State 06/2014

Technical Manual

MDT LED-Indicator

SCN-LED55.01

SCN-GLED1W.01

SCN-GLED1S.01

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1 Content

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2 Overview

2.1 Overview Devices

The description refers to the following LED Indicators (order shown in bold):

- **SCN-LED55.01** LED-Indicator, 55mm
  - 12 RGBW LEDs, Logic and Converter functions
- **SCN-GLED1W.01** Glass LED-Indicator, white
  - 12 RGBW LEDs, Logic and Converter functions
- **SCN-GLED1S.01** Glass LED-Indicator, black
  - 12 RGBW LEDs, Logic and Converter functions

2.2 Usage & Areas of application LED Indicator

The LED Indicator serves as a reminder of certain states. In this case, each of the 12 LEDs can be either normally switched on or flash in four different colors (red, green, blue, white) to show any state. The 6 row elements can be individually labeled in both designs, the glass LED Indicator as well as the 55mm LED Indicator.
In addition, the display features 8 logic blocks as well as an alarm and converter function. Via the logic function, states or functions can be evaluated in detail by using AND/OR functions. In response to its states, byte values or scene numbers can be sent.
Through the built-in alarm function interrupts can be triggered with the signal change of any LED. To this end, 4 different alarm objects are available.
By using the converter function, temperature values, byte values and 2-bit values can be converted to simple bit values.

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2.3 Structure and location of the LEDs

The following figure shows the location of each LED. For orientation, the position of the programming button is indicated:

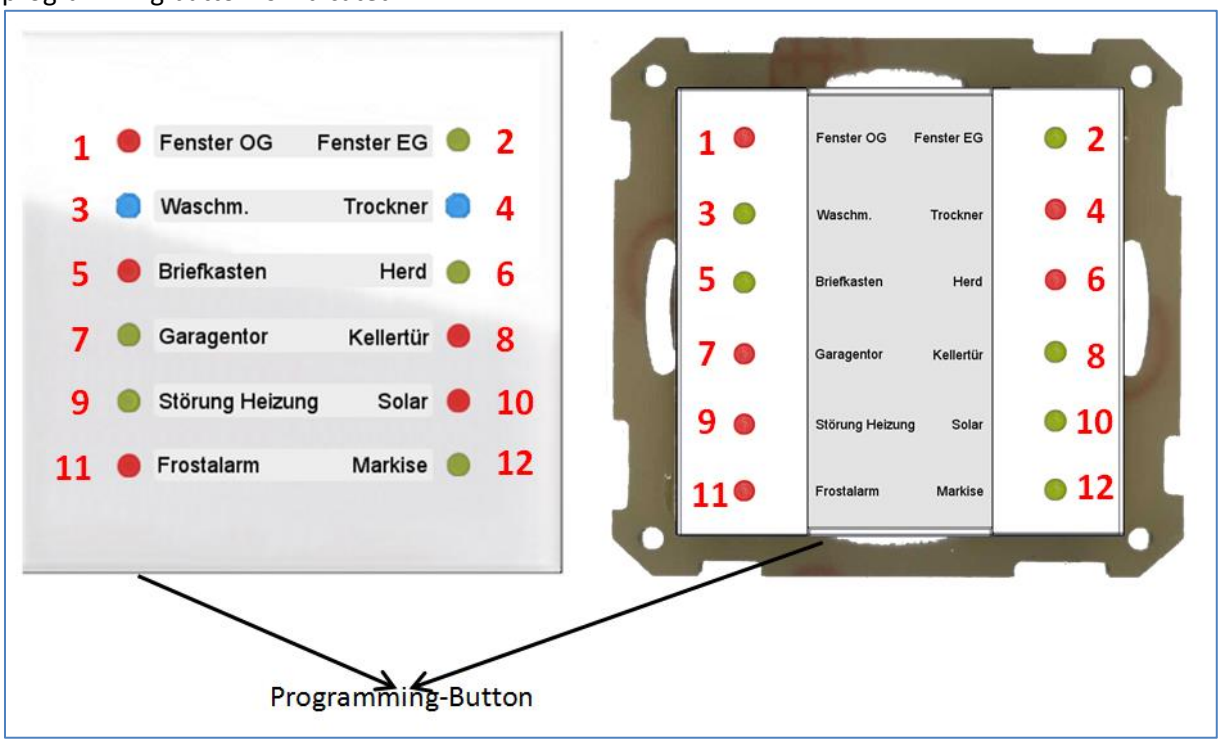

Figure 1: Structure and location of the LEDs

2.4 Exemplary circuit diagram

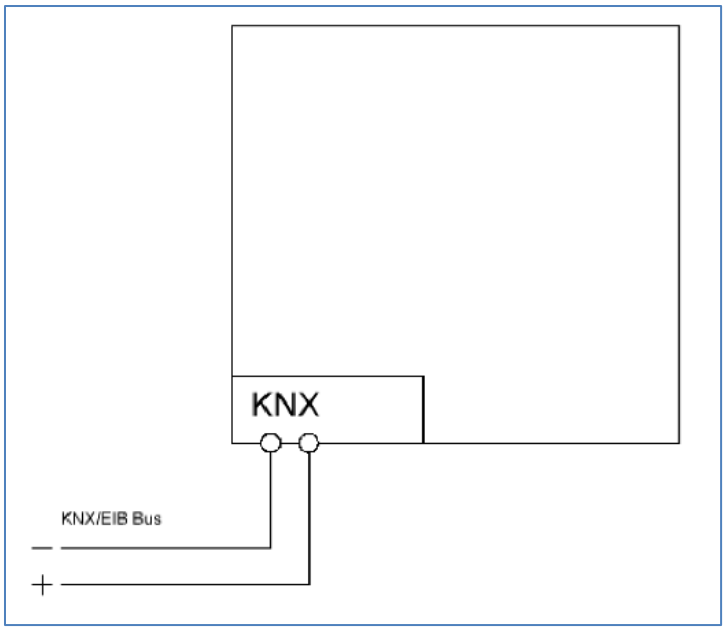

Figure 2: Exemplary circuit diagram

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2.5 Start Up

After wiring, the allocation of the physical address and the parameterization of every channel follow:

(1) Connect the interface with the bus, e.g. MDT USB interface
(2) set bus power up
(3) Press the programming button at the device(red programming LED lights)
(4) Loading of the physical address out of the ETS-Software by using the interface(red LED goes out, as well this process was completed successful)
(5) Loading of the application, with requested parameterization
(6) If the device is enabled you can test the requested functions(also possible by using the ETS-Software)

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3 Communication objects

3.1 Summary and Usage

The following table shows the available objects and their use:

Nr.	Name	Object function	Data type	Direction	Info	Usage	Tip
LED-Objects:							
0	LED 1	Switch	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, status of actuators, states of binary inputs,…	This communication object is used to switch the LEDs, and the signal change of the LEDs.
1	LED 1	Priority 1	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, status of actuators, states of binary inputs	This communication object is used to switch the LED priority, and the signal change of the LED priority.
2	LED 1	Priority 2	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, status of actuators, states of binary inputs	This communication object is used to switch the LED priority, and the signal change of the LED priority.
+3	**next LED**						

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Central objects:							
36	Day/Night	Switch	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, Visu…	Switching the Day / Night function, certain functions can be called or brightness can be adjusted in consequence of switching this object.
37	All LEDs	Block Object	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, Visu…	Calling blocks all LEDs and switches them off
38	Absent	Switch	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, Visu…	The alarm is switched on by activation of the Absent function
Alarm objects:							
39	Alarm 1-4	Output	DPT 1.001	sending	Indicator sends current state	Visu, Actuators …	Object can be used to send alarms to visualization or actuators, which can trigger certain commands.
+1	**next Alarm**						
43	Alarm	Monitoring	DPT 1.001	sending	Indicator sends current state	Visu, Actuators …	Object sends „1-telegram“ if signal is not sent

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Logic objects:							
44	Logic A	Input logic 1-8	DPT 1.001	receive	Indicator reacts to Input-telegram	Control buttons, status of actuators, states of binary inputs,…	Input of the logic function Eingang der Logikfunktion.
52	Logik A	Output Switching	DPT 1.001	sending	Indicator sends current state	Visu, Actuators …	Sends a Bit value if logic function is satisfied
52	Logik A	Output Scene	DPT 18.001	sending	Indicator sends current state	Visu, Actuators …	Sends adjusted scene number if logic function is satisfied
52	Logik A	Output Value	DPT 5.001	sending	Indicator sends current state	Visu, Actuators …	Sends adjusted value if logic function is satisfied
+9	**nächste Logik**						
Converter objects:							
116	Converter module A	Input value A1 (Byte-->Bit)	DPT 5.001	receive	Indicator reacts to Input-telegram	Actuator, Visu, Control Buttons…	Input of the converter module
116	Converter module A	Input A Compelled guidance (2 Bit-->Bit)	DPT 2.001	receive	Indicator reacts to Input-telegram	Presence detector, Actuator, Visu…	Input of the converter module
116	Converter module A	Input value A1 (Temperature-->Bit)	DPT 9.001	receive	Indicator reacts to Input-telegram	Temperature-sensor/ controller	Input of the converter module

118	Converter module A	Gate Control input A	DPT 1.009	receive	Indicator reacts to Input-telegram	Control Buttons, Visu	Object is used to set whether the input value passed, or is to be converted. When the gate is closed, the converter is disabled.
119	Converter module A	Output value A1	DPT 1.002	sending	Indicator sends telegram	Visu, Actuators …	Sends 0 or 1 depending on the preset threshold. Active in byte -> bits and temperature -> bit
119	Converter module A	A1: Compelled guidance ON	DPT 1.002	sending	Indicator sends telegram	Visu, Actuators …	Sends 1 if Forced ON, 0 otherwise Active with positive guidance -> bit
120	Converter module A	A2: Compelled guidance OFF	DPT 1.002	sending	Indicator sends telegram	Visu, Actuators …	Sends 1 if forced operation, otherwise 0 Active with positive guidance -> bit
+5	**next converter module**						
136	Operating	Status	DPT 1.001	sending	Indicator sends state	Visu…	Sends a "Set" message when the device is on the bus

Table 1: Communication Objects

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3.2 Default settings of the communication objects

Default Settings									
Nr.	**Name**	**Object Function**	**Length**	**Priority**	**C**	**R**	**W**	**T**	**U**
0	LED 1	Switch	1 Bit	Low	X		X	X	X
1	LED 1	Priority 1	1 Bit	Low	X		X	X	X
2	LED 1	Priority 2	1 Bit	Low	X		X	X	X
+3	**next LED**								
36	Day/Night	Switch	1 Bit	Low	X		X		
37	All LEDs	Block Object	1 Bit	Low	X		X		
38	Absent	Switch	1 Bit	Low	X		X		
39	Alarm 1	Output	1 Bit	Low	X	X		X	
+1	**next Alarm**								
43	Alarm	Monitoring	1 Bit	Low	X	X		X	
44	Logic A	Input logic 1	1 Bit	Low	X		X	X	
+1	**nächste Eingangslogik**								
52	Logic A	Ausgang Schalten	1 Bit	Low	X	X		X	
52	Logic A	Ausgang Szene	1 Byte	Low	X	X		X	
52	Logic A	Ausgang Wert	1 Bit	Low	X	X		X	
+9	**next Logic**								
116	Converter module A	Input value A1	2 Byte	Low	X		X		
116	Converter module A	Input value A1	1 Byte	Low	X		X		
116	Converter module A	Input value A1	2 Bit	Low	X		X		
118	Converter module A	Gate control Input A	1 Bit	Low	X		X		
119	Converter module A	Output value A1	1 Bit	Low	X	X		X	
120	Converter module A	Output value A2	1 Bit	Low	X	X		X	
+5	**next Converter**								
136	Operating	Status	1 Bit	Low	X	X		X	

Table 2: Default Settings communication objects

You can see the default values for the communication objects from the upper chart. According to requirements the priority of the particular communication objects as well as the flags can be adjusted by the user. The flags allocates the function of the objects in the programming thereby stands C for communication, R for Read, W for write, T for transmit and U for update.

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4 Reference ETS-Parameter

4.1 General settings

The following figure shows the general settings for the LED display:

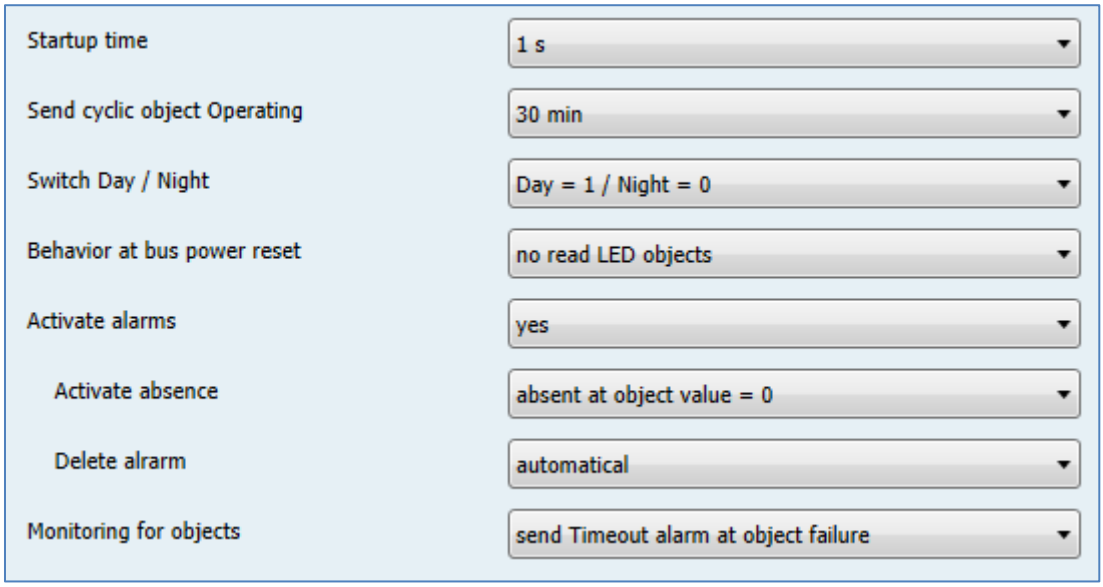

Figure 3: General settings

The following table shows the available settings:

ETS-text	Dynamic range **[default value]**	comment
Startup time	1s – 60s **[1s]**	Time between Reset and functional start of the device
Send cyclic object operating	▪ **not send** ▪ 10min – 24h	Adjustment if the operating state should be send cyclic via an object
Switch Day/Night	▪ **Day = 1/Night = 0** ▪ Day = 0/Night = 1	Adjustment of the polarity of the day/night object
Behavior at bus power reset	▪ **no read LED objects** ▪ read LED objects	Adjustment if the LED objects should be read at a reset
Activate alarms	▪ **No** ▪ Yes	Activation of the alarms
Activate absence	▪ **absent at object value = 0** ▪ absent at object value = 1	Adjustment of the polarity of the „absent“ telegram

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Delete alarm	▪ **automatically** ▪ delete with attendance	Determining how the alarm to be reset: Automatic: alarm is reset immediately when alarm is no longer active Clear with attendance: The alarm is cleared only if the absence is turned off
Monitoring for objects	▪ **no alarm** ▪ send Timeout alarm at object failure	Sets whether an alarm should be triggered when cyclical monitoring for an LED fails.

Table 3: General settings

The relevant communication objects for the general settings are shown in the following table:

Number	**Name**	**Length**	**Usage**
36	Day/Night	1 Bit	Switching between Day/Night
37	All LEDs – Block object	1 Bit	blocks all LEDs
38	Absent	1 Bit	switches the absent function and so the alarms are switched on
136	Operating	1 Bit	sends a 1-telegram in the adjusted time periods if the device is active

Table 4: General communication objects

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4.2 LED-Settings

Every of the 12 LEDs can be adjusted and controlled individually. The parameters for LED 1 are described. LEDs 2-12 have the same parameters.

4.2.1 LED Control

Below the settings for the LED control are shown:

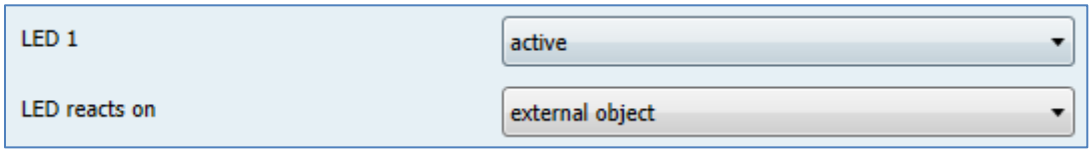

Figure 4: LED Control

The following table shows the possible settings:

ETS-text	Dynamic range **[default value]**	comment
LED 1	▪ **active** ▪ not active	Activation/Deactivation of the LED
LED reacts on	▪ **external object** ▪ internal logic object ▪ internal converter object	Selection of the controlling of the LED

Table 5: LED-Control

If the parameter „LED reacts on“ is set to external object, an additional object is shown, which can be connected individually:

Number	**Name**	**Length**	**Usage**
0	LED 1	1 Bit	Controlling LED 1

Table 6: LED Control via external object

Furthermore, the LED can respond to internal objects. Both the internal logic objects and the internal converter objects are available. In order to reduce the design effort, in this case the connection is made internally. This additional parameter is displayed, which sets the internal connection.
For the setting "LED responds to internal logic object" looks as follows:

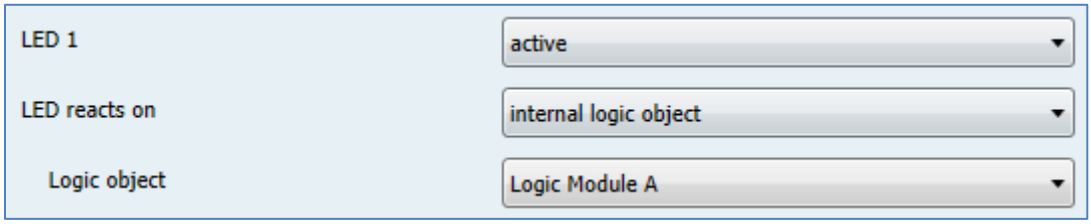

Figure 5: LED control via internal logic object:

In this example, the LED is switched in response to the output of the first logic function. This driving course is designed so that the output of logic module is a bit value. If the logic module is set as a byte value or scene, the LED is turned off with the value 0, all others turn the LED on.

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For the setting "LED responds to internal converter object" looks as follows:

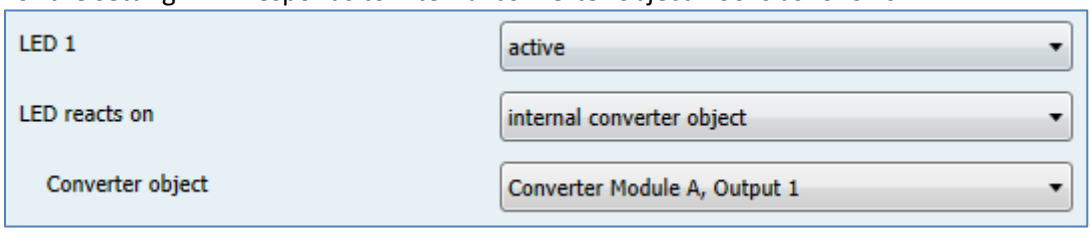

Figure 6: LED control via internal converter object

In this example, the LED is switched by the converter A as a function of the first output.

4.2.2 LED Display behavior

Below the settings for the display behavior of the LEDs can be seen:

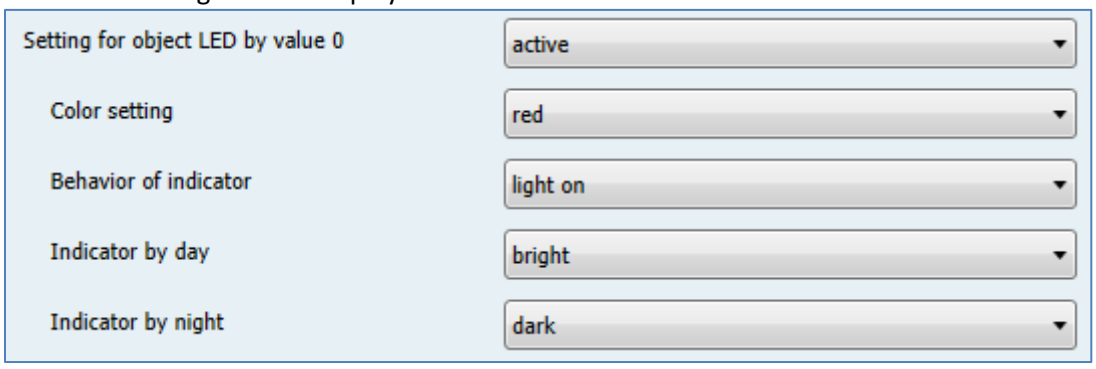

Figure 7: Display behavior LEDs

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The following table shows the available settings:

ETS-text	Dynamic range **[default value]**	comment
Color setting	▪ **red** ▪ green ▪ blue ▪ white	Adjustment of the LED color
Behavior of indicator	▪ **light on** ▪ blinking ▪ flash	Adjustment of the light behavior: light on: light on = switched on permanently blinking = flashing rhythm 1:1 flash = short on, long off
Indicator by day	▪ off ▪ dark ▪ **bright**	Adjustment of the light behavior at day. Only adjustable if the day/night object is active(General settings)
Indicator by night	▪ off ▪ **dark** ▪ bright	Adjustment of the light behavior at night. Only adjustable if the day/night object is active(General settings)

Table 7: Display behavior LED

The settings for the LED display behavior behavior are identical for the setting with LED object value 1, as well as for the LED priority settings.

4.2.3 LED Priority

By using the LED priority, it is possible to switch the LED of prime importance. So the value of the normal LED control will be overwritten. Two LED priorities are available. The priority of the LED controlling is staggered as follows (from high to low priority): LED Priority 1→ LED Priority 2 → normal LED Control.
The settings for the LED priority (settings for Led priority 2 are identical) are as follows:

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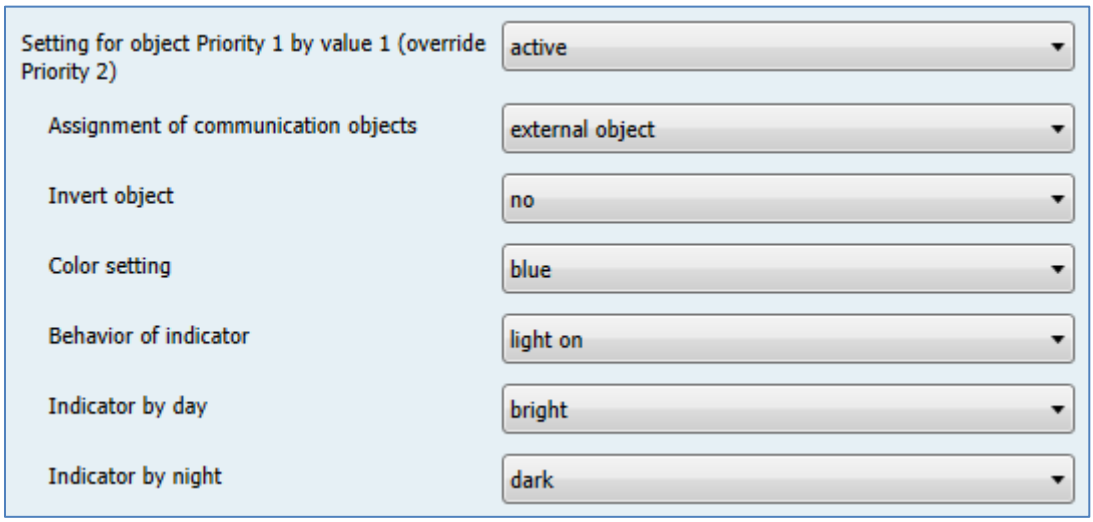

Figure 8: Settings LED priority 1/2

The activation of the LED priority can be done via external objects, internal logic objects or internal converter objects. The settings are the same as described in 4.2.1 LED Control.
Standardly, the priority is activated with the value 1. Via the parameter “invert object”, the priority can be set as active at the value 0.
The display behavior of the LED at activation of the LED priority is the same like described in 4.2.2 LED Display behavior, but can be set individually for the LED priority.

If the parameter “Assignment of communication objects” is set to external object, an additional object is shown, which can be connected individually:

Number	Name	Length	Usage
1	LED Priority 1	1 Bit	Controlling the LED Priority 1
2	LED Priority 2	1 Bit	Controlling the LED Priority 2

Table 8: Communication objects LED priority

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4.2.4 Monitoring

Via the monitoring of the LEDs, it can be controlled if the LED indicator gets in defined time steps a signal from the external object. If the LED indicator receives no signal, a particular behavior can be called, e.g. flashing red.
The following picture shows the available settings for the monitoring:

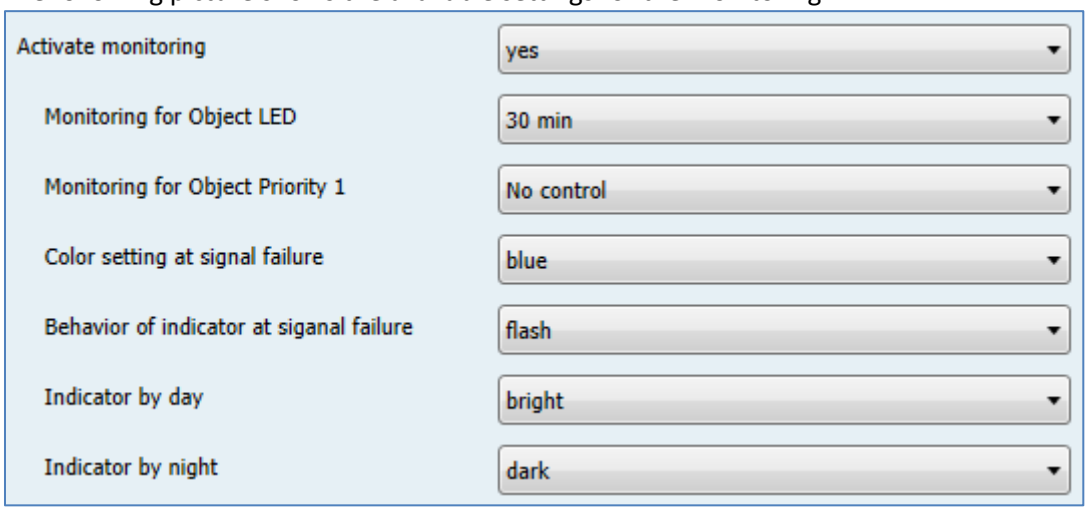

Figure 9: Monitoring

The following table shows the available settings for the monitoring:

ETS-text	Dynamic range **[default value]**	comment
Monitoring for Object LED	▪ no monitoring ▪ 1min – 240min **[30min]**	Adjustment in which time periods, a signal must be received on the object LED 1. “No monitoring” deactivates the monitoring of the object.
Monitoring for Object Priority 1	▪ **no monitoring** ▪ 1min – 240min	Adjustment in which time periods, a signal must be received on the object LED priority 1. “No monitoring” deactivates the monitoring of the object.

Table 9: Monitoring

The display behavior in case of a loss of the signal is the same like in 4.2.2 LED Display behavior described.
It should be noted that monitoring can be enabled only when the parameter "LED reacts on” is set to “external object", because the LED indicator cannot monitor itself.
In addition, at failures an object can be set, which indicates a loss of a signal. This must be activated in the general settings:

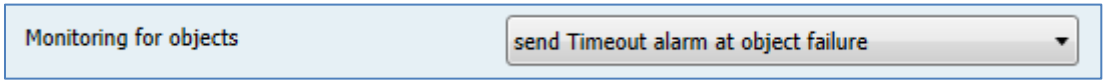

Figure 10: Monitoring of objects

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The following table shows the object, which indicates a loss of a signal:

Number	Name	Length	Usage
43	Alarm – Monitoring	1 Bit	Sends 1 if a signal is not received in the adjusted time period

Table 10: Timeout alarm

If a LED with activated „Monitoring“ does not receive a signal in the adjusted time period, this object sends a logical 1.

4.2.5 Behavior after Reset

After a bus voltage reset, or download, the objects for the LED have no value and therefore no defined switching state. To produce a defined state for this case, the setting is shown below:

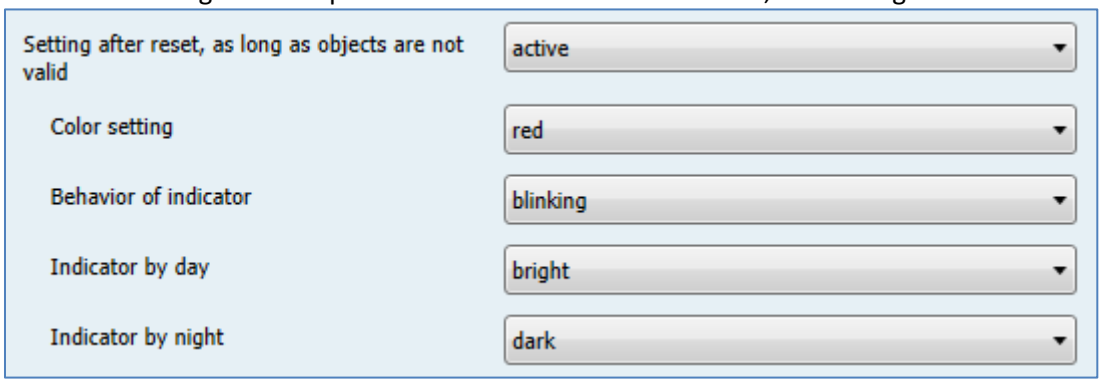

Figure 11: Behavior after Reset

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4.3 Alarm function

The LED Indicator contains of an extensive alarm-function, which can monitor LEDs in the absent mode. As soon as a LED gets a certain value, this can be signaled by sending a one-command on one of four freely adjustable alarm objects. Both the LEDs and the LED 1 priority of all LEDs can be monitored.
The settings for the LED1 can be seen in the pictures below:

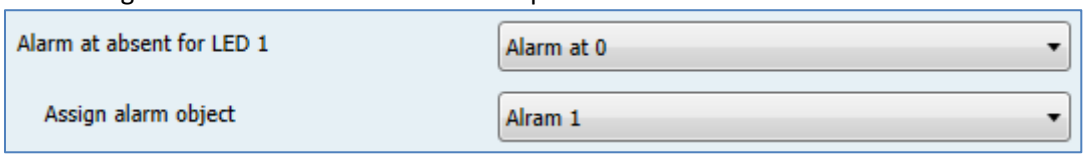

Figure 12: Alarm function - LED 1

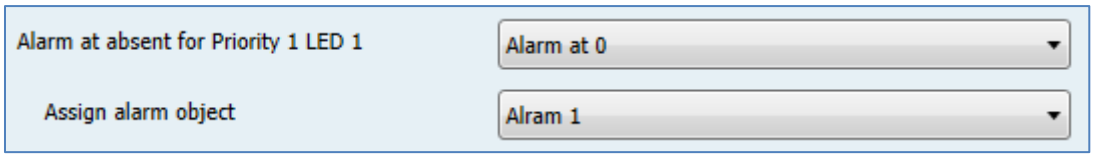

Figure 13: Alarm function - LED priority 1

The available settings are shown in the table below:

ETS-text	Dynamic range **[default value]**	comment
Alarm at absent for LED 1	▪ **no alarm** ▪ Alarm at 1 ▪ Alarm at 0	Setting if and when an alarm should be triggered for LED 1 Alarm at 1 = Alarm is triggered when LED is turned on Alarm at 0 = Alarm is turned on when LED is turned off
Assign alarm object	▪ **Alarm 1** ▪ Alarm 2 ▪ Alarm 3 ▪ Alarm 4	Setting which object sends an one-command in case of this alarm
Alarm at absent for Priority 1 LED 1	▪ **no alarm** ▪ Alarm at 1 ▪ Alarm at 0	Setting if and when an alarm for priority 1 LED 1 should be triggered Alarm at 1 = Alarm is triggered when LED 1 is turned on priority Alarm at 0 = Alarm is turned on when LED is turned off Priority 1
Assign alarm object	▪ **Alarm 1** ▪ Alarm 2 ▪ Alarm 3 ▪ Alarm 4	Setting which object sends an one-command in case of this alarm

Table 11: Alarm function

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With the alarm function can, for example, be monitored if all windows are closed. For example, if LED 1 indicates by means of logic functions if all windows are closed, so an alarm can be activated for LED 1, which indicates an open window it is switched to “Absent”.
Activation of the present / absent function and the reset of the alarms can be set in the "General Settings" menu:

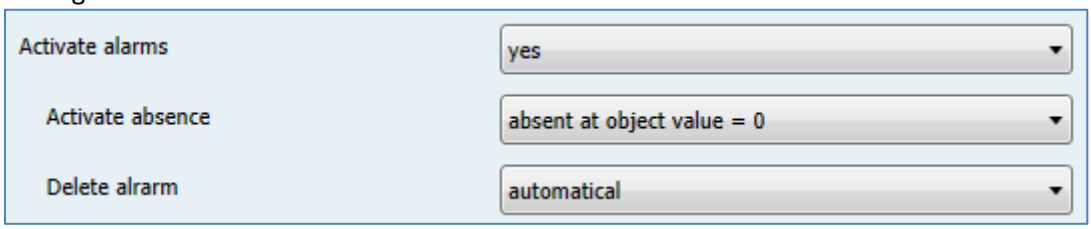

Figure 14: Activation alarms -> global settings

The setting „Delete alarm“ adjusts whether an alarm is deleted **automatical** = alarm is deleted as soon as alarm is no longer active or **delete with attendance** = alarm is deleted when switching from absent to present.

The following table shows the available alarm objects:

Number	Name	Length	Usage
39	Alarm 1	1 Bit	1 = Alarm 1 active, 0 = no Alarm
40	Alarm 2	1 Bit	1 = Alarm 2 active, 0 = no Alarm
41	Alarm 3	1 Bit	1 = Alarm 3 active, 0 = no Alarm
42	Alarm 4	1 Bit	1 = Alarm 4 active, 0 = no Alarm

Table 12: Communication objects alarm

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4.4 Logic setting

The following picture shows the available logic settings:

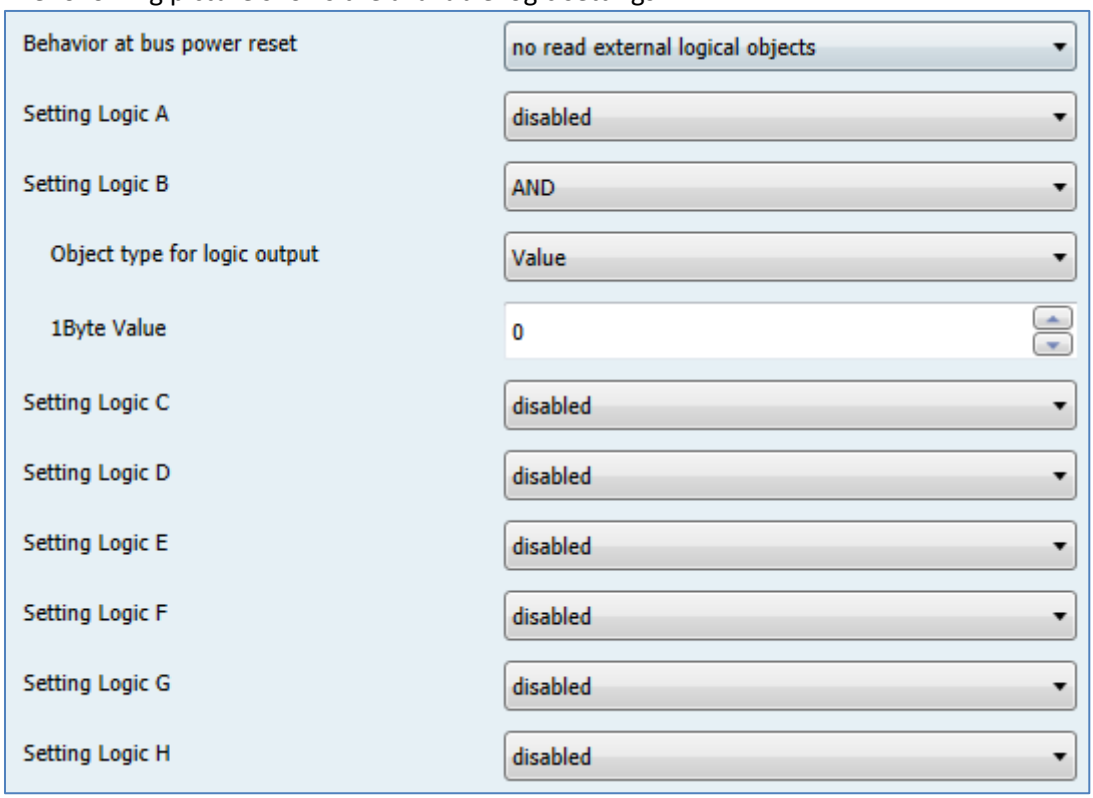

Figure 15: Logic settings

4.4.1 Behavior at bus power reset

The parameter “Behavior at bus power reset” is valid for all 8 logic blocks and defines the requesting of the external logic objects. The following settings are available:

- **no read external logical objects**
  The external logic objects are not read at a bus power reset and as unconfirmed, so with the value "0" assumed.
- **read external logical objects**
  The external logic objects are read at a bus power reset and the current value is taken over.

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4.4.2 Settings logic A-H

The object type for the logic output can be set for each logic:

ETS-text	Dynamic range **[default value]**	comment
Setting Logic A-H	▪ **disabled** ▪ AND ▪ OR	**disabled:** disables the logic module **AND:** The inputs are connected by the logical function AND **OR:** The inputs are connected by the logical function OR
Object type for logic output	▪ **Switch** ▪ Scene ▪ Value	The "Object type for logic output" defines the DPT of the logic function

Table 13: Settings logic

Depending on the selected logical object the additional settings are displayed.
The possible settings for a switching output can be seen below:

ETS-text	Dynamic range **[default value]**	comment
Object type for logic output	**Switch**	Chosen logic output: Switch (1 Bit)
Send condition	▪ **not automatic** ▪ Change of input ▪ Change of output	Setting when the value of the output is sent. **not automatic**: no send, only request **Change of input:** Sending at every change of any input object **Change of output:** Sending only at change of the output
Invert output	▪ **no** ▪ yes	Reverses the output at activation (0→1, 1→0)

Table 14: Settings logic output switch

The following table shows the object for the logic output, when this is set as "Switch":

Number	**Name**	**Length**	**Usage**
52	Output switching	1 Bit	Output of the logic

Table 15: Logic output switching

The following settings are available for a scene output:

ETS-text	Dynamic range **[default value]**	comment
Object type for logic output	**Scene**	Chosen logic output: Scene (1 Byte)
Scene Number	1-64 **[2]**	Setting which scene is called when completing the logic function

Table 16: Logic settings - scene

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The following table shows the object for the logic output, when this is set as “Scene”:

Number	Name	Length	Usage
52	Output Scene	1 Byte	Output of the logic

Table 17: Logic output scene

The following settings are available for a “Value” output:

ETS-text	Dynamic range **[default value]**	comment
Object type for logic output	**Value**	Chosen logic output: Value (1 Byte)
1 Byte-Value	0-255 **[0]**	Setting which value is sent when completing the logic function

Table 18: Logic settings - Value

The following table shows the object for the logic output, when this is set as “Value”:

Number	Name	Length	Usage
52	Output value	1 Byte	Output of the logic

Table 19: Logic output value

4.4.3 Submenu logic – logic inputs

Once a logic module has been enabled, a submenu is shown in which the logic inputs can be parameterized for this module.
The following figure shows this menu:

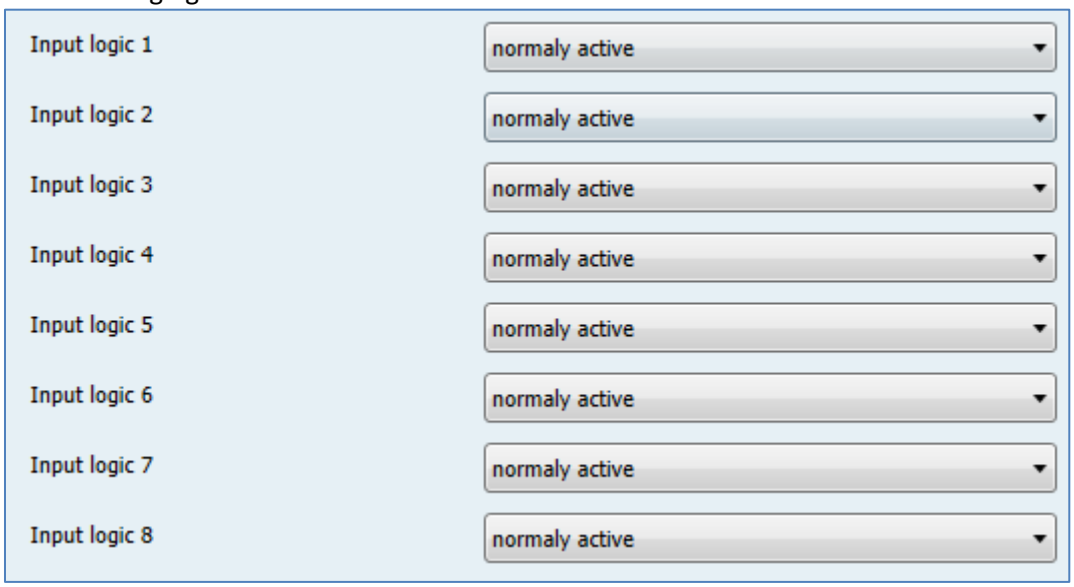

Figure 16: Submenu logic

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ETS-text	Dynamic range **[default value]**	comment
Input logic 1-8	▪ disabled ▪ **normaly active** ▪ inverted active	Setting how an input is evaluated: **disabled**: object for this input is switched off **normaly active**: object is normally evaluated **inverted active:** object is evaluated reversed (1→0, 0→1)

Table 20: Settings logic inputs

The following table shows the input objects for the logic module A:

Number	**Name**	**Length**	**Usage**
44-51	Input logic 1-8	1 Bit	Input objects for the logic module A

Table 21: Input objects

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4.5 Converter function

The following picture shows the menu “Converter function” in which the converter module A-D can be activated:

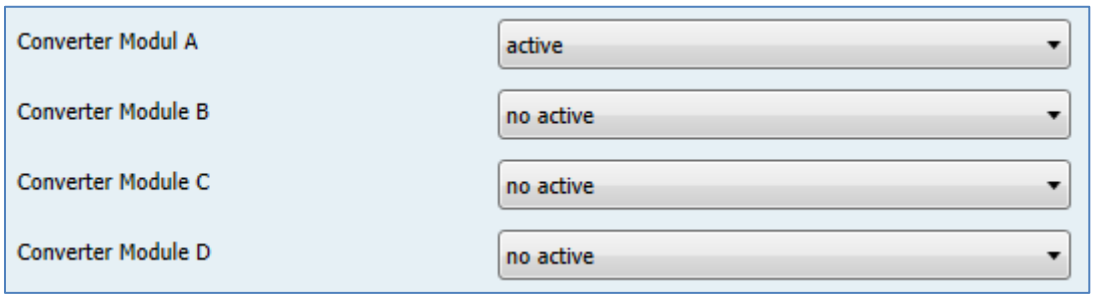

Figure 17: Converter function

4.5.1 General settings

The following picture shows the general settings for the converter module:

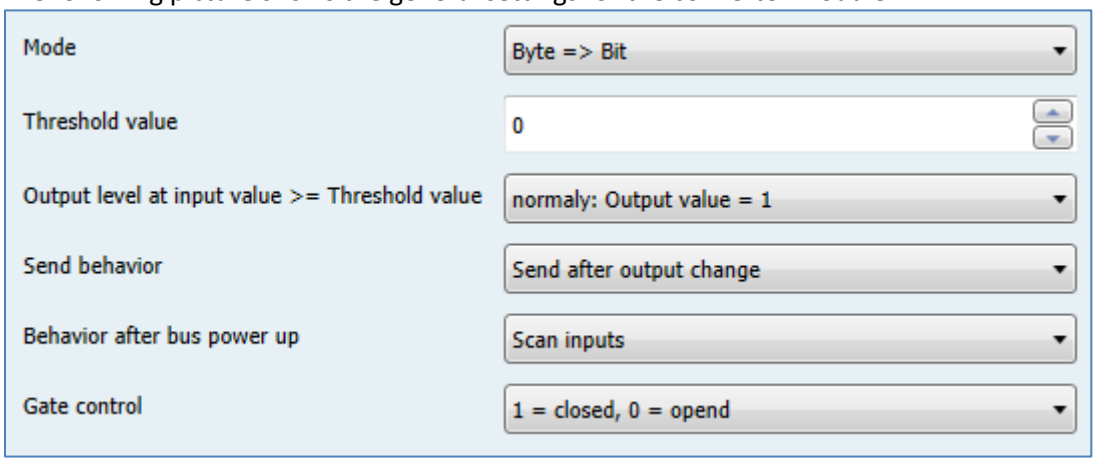

Figure 18: Converter module -> general settings

The following table shows the available settings:

ETS-text	Dynamic range **[default value]**	comment
Mode	▪ not active ▪ **Byte=>Bit** ▪ 2 Bit=>Bit ▪ Temperature-value=>Bit	Setting of the Mode of the Converter: **not active**: Converter module is deactivated **other modes** are described in the following chapters in detail
Send behavior	▪ **Send after output change** ▪ Send after input change	Setting the sending behavior of the output: **Send after output change:** Sending at every change of any input object **Send after input change:** Sending only at change of the output

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Behavior after bus power up	▪ **No Scan** ▪ Scan inputs	If the inputs are not scanned at a bus power up, the converter can only re-evaluate if the input value has changed, because the value before is unknown.
Gate control	▪ **Not use gate** ▪ 1= closed, 0= opened ▪ 0= closed, 1= opened	The gate is a type of locking function for the converter. If the gate is closed, depending on the setting to 0 or 1, no value is passed from the input to the output of the converter and therefore the converter is blocked.

Table 22: Converter module -> general settings

The following table shows the objects of the converter, which are identical for all operating modes (here for the converter module A):

Number	Name	Length	Usage
118	Gate control input A	1 Bit	Open/Close the gate function

Table 23: Communication object -> Converter module general

4.5.2 Converter Byte->Bit

The following picture shows the available settings for Byte to Bit:

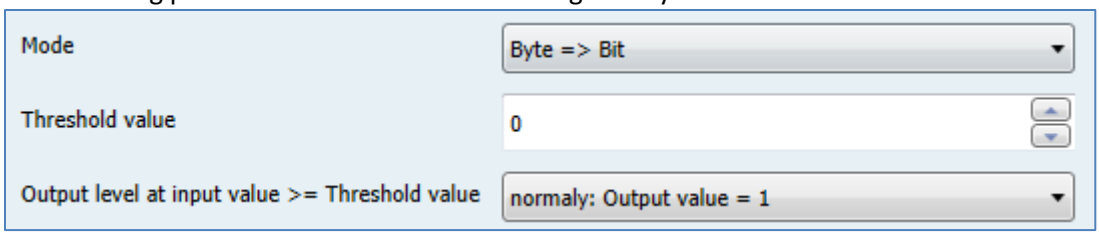

Figure 19: Converter, Mode: Byte => Bit

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The following table shows the available settings for this mode:

ETS-text	Dynamic range **[default value]**	comment
Mode	**Byte=>Bit**	adjusted Mode: Byte =>Bit
Threshold	1-255 **[1]**	Setting from when the output is switched. If the byte value is less than the set value, the output sends a 1 signal at normal setting.
Output level at input value >= Threshold	▪ **normally: Output value = 1** ▪ inverted: Output value = 0	Inverted/normal output of the output, **normally:** Output value 1, if input is greater than/equal the adjusted threshold **inverted:** Output value 1, if input is smaller than threshold

Table 24: Converter, Mode: Byte=>Bit

The following table shows the objects of the converter for the mode byte => bit (here for the converter module A):

Number	Name	Length	Usage
116	Input value A1	1 Byte	Value of the size 1 Byte which should be converted
119	Output value A1	1 Bit	Converted value

Table 25: Communication object converter, Mode: Byte=>Bit

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4.5.3 Converter 2 Bit->Bit

The following picture shows the available settings for 2 Bit to Bit:

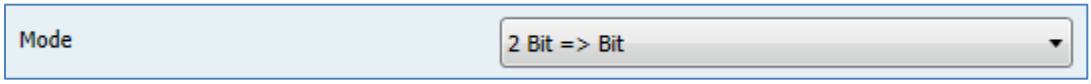

Figure 20: Converter, Mode: 2 Bit=>Bit

The Mode 2Bit=>Bit converts a 2 Bit force control into 2 single Bit-values. Here, the DPT 2 Bit force control is divided into the Bit-signals Force control ON and Force control OFF. So the Mode has one input and 2 outputs.
The following table shows the objects of the mode 2Bit => Bit (here at converter module A):

Number	Name	Length	Usage
116	Input A Compelled guidance	2 Bit	Value of the size 2 Bit which should be converted
119	A1: Compelled guidance ON	1 Bit	converted value, 1 if force control ON is active
120	A2: Compelled guidance OFF	1 Bit	converted value, 1 if force control OFF is active

Table 26: Communication object converter, Mode: 2 Bit => Bit

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4.5.4 Converter Temperature value->Bit

The following picture shows the available settings for the mode temperature value to Bit:

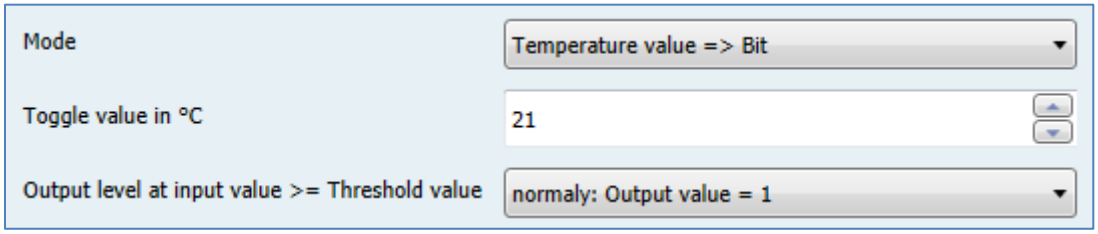

Figure 21: Converter, Mode: Temperature value => Bit

The following table shows the available settings for this mode:

ETS-text	Dynamic range **[default value]**	comment
Mode	**Temperature value=>Bit**	adjusted Mode: Temperature value =>Bit
Toggle value in °C	0-100 **[0]**	Setting from when the output is to be switched. If the temperature is less than the set value, the output sends a 1 signal at normal setting.
Output level at input value => Threshold value	▪ **normally: Output value = 1** ▪ inverted: Output value = 0	Inverted/normal output of the output, **normally:** Output value 1, if input is greater than/equal the adjusted threshold **inverted:** Output value 1, if input is smaller than threshold

Table 27: Converter, Mode: Temperature value => Bit

The following table shows the objects of the converter for the mode Temperature value => bit (here for the converter module A):

Number	Name	Length	Usage
116	Input value A1	2 Byte	Temperature value, which should be converted
119	output value A1	1 Bit	Converted value

Table 28: Communication object Converter, Mode: Temperature value => Bit

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5.2 List of tables

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6 Attachment

6.1 Statutory requirements

The above-described devices must not be used with devices, which serve directly or indirectly the purpose of human, health- or lifesaving. Further the devices must not be used if their usage can occur danger for humans, animals or material assets.
Do not let the packaging lying around careless, plastic foil/ -bags etc. can be a dangerous toy for kids.

6.2 Routine disposal

Do not throw the waste equipment in the household rubbish. The device contains electrical devices, which must be disposed as electronic scrap. The casing contains of recyclable synthetic material.

6.3 Assemblage

Risk for life of electrical power!
All activities on the device should only be done by an electrical specialist. The county specific regulations and the applicable EIB-directives have to be observed.

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6.4 Datasheet

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