		Shift of number range to 4 Byte integer. DPT13.*
UINT		Shift of number range to 4 Byte unsigned integer. DPT12.*
RDRQ		Send a read request for the group object/s on startup.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
AL	=0	Alarm lower limit. Only works on alarm Page.
AH	=1	Alarm upper limit. Only works on alarm Page.

#### Info

Element to send and receive a 4-Byte values.

#### Example

4-Byte-Float-Slider	0.00°C	4-Byte-Float-Slider
4Byte-Slider	200.22°C	4Byte-Slider;MIN=-200.22;MAX=200.22
ELEMENT	42.55°C	ELEMENT; ICO=VENTIL_COOLING; W=1

#### 4.5.4. 4-Byte-Value-Pushbutton

Element Type Nr. 44

ETS Group Objects		
A Output, Value	4 Byte	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	4 Byte	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		

Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

Info	
	Element to send 4-Byte integer values on button press and/or release.

Example	
4-Byte-Value-Pushbutton	4-Byte-Value-Pushbutton
4Byte	4Byte;PRESS=-6500; LABEL=OFF
OFF	
4Byte	4Byte;PRESS=10050; IMG=BELL_b_on;
Stop	Stop;RELEASE=22;LABEL=Stop;TC=red
Stop	
Play	Play;RELEASE=0.0;LABEL=Play;ICO=SAUNA;TC=green
Play	

#### 4.5.5. 4-Byte-Float-Value-Pushbutton

Element Type Nr. 45

ETS Group Objects		
A Output, Value	4 Byte	Main group object. Sends values on PRESS and/or RELEASE.
B Output, Value B	4 Byte	If this group object is connected, object A sends values on PRESS and object B sends on RELEASE.
N/A		
N/A		

Format		
LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

Info	
	Element to send 4-Byte float values on button press and/or release.

Example	
4-Byte-Float-Value-Pushbutton	4-Byte-Float-Value-Pushbutton
	;PRESS=42.2;IMG=SEND
Play	Play;PRESS=11.1;RELEASE=33.1;IMG=PLAY
Stop	Stop;RELEASE=22.1;LABEL=Stop;TC=red
Play	Play;RELEASE=0.0;LABEL=Play;ICO=SAUNA;TC=green

#### 4.6. 14 Byte

Image	Nr.	Element Type
	Data type	Format
14-Byte-String-Pushbutton 	46	<b>14-Byte-String-Pushbutton</b>
	1x14 Byte	LABEL, PRESS, RELEASE, IMG, ICO, TC, JUMP, NOBG, PIN, LOGIC, LOGICR
14-Byte-String Hello World!	52	<b>14-Byte-String</b>
	1x14 Byte	TEXT, ICO, TC, RDRQ

#### 4.6.1. 14-Byte-String-Pushbutton

Element Type Nr. 46

**ETS Group Objects**

A Output, String	14 Byte	Main group object. Sends values on PRESS and/or RELEASE.
N/A		
N/A		
N/A		

**Format**

LABEL	=Test	Text on the button.
PRESS	=1	Value sent on button press.
RELEASE	=0	Value sent on button release.
IMG	=TERRACE	Icon displayed on the button. Icon name without file extension.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC	=red	Text color. HTML color name (red) or HEX color codes (#FF0000).
JUMP	=2	Jump to page number x on button press.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
LOGIC	=fooName (arg)	Call a LUA logic function on button press.
LOGICR	=fooName (arg)	Call a LUA logic function on button release.

**Info**

Element to send 14-Byte String values on button press and/or release.

If PRESS or RELEASE is set to KEYPAD, a sub dialog opens on button pressed/released. With this menu a custom 14 Byte string can be entered and send by pressing OK.

**Example**

14-Byte-String-Pushbutton	14-Byte-String-Pushbutton
Music	Music;PRESS=PLAY; LABEL=Play;
Play	
Keypad	Keypad;PRESS=OPEN ;RELEASE=KEYPAD;IMG=CHECK_b_off
	If PRESS or RELEASE is set to KEYPAD, a sub dialog opens on button pressed/released.
Hello World!	Hello World!;LABEL=Hello World;PRESS=World;NOBG;TC=green;LOGICR=sys.message ('world')

#### 4.6.2. 14-Byte-String

Element Type Nr. 52

ETS Group Objects		
A Input, String	14 Byte	Main group object.
N/A		
N/A		
N/A		
Format		
TEXT =Hallo		Default text.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
RDRQ		Send a read request for the group object/s on startup.
Info		
Element to receive 14-Byte String values.		
Example		
14-Byte-String		14-Byte-String
Hello World!		
14Byte		14Byte; TEXT=Hello world
Hello world		
Image		Image; ICO=TREBLE; TC=green; TEXT=UG
		

## 4.7. Scene Control

Image	Nr.	Element Type
	Data type	Format
Scene-Control-Recall-Save ↗1   ↗2   ↗3   ↗4	55	<b>Scene-Control-Recall-Save</b> 4x1 Byte NAMES, IMAGES, ICO, TC, TO, N, MOD, SCENES, NOBG, PIN, PPIN
Scene-Control-Recall-Only ↗1   ↗2   ↗3   ↗4	56	<b>Scene-Control-Recall-Only</b> 4x1 Byte NAMES, IMAGES, ICO, N, MOD, SCENES, NOBG, PIN
Scene-Control-Save-Only ↗1   ↗2   ↗3   ↗4	57	<b>Scene-Control-Save-Only</b> 4x1 Byte NAMES, IMAGES, ICO, N, MOD, SCENES, NOBG, PIN
Internal-Scene ▷   ≥	58	<b>Internal-Scene</b> 4x1 Byte ICO, NOBG, SELECT, PLAYONLY, PLAYSTOP, ONSTART, SCGRP

#### 4.7.1. Scene-Control-Recall-Save

Element Type Nr. 55

**ETS Group Objects**

A Output, Scene Control 1	1 Byte	Group object.
B Output, Scene Control 2	1 Byte	Group object.
C Output, Scene Control 3	1 Byte	Group object.
D Output, Scene Control 4	1 Byte	Group object.

**Format**

NAMES =Day,Night,Relax	Text for each button.
IMAGES =,,BELL_1_off	Icons used for the buttons, overwriting text NAMES. Icon name without file extension, comma separated.
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).
TO =500	Time period to differentiate between short and long button press, in milliseconds.
N =2	Number of buttons displayed.
MOD =SINGLE	Available arguments see info box.
SCENES =4,8,16	Scene/Scenes to activate or learn. Value 0 is DPT18.001 scene 1.
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
PIN =2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
PPIN =4242	Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)

**Info**

Element to activate and learn up to 4 scenes with DPT 18.001.

In default configuration the element activates a scene on short button press and learns it on a long button press. The default scenes are 1..4 on the four buttons. All communication is done over group object "A Output, Scene Control 1".

Possible arguments for the MODE parameter are:

SINGLE: learn and activate via group object "A Output, Scene Control 1".

DUAL: learn via group object "B Output, Scene Control 2" and activate via group object "A Output, Scene Control 1". Only for this mode learn and activate send the same value (0..64).

DIFF: Each group object "X Output, Scene Control X" learns and activates independently with the associated button.

**Example**

Scene-Control-Recall-Save	Scene-Control-Recall-Save
Scene-RS	Scene- RS; TO=1000; IMAGES=,,BELL_1_off; NAMES=Day,Night,Relax, TV; SCENES=4,8,16,32
Day	Scene learn dialog.
Scene-RS	Scene-RS; N=2; NAMES=ON,OFF; MOD=DUAL
ON	
Scene-RS	Scene- RS; N=2; NAMES=Blue,Red; TC=red; ICO=TREBLE; MOD=DIFF; NOB G; PIN=1234; PPIN=4321

#### 4.7.2. Scene-Control-Recall-Only

Element Type Nr. 56

<b>ETS Group Objects</b>		
A Output, Scene Control 1	1 Byte	Group object.
B Output, Scene Control 2	1 Byte	Group object.
C Output, Scene Control 3	1 Byte	Group object.
D Output, Scene Control 4	1 Byte	Group object.
<b>Format</b>		
NAMES =Day,Night,Relax	Text for each button.	
IMAGES =,,BELL_1_off	Icons used for the buttons, overwriting text NAMES. Icon name without file extension, comma separated.	
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.	
N =2	Number of buttons displayed.	
MOD =SINGLE	Available arguments see info box.	
SCENES =4,8,16	Scene/Scenes to activate or learn. Value 0 is DPT18.001 scene 1.	
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.	
PIN =2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)	
<b>Info</b>		
Element to activate up to 4 scenes with DPT 18.001. In default configuration the element activates a scene on short button press. The default scenes are 1..4 on the four buttons. All communication is done over group object "A Output, Scene Control 1".		
Possible arguments for the MODE parameter are: SINGLE: activate via group object "A Output, Scene Control 1". DIFF: Each group object "X Output, Scene Control X" activates independently with the associated button.		
<b>Example</b>		
Scene-Control-Recall-Only		
Scene-R		
Scene-R		
Scene-R		
	<p>Scene-Control-Recall-Only</p> <p>R;MOD=DIFF;IMAGES=,,BELL_1_off;NAMES=Day,Night,Relax,TV;SCENES=4,8,16,32</p>	
	<p>Scene-</p> <p>R;N=3;IMAGES=,,BELL_1_off;NAMES=Day,Night,Relax;SCENES=4,8,16</p>	
	<p>Scene-</p> <p>R;N=3;NAMES=S5,S10,S20;SCENES=4,9,19;NOBG;ICO=TREBLE;TC=green</p>	

#### 4.7.3. Scene-Control-Save-Only

Element Type Nr. 57

ETS Group Objects		
A Output, Scene Control 1	1 Byte	Group object.
B Output, Scene Control 2	1 Byte	Group object.
C Output, Scene Control 3	1 Byte	Group object.
D Output, Scene Control 4	1 Byte	Group object.
Format		
NAMES =Day,Night,Relax	Text for each button.	
IMAGES =,,BELL_1_off	Icons used for the buttons, overwriting text NAMES. Icon name without file extension, comma separated.	
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.	
N =2	Number of buttons displayed.	
MOD =SINGLE	Available arguments see info box.	
SCENES =4,8,16	Scene/Scenes to activate or learn. Value 0 is DPT18.001 scene 1.	
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.	
PIN =2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)	
Info		
Element to learn up to 4 scenes with DPT 18.001. In default configuration the element learns a scene on short button press. The default scenes are 1..4 on the four buttons. All communication is done over group object "A Output, Scene Control 1".		
Possible arguments for the MODE parameter are: SINGLE: learn via group object "A Output, Scene Control 1". DIFF: Each group object "X Output, Scene Control X" learns independently with the associated button.		
Example		
Scene-Control-Save-Only		Scene-Control-Save-Only
Scene-S		Scene-
Day		S;MOD=DIFF;IMAGES=,,BELL_1_off;NAMES=Day,Night,Relax,
		TV;SCENES=4,8,16,32
Scene-S		Scene-
Day	Night	S;N=3;IMAGES=,,BELL_1_off;NAMES=Day,Night,Relax;SCEN
		ES=4,8,16
Scene-S		Scene-
	S5	S;N=3;NAMES=S5,S10,S20;SCENES=4,9,19;NOBG;ICO=TREBLE
	S10	;TC=green
	S20	

#### 4.7.4. Internal-Scene

Element Type Nr. 58

**ETS Group Objects**

A Input, Trigger	1 Bit	Start/stop sequence execution.
B IO, Enable	1 Bit	Disable ability to start sequence with group object "A Input, Trigger".
N/A		
N/A		

**Format**

ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
SELECT =62,66,70	Limits the selectable group objects in the submenu by their object number.
PLAYONLY	Only display the play button.
PLAYSTOP	Only display the play and stop button.
ONSTART	Automatically start sequence execution on device start up.
SCGRP =1	Defines the group number of this Internal-Scene element. If an Internal-Scene is started all other Internal-Scenes with the same SCGRP number are stopped. (x: 1..16)

**Info**

With this element it is possible to write values to group objects of other active element types. This is done by opening a sub menu and defining up to 32 actions to create a sequence. After pressing play or triggering it via group object "A Input, Trigger" the sequence is executed. One action can be defined as "loop", which starts sequence again, until the stop or pause button is pressed or until it is stopped by the group object. It is possible to define a delay for each action. Group object "B IO, Enable" only affects group object "A Input, Trigger", it is still possible to start the sequence by pressing the button.

Only group objects with a connected group address are available in the submenu.

The object name in the submenu is generated by following means in descending priority:

- Parameter INAME defined in the element types "Name [ ;Format]" field. E.g. "Door;INAME=Main Door;" would display "Main Door" in the submenu.
- Name defined in the "Name [ ;Format]" field. E.g., "Door;" would display "Door" in the submenu.
- Group object number. E.g., Object.247

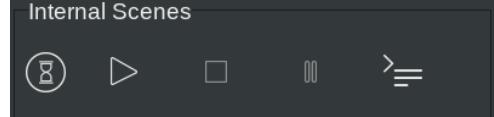
Supported object types are: 1 bit, 1 Byte, 2 Byte Float, Scene

**Example**

Internal-Scene	Internal-Scene
Internal Scenes	Internal Scenes;PLAYSTOP;
Internal Scenes	Internal Scenes;PLAYONLY;
1 3:Light->1 2 3:Valve > 10% (26) 3 3:Temperature > 4.20 4 3:Scene >3 5 0:loop 6 stop 7 stop 8 stop 9 stop 10 stop ... Cancel OK	Submenu. Insert actions before by pressing +, delete actions with x.



Subsubmenu for setting up the action.



Internal Scenes; ICO=TIMER\_ICO; NOBG

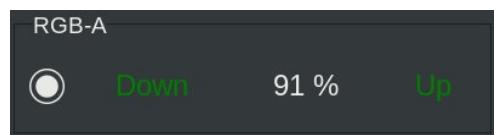
## 4.8. Light/RGB Control

Image	Nr.	Element Type
	Data type	Format
RGB-Dimmer-A	76	<b>RGB-Dimmer-A</b>
	4x1 Byte	W, B+, B-, IMGSET, ICO, BCOL, STEPS, RGBH, RGBW, NOBG, RDRQ, PIN
RGB-Dimmer-B	77	<b>RGB-Dimmer-B</b>
	4x1 Byte	W, B+, B-, IMGSET, ICO, BCOL, STEPS, RGBH, RGBW, NOBG, RDRQ, PIN
RGB-Dimmer-C	78	<b>RGB-Dimmer-C</b>
	4x1 Byte	W, B+, B-, IMGSET, ICO, BCOL, STEPS, RGBH, RGBW, NOBG, RDRQ, PIN
RGB-Dimmer-D	79	<b>RGB-Dimmer-D</b>
	4x1 Byte	W, B+, B-, IMGSET, ICO, BCOL, STEPS, RGBH, RGBW, NOBG, RDRQ, PIN

#### 4.8.1. RGB-Dimmer-A

Element Type Nr. 76

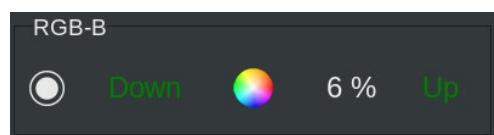
ETS Group Objects		
A Output, Red	1 Byte	Value red channel.
B Output, Green	1 Byte	Value green channel.
C Output, Blue	1 Byte	Value blue channel.
D Output, White	1 Byte	Value white (or brightness) channel.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+=Up		Text on plus button.
B-=Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =5		Number of steps between MIN and MAX.
RGBH		RGB + brightness. See info box.
RGBW		RGB + white. See info box.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
With this element it is possible to select a color and output the 1 byte red, green, blue values with an optional 1 byte white value. It is also possible to dim and turn on/off the output with the buttons on the left and right. If the color is altered in the submenu the values of the group objects are updated with every change.		
Pressing the value/icon opens the color submenu. A short button press switches ON/OFF, 0%/100%. A long button press dims the values up/down.		
Default: W = max(R,G,B). The buttons change the values of all group objects. RGBW: W = min(R,G,B). The buttons change the values of all group objects. RGBH: The submenu changes the values of the R,G,B group objects. The buttons change the value of the W group object.		
Example		
	RGB-Dimmer-A	
	RGB-A; B-=Down; B+=Up; STEPS=10;	
	Submenu for color adjustment. Opened by pressing on the value.	
	RGB-A; IMGSET=LIGHT1; RGBW;	



#### 4.8.2. RGB-Dimmer-B

Element Type Nr. 77

ETS Group Objects		
A Output, Red	1 Byte	Value red channel.
B Output, Green	1 Byte	Value green channel.
C Output, Blue	1 Byte	Value blue channel.
D Output, White	1 Byte	Value white (or brightness) channel.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+=Up		Text on plus button.
B-=Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =5		Number of steps between MIN and MAX.
RGBH		RGB + brightness. See info box.
RGBW		RGB + white. See info box.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
With this element it is possible to select a color and output the 1 byte red, green, blue values with an optional 1 byte white value. It is also possible to dim and turn on/off the output with the buttons on the left and right. If the color is altered in the submenu the values of the group objects are updated with every change.		
Pressing the value/icon opens the color submenu. A short button press switches ON/OFF, 0%/100%. A long button press dims the values up/down.		
Default: W = max(R,G,B). The buttons change the values of all group objects. RGBW: W = min(R,G,B). The buttons change the values of all group objects. RGBH: The submenu changes the values of the R,G,B group objects. The buttons change the value of the W group object.		
Example		
	RGB-Dimmer-B RGB-B; B-=Down; B+=Up; STEPS=10;	
	Submenu for color adjustment. Opened by pressing on the color wheel icon.	

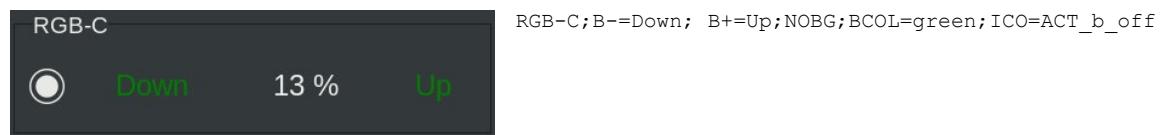


RGB-B; B-=Down; B+=Up; NOBG; BCOL=green; ICO=ACT\_b\_off

#### 4.8.3. RGB-Dimmer-C

Element Type Nr. 78

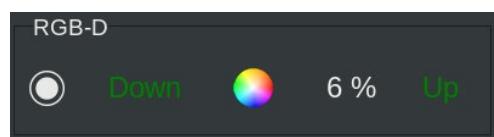
ETS Group Objects		
A Output, Red	1 Byte	Value red channel.
B Output, Green	1 Byte	Value green channel.
C Output, Blue	1 Byte	Value blue channel.
D Output, White	1 Byte	Value white (or brightness) channel.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+=Up		Text on plus button.
B-=Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =5		Number of steps between MIN and MAX.
RGBH		RGB + brightness. See info box.
RGBW		RGB + white. See info box.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
With this element it is possible to select a color and output the 1 byte red, green, blue values with an optional 1 byte white value. It is also possible to dim the output with the buttons on the left and right. If the color is altered in the submenu the values of the group objects are updated with every change.		
Pressing the value/icon opens the color submenu. A short button press dims the values up/down.		
Default: W = max(R,G,B). The buttons change the values of all group objects. RGBW: W = min(R,G,B). The buttons change the values of all group objects. RGBH: The submenu changes the values of the R,G,B group objects. The buttons change the value of the W group object.		
Example		
	RGB-Dimmer-C RGB-Dimmer-C	
	RGB-C; B-=Down; B+=Up; STEPS=10;	
	Submenu for color adjustment. Opened by pressing on the value. RGB-C; IMGSET=LIGHT1; RGBW;	



#### 4.8.4. RGB-Dimmer-D

Element Type Nr. 79

ETS Group Objects		
A Output, Red	1 Byte	Value red channel.
B Output, Green	1 Byte	Value green channel.
C Output, Blue	1 Byte	Value blue channel.
D Output, White	1 Byte	Value white (or brightness) channel.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+=Up		Text on plus button.
B-=Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =5		Number of steps between MIN and MAX.
RGBH		RGB + brightness. See info box.
RGBW		RGB + white. See info box.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
With this element it is possible to select a color and output the 1 byte red, green, blue values with an optional 1 byte white value. It is also possible to dim the output with the buttons on the left and right. If the color is altered in the submenu the values of the group objects are updated with every change.		
Pressing the value/icon opens the color submenu. A short button press dims the values up/down.		
Default: W = max(R,G,B). The buttons change the values of all group objects. RGBW: W = min(R,G,B). The buttons change the values of all group objects. RGBH: The submenu changes the values of the R,G,B group objects. The buttons change the value of the W group object.		
Example		



RGB-D; B-=Down; B+=Up; NOBG; BCOL=green; ICO=ACT\_b\_off

#### 4.9. Dimmer Control

Image	Nr.	Element Type
	Data type	Format
4-Bit-Dimmer-Start-Stop 	70	<b>4-Bit-Dimmer-Start-Stop</b> 2x 1 Bit 1x 4 Bit 1x 1 Byte
4-Bit-Dimmer-Repeat 	71	<b>4-Bit-Dimmer-Repeat</b> 2x 1 Bit 1x 4 Bit 1x 1 Byte
	72	<b>8-Bit-Dimmer-Repeat</b> 2x 1 Bit 2x 1 Byte
		W, L0, L1, B+, B-, IMGSET, ICO, TC, LCOL, BCOL, STEPS, TO, REP, NOBG, RDRQ, PIN

#### 4.9.1. 4-Bit-Dimmer-Start-Stop

Element Type Nr. 70

ETS Group Objects		
A Output, ON/OFF	1 Bit	Output for short button press.
B Input, ON OFF Feedback	1 Bit	Feedback for displayed ON/OFF state.
C Output, Dimming	4 Bit	Output for long button press.
D Input, Value Feedback	1 Byte	0..100% value feedback, displayed between the buttons.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
L0 =Off		Text on the label for value 0.
L1 =On		Text on the label for value 1.
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =10		Number of steps between 0 and 100%.
TO =500		Time period to differentiate between short and long button press, in milliseconds.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
4-bit dimmer element. Send increase/decrease by x percent on long button press and break on button release. Displays the on/off state and if values are sent to group object "D Input, Value Feedback" they are displayed between the buttons, scaled to 0..100%.		
A short button press switches group object "A Output, ON/OFF". A long button press dims group object "C Output, Dimming".		
Example		
	4-Bit-Dimmer-Start-Stop	
	4-Bit-Dimmer; B-=Down; B+=Up; STEP=10;	
	4-Bit-Dimmer; IMGSET=UPDOWN5; L0=OFF; L1=ON	
	4-Bit-Dimmer; IMGSET=UPDOWN4; IMGVAL=LIGHTQUAL; L0=OFF; L1=ON	
	4-Bit-Dimmer; B-=Down; B+=Up; L0=OFF; L1=ON; ICO=LIVING; LCOL=blue; BCOL=green; NOBG	

#### 4.9.2. 4-Bit-Dimmer-Repeat

Element Type Nr. 71

ETS Group Objects		
A Output, ON/OFF	1 Bit	Output for short button press.
B Input, ON OFF Feedback	1 Bit	Feedback for displayed ON/OFF state.
C Output, Dimming	4 Bit	Output for long button press.
D Input, Value Feedback	1 Byte	0..100% value feedback, displayed between the buttons.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
L0 =Off		Text on the label for value 0.
L1 =On		Text on the label for value 1.
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =10		Number of steps between 0 and 100%.
TO =500		Time period to differentiate between short and long button press, in milliseconds.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
4-bit dimmer element. Starts sending increase/decrease by x percent every REP milliseconds on long button press and break on button release. Displays the on/off state and if values are sent to group object "D Input, Value Feedback" they are displayed between the buttons, scaled to 0..100%.		
A short button press switches group object "A Output, ON/OFF". A long button press dims group object "C Output, Dimming".		
Example		
	4-Bit-Dimmer-Repeat	
	4-Bit-Dimmer; B-=Down; B+=Up; STEP=10;	
	4-Bit-Dimmer; IMGSET=UPDOWN5; L0=OFF; L1=ON	
	4-Bit-Dimmer; IMGSET=UPDOWN4; IMGVAL=LIGHTQUAL; L0=OFF; L1=ON	
	4-Bit-Dimmer; B-=Down; B+=Up; L0=OFF; L1=ON; ICO=LIVING; LCOL=blue; BCOL=green; NOBG	

#### 4.9.3. 8-Bit-Dimmer-Repeat

Element Type Nr. 72

ETS Group Objects		
A Output, ON/OFF	1 Bit	Output for short button press.
B Input, ON OFF Feedback	1 Bit	Feedback for displayed ON/OFF state.
C Output, Value	1 Byte	Output for long button press.
D Input, Value Feedback	1 Byte	0..100% value feedback, displayed between the buttons.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
L0 =Off		Text on the label for value 0.
L1 =On		Text on the label for value 1.
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
STEPS =10		Number of steps between 0 and 100%.
TO =500		Time period to differentiate between short and long button press, in milliseconds.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
8-bit dimmer element. Starts sending increasing/decreasing 1 byte values every REP milliseconds on long button press. During long button press the internal value is displayed and if group object "D Input, Value Feedback" is connected and has a value, then it is displayed upon release. The icon displays the on/off state.		
A short button press switches group object "A Output, ON/OFF". A long button press dims group object "C Output, Dimming".		
Example		
	8-Bit-Dimmer-Repeat	
	8-Bit-Dimmer; B-=Down; B+=Up; STEP=10;	
	8-Bit-Dimmer; IMGSET=UPDOWN5; L0=OFF; L1=ON	
	8-Bit-Dimmer; IMGSET=UPDOWN4, IMGVAL=LIGHTQUAL; L0=OFF; L1=ON	
	8-Bit-Dimmer; B-=Down; B+=Up; L0=OFF; L1=ON; ICO=LIVING; LCOL=blue; BCOL=green; NOBG	

#### 4.10. Shutter Control

Image	Nr.	Element Type
	Data type	Format
Shutter-Blinds-Control-A	73	<b>Shutter-Blinds-Control-A</b>
 	2x 1 Bit 1x 1 Byte	W, B+, B-, IMGSET, IMGVAL, ICO, TO, NOBG, RDRQ, PIN
Shutter-Blinds-Control-B	74	<b>Shutter-Blinds-Control-B</b>
 	2x 1 Bit 1x 1 Byte	W, B+, B-, IMGSET, IMGVAL, ICO, TO, REP, NOBG, RDRQ, PIN
Shutter-Blinds-Control-C	75	<b>Shutter-Blinds-Control-C</b>
 	2x 1 Bit 1x 1 Byte	W, B+, B-, IMGSET, IMGVAL, ICO, TO, NOBG, RDRQ, PIN

#### 4.10.1. Shutter-Blinds-Control-A

Element Type Nr. 73

ETS Group Objects		
A Output, LONG	1 Bit	Output for short button press.
B Output, SHORT	1 Bit	Output for long button press.
N/A		
D Input, Position Feedback	1 Byte	0..100% value feedback, display between the buttons.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TO =500		Time period to differentiate between short and long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Standard element for blinds and blinds with slats. The long button press is used to move blinds up/down and a short button press is used stop movement or adjust slats.		
Values sent to group object "D Input, Value Feedback" are displayed between the buttons.		
A short button press: Send 1 bit trigger on group object "B Output, SHORT". Stops blinds if they are moving. Trigger step movement for slat adjustment if blinds are stationary.		
A long button press: Send 1 bit up/down to group object "A Output, LONG". Starts long blind movement. Interrupt movement with short button press.		
Example		
Shutter-Blinds-Control-A		Shutter-Blinds-Control-A
Shutter-Blinds-Control		Shutter-Blinds-Control; B-=Down; B+=Up
Down	50%	Up
Shutter-Blinds-Control		Shutter-Blinds-Control; IMGSET=UPDOWN5;
	30%	
Shutter-Blinds-Control		Shutter-Blinds-Control; IMGSET=UPDOWN4; IMGVAL=LIGHTQUAL
	10%	
Shutter-Blinds-Controll		Shutter-Blinds-Control; B-=Down; B+=Up; ICO=LIVING; LCOL=blue; BCOL=green; NOBG
	Down	100% Up

#### 4.10.2. Shutter-Blinds-Control-B

Element Type Nr. 74

ETS Group Objects		
A Output, LONG	1 Bit	Output long.
B Output, SHORT	1 Bit	Output short.
N/A		
D Input, Position Feedback	1 Byte	0..100% value feedback, display between the buttons.
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
B+ =Up		Text on plus button.
B- =Down		Text on minus button.
IMGSET =ONOFF		Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.
IMGVAL =LIGHTQUAL		Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TO =500		Time period to differentiate between short and long button press, in milliseconds.
REP =500		Button press repetition interval in case of long button press, in milliseconds.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Element for blinds and blinds with slats. Values sent to group object "D Input, Value Feedback" are displayed between the buttons.		
Button press: Send 1 bit up/down to group object "B Output, SHORT" every REP ms for TO ms. After TO ms stop sending on "B Output, SHORT" and send single 1 bit up/down value is sent on group object "A Output, LONG".		
Button release: No Action.		
Example		
Shutter-Blinds-Control-B		Shutter-Blinds-Control-B
Shutter-Blinds-Control		Shutter-Blinds-Control; B-=Down; B+=Up; REP=250;
Shutter-Blinds-Control		Shutter-Blinds-Control; IMGSET=UPDOWN4; IMGVAL=LIGHTQUAL
Shutter-Blinds-Control		Shutter-Blinds-Control; B-=Down; B+=Up; ICO=LIVING; LCOL=blue; BCOL=green; NOBG

#### 4.10.3. Shutter-Blinds-Control-C

Element Type Nr. 75

ETS Group Objects			
A Output, LONG	1 Bit	Output long.	
B Output, SHORT	1 Bit	Output short.	
N/A			
D Input, Position Feedback	1 Byte	0..100% value feedback, display between the buttons.	
Format			
W	=200	Tries to in-/de-increase the width of the label to x pixel (or %).	
B+	=Up	Text on plus button.	
B-	=Down	Text on minus button.	
IMGSET	=ONOFF	Icon set used for the button/s and label. The Argument is the icon sets name without file extension and without suffix.	
IMGVAL	=LIGHTQUAL	Group object value dependent icon set. The Argument is the icon sets name without file extension and without suffix.	
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.	
TO	=500	Time period to differentiate between short and long button press, in milliseconds.	
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.	
RDRQ		Send a read request for the group object/s on startup.	
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)	
Info			
Element for blinds and blinds with slats. A long button press is used to move blinds up/down and a short button press is used stop movement or adjust slats.			
Values sent to group object "D Input, Value Feedback" are displayed between the buttons.			
This element is used if the actuator does not support a step command to adjust the slats. E.g. the blinds move down with closed slats and on up movement the slats open.			
Normally the long button press timeout (TO) is set to a value bigger than the time it takes the slats to open/close.			
Button press: Send 1 bit up/down to group object "A Output, LONG". Start blind/slat move.			
Button release before TO ms: Send 1 bit trigger on group object "B Output, SHORT". Stop slat(/blind) movement.			
Button release after TO ms: Send nothing. Continue long blind move. Interrupt movement with short button press.			
Example			
Shutter-Blinds-Control-C		Shutter-Blinds-Control-C	
Shutter-Blinds-Control		Shutter-Blinds-Control; B-=Down; B+=Up; TO=3000	
Down	20%	Up	
Shutter-Blinds-Control		Shutter-Blinds-Control; IMGSET=UPDOWN4; IMGVAL=LIGHTQUAL; TO=3000	
	10%		
Shutter-Blinds-Control		Shutter-Blinds-Control; B-=Down; B+=Up; ICO=LIVING; LCOL=blue; BCOL=green; NOBG; TO=3000	
	Down	10%	Up

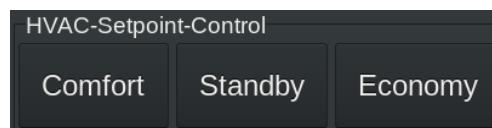
#### 4.11. HVAC Control

Image	Nr.	Element Type
	Data type	Format
HVAC-Setpoint-Control 	80	<b>HVAC-Setpoint-Control</b>
	4x 2 Byte	W, TEXT, ICO, TC, DC, STEP, T, MIN, MAX, TO, SENDONTO, NOBG, RDRQ, INTERN, MASK, PIN
HVAC-Mode-Control 	81	<b>HVAC-Mode-Control</b>
	1x 1 Byte 1x 2 Byte	W, ICO, TC, DC, NOBG, RDRQ, INTERN, TSET, MASK, PIN
HVAC-Mode-Control-Text 	82	<b>HVAC-Mode-Control-Text</b>
	1x 1 Byte 1x 2 Byte	W, ICO, TC, LCOL, BCOL, DC, NOBG, RDRQ, INTERN, TSET, MASK, PIN
HVAC-Fan-Control 	83	<b>HVAC-Fan-Control</b>
	1x 1 Bit 1x 1 Byte	W, ICO, NOBG, RDRQ, INTERN, FANSTAGE

#### 4.11.1. HVAC-Setpoint-Control

Element Type Nr. 80

<b>ETS Group Objects</b>		
A Output, Protection Setpoint	2 Byte	Protection mode temperature setpoint.
B Output, Night Setpoint	2 Byte	Night mode temperature setpoint.
C Output, Standby Setpoint	2 Byte	Standby mode temperature setpoint.
D Output, Comfort Setpoint	2 Byte	Comfort mode temperature setpoint.
<b>Format</b>		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
TEXT		Display text instead of icons.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
DC =2		Number of decimal places displayed.
STEP =1.5		Value change per step/button press.
T =7:15:18:22		Initial values for temperature setpoints. (T=Protection:Night:Standby:Comfort)
MIN =7:15:18:15		Upper value limit. (MIN=Protection:Night:Standby:Comfort)
MAX =8:17:20:30		Lower value limit. (MAX=Protection:Night:Standby:Comfort)
TO =500		Time period to automatically jump back from setpoint menu to standard display state, in seconds.
SENDONTO		If setpoint change is not confirmed by button press, send value after TO without user confirmation.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
INTERN		Element is connected directly to internal RTC (Room Temperature Controller), without bus communication. Group Objects can stay disconnected. Protection setpoint is removed.
MASK =1000		Mask out certain buttons/setpoints. MASK=Comfort Standby Night Protection (0:displayed,1:removed)
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
<b>Info</b>		
Element to change up to four setpoints. By pressing the setpoint button the associated value can be changed in the setpoint menu. To send the new value the button on the left in the setpoint menu has to be pressed.		
<b>Example</b>		
HVAC-Setpoint-Control		HVAC-Setpoint-Control
HVAC-Setpoint-Control		HVAC-Setpoint-Control; TO=5; DC=2; MIN=0:-5:18:15; MAX=0:17:20:30; T=0:15:18:22; INTERN; STEP=1.5
HVAC-Setpoint-Control		Setpoint menu.
HVAC-Setpoint-Control		HVAC-Setpoint-Control; TO=5; DC=1; MASK=1010; MIN=6:0:18:0; MAX=8:0:20:0; T=7:0:18:0; SENDONTO; TO=10
HVAC-Setpoint-Control		HVAC-Setpoint-Control; MASK=0001; NOBG; TC=green; ICO=HC_b_on
HVAC-Setpoint-Control		Setpoint menu.



HVAC-Setpoint-Control; TEXT; MASK=0001



Setpoint menu.

#### 4.11.2. HVAC-Mode-Control

Element Type Nr. 81

ETS Group Objects		
A Output, HVAC-Mode	1 Byte	HVAC Mode DPT20.102.
B Input, Temperature Feedback	2 Byte	Temperature feedback, displayed between buttons.
N/A		
N/A		
Format		
W =200		Tries to in/decrease the width of the label to x pixel (or %).
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
DC =2		Number of decimal places displayed.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
INTERN		Element is connected directly to internal RTC (Room Temperature Controller), without bus communication. Group Objects can stay disconnected. Protection setpoint is removed.
TSET		If set, sends 1 (increment, + button) or 0 (decrement, - button) on "A Output, HVAC-Mode". Removes the HVAC mode icon.
MASK =10001		Mask out certain modes. MASK=Protection Night Standby Comfort Automatic (0:displayed,1:removed)
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
Info		
Element with icons, to switch between 1 byte HVAC Mode DPT20.102. Values sent to group object "B Input, Temperature Feedback" are displayed between the buttons.		
Example		
	HVAC-Mode-Control	
	HVAC-Mode-Control; INTERN; MASK=10001; DC=0	
	TSET; TSET	
	HVAC-Mode-Control; NOBG; TC=green; ICO=POOL	

#### 4.11.3. HVAC-Mode-Control-Text

Element Type Nr. 82

<b>ETS Group Objects</b>		
A Output, HVAC-Mode	1 Byte	HVAC Mode DPT20.102.
B Input, Temperature Feedback	2 Byte	Temperature feedback, displayed between buttons.
N/A		
N/A		
<b>Format</b>		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
LCOL =#FF0000		Label text color. HTML color name (red) or HEX color codes (#FF0000).
BCOL =green		Button text color. HTML color name (red) or HEX color codes (#FF0000).
DC =2		Number of decimal places displayed.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
INTERN		Element is connected directly to internal RTC (Room Temperature Controller), without bus communication. Group Objects can stay disconnected. Protection setpoint is removed.
TSET		If set, sends 1 (increment, + button) or 0 (decrement, - button) on "A Output, HVAC-Mode". Removes the HVAC mode icon.
MASK =10001		Mask out certain modes. MASK=Protection Night Standby Comfort Automatic (0:displayed,1:removed)
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
<b>Info</b>		
Element with text, to switch between 1 byte HVAC Mode DPT20.102. Values sent to group object "B Input, Temperature Feedback" are displayed between the buttons.		
<b>Example</b>		
HVAC-Mode-Control-Text		HVAC-Mode-Control-Text
HVAC-Mode-Control-Text		HVAC-Mode-Control-Text; INTERN; MASK=10001; DC=0
TSET		TSET; TSET
HVAC-Mode-Control-Text		HVAC-Mode-Control-Text; NOBG; BCOL=green; ICO=POOL; LCOL=red

#### 4.11.4. HVAC-Fan-Control

Element Type Nr. 83

ETS Group Objects			
A IO, Switch Manual/Auto	1 Bit	Fan control auto or manual.	
B IO, Fan Speed	1 Byte	Output fan speed 0..3 or 0..100%.	
N/A			
N/A			
Format			
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).	
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.	
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.	
RDRQ		Send a read request for the group object/s on startup.	
INTERN		Element is connected directly to internal RTC (Room Temperature Controller), without bus communication. Group Objects can stay disconnected. Protection setpoint is removed.	
FANSTAGE		Output 0, 1, 2, 3 instead of 0%, 33%, 66%, 100%.	
Info			
HVAC fan control element with auto/manual switch.			
Auto Mode: Fan speed is displayed. Manual Mode: Fan speed can be set between 0..3 or 0..100%.			
Example			
HVAC-Fan-Control		HVAC-Fan-Control	
HVAC-Fan-Control		HVAC-Fan-Control; NOBG; FANSTAGE	
HVAC-Fan-Control		Fan menu.	
	-		+
HVAC-Fan-Control		HVAC-Fan-Control; ICO=POOL;	
HVAC-Fan-Control		Fan menu.	

## 4.12. Timer

Image	Nr.	Element Type
	Data type	Format
Alarmclock	60	<b>Alarmclock</b>
00:00	2x 1 Bit	W, ICO, NOBG, RDRQ, ALTO, SILENT, PIN, PPIN
Alramtimer	61	<b>Alramtimer</b>
00:00	2x 1 Bit	W, ICO, NOBG, RDRQ, ALTO, SILENT, PIN, PPIN
Astroclock	59	<b>Astroclock</b>
Off <input checked="" type="checkbox"/> Auto   Off   On	2x 1 Bit	B0, B1, L0, L1, ICO, TC, LCOL, BCOL, INV, PIN, PPIN
1-Bit-Timer-Profile	62	<b>1-Bit-Timer-Profile</b>
Off inactive	2x 1 Bit	W, L0, L1, IMG, ICO, TC, PF, NOBG, RDRQ, OVRTO, PIN, PPIN
1-Byte-Timer-Profile 0..100%	63	<b>1-Byte-Timer-Profile 0..100%</b>
0% inactive	1x 1 Bit 1x 1 Byte	W, IMG, ICO, TC, PF, STEP, MIN, MAX, NOBG, RDRQ, OVRTO, PIN, PPIN
1-Byte-Timer-Profile 0..255	64	<b>1-Byte-Timer-Profile 0..255</b>
0 inactive	1x 1 Bit 1x 1 Byte	W, IMG, ICO, TC, PF, STEP, MIN, MAX, NOBG, RDRQ, OVRTO, PIN, PPIN
1-Byte-Timer-Profile HVAC	65	<b>1-Byte-Timer-Profile HVAC</b>
inactive	1x 1 Bit 1x 1 Byte	W, IMG, ICO, NOBG, RDRQ, OVRTO, INTERN, MASK, PIN, PPIN
2-Byte-Float-Timer-Profile	66	<b>2-Byte-Float-Timer-Profile</b>
0.00°C inactive	1x 1 Bit 1x 2 Byte	W, IMG, ICO, TC, PF, DC, STEP, MIN, MAX, NOBG, RDRQ, OVRTO, PIN, PPIN

#### 4.12.1. Alarmclock

Element Type Nr. 60

ETS Group Objects		
A Output, Timer	1 bit	Timer Alarm output.
B IO, Timer Enable	1 bit	Timer enable/start.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ	Send a read request for the group object/s on startup.
ALTO	=30
SILENT	Silent alarm.
PIN	=2342
PPIN	=4242

Tries to in-/de-increase the width of the label to x pixel (or %).  
Icon displayed on the left side of the element. Icon file name without file extension.  
Display button content directly on the background, without the outline. The touch sensitive areas stay the same.  
Send a read request for the group object/s on startup.  
Time until the acoustic alarm signal is switched off, in seconds.  
Silent alarm.  
Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)  
Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)

Info	
Alarm clock element to trigger an acoustic alarm signal and send a value at a certain time. The submenu to set the alarm time is opened by pressing the time value.	

Example	
Alarmclock	Alarmclock
00:00	
Alarmlock	Alarmlock; ICO=RING; ALTO=5
<input checked="" type="checkbox"/> 05 : 50	
Alarmlock	Alarmclock; ICO=RING; SILENT
<input checked="" type="checkbox"/> 05 : 50	
Clock settings	The submenu is opened by pressing the time value. Format (hh:mm)
05 : 50	

#### 4.12.2. Alarmtimer

Element Type Nr. 61

ETS Group Objects		
A Output, Timer	1 bit	Timer Alarm output.
B IO, Timer Enable	1 bit	Timer enable/start.
N/A		
N/A		

Format	
W	=200
ICO	=DOOR_b_on
NOBG	Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ	Send a read request for the group object/s on startup.
ALTO	=30
SILENT	Silent alarm.
PIN	=2342
PPIN	=4242

Tries to in-/de-increase the width of the label to x pixel (or %).  
Icon displayed on the left side of the element. Icon file name without file extension.  
Display button content directly on the background, without the outline. The touch sensitive areas stay the same.  
Send a read request for the group object/s on startup.  
Time until the acoustic alarm signal is switched off, in seconds.  
Silent alarm.  
Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)  
Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)

Info	
Alarm timer element to trigger an acoustic alarm signal and send a value after a certain time.	
The submenu to set the alarm time is opened by pressing the time value.	

Example	
Alarmtimer	Alarmtimer
	00:00
Alarmtimer	Alarmtimer; ICO=RING; ALTO=5
	00:00
Alarmtimer	Alarmtimer; ICO=RING; SILENT
	00:00
Clock settings	<p>The submenu is opened by pressing the time value.  Format (mm:ss)</p> <p>05 : 50</p> <p>OK</p>

### 4.12.3. Astroclock

Element Type Nr. 59

<b>ETS Group Objects</b>				
A Output, Timer	1 bit	Timer Alarm output.		
B IO, Timer Enable	1 bit	Timer enable/start.		
N/A				
N/A				
<b>Format</b>				
B0 =Off	Text on the button for value 0.			
B1 =On	Text on the button for value 1.			
L0 =Off	Text on the label for value 0.			
L1 =On	Text on the label for value 1.			
ICO =DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.			
TC =red	Text color. HTML color name (red) or HEX color codes (#FF0000).			
LCOL =#FF0000	Label text color. HTML color name (red) or HEX color codes (#FF0000).			
BCOL =green	Button text color. HTML color name (red) or HEX color codes (#FF0000).			
INV	Invert the output value. The default value between sunrise and sunset (day) is 0.			
PIN =2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)			
PPIN =4242	Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)			
<b>Info</b>				
This element sends a 1 at sunset and a 0 at sunrise on group object "A Output, Timer". This is done by providing geographic coordinates and the correct system time.				
Standard values for sunset height are: 0° sun-rise/set -6° civil dusk/dawn -12° nautical dusk/dawn -18° astronomical dusk/dawn				
<b>Example</b>				
<p style="text-align: center;">Astroclock</p> <p style="text-align: center;">;BCOL=red;LCOL=blue</p>				
<p style="text-align: center;">Astroclock;L0=Off;L1=Alarm;B0=OFF;B1=ON</p> <p style="text-align: center;">Submenu. Opened by pressing the time value.</p>				

#### 4.12.4. 1-Bit-Timer-Profile

Element Type Nr. 62

ETS Group Objects		
A Output, Profile	1 bit	Weekly timer value output.
B IO, Profile Enable	1 bit	Weekly timer enable.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
L0 =Off		Text on the label for value 0.
L1 =On		Text on the label for value 1.
IMG =TERRACE		Icon displayed on the button. Icon name without file extension.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
OVRTO =2		Time period in minutes after user overwrite until return to scheduled values.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
PPIN =4242		Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)
Info		
Element to send values, according to an end user defined schedule. The weekly timer can be enabled/disabled by pressing on the value between the buttons or via group object "B IO, Profile Enable". The timetable is opened by pressing the icon. It is always possible to change the value and overwrite the timetable by pressing the outer most buttons. After the value was change manually and if the weekly timer is enabled, the manual value is overwritten after OVRTO with the scheduled value.		
Example		
<img alt="Three screenshots of the 1-Bit-Timer-Profile element interface. The first shows a basic slider with 'Off' and 'inactive' labels. The second shows a more complex interface with a speaker icon, a sun icon, and a 'Sun		

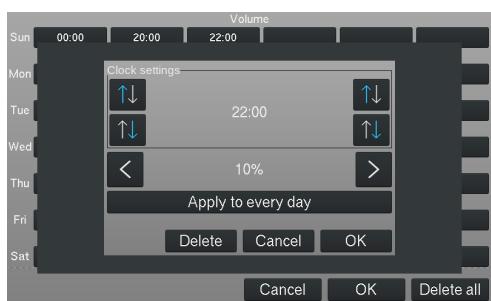


Time schedule entry menu.

#### 4.12.5. 1-Byte-Timer-Profile 0..100%

Element Type Nr. 63

ETS Group Objects																																																										
A Output, Profile	1 Byte	Weekly timer value output.																																																								
B IO, Profile Enable	1 bit	Weekly timer enable.																																																								
N/A																																																										
N/A																																																										
Format																																																										
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).																																																								
IMG =TERRACE		Icon displayed on the button. Icon name without file extension.																																																								
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.																																																								
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).																																																								
PF = °C		Unit displayed after the value.																																																								
STEP =1.5		Value change per step/button press.																																																								
MIN =7		Upper value limit.																																																								
MAX =10		Lower value limit.																																																								
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.																																																								
RDRQ		Send a read request for the group object/s on startup.																																																								
OVRTO =2		Time period in minutes after user overwrite until return to scheduled values.																																																								
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)																																																								
PPIN =4242		Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)																																																								
Info																																																										
Element to send values, according to an end user defined schedule. The weekly timer can be enabled/disabled by pressing on the value between the buttons or via group object "B IO, Profile Enable". The timetable is opened by pressing the icon. It is always possible to change the value and overwrite the timetable by pressing the outer most buttons. After the value was change manually and if the weekly timer is enabled, the manual value is overwritten after OVRTO with the scheduled value.																																																										
Example																																																										
<p>The first screenshot shows a digital door lock interface with a central circular icon and two blue plus-minus buttons on either side. The text '0%' and 'inactive' is displayed below the buttons. The second screenshot shows a digital door lock interface with a central circular icon and two blue plus-minus buttons on either side. The text '0x' and 'inaktiv' is displayed below the buttons. The third screenshot shows a digital volume control interface with a speaker icon, a central circular icon, and two blue plus-minus buttons. The text 'Volume' and '0% inaktiv' is displayed below the buttons.</p>																																																										
<p>Door; TC=blue; STEP=5; NOBG; PF=X</p> <p>Volume; ICO=SOUND_up; IMG=TERRACE; MIN=0; MAX=50;</p>																																																										
<p>Time schedule menu.</p> <table border="1"> <thead> <tr> <th></th> <th>00:00</th> <th>20:00</th> <th>22:00</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Sun</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mon</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tue</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Wed</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Thu</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fri</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sat</td> <td>0%</td> <td>15%</td> <td>10%</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Cancel OK Delete all</p>				00:00	20:00	22:00				Sun	0%	15%	10%				Mon	0%	15%	10%				Tue	0%	15%	10%				Wed	0%	15%	10%				Thu	0%	15%	10%				Fri	0%	15%	10%				Sat	0%	15%	10%			
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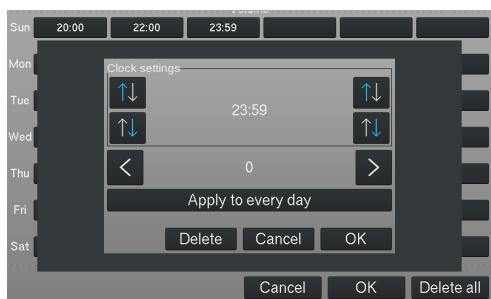


Time schedule entry menu.

#### 4.12.6. 1-Byte-Timer-Profile 0..255

Element Type Nr. 64

ETS Group Objects																																																			
A Output, Profile	1 Byte	Weekly timer value output.																																																	
B IO, Profile Enable	1 bit	Weekly timer enable.																																																	
N/A																																																			
N/A																																																			
Format																																																			
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).																																																	
IMG =TERRACE		Icon displayed on the button. Icon name without file extension.																																																	
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.																																																	
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).																																																	
PF = °C		Unit displayed after the value.																																																	
STEP =1.5		Value change per step/button press.																																																	
MIN =7		Upper value limit.																																																	
MAX =10		Lower value limit.																																																	
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.																																																	
RDRQ		Send a read request for the group object/s on startup.																																																	
OVRTO =2		Time period in minutes after user overwrite until return to scheduled values.																																																	
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)																																																	
PPIN =4242		Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)																																																	
Info																																																			
Element to send values, according to an end user defined schedule. The weekly timer can be enabled/disabled by pressing on the value between the buttons or via group object "B IO, Profile Enable". The timetable is opened by pressing the icon. It is always possible to change the value and overwrite the timetable by pressing the outer most buttons. After the value was change manually and if the weekly timer is enabled, the manual value is overwritten after OVRTO with the scheduled value.																																																			
Example																																																			
<p>1-Byte-Timer-Profile 0..255      1-Byte-Timer-Profile 0..255</p> <p>Door; TC=blue; STEP=5; NOBG; PF= X</p> <p>Volume; ICO=SOUND_up; IMG=TERRACE; MIN=0; MAX=11;</p>																																																			
<p>Time schedule menu.</p> <table border="1"> <tr> <td>Sun</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Mon</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Tue</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Wed</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Thu</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Fri</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> <tr> <td>Sat</td><td>20:00</td><td>22:00</td><td>23:59</td><td></td><td></td><td></td></tr> </table> <p>Cancel   OK   Delete all</p>			Sun	20:00	22:00	23:59				Mon	20:00	22:00	23:59				Tue	20:00	22:00	23:59				Wed	20:00	22:00	23:59				Thu	20:00	22:00	23:59				Fri	20:00	22:00	23:59				Sat	20:00	22:00	23:59			
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Fri	20:00	22:00	23:59																																																
Sat	20:00	22:00	23:59																																																

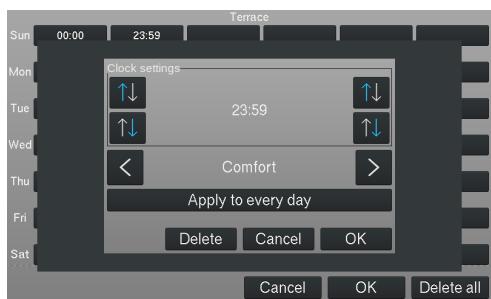


Time schedule entry menu.

#### 4.12.7. 1-Byte-Timer-Profile HVAC

Element Type Nr. 65

ETS Group Objects		
A Output, Profile	1 Byte	Weekly timer value output.
B IO, Profile Enable	1 bit	Weekly timer enable.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMG =TERRACE		Icon displayed on the button. Icon name without file extension.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
OVROUT =2		Time period in minutes after user overwrite until return to scheduled values.
INTERN		Element is connected directly to internal RTC (Room Temperature Controller), without bus communication. Group Objects can stay disconnected. Protection setpoint is removed.
MASK =10001		Mask out certain modes. MASK=Protection Night Standby Comfort Automatic (0:displayed,1:removed)
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
PPIN =4242		Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)
Info		
Element to send values, according to an end user defined schedule. The weekly timer can be enabled/disabled by pressing on the value between the buttons or via group object "B IO, Profile Enable". The timetable is opened by pressing the icon. It is always possible to change the value and overwrite the timetable by pressing the outer most buttons. After the value was change manually and if the weekly timer is enabled, the manual value is overwritten after OVROUT with the scheduled value.		
Example		



Time schedule entry menu.

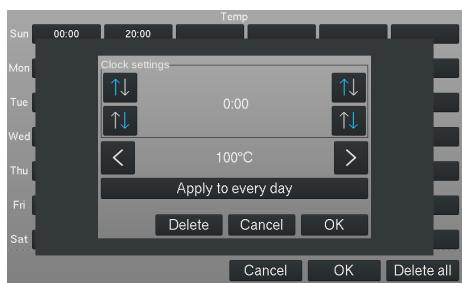
#### 4.12.8. 2-Byte-Float-Timer-Profile

Element Type Nr. 66

ETS Group Objects		
A Output, Profile	2 Byte	Weekly timer value output.
B IO, Profile Enable	1 bit	Weekly timer enable.
N/A		
N/A		
Format		
W =200		Tries to in-/de-increase the width of the label to x pixel (or %).
IMG =TERRACE		Icon displayed on the button. Icon name without file extension.
ICO =DOOR_b_on		Icon displayed on the left side of the element. Icon file name without file extension.
TC =red		Text color. HTML color name (red) or HEX color codes (#FF0000).
PF = °C		Unit displayed after the value.
DC =2		Number of decimal places displayed.
STEP =1.5		Value change per step/button press.
MIN =7		Upper value limit.
MAX =10		Lower value limit.
NOBG		Display button content directly on the background, without the outline. The touch sensitive areas stay the same.
RDRQ		Send a read request for the group object/s on startup.
OVRTO =2		Time period in minutes after user overwrite until return to scheduled values.
PIN =2342		Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)
PPIN =4242		Define a local pin for the element's secondary function. Overwrites PIN parameter. Only works if "Use Element PIN" is set to yes. (PPIN=1 is not supported, includes e.g., 0001)

Info	
Element to send values, according to an end user defined schedule.	
The weekly timer can be enabled/disabled by pressing on the value between the buttons or via group object "B IO, Profile Enable". The timetable is opened by pressing the icon.	
It is always possible to change the value and overwrite the timetable by pressing the outer most buttons. After the value was change manually and if the weekly timer is enabled, the manual value is overwritten after OVRTO with the scheduled value.	

Example	
	2-Byte-Float-Timer-Profile
	Test; TC=blue; STEP=5; NOBG; PF= Ohm; MIN=0; MAX=100; DC=0
	Volume; ICO=SOUND_up; IMG=TERRACE; MIN=0; MAX=50;
	Time schedule menu.



Time schedule entry menu.

#### 4.13. Datalogging

Image	Nr.	Element Type
	Data type	Format
Telegrams	95	<b>Telegrams</b>
	N/A	LABEL, ICO, PIN
Line-Graph	96	<b>Line-Graph</b>
	N/A	LABEL, ICO, DGRM, PIN
Bar-Graph	97	<b>Bar-Graph</b>
	N/A	LABEL, ICO, DGRM, PIN

### 4.13.1. Telegrams

Element Type Nr. 95

#### ETS Group Objects

N/A

N/A

N/A

N/A

#### Format

LABEL	=Test	Text on the button.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)

#### Info

For this Element Type a SD-Card (FAT32) is required. After inserting the card, it has to be mounted and datalogging has to be enabled in the system settings under System & SD-Card.

This element displays logged telegrams in a table format.

#### Example

Telegrams		Telegrams																																																																																																
Telegrams																																																																																																		
		Telegrams; ICO=LIVING																																																																																																
<table border="1"> <thead> <tr> <th>Time</th> <th>Source</th> <th>Dest</th> <th>Len</th> <th>Data</th> <th>Date</th> </tr> </thead> <tbody> <tr><td>15:10:57.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0D04 3532 25.60</td><td></td></tr> <tr><td>15:11:00.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0D04 3532 25.60</td><td></td></tr> <tr><td>15:11:02.11</td><td>1.8.0</td><td>5/0/1</td><td>2</td><td>03E8 1000 10.00</td><td></td></tr> <tr><td>15:11:06.11</td><td>1.8.0</td><td>5/0/0</td><td>2</td><td>07D0 2000 20.00</td><td></td></tr> <tr><td>15:11:07.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0CCD 3277 24.58</td><td></td></tr> <tr><td>15:11:12.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0DB5 3461 28.26</td><td></td></tr> <tr><td>15:11:17.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0C41 3137 21.78</td><td></td></tr> <tr><td>15:11:20.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0C41 3137 21.78</td><td></td></tr> <tr><td>15:12:16.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0D76 3446 27.90</td><td></td></tr> <tr><td>15:12:21.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0DBF 3471 28.46</td><td></td></tr> <tr><td>15:12:23.11</td><td>1.8.2</td><td>4/3/5</td><td>2</td><td>0C1A 3098 21.00</td><td></td></tr> <tr><td>15:12:26.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0D0A 3338 25.80</td><td></td></tr> <tr><td>15:13:01.11</td><td>1.8.0</td><td>5/0/1</td><td>2</td><td>03E8 1000 10.00</td><td></td></tr> <tr><td>15:13:01.11</td><td>1.8.2</td><td>5/0/0</td><td>2</td><td>0C46 3142 21.88</td><td></td></tr> <tr><td>15:13:13.11</td><td>1.8.0</td><td>5/0/1</td><td>2</td><td>07D0 2000 20.00</td><td></td></tr> </tbody> </table>	Time	Source	Dest	Len	Data	Date	15:10:57.11	1.8.2	5/0/0	2	0D04 3532 25.60		15:11:00.11	1.8.2	5/0/0	2	0D04 3532 25.60		15:11:02.11	1.8.0	5/0/1	2	03E8 1000 10.00		15:11:06.11	1.8.0	5/0/0	2	07D0 2000 20.00		15:11:07.11	1.8.2	5/0/0	2	0CCD 3277 24.58		15:11:12.11	1.8.2	5/0/0	2	0DB5 3461 28.26		15:11:17.11	1.8.2	5/0/0	2	0C41 3137 21.78		15:11:20.11	1.8.2	5/0/0	2	0C41 3137 21.78		15:12:16.11	1.8.2	5/0/0	2	0D76 3446 27.90		15:12:21.11	1.8.2	5/0/0	2	0DBF 3471 28.46		15:12:23.11	1.8.2	4/3/5	2	0C1A 3098 21.00		15:12:26.11	1.8.2	5/0/0	2	0D0A 3338 25.80		15:13:01.11	1.8.0	5/0/1	2	03E8 1000 10.00		15:13:01.11	1.8.2	5/0/0	2	0C46 3142 21.88		15:13:13.11	1.8.0	5/0/1	2	07D0 2000 20.00		Submenu .	
Time	Source	Dest	Len	Data	Date																																																																																													
15:10:57.11	1.8.2	5/0/0	2	0D04 3532 25.60																																																																																														
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15:13:13.11	1.8.0	5/0/1	2	07D0 2000 20.00																																																																																														

#### 4.13.2. Line-Graph

Element Type Nr. 96

**ETS Group Objects**

N/A

N/A

N/A

N/A

**Format**

LABEL	=Test	Text on the button.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
DGRM	=a/b[/c],t,n,p,c ...	Select specific group addresses and define appearance on the graph. Details see Info box.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)

**Info**

For this Element Type a SD-Card (FAT32) is required. After inserting the card, it has to be mounted and datalogging has to be enabled in the system settings under System & SD-Card.

This element displays up to three curves on a line graph.

The button for this element is only displayed if a valid DGRM is defined.

DGRM=a/b[/c],t,n,p,c: ...

a/b/c: Group address

t: Main number of the data point type (DPT). E.g., for DPT9.001 Temperature it would be 9

n: Displayed name

p: Postfix/unit displayed with the value.

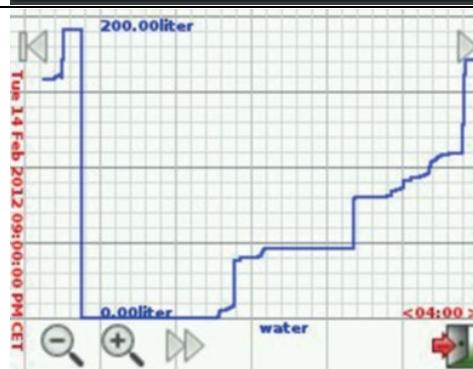
c: Color

Only the group address and the type are mandatory, the rest can be omitted.

Example: DGRM=1/2/2,12:1/2/3,12:1/2/4,12

**Example**

Line-Graph	Line-Graph
Line-Graph	Line-Graph;LABEL=Line-Graph;DGRM=6/4/3,14,water,liter,blue;



Submenu.

### 4.13.3. Bar-Graph

Element Type Nr. 97

#### ETS Group Objects

N/A

N/A

N/A

N/A

#### Format

LABEL	=Test	Text on the button.
ICO	=DOOR_b_on	Icon displayed on the left side of the element. Icon file name without file extension.
DGRM	=a/b[/c],t,n,p,c ...	Select specific group addresses and define appearance on the graph. Details see Info box.
PIN	=2342	Define a local pin for the element's primary (and secondary) function. Only works if "Use Element PIN" is set to yes. (PIN=1 is not supported, includes e.g., 0001)

#### Info

For this Element Type a SD-Card (FAT32) is required. After inserting the card, it has to be mounted and datalogging has to be enabled in the system settings under System & SD-Card.

This element displays daily bars for up to three different group addresses on a bar graph.  
The button for this element is only displayed if a valid DGRM is defined.

DGRM=a/b[/c],t,n,p,c: ...

a/b/c: Group address

t: Main number of the data point type (DPT). E.g., for DPT9.001 Temperature it would be 9

n: Displayed name

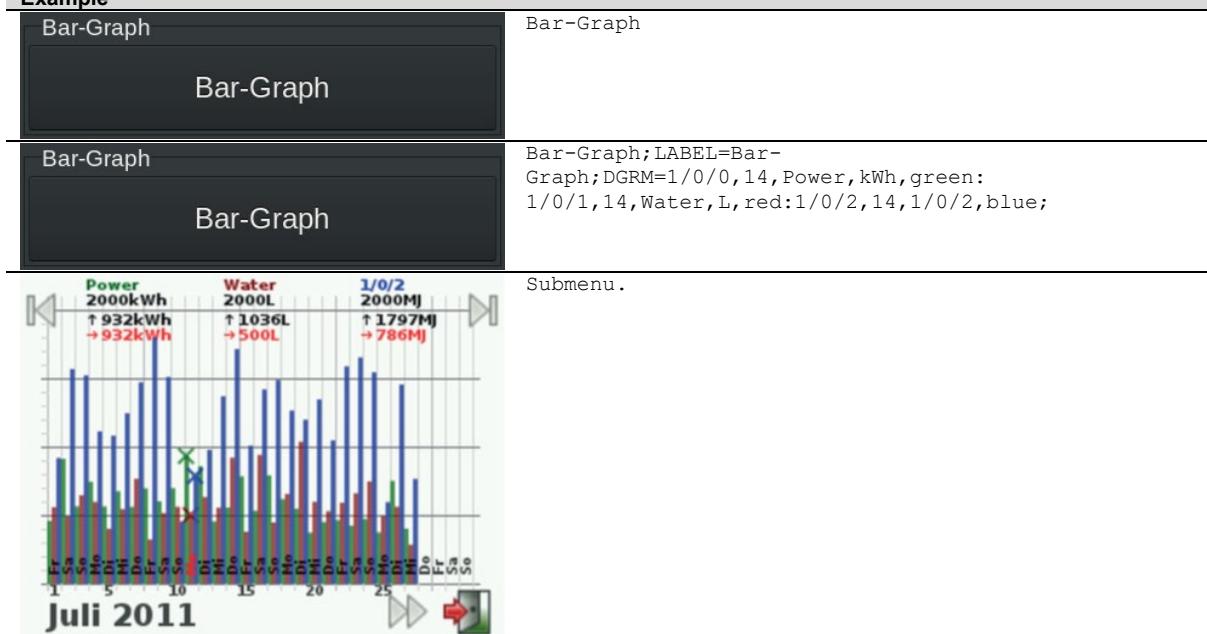
p: Postfix/unit displayed with the value.

c: Color

Only the group address and the type are mandatory, the rest can be omitted.

Example: DGRM=1/2/2,12:1/2/3,12:1/2/4,12

#### Example



## 5. Alarm Page

The elements on the Alarm Page can be used with the parameters AL (Alarm lower limit) and AH (Alarm high limit) in the [Name \[ ;Format \]](#) field. If the value crosses a limit the alarm page is displayed and acoustic signal is emitted. There are settings available in the [Page 6 Name \[ ;Format \] \(Alarm\)](#) field and in the device system settings dialog, e.g. volume, signal length, silent, ....

### 5.1. Important

The alarm is only triggered if the value crosses the limit.

Example:

AL=100, previous value was 200, new value sent is 10 > alarm triggered > alarm acknowledged > new value 50 > no alarm triggered.

### 5.2. How to

1. ETS Parameters set [Page scheme](#) to "5 Pages / 1 Alarm Page".
2. If necessary add parameter to the [Page 6 Name \[ ;Format \] \(Alarm\)](#) ETS parameter field.
3. Add elements to the alarm page.
  - a. In the ETS parameter under the "Alarm Page" ribbon open Element X..
  - b. Add an element that supports the AL and AH parameter (see [Element Type](#)).
  - c. Define AL and/or AH in [Name \[ ;Format \]](#).
4. Connect the group objects of the elements on the alarm page.
5. Make the ETS download.
6. Send values to the group objects to trigger the alarm.

### 5.3. Example

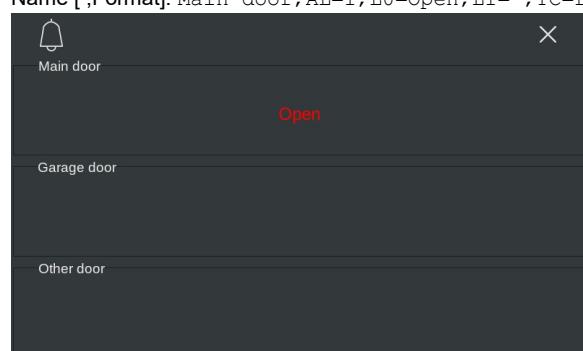
There are door contact switches and if one is opened an alarm should be triggered on the device.

1.8.2 9025 Touch Panel 3.5" > Alarm Page > Element 1: Alarm main door

General Parameters		Descriptor								
+ Page 1		Alarm main door								
+ Page 2		1 bit								
+ Page 3		1-bit-ON/OFF-toggle-text with value								
+ Page 4		normal								
+ Page 5										
- Alarm Page										
<b>Element 1: Alarm main door</b>										
Element 2:	Name [ ;Format ]	Main door;AL=1;L0=Open;L1= ;TC=red								
Element 3: Alarm garage door		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> </table>	1	2	3	4	5	6	7	8
1	2									
3	4									
5	6									
7	8									
Element 4:										
Element 5: Alarm other door										
Element 6:										

Settings for one element on the alarm page. The other elements are set up in the same way.

**Name [ ;Format ]:** Main door;AL=1;L0=Open;L1= ;TC=red



## 6. System Settings

To access the system settings on devices with the default layout:

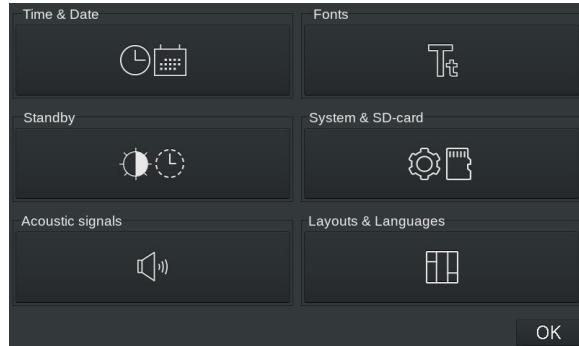
Others:

Press the wrench and gear icon.

AC4:

On the menu page or on the first page, swipe right with two fingers.

On custom layouts the system settings button is user defined.

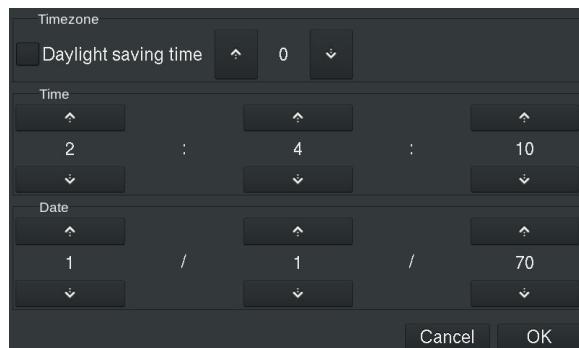


### 6.1. Time & Date

Enable daylight saving.

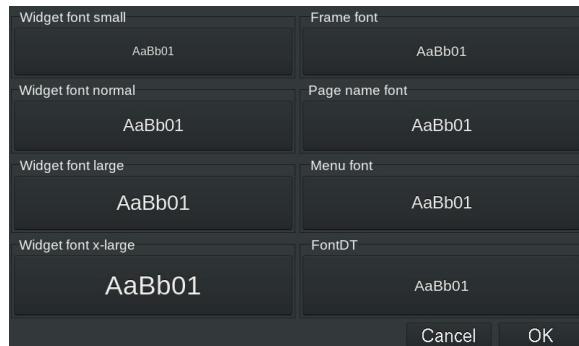
Set time zone.

Set system time and date manually. The time and date can also be set by group object 1 and 2.



### 6.2. Fonts

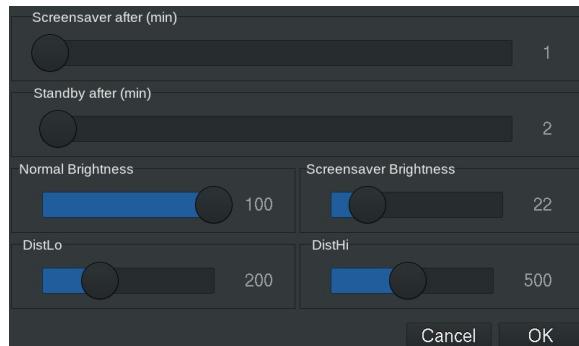
Adjust font sizes and types.



### 6.3. Standby

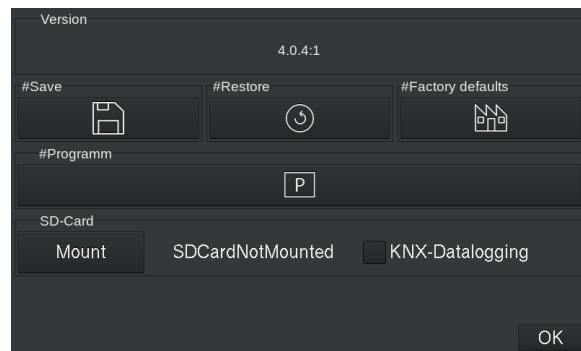
Timeout settings for screensaver and standby. If either is set to 0 the function is disabled. E.g. if "Screensaver after (min)" is disabled the device goes into standby mode after "Standby after (min)".

Screen brightness settings.



## 6.4. System & SD-card

Version	Firmware Version
Save	Save the system settings
Restore	Restore the saved system settings
Factory defaults	Reset the system settings to factory default
Program	KNX download button
SD Card Mount	Manual mount and unmount of FAT32 formatted SD Card. After the first manual mount the card is mounted automatically on boot.
KNX-Datalogging	If enabled, logs all the traffic on all connected group addresses to the SD Card. Starts automatically on boot if enabled once.



## 6.5. Acoustic signals

Settings for the acoustic signal:

- Volume
- Frequency
- Signal duration on touch
- Alarm Volume



## 6.6. Layouts & Languages

Select language. For further information see [Translation / Localization](#).

If one of the standard layouts is used, then it is possible to choose if time and date is displayed in the top navigation bar.

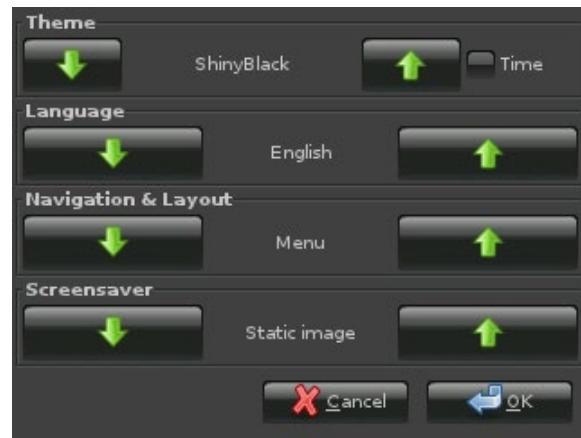
Screensaver:

Possible overly elements displayed in screensaver mode:	
A-Clock	Analog Clock
D-Clock	Digital Clock
Date	Date
Temperature	Temperature



Slideshow (s) defines the interval between background images displayed in screensaver mode in seconds.  
More details for user defined screensavers see [Screensaver](#).  
AC4: Displays a random static image from the uploaded slideshow files if set to 0.

On older devices it is also possible to choose from different themes and navigation menus directly on the device. See images below.



## Theme



A screenshot of a mobile device's settings menu titled "Kupo Dark Blue". The menu includes options for "Uhrzeit & Datum", "Zeichensätze", "Standby", "System & SD-Karte", and "Akustische Benachrichtigungen". At the bottom, there are "Layouts & Sprache" and "OK" buttons.



The screenshot shows the main menu of the BlueHeart app. It features a top navigation bar with icons for battery level, signal strength, and connectivity. Below this is a large central title 'BlueHeart' with a blue heart icon. To the left of the title is a circular progress bar divided into four quadrants. The bottom half of the screen is divided into five main sections: 'Uhrzeit & Datum' (Clock & Date) with a clock and calendar icon; 'Zeichensätze' (Character Sets) with a font icon; 'Standby' (Standby) with a power-off icon; 'System & SD-Karte' (System & SD Card) with a gear and SD card icon; and 'Akustische Signale' (Acoustic Signals) with a speaker icon. At the very bottom right is a small button labeled '9K'.



## Navigation & Layout



A screenshot of a mobile application's settings menu. The top bar has tabs labeled 'Page 1', 'Page 2', 'Page 2', 'Page 4', 'Page 5', and a gear icon. Below the tabs are two buttons: 'Aus' (disabled) on the left and 'Ein' (enabled) on the right. At the bottom, there are two large buttons labeled 'Tabs oben' with 'OFF' below them.



## 7. Screensaver

There are settings for the screensaver in the device system settings ([Layouts & Languages](#)).

## 7.1. Default



Slideshow blue01..04.png

## 7.2. ETS Parameter Settings

The Screensaver can be configured using the ETS Parameters fields Global format identifiers or Additional identifiers. There has to be a semicolon (;) before the first parameter.

Everything defined in the ETS is overwriting the system settings on the device, e.g., it is not possible to enable an analog clock in the system settings on the device, if it is disabled in the ETS Parameter.

### 7.2.1. Parameter

Each of the following parameters can only be used once. E.G., it is only possible to show one additional value with SCROBJ.

<b>Analog Clock</b>	
SCRACLK	=x,y,w,style
	Example= 20,20,180,radium
x	x coordinate. Screen top left to element top left. [pixel]
y	y coordinate. Screen top left to element top left. [pixel]
w	Element width [pixel]
style	Available styles: antique, default, fdo, funky, gremlin, impulse, radium, silvia, simple, tango, zen
=N	Deactivate element

<b>Digital Clock</b>	SCRDCLK	=x,y,w,color	Example=5,80,310,lightgrey
	x	x coordinate. Screen top left to element top left. [pixel]	
	y	y coordinate. Screen top left to element top left. [pixel]	
	w	Element width [pixel]	
	color	HTML color name (red) or HEX color codes (#FF0000)	
	=N	Deactivate element	

Date		
SCRDATE	=x,y,w,color	Example= 5,200,220,lightgrey
x		x coordinate. Screen top left to element top left. [pixel]
y		y coordinate. Screen top left to element top left. [pixel]
w		Element width [pixel]
color		HTML color name (red) or HEX color codes (#FF0000)
=N		Deactivate element

<b>Temperature</b>	SCRTEMP	=x,y,w,d,color	Example= 250,200,70,2,lightgrey
	x	x coordinate. Screen top left to element top left. [pixel]	
	y	y coordinate. Screen top left to element top left. [pixel]	
	w	Element width [pixel]	
	d	Displayed decimal places	
	color	HTML color name (red) or HEX color codes (#FF0000)	
	=N	Deactivate element	

**Background Color**      SCRBG    =color      HTML color name (red) or HEX color codes (#FF0000)

## Text Color

**Text Color:** Used for all screensaver items, unless a color was already specified for item itself.

## Text Background Color

HTML color name (red) or HEX color codes (#FF0000)

## Group Object Value

SCROBJ =obj,x,y,w,  
          digits.postfix.color      Example=250,200,70,2,lightgrey

<code>digits</code>	Number of decimal places displayed.
<code>postfix</code>	Text displayed behind value (e.g. units °C)
<code>color</code>	HTML color name (red) or HEX color codes (#FF0000)
<code>Obj</code>	KNX group object number
<code>x</code>	x coordinate. Screen top left to element top left. [pixel]
<code>y</code>	y coordinate. Screen top left to element top left. [pixel]
<code>w</code>	Element width [pixel]

## Slideshow interval

**SLIDETIME** = time  
Defines the interval between background images displayed in screensaver mode in seconds. If set to 0 a random static image is displayed.

### 7.2.2. Examples

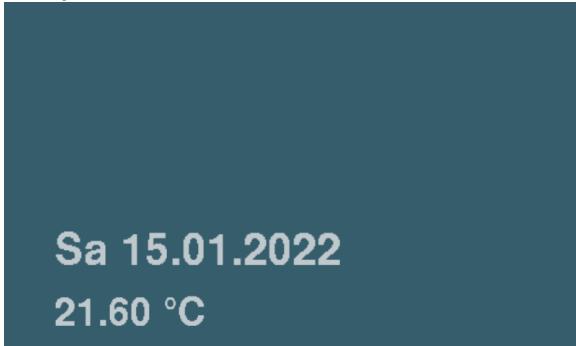
The strings below the examples can be inserted in the [Global format identifiers](#) or [Additional identifiers](#) ETS parameter fields.

### Example 1



; SCRDBG=#365D6B; SCRACLK=310,130,180; SCRDCCLK=300,315,180, #B1AEAF; SCRDATE=N; SCRTEMP=N

## Example 2



SCRBG=#365D6B; SCRACLK=N; SCRCLK=N; SCRDATE=70,312,417, #BFC9CD; SCRTEMP=70,402,195,2, #BFC9CD

### Example 3



; SCROBJ=75, 367, 222, 400, 0, ppm BOARDROOM, #E6F8CE; SCRDATE=N; SCRTEMP=N; SCRACLK=N; SCRCLK=N;

### 7.2.3. Temperature (SCRTEMP)

The temperature displayed by SCRTEMP is the temperature set in the device. If the device has an internal sensor, it can be used as source or a value can be provided via the KNX bus. It is also possible to use a weighted mixture of both.

## 8. Translation / Localization

With user defined language files, it is possible to make the configuration available in different languages for the end user without changing the ETS Parameters for different languages.

### 8.1. How it works

There are two translation systems on the device:

- User
  - o Files located in /opt/languages/usr
  - o Language selected in the flag menu (How to enable it see: [Display user language chooser](#))
  - o Dynamically updated without reboot
  - o Files can be uploaded with the configurator, see [Languages](#).
  - o Everything can be translated with the user files
- System
  - o Files located in /opt/languages/system
  - o Language selected in the systems settings: [Layouts & Languages](#)
  - o Reboot required for update. If system settings are exited with the OK button, then there is an automatic reboot.

The system first checks the user files for a translation. If it is missing there it checks system files and if it is also missing there it displays the key.

The filename of the user translation file defines the displayed flag (see [Flags](#)) in the language chooser and the #LOCALE variable (see [#LOCALE](#)) in the user file defines e.g., how time and date are displayed.

### 8.2. Prefix convention

The following prefixes are not necessary, but it is recommended to use them for better readability and clarity.

Prefix	Example	Description
#	#mainmenu	System entry
\$	\$LAMPS	User entry

### 8.3. Download existing user language files

1. Use the Configurator tool to create a snapshot: [Snapshot](#)
2. Open the downloaded \*.tgz file with e.g. winrar
3. The language files are located in \opt\languages\usr

### 8.4. Create new translation

1. Select a flag (see [Flags](#)) and create a file with the flag name with .txt file extension. E.g., "en.txt".
2. Open the file and insert the recommended default key value pairs (see below).
3. Set the correct value for #LOCALE (see [#LOCALE](#)). E.g., #LOCALE=en\_GB.UTF-8.
4. Define your own key value pairs. E.g., \$ALARM=Alarm.
5. Copy the language file for translation. Make adjustments according to point 1 to 3 and translate all values.
6. Upload all created language files with the configurator (see [Languages](#))
7. Enable the user language chooser in the ETS parameter (see [Display user language chooser](#))
8. Use the key words in the ETS parameters. E.g., \$ALARM.
9. Make an ETS download.
10. (If required reboot the Device.)

#### 8.4.1. Recommended default key value pairs

This key value pairs translate some default text and it is recommended to add them to the user translation files.

```
Loff=OFF
Lon=ON
Bon=ON
Boff=OFF
menu=MENU
#mainmenu=Main menu
Bup=UP
Bdown=DOWN
```

#### 8.4.2. #LOCALE

Language name	#LOCALE	Language name	#LOCALE
Afrikaans	af_ZA.UTF-8	Japanese	ja_JP.UTF-8
Albanian	sq_AL.UTF-8	Kannada	kn_IN.UTF-8
Arabic	ar_SA.UTF-8	Khmer	km_KH.UTF-8
Basque	eu_ES.UTF-8	Korean	ko_KR.UTF-8
Belarusian	be_BY.UTF-8	Lao	lo_LA.UTF-8
Bosnian	bs_BA.UTF-8	Lithuanian	lt_LT.UTF-8
Bulgarian	bg_BG.UTF-8	Latvian	lat.UTF-8
Catalan	ca_ES.UTF-8	Malayalam	ml_IN.UTF-8
Croatian	hr_HR.UTF-8	Malaysian	ms_MY.UTF-8
Chinese (Simplified)	zh_CN.UTF-8	Maori (Ngai Tahu)	mi_NZ.UTF-8
Chinese (Traditional)	zh_TW.UTF-8	Maori (Waikoto Uni)	mi_NZ.UTF-8
Czech	cs_CZ.UTF-8	Mongolian	mn.UTF-8
Danish	da_DK.UTF-8	Norwegian	no_NO.UTF-8
Dutch	nl_NL.UTF-8	Norwegian (Primary)	no_NO.UTF-8
English	en.UTF-8	Nynorsk	nn_NO.UTF-8
English (US)	en.UTF-8	Polish	pl.UTF-8
Estonian	et_EE.UTF-8	Portuguese	pt_PT.UTF-8
Farsi	fa_IR.UTF-8	Portuguese (Brazil)	pt_BR.UTF-8
Filipino	fil_PH.UTF-8	Romanian	ro_RO.UTF-8
Finnish	fi_FI.UTF-8	Russian	ru_RU.UTF-8
French	fr_FR.UTF-8 or fr_CH.UTF-8 or fr_BE.UTF-8	Samoan	mi_NZ.UTF-8
French (Canada)	fr_CA.UTF-8	Serbian	sr_CS.UTF-8
Gaelic	ga.UTF-8	Slovak	sk_SK.UTF-8
Gallego	gl_ES.UTF-8	Slovenian	sl_SI.UTF-8
Georgian	ka_GE.UTF-8	Somali	so_SO.UTF-8
German	de_DE.UTF-8	Spanish	es_ES.UTF-8
Greek	el_GR.UTF-8	Swedish	sv_SE.UTF-8
Gujarati	gu.UTF-8	Tagalog	tl.UTF-8
Hebrew	he_IL.utf8	Tamil	ta_IN.UTF-8
Hindi	hi_IN.UTF-8	Thai	th_TH.UTF-8
Hungarian	hu.UTF-8	Tongan	mi_NZ.UTF-8
Icelandic	is_IS.UTF-8	Turkish	tr_TR.UTF-8
Indonesian	id_ID.UTF-8	Ukrainian	uk_UA.UTF-8
Italian	it_IT.UTF-8	Vietnamese	vi_VN.UTF-8

### 8.4.3. Flags



## 8.5. Example

Descriptor

Object Type

Element Type

Element Size

Interactive  No  Yes

Use Element PIN  No  Yes

Align steps  No  Yes

Expand horizontal  No  Yes

Expand vertical  No  Yes

Name [ ;Format ]

1	2
3	4
5	6
7	8

**en.txt**

```
#LOCALE=en_GB.UTF-8
Loff=OFF
Lon=ON
Bon=ON
Boff=OFF
menu=MENU
#mainmenu=Main menu
Bup=UP
Bdown=DOWN
$LIGHT=Light
$B_OFF=Off
$B_ON=On
$L_OFF=Off
$L_ON=On
```

**de.txt**

```
#LOCALE=de_DE.UTF-8
Loff=AUS
Lon=EIN
Bon=EIN
Boff=AUS
menu=MENU
#mainmenu=Hauptmenü
Bup=HOCH
Bdown=RUNTER
$LIGHT=Licht
$B_OFF=Aus
$B_ON=An
$L_OFF=Aus
$L_ON=An
```

18:16:35  
16/01/22

	Light
Off	Off
On	On

18:16:48  
16.01.2022

	Licht
Aus	Aus
An	An

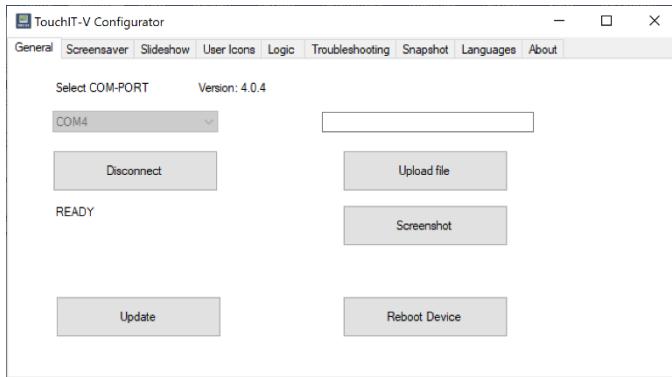
## 9. Configurator

The configurator software is available on our website.

### 9.1. General

#### 9.1.1. Establish connection

1. Download the Configurator Software from our website and install it.
2. Connect the TP35A01KNX via USB to your PC.
3. Start the Configurator Software.
4. In the "General" tab below "Select Com-PORT" select the COM port. If there is more than one COMx listed then disconnect the device, check the list, reconnect the device and use the newly added entry.
5. Click "Connect"
6. A successful connection is indicated if the Version number is displayed next to "Select Com-PORT".



#### 9.1.2. Update

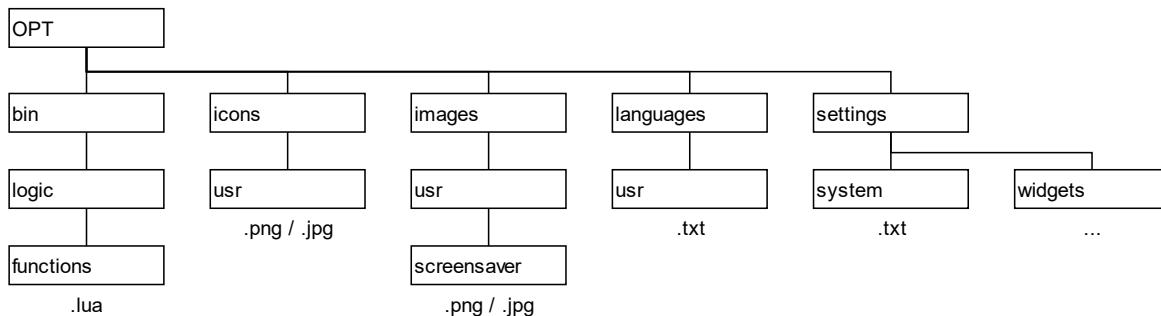
A provided tgz file can be uploaded with the update button.

#### 9.1.3. Upload file

Enter a path to the upload destination in the text field above the "Upload file" button e.g. /opt/languages/usr/, press the "Upload file" button and select the file.

This can be useful in some edge cases, but for most use cases there is a specific tab.

The tree below shows some useful storage locations.



#### 9.1.4. Screenshot

By pressing the "Screenshot" button, the content displayed on the device is captured and saved to the PC.

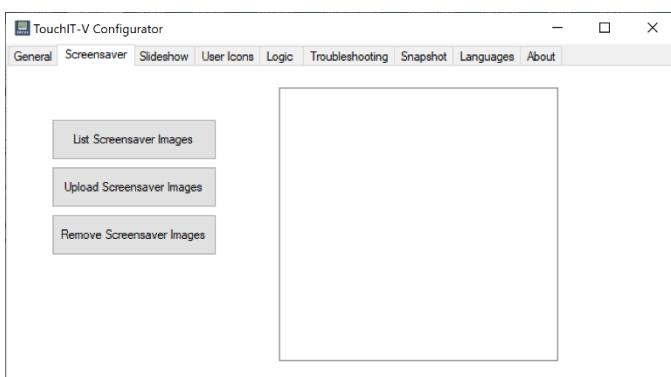
#### 9.1.5. Reboot Device

Press the "Reboot Device" button to reboot the connected device.

## 9.2. Screensaver

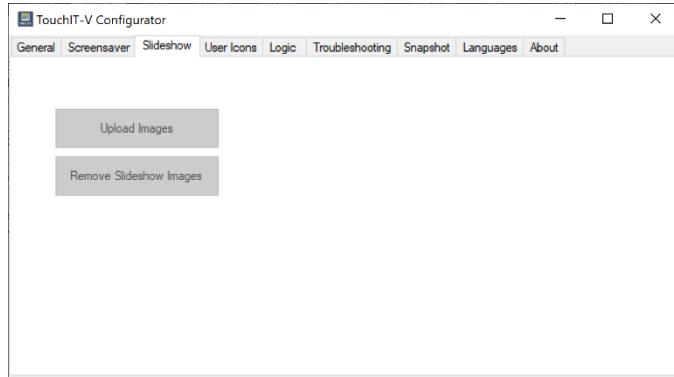
The standard screensaver is replaced if a custom one is uploaded.

The images have to be png files, with a resolution of 320x240 pixels or 800 x 480 pixels, depending on the resolution of the display.



### 9.3. Slideshow

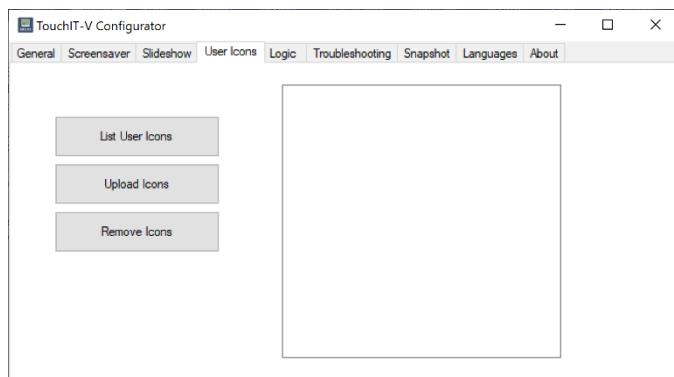
Used on older devices to upload pictures for the screensaver slideshow. The images have to be png files, with a resolution of 320x240 pixels.



### 9.4. User Icons

Upload custom icons.

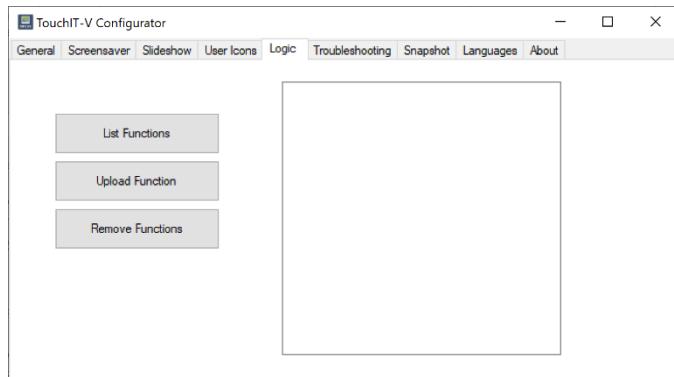
The file format of the icons has to be \*.png. The icons are not scaled in size on the device, so they are displayed in the size they are uploaded. The icons also have to be named correctly.  
For further information see section [Icons](#).



### 9.5. Logic

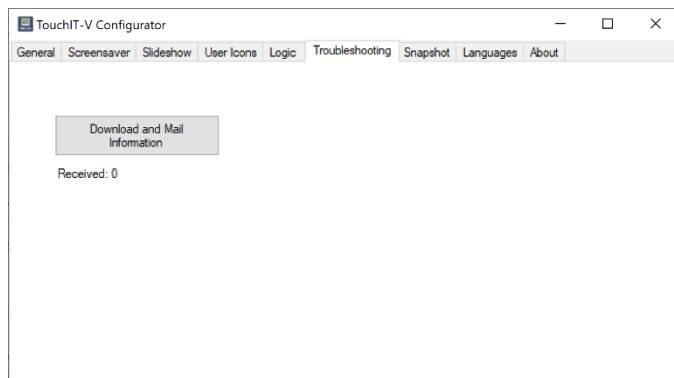
The device supports logic written in LUA. The file extension should be .lua.

For further information see section [Logic](#).



### 9.6. Troubleshooting

If requested by customer support, parts of the settings can be downloaded with this function.

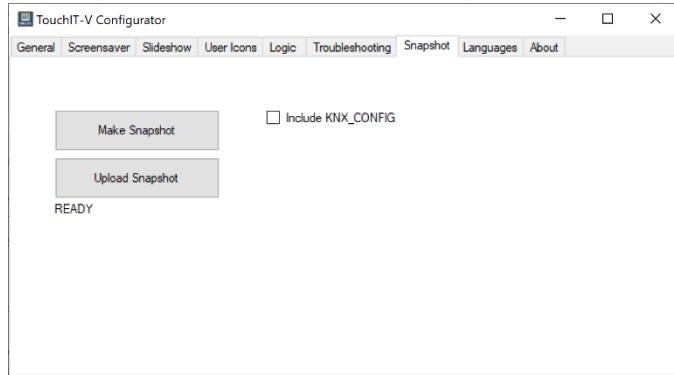


## 9.7. Snapshot

Create and Restore Snapshots. The Snapshots include user logic, icons, images, ... and are used to back up and restore the device.

If Include KNX\_CONFIG is enabled, all the configuration done via ETS is also included in the snapshot.

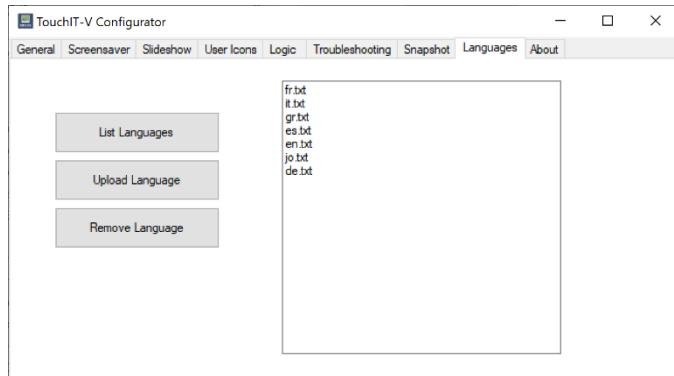
After restoring the snapshot via Upload Snapshot, the device has to be rebooted. E.g., General tab> Reboot Device.



## 9.8. Languages

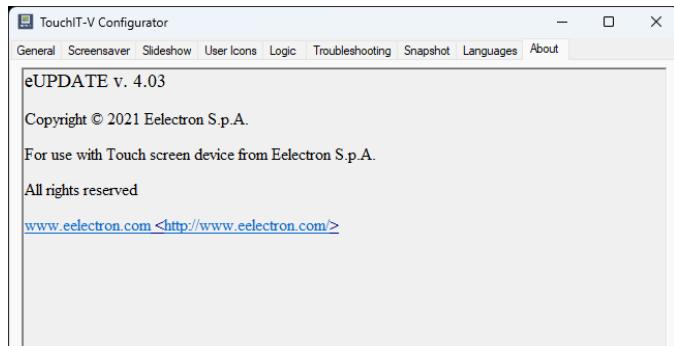
Files for translation/localization are uploaded with these functions.

For further information, including the required formatting of the txt file, see section [Translation / Localization](#).



## 9.9. About

Shows Configurator version.



## 10. Logic

LUA is used as programming language for the Logic block and there are some custom [Functions](#) available. This logic module can be used for many applications e.g.:

- Manipulation values of group objects and by that to send and receive data to/from connected group addresses.
- Link touch buttons on the display directly to logic functions.
- Jump to pages on the display for custom menu implementations.
- Custom acoustic signals.
- Timer based events.

### 10.1. How to

1. Upload the logic files with .lua file extension via USB with the [Configurator](#)
2. Enable the logic block in the ETS parameter: [Use logic functions](#)
3. If required enable a Logic scheme in the ETS parameter: [Logic scheme](#)
4. Make the ETS download

### 10.2. Important

- ETS group objects start from 1, the logic group object count starts at 0. E.g., knx.get\_float(10) read the value of group object number 11.
- If a new/changed logic file is uploaded a reboot is required. It is also enough to make a partial ETS download.
- Only logic group objects trigger the callback functions knx\_value\_changed() and knx\_value\_update().
- Values can be written to all group objects of the device.
- It is possible to poll non logic objects.
- If no group address is connected to a group object no data is sent to the bus.
- There has to be a group address connected to the group object so the corresponding internal element updates/displays a value. To reduce bus traffic the communication flag can be disabled.
- DPT9 2 Byte float values are read and written as 2 Byte integers, the values can be converted by using the provided functions dpt9\_to\_int and int\_to\_dpt9.
- The Logic block has to be enabled in the ETS.

### 10.3. Functions

#### 10.3.1. KNX Functions

```
text1_str, text2_str, ... = knx.get_string(comObjNr1_int, comObjNr2_int, ...)
```

Read one or more 14 Byte String/s from group objects.  
comObjNrX\_int is a KNX group object number.

```
val1_int, val2_int, ... = knx.get_integer(comObjNr1_int, comObjNr2_int, ...)
```

Read one or more 1..4 Byte Integer/s from group objects. Also used for 2 Byte float DPT9, e.g.  
val\_float = knx.dpt9\_to\_int(knx.get\_integer(comObjNr\_int)) / 100.0  
comObjNrX\_int is a KNX group object number.

```
val1_float, val2_float, ... = knx.get_float(comObjNr1_int, comObjNr2_int, ...)
```

Read one or more 4 Byte Float/s from group objects.  
comObjNrX\_int is a KNX group object number.

```
knx.set_string(comObjNr_int, text_str)
```

Write one 14 Byte String to a provided group object number.  
comObjNrX\_int is a KNX group object number.  
text\_str is the value to be set.

```
knx.set_integer(comObjNr_int, length_int, value_int)
```

Write one 1 .. 4 Byte Integer with provided length to a provided group object number.  
comObjNrX\_int is a KNX group object number.  
length\_int is the integer length in byte.  
value\_int is the value to be set.

```
knx.set_float(ComObjNr_int, value_float)
```

Write one 4 Byte Float to a provided group object number.  
comObjNrX\_int is a KNX group object number.  
value\_float is the value to be set.

```
value_int = knx.dpt9_to_int(value_int)
```

Converter for reading 2 Byte float DPT9. E.g.: value\_float = knx.dpt9\_to\_int(knx.get\_integer(comObjNr\_int)) / 100.0

```
value_int = knx.int_to_dpt9(value_int)
```

Converter for writing 2 Byte float DPT9. E.g.: knx.set\_integer(comObjNr\_int, 2, knx.int\_to\_dpt9(value\_float \* 100.0))

**status\_int = knx.tx\_idle(comObjNr\_int)**  
Check if group object has completed the sending process.

### 10.3.2. System Functions

**sys.timeout(timeout\_ms\_int [, callbackArgument])**  
Initialize timeout callback function. `timeout([callbackArgument])` is called after `timeout_ms_int` milliseconds and the optional callback Argument/s are handed through.

**sys.set\_page(pageNr\_int)**  
Display `pageNr_int`. Wakes up the device if in stand-by.  
`pageNr_int`: 1..6

**sys.set\_brightness(percent\_int)**  
Set display brightness 0..100.

**sys.beep(duration\_ms\_int{, frequency\_hz\_int [, volume\_int]})**  
Emit a acoustic signal for `duration_ms_int` with the `frequency_hz_int` and a volume of `volume_int` range 0..15.

**sys.put\_setting(name\_str, value)**  
Create/write a no volatile variable into flash memory.  
`name_str` is the variable name  
`value` is the value to save

`value = sys.get_setting(name_str)`  
Read nonvolatile variable.  
`name_str` is the variable name  
`value` is the read value

**sys.signal\_obj(comObjNr\_int)**  
Forces an update of displayed elements connected to group object with the number of `comObjNr_int`.

**sys.message(text\_str)**  
Display a message dialog containing `text_str`. The dialog has to be acknowledged manually by pressing a button.

**sys.settings\_dialog(settingsName\_str)**  
Display a dialog in order to change values in the settings table with the name `settingsName_str`. The argument is the name of the settings table variable as a string.

**sys.read\_settings(settingsName\_str)**  
Read a settings table named `settingsName_str` from nonvolatile flash memory. The argument is the name of the settings table variable as a string.

**sys.write\_settings(settingsName\_str)**  
Write a settings table named `settingsName_str` to nonvolatile flash memory. The argument is the name of the settings table variable as a string.

### 10.3.3. Callback Functions

**knx\_value\_changed(comObjNr\_int)**  
Is called if a KNX value changed, the argument is KNX group object number of the object whose value changed.

**knx\_value\_update(comObjNr\_int)**  
Is called if a KNX value updated (same value received again), the argument is KNX group object number of the object whose value updated.

**settings\_set(settingsName\_str)**  
Is called if a settings dialog was closed by pressing the OK button. Can be used to safe the settings with `sys.write_settings`. The argument is the name of the settings table variable as a string.

**timeout([callbackArgument])**  
Is called after timeout, setup with `sys.timeout`, occurs. The optional callbackArgument is also handed through from `sys.timeout`. If this function returns 0 the loop continues and `timeout` is called again after the interval originally setup with `sys.timeout`. If it returns 1 the loop stops and `timeout` is not called again, unless it is set up with `sys.timeout` again.

### 10.3.4. Logic Settings

The logic settings allow for settings saved in nonvolatile flash memory with a special settings dialog to change settings values. There can be more than one settings table but only the one called "settings" is accessible in device settings under Logic. Other

tables with a different name can be displayed by calling `sys.settings_dialog(settingsName_str)`. If the settings are changed and the dialog was closed by pressing OK, then the callback function `settings_set(settingsName_str)` is executed and can be used to save the changed settings to nonvolatile flash with `sys.write_settings(settingsName_str)`. `sys.read_settings(settingsName_str)` should be executed at system start to read the a settings table from nonvolatile flash and provide it as global variable with the name "settingsName\_str".

#### Structure

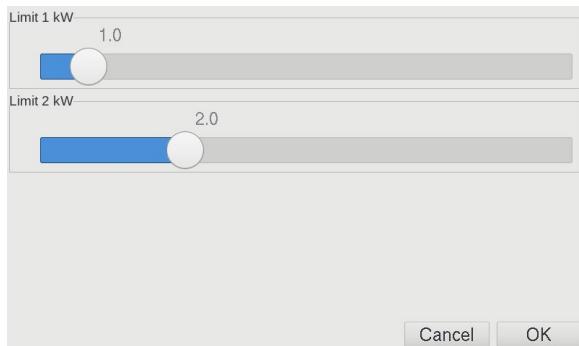
```
settingsName = { {name, min, max, val, dc}, {name, min, max, val, dc}, ... (up to 8 entries) }
val: initial value
dc: digit count
```

#### Example 1

Settings accessible via device system settings under Logic.

```
settings = {
    {name = "Limit 1 kW", min = 0.5, max = 6.0, val = 1.0, dc = 1.0},
    {name = "Limit 2 kW", min = 0.5, max = 6.0, val = 2.5, dc = 1.0},
}
function settings_set(settingsName_str)
    sys.write_settings(settingsName_str)
end
sys.read_settings("settings")

sys.message(settings[1].val)
```



#### Example 2

```
other_settings = {
    {name = "test 1", min = 0.5, max = 6.0, val = 1.0, dc = 1.0},
    {name = "test 2", min = 0.5, max = 6.0, val = 2.5, dc = 1.0},
}
function settings_set(settingsName_str)
    sys.write_settings(settingsName_str)
end
sys.read_settings("other_settings ")

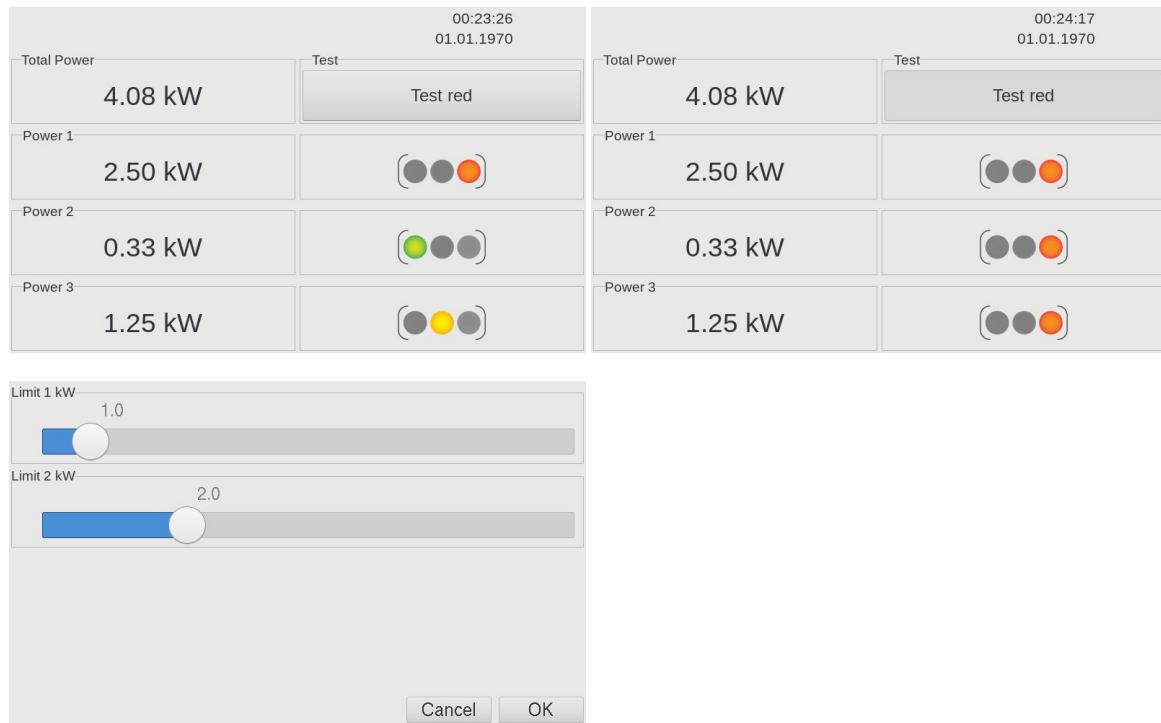
sys.settings_dialog("other_settings")
sys.message(settings[1].val)
```

## 10.4. Example

In this example a traffic light switches from green to yellow and red if two corresponding limits are exceeded. The limits can be changed in the settings on the device. This is done for three channels.

There is also the sum of all three values calculated and displayed and a pushbutton switches all lights to red on press and to the original value on release.

### 10.4.1. Device



### 10.4.2. Lua Code

The following source code should be saved as electric\_power.lua.

```

settings = {
    {name = "Limit 1 kW", min = 0.5, max = 6.0, val = 1.0, dc = 1.0},
    {name = "Limit 2 kW", min = 0.5, max = 6.0, val = 2.5, dc = 1.0},
}

electric_power_1_I_ObjNr = 49 -- 2 Byte float
electric_power_2_I_ObjNr = 50 -- 2 Byte float
electric_power_3_I_ObjNr = 51 -- 2 Byte float

electric_power_sum_O_ObjNr = 62 -- 2 Byte float

level_epower1_O_ObjNr = 74 -- 1 Byte
level_epower2_O_ObjNr = 82 -- 1 Byte
level_epower3_O_ObjNr = 90 -- 1 Byte

lookup_level_ObjNr = {
    [electric_power_1_I_ObjNr] = level_epower1_O_ObjNr,
    [electric_power_2_I_ObjNr] = level_epower2_O_ObjNr,
    [electric_power_3_I_ObjNr] = level_epower3_O_ObjNr
}

function update_integer(objNr ,bytes ,val)
    if knx.get_integer(objNr) ~= val then
        knx.set_integer(objNr,bytes,val)
        sys.signal_obj(objNr)
    end
end

function get_2Byte_float(objNr) -- write KNX dpt9
    return knx.dpt9_to_int(knx.get_integer(objNr))/100.0
end

function set_2Byte_float(objNr, val) -- read KNX dpt9
    i = knx.int_to_dpt9(val*100.0)
    update_integer(objNr, 2, i)
end

```

```
end

function eval_level(power_ObjNr, level_ObjNr)
    power = get_2Byte_float(power_ObjNr)
    limit1 = settings[1].val
    limit2 = settings[2].val

    if power > limit2 then
        level = 2
    elseif power > limit1 then
        level = 1
    else
        level = 0
    end
    update_integer(level_ObjNr, 1, level)
end

function update_levels()
    for power_ObjNr, level_ObjNr in pairs(lookup_level_ObjNr) do
        eval_level(power_ObjNr, level_ObjNr)
    end
end

function update_power_sum()
    power_sum = 0
    for power_ObjNr, _ in pairs(lookup_level_ObjNr) do
        val = get_2Byte_float(power_ObjNr)
        power_sum = power_sum + val
    end
    set_2Byte_float(electric_power_sum_O_ObjNr, power_sum)
end

function push_button(state)
    if state == 'press' then
        level = 2
        for _, level_ObjNr in pairs(lookup_level_ObjNr) do
            update_integer(level_ObjNr, 1, level)
        end
    elseif state == 'release' then
        update_levels()
    end
end

function settings_set(x)
    sys.write_settings(x)
    update_levels()
end

function knx_value_changed(x)
    changed_objNr = x
    if lookup_level_ObjNr[changed_objNr] ~= nil then -- a electric_power_x value has changed
        eval_level(changed_objNr, lookup_level_ObjNr[changed_objNr])
        update_power_sum()
    end
end

function knx_value_update(x)
    knx_value_changed(x)
end

sys.read_settings("settings")
```

### 10.4.3. ETS

#### Parameter

1.8.2 9025 Touch Panel 3.5" > General Parameters

<b>General Parameters</b>	Master PIN	0								
+ Page 1	Use PIN for settings dialog	<input checked="" type="radio"/> no <input type="radio"/> yes								
+ Page 2	Layout	2X4-layout								
+ Page 3	Icon theme	<input type="radio"/> bright <input checked="" type="radio"/> dark ( for bright surfaces )								
+ Page 4		<table border="1"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> </table>	1	2	3	4	5	6	7	8
1	2									
3	4									
5	6									
7	8									
+ Page 5	Display menu page	<input checked="" type="radio"/> no <input type="radio"/> yes								
+ Page 6	Display user language chooser	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page scheme	<input type="radio"/> 5 pages / 1 alarm page <input checked="" type="radio"/> 6 pages								
	Global format identifiers	:LOGIC=electric_power.lua								
	Additional identifiers									
	Page 1 Name [ ;Format ]									
	Use PIN for Page 2	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page 2 Name [ ;Format ]									
	Use PIN for Page 3	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page 3 Name [ ;Format ]									
	Use PIN for Page 4	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page 4 Name [ ;Format ]									
	Use PIN for Page 5	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page 5 Name [ ;Format ]									
	Use PIN for Page 6	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Page 6 Name [ ;Format ]									
	Use RTC	<input checked="" type="radio"/> no <input type="radio"/> yes								
	Use logic functions	<input type="radio"/> no <input checked="" type="radio"/> yes								
	Logic scheme	IO-schema 1								
<a href="#">Group Objects</a>	<a href="#">Channels</a>	<a href="#">Parameters</a>								

## 1.8.2 9025 Touch Panel 3.5" &gt; Page 1 &gt; Element 1:

General Parameters	Descriptor	Total Power								
- Page 1	Object Type	2 byte								
<b>Element 1: Total Power</b>	Element Type	2-byte-float-text-button								
Element 2: Test Red	Element Size	X-large								
Element 3: Power 1	Interactive	<input checked="" type="radio"/> no <input type="radio"/> yes								
Element 4: level epower 1	Use Element PIN	<input checked="" type="radio"/> no <input type="radio"/> yes								
Element 5: Power 2	Align steps	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 6: level epower 2	Expand horizontal	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 7: Power 3	Expand vertical	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 8: level epower 3	Name [ ;Format ]	Total Power;PF= kW;DC=2								
+ Page 2		<table border="1"><tr><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td></tr><tr><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td></tr></table>	1	2	3	4	5	6	7	8
1	2									
3	4									
5	6									
7	8									
+ Page 3										
+ Page 4										

## 1.8.2 9025 Touch Panel 3.5" &gt; Page 1 &gt; Element 2: Test Red

General Parameters	Descriptor	Test Red								
- Page 1	Object Type	1 bit								
<b>Element 1: Total Power</b>	Element Type	1-bit-value-pushbutton								
<b>Element 2: Test Red</b>	Element Size	normal								
Element 3: Power 1	Interactive	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 4: level epower 1	Use Element PIN	<input checked="" type="radio"/> no <input type="radio"/> yes								
Element 5: Power 2	Align steps	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 6: level epower 2	Expand horizontal	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 7: Power 3	Expand vertical	<input type="radio"/> no <input checked="" type="radio"/> yes								
Element 8: level epower 3	Name [ ;Format ]	Test; LABEL=Test red;LOGIC=push_button('press');LOG								
+ Page 2		<table border="1"><tr><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td></tr><tr><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td></tr></table>	1	2	3	4	5	6	7	8
1	2									
3	4									
5	6									
7	8									
+ Page 3										

Name [ ;Format ]: Test; LABEL=Test red;LOGIC=push\_button('press');LOGICR=push\_button('release')

## 1.8.2 9025 Touch Panel 3.5" &gt; Page 1 &gt; Element 3: Power 1

General Parameters	Descriptor	Power 1
- Page 1	Object Type	2 byte
Element 1: Total Power	Element Type	2-byte-float-text-button
Element 2: Test Red	Element Size	X-large
<b>Element 3: Power 1</b>	Interactive	<input checked="" type="radio"/> no <input type="radio"/> yes
Element 4: level epower 1	Use Element PIN	<input checked="" type="radio"/> no <input type="radio"/> yes
Element 5: Power 2	Align steps	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 6: level epower 2	Expand horizontal	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 7: Power 3	Expand vertical	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 8: level epower 3	Name [ ;Format ]	Power 1;PF= kW;DC=2
+ Page 2		
+ Page 3		

1	2
3	4
5	6
7	8

## 1.8.2 9025 Touch Panel 3.5" &gt; Page 1 &gt; Element 4: level epower 1

General Parameters	Descriptor	level epower 1
- Page 1	Object Type	1 byte
Element 1: Total Power	Element Type	1-byte-value-picture-button 0..255
Element 2: Test Red	Element Size	normal
Element 3: Power 1	Interactive	<input checked="" type="radio"/> no <input type="radio"/> yes
<b>Element 4: level epower 1</b>	Use Element PIN	<input checked="" type="radio"/> no <input type="radio"/> yes
Element 5: Power 2	Align steps	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 6: level epower 2	Expand horizontal	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 7: Power 3	Expand vertical	<input type="radio"/> no <input checked="" type="radio"/> yes
Element 8: level epower 3	Name [ ;Format ]	;IMGVAL=traffic_light
+ Page 2		
+ Page 3		

1	2
3	4
5	6
7	8

Channel 2 and 3 are set up identically, only named accordingly.

## Group Objects

Number	Name	Object Function	Description	Group Address	Length
39	IO Logic 1-Bit 7	Logic			1 bit
40	IO Logic 1-Bit 8	Logic			1 bit
41	IO Logic 1-Bit 9	Logic			1 bit
42	IO Logic 1-Byte 0	Logic			1 byte
43	IO Logic 1-Byte 1	Logic			1 byte
44	IO Logic 1-Byte 2	Logic			1 byte
45	IO Logic 1-Byte 3	Logic			1 byte
46	IO Logic 1-Byte 4	Logic			1 byte
47	IO Logic 1-Byte 5	Logic			1 byte
48	IO Logic 1-Byte 6	Logic			1 byte
49	IO Logic 1-Byte 7	Logic			1 byte
50	IO Logic 2-Byte 0	Logic	electric power 1	1/1/0	2 bytes
51	IO Logic 2-Byte 1	Logic	electric power 2	1/1/1	2 bytes
52	IO Logic 2-Byte 2	Logic	electric power 3	1/1/2	2 bytes
53	IO Logic 2-Byte 3	Logic			2 bytes
54	IO Logic 2-Byte 4	Logic			2 bytes
55	IO Logic 2-Byte 5	Logic			2 bytes
56	IO Logic 2-Byte 6	Logic			2 bytes
57	IO Logic 2-Byte 7	Logic			2 bytes
58	IO Logic 4-Byte 0	Logic			4 bytes
59	IO Logic 4-Byte 1	Logic			4 bytes
60	IO Logic 4-Byte 2	Logic			4 bytes
61	IO Logic 4-Byte 3	Logic			4 bytes
62	IO Logic 4-Byte 4	Logic			4 bytes
63	1.1-A IO, Value_Total Power	2-Byte Float Value	sum electric power	1/1/3	2 bytes
64	1.1-B Input, Feedback_Total Power	2-Byte Float Value			2 bytes
67	1.2-A Output, Value_Test Red	1-Bit Value Button			1 bit
68	1.2-B Output, Value_B_Test Red	1-Bit Value Button			1 bit
71	1.3-A IO, Value_Power 1	2-Byte Float Value	electric power 1	1/1/0	2 bytes
72	1.3-B Input, Feedback_Power 1	2-Byte Float Value			2 bytes
75	1.4-A IO, Value_level epower 1	1-Byte Value	level epower 1	1/1/4	1 byte
76	1.4-B Input, Feedback_level epower 1	1-Byte Value			1 byte
79	1.5-A IO, Value_Power 2	2-Byte Float Value	electric power 2	1/1/1	2 bytes
80	1.5-B Input, Feedback_Power 2	2-Byte Float Value			2 bytes
83	1.6-A IO, Value_level epower 2	1-Byte Value	level epower 2	1/1/5	1 byte
84	1.6-B Input, Feedback_level epower 2	1-Byte Value			1 byte
87	1.7-A IO, Value_Power 3	2-Byte Float Value	electric power 3	1/1/2	2 bytes
88	1.7-B Input, Feedback_Power 3	2-Byte Float Value			2 bytes
91	1.8-A IO, Value_level epower 3	1-Byte Value	level epower 3	1/1/6	1 byte
92	1.8-B Input, Feedback_level epower 3	1-Byte Value			1 byte

Only logic group objects nr. 32-62 are triggering knx\_value\_changed and knx\_value\_update, So the group addresses for electric power x are connected to logic objects and to the objects of the display elements.

### 10.4.4. Icons

Custom icons for the traffic lights.

Filename	Icon
traffic_light_0.png	
traffic_light_1.png	
traffic_light_2.png	

### 10.4.5. Commissioning

- Save the LUA source code as electric\_power.lua.
- Save the Icons and rename them as indicated in the table.
- Start the TP35A01KNX Configurator and upload Logic and Icons.
- Create the ETS application and download it to the device.
- By sending values to group address of "electric power x" the traffic light should change, if the limits set in the device settings are exceeded.

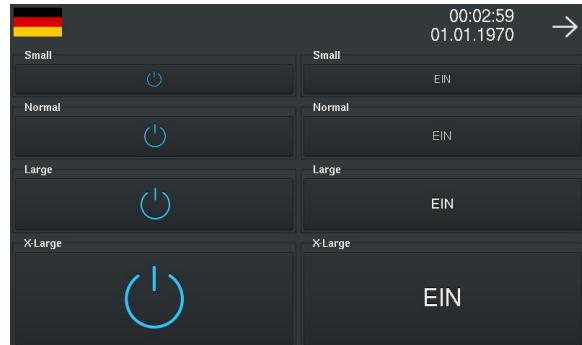
## 11. Icons

### 11.1. Size

The standard icon sizes are shown in the table below, the Table also shows the corresponding [Element Size](#) ETS parameter. Icons are not scaled on the device, so user defined icons have to be the right size. They need to follow the [Naming convention](#) and the file type has to be png.

Standard icon size [pixel]		
Element Size	320 x 240 Pixel	800 x 480 Pixel
Small	18x18	28x28
Normal	28x28	42x42
Large	48x48	58x58
X-Large	88x88	116x116

Element Size	Small
Interactive	Small
Use Element PIN	Normal Large X-Large
Align steps	



### 11.2. Naming convention

Icon file names should not contain any special characters or spaces. For IMGSET the correct suffix is required in the filename so the icon can be assigned to the correct function. When using icons with the parameter IMGSET and IMG, the suffix and file extension are omitted, e.g.;IMGSET=ONOFF.

Which of the following parameters is used depends on the used [Element Type](#).

#### 11.2.1. IMGSET On/Off Element Types

##### Naming convention

File name		
Button	xxx_b_on.png	xxx_b_off.png
Label	xxx_l_on.png	xxx_l_off.png

##### Example

	ONOFF_b_on.png
	ONOFF_b_off.png
	ONOFF_l_on.png
	ONOFF_l_off.png

ETS Parameter ;IMGSET=ONOFF  
Name [ ;Format ]

### 11.2.2. IMGSET Up/Down Element Types

#### Naming convention

##### File name

Button xxx\_b\_up.png xxx\_b\_down.png

#### Example



PM\_up.png



PM\_down.png

ETS Parameter ;IMGSET=PM  
Name [ ;Format ]

### 11.2.3. IMGSETS Quad Element Types

**Important** note the S at the end of IMGSETS

#### Naming convention

##### File name

Label xxx\_l\_on.png xxx\_l\_off.png

#### Example



AL\_l\_off.png



AL\_l\_on.png



BELL\_l\_off.png



BELL\_l\_on.png

ETS Parameter ;IMGSETS=BELL,AL  
Name [ ;Format ]

### 11.2.4. IMG

#### Example



RING.png



CLOCK\_ICO.png



SEND.png



ILLUMINATION.png

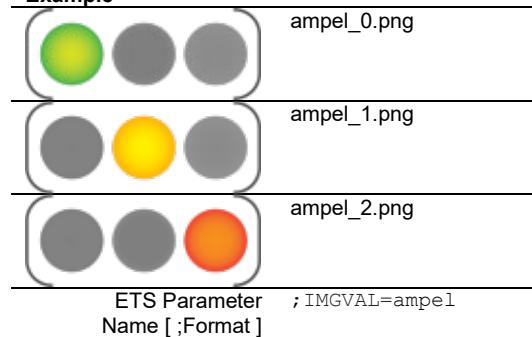
ETS Parameter ;IMG=ILLUMINATION  
Name [ ;Format ]

### 11.2.5. IMGVAL

This allows for an KNX value depended image. In the example below ampel\_0.png would be displayed for bus value 0, ampel\_1.png for value 1 and ampel\_2.png for value 2 and above.

There always has to be an image with the filename “\*\_0.png”, it can't be omitted.

#### Example

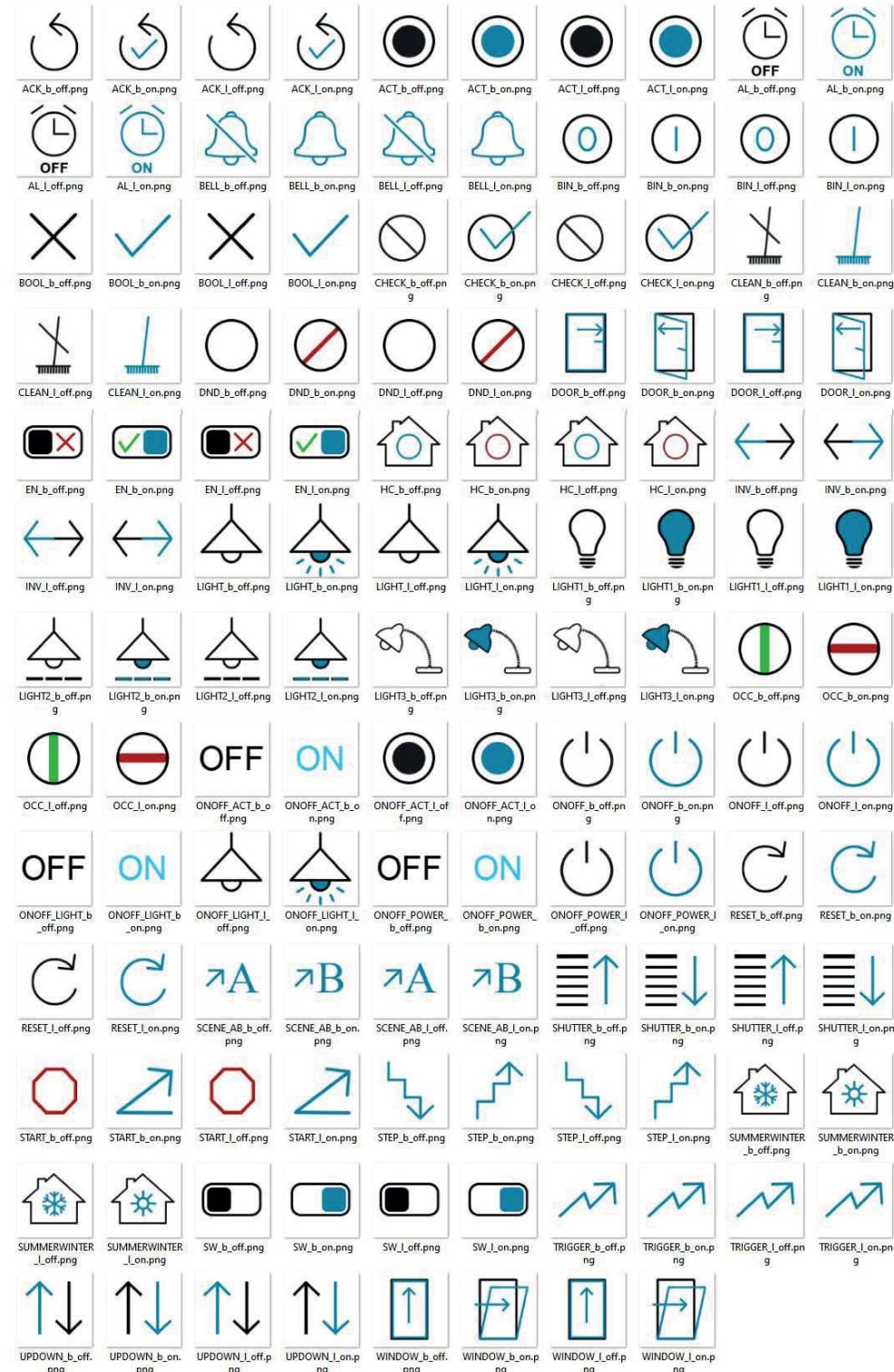


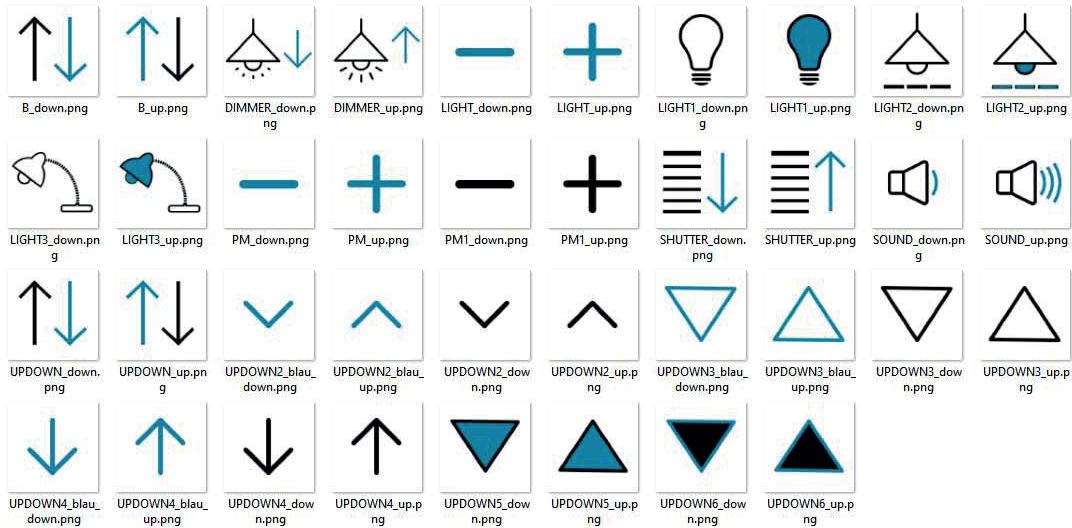
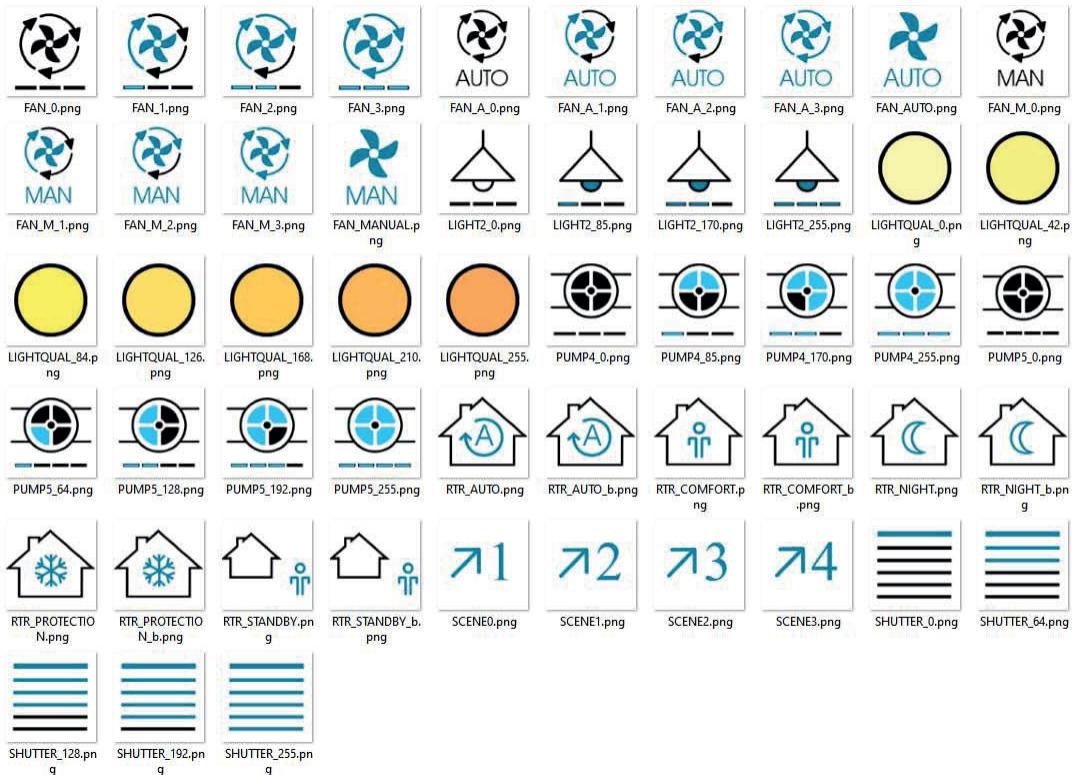
## 11.3. Standard Icons

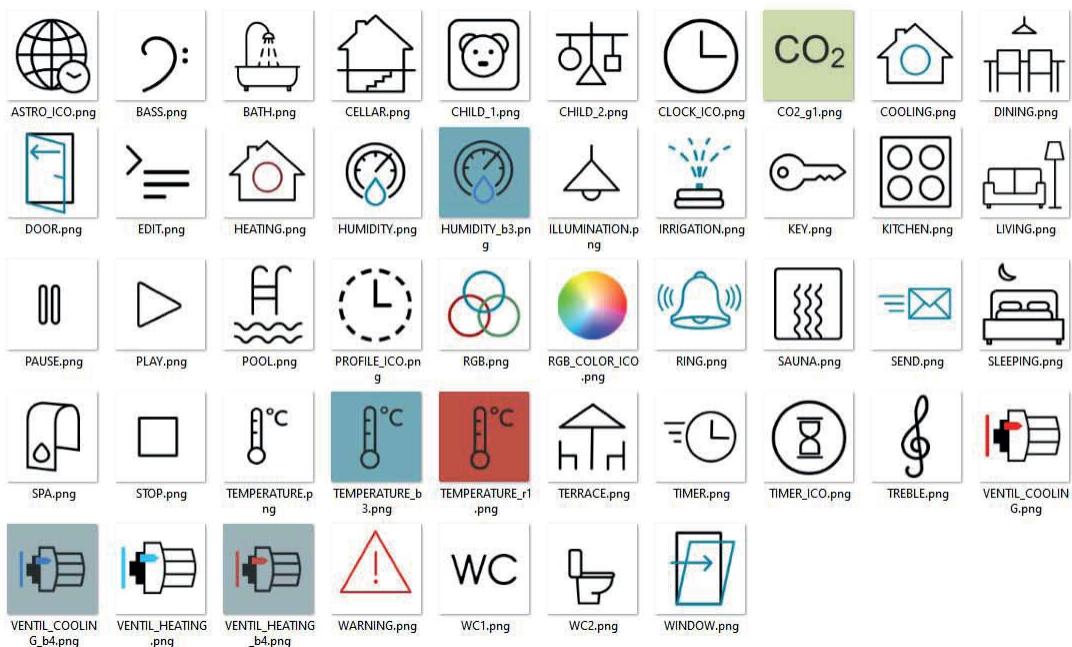
All standard icons are available in Small, Normal, Large and XLarge.

### 11.3.1. Dark Icons

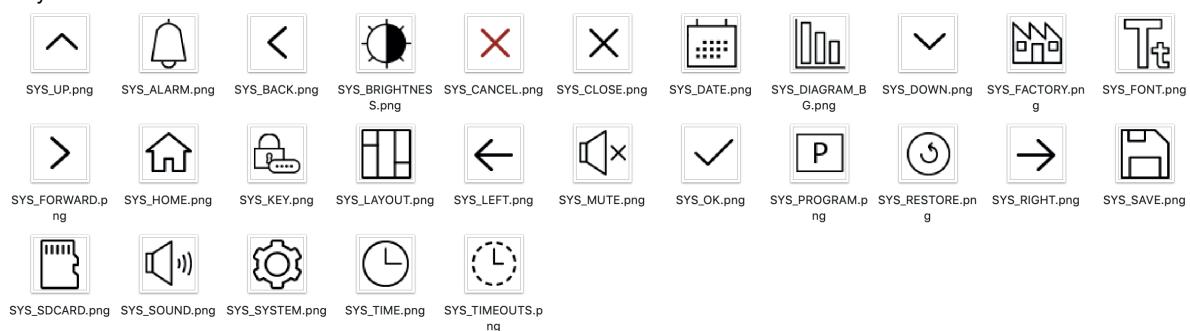
IMGSET On/Off



**IMGSET Up/Down**

**IMGVAL**


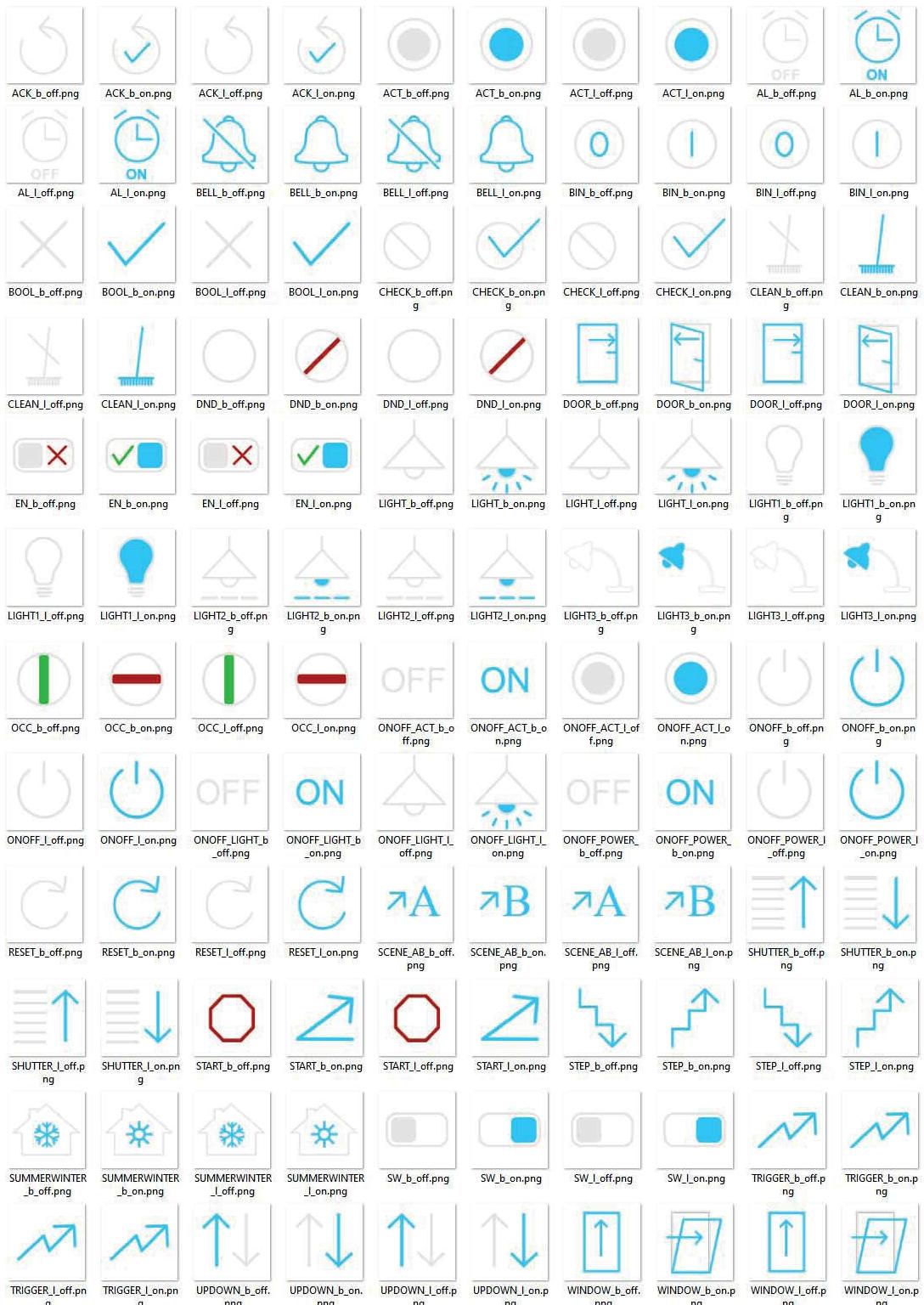
**IMG**

**System Icons**

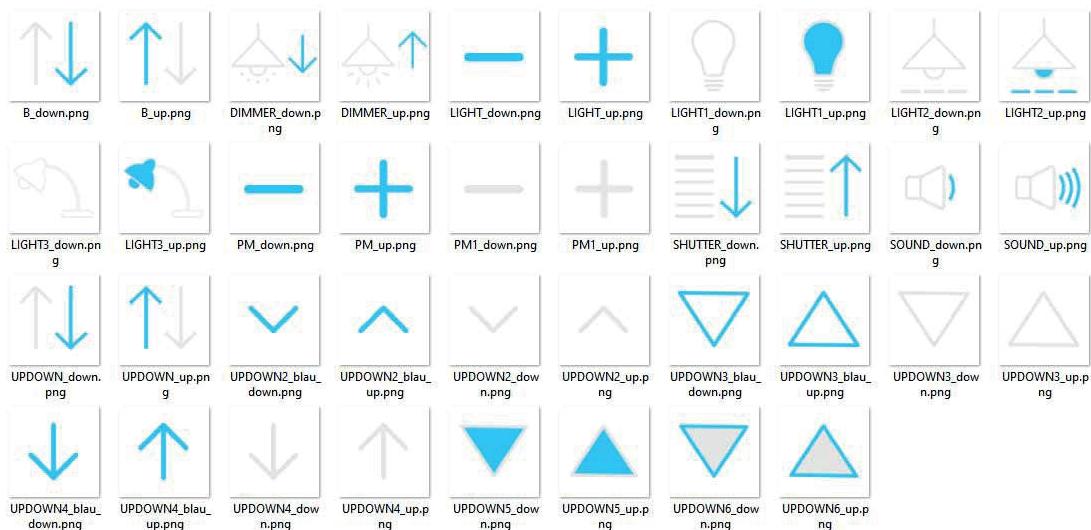
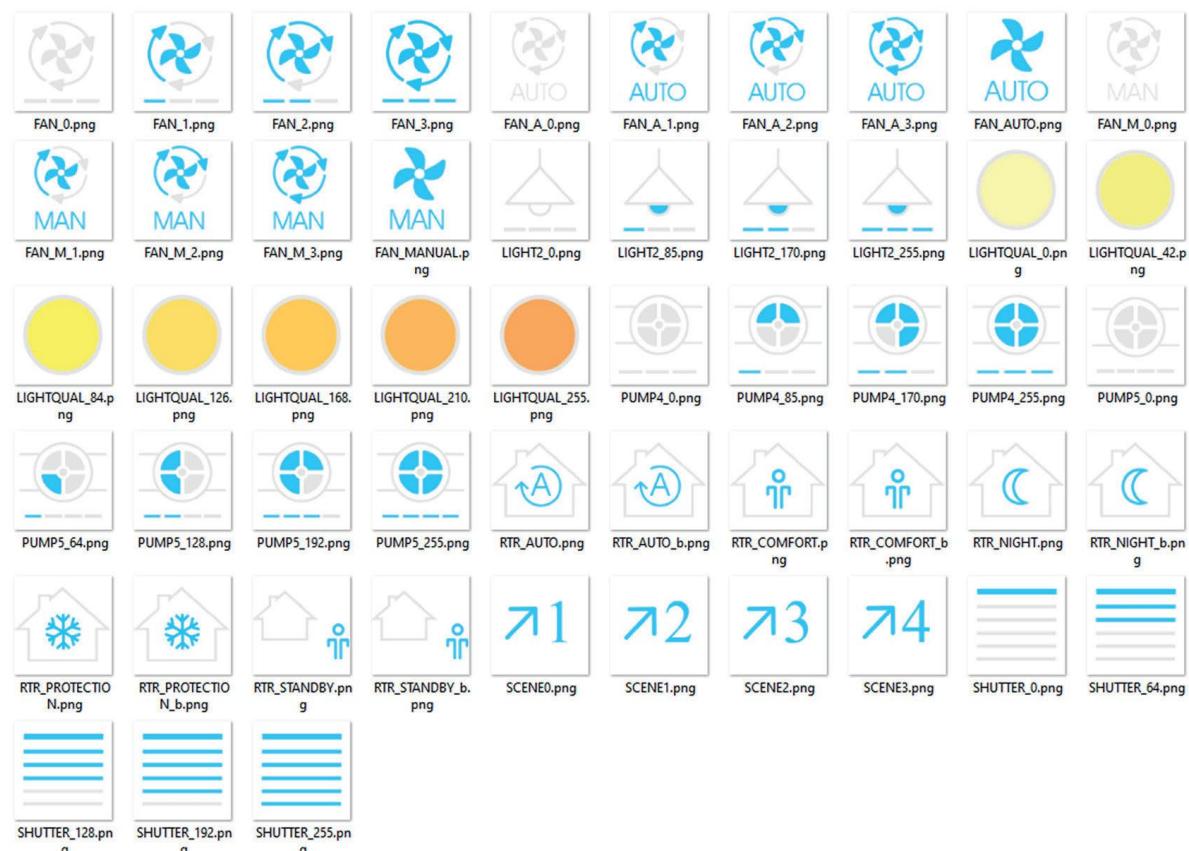
Only available in 32x32 / 48x48 Pixel



### 11.3.2. Bright Icons

#### IMGSET On/Off



**IMGSET Up/Down**

**IMGVAL**


**IMG**

**System Icons**

Only available in 32x32 / 48x48 Pixel

