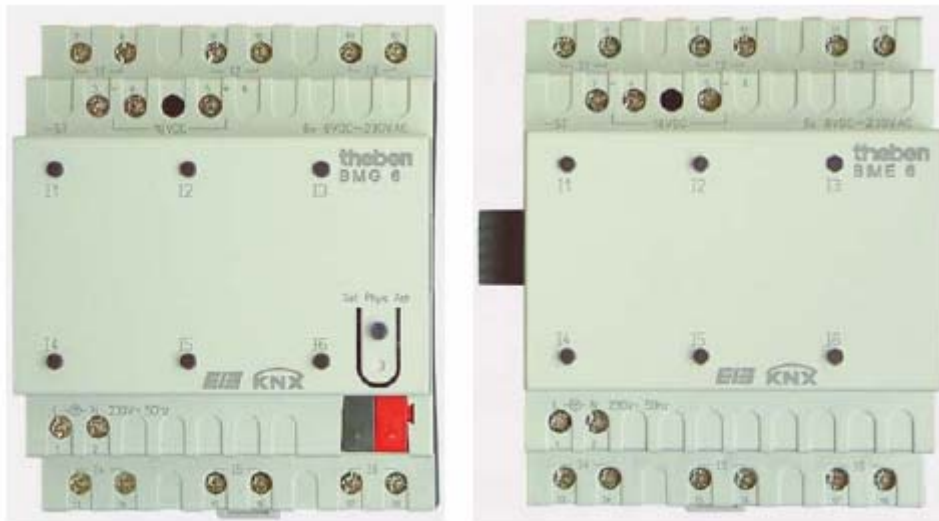


Binary input modules of the *MX* series

Basic module BMG 6 and upgrade module BME 6



BMG 6	491 0 230
BME 6	491 0 231

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1 Functional characteristics

The **MX** series is a freely-combinable series of devices consisting of basic modules (e.g. **RMG** 4 S, **DMG** 2, **BMG** 6) and upgrade modules (e.g. **RME** 4 S, **DME** 2, **BME** 6). Up to 2 upgrade modules of your choice can be connected in series to any of the basic modules in the range.

The basic module **BMG 6** is a 6-channel binary input module with an input voltage range of 8 V to 230 V DC / AC.

The upgrade module **BME 6** provides an additional 6 inputs with the same characteristics as the basic module.

Each channel of these input modules has an LED for status display.

A mains power supply is required for operation of the LEDs, but the bus voltage does not need to be present.

By means of parameter settings, the following functions are possible for each input:

- Switch / key input
- Dimmer control
- Control of blinds
- Valuator
- Counter
- Send 2 telegrams

Additionally, the telegram type (switching, priority, value and temperature value) and the response for rising and falling edges can be specified individually.

The response to disable telegrams and after restoration of the bus power can also be parameterized.

1.1 Operation

When voltage is applied, the input is activated and the status LED of the channel lights up red.

Conventional keys, switches or any desired sensors (timer, alarm system, etc.) can be connected.

1.2 Features of the binary inputs

- Status LED for each channel
- Wide voltage range input: 8 ... 230V DC/AC
- All inputs can be individually configured for 230 V or SELV applications
- Integrated power unit for polling voltage, ideal for floating contacts
- Upgradeable MiX modular concept for a variety of applications
- Upgradeable to 18 channels per bus user
- Different modules can be combined to meet the exact requirements of the user and to offer the best possible value for money
- 6 different channel functions can be selected:
 - Switch / key
 - Dimming
 - Blinds
 - Valuator
 - Counter
 - Send 2 telegrams
- Adjustable response to restoration of the bus supply

2 Technical data

2.1 Technical data for BMG 6 and BME 6

Voltage supply:	for BMG 6 bus voltage Mains voltage* 230 V/ 50 Hz +/- 10 %
Permitted operating temperature:	0 °C ... +50°C
Power draw from the mains supply*:	max. 1.5 VA
Current draw from bus voltage:	Max. 10 mA
Bus connection:	bus terminal
Protection class:	II
Degree of protection:	EN 60529: IP 20
Dimensions of device:	HxWxD 90 x 72 x 68 (mm)
Dimensions of front panel:	HxW 45 x 72 (mm)
Inputs	
Quantity:	6, electrically isolated
Nominal voltage:	8 V ... 230 V DC/AC (max. 253 V AC)
Max. line length:	100 m
Connection of SELV:	possible for each channel without any restrictions
Outputs	
Polling voltage:	18 ... 32 V DC
Response in the event of bus failure	adjustable

* If no floating contacts are being used, it is not necessary for the power unit to be connected.

3 The application program “BMG 6 with inputs, switching and dimming”

3.1 Selection in the product database

Manufacturer	THEBEN AG
Product family	Inputs
Product type	BMG 6
Program name	MiX Series 1.2 switching, dimming, inputs

Download the application from: <http://www.theben.de>

Table 1

Number of communication objects:	Max. 64
Number of group addresses:	110
Number of assignments:	111

3.2 Communication objects

Each channel-related object can assume various functions depending on its configuration.

Table 2: Overview

No.	Function	Object name	Type	Response
0	Switching ON/OFF	GM BMG6 Channel 1	1-bit EIS 1	Send
	Step / Stop	GM BMG6 Channel 1	1-bit EIS 1	Send
	Send percentage value	GM BMG6 Channel 1	1-byte EIS 6	Send
	Send counter value	GM BMG6 Channel 1	2-byte EIS 10	Send
1	Brighter/darker	GM BMG6 Channel 1	EIS 2 4-bit	Send
	UP	GM BMG6 Channel 1	1-bit EIS 1	Send
	DOWN	GM BMG6 Channel 1	1-bit EIS 1	Send
	UP/DOWN	GM BMG6 Channel 1	1-bit EIS 1	Send
	Switching ON/OFF	GM BMG6 Channel 1	1-bit EIS 1	Send
2	Disable	GM BMG6 Channel 1	1-bit EIS 1	Receive
	Disable counter	GM BMG6 Channel 1	1-bit EIS 1	Receive
	Enable counter	GM BMG6 Channel 1	1-bit EIS 1	Receive
	Reset counter	GM BMG6 Channel 1	1-bit EIS 1	Receive
3- 57 For all channels and modules according to channel 1 of the basic module, see Table 3			
60	Switching ON/OFF	Central continuous ON	1-bit EIS 1	Receive
61	Switching ON/OFF	Central continuous OFF	1-bit EIS 1	Receive
62	Switching ON/OFF	Central switching	1-bit EIS 1	Receive
63	Call/save scene	Scene	1-bit EIS 1	Receive

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Table 3: Overview of object numbers for one BMG 6 and two BME 6 upgrade modules

Module Function	Basic module (GM)						1st upgrade module (EM1)						2nd upgrade module (EM2)					
	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6
Depending on the function of the channel: - Switching ON/OFF - Step / Stop - Send percentage value - Send counter value	0	3	6	9	12	15	20	23	26	29	32	35	40	43	46	49	52	55
Depending on the function of the channel: - Brighter / darker - UP - DOWN - UP/DOWN - Switching ON/OFF	1	4	7	10	13	16	21	24	27	30	33	36	41	44	47	50	53	56
Depending on the function of the channel: - Disable - Disable counter - Enable counter - Reset counter	2	5	8	11	14	17	22	25	28	31	34	37	42	45	48	51	54	57

3.2.1 Object description

Objects 0, 3, 6, 9, 12, 15, 20, 23, 26, 29, 32, 35, 40, 43, 46, 49, 52, 55
 “Switching ON/OFF, Step / Stop, Send percentage value, Send counter value, Repeat 1 byte”

The function and the type of the object depend on the “Function of the input” parameter.

Table 4

Set function of the input	Function of the object	Description
Switch / key	Switching ON/OFF	Sends 1-bit switching commands in EIS 1 format
Dimming	Switching ON/OFF	Switch dimmer on or completely off
Blinds	Step / Stop	Move blinds in increments
Valuator	Valuator short/long	Sends two different 1-byte values
	Percentage valuator	Send percentage value between 0 and 100%
	Valuator for light setting	Call/save light scene
	Valuator for blinds	Sends height telegram for positioning blinds
	Repeat last telegram received	Receive value and send it to the bus when the key is pressed. Formats: 1-byte value or any EIS5 value (e.g. temperature, etc.)
Counter	Send counter value	Positive 2-byte number \$0000 .. \$FFFF or 0 .. 65535 decimal.
Send 2 telegrams	Switching ON/OFF	1-bit output object for 1st telegram

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

- **Objects 1, 4, 7, 10, 13, 16, 21, 24, 27, 30, 33, 36, 41, 44, 47, 50, 53, 56**
“brighter / darker, UP, DOWN, UP/DOWN, switching ON/OFF”

The function and the type of the object likewise depend on the “Function of the input” parameter.

Table 5

Set function of the input	Function of the object	Description
Switch / key		not used
Dimming	Brighter / darker	4-bit dimming commands for the dimming actuator in EIS 4 format
Blinds	UP, DOWN, UP/DOWN	1-bit motion commands for the blinds actuator in EIS 7 format
Valuator	Valuator for blinds	Sends slat telegrams
Counter		not used
Send 2 telegrams	Switching ON/OFF	1-bit or 1-byte output object for 2nd telegram

- **Object 2, 5, 8, 11, 14, 17, 22, 25, 28, 31, 34, 37, 42, 45, 48, 51, 54, 57**
“Disable, Disable counter, Enable counter, Reset counter”

Table 6

Set function of the input	Function of the object	Description
Counter	Disable	0 = Count 1 = Disable
	Enable	0 = Do not count 1 = Count
	Reset	Counter is reset to 0 as soon as a telegram is received (regardless of whether 1 or 0)
All other functions	Disable	The corresponding input is disabled via this object. The resulting response can be set individually on the parameter pages. 1 = disabled 0 = cancel disable

*With the “Counter” input function, the function of the object can be parameterized.

- **Object 60 “Central continuous ON”, Object 61 “Central continuous OFF”**
Object 62 “Central switching”, Object 63 “Call/save scene”

These four specific central objects are only used if an upgrade module other than BME 6 is being used (e.g. RME 4, DME4 etc.).

3.3 Parameters

3.3.1 Parameter pages

Table 7

Function	Description
General	Selection of the connected upgrade modules and the general parameter for the cyclic sending of feedback
GM BMG6 I1	Parameter for input 1 of the basic module
GM BMG6 I2	Parameter for input 2 of the basic module
GM BMG6 I3	Parameter for input 3 of the basic module
GM BMG6 I4	Parameter for input 4 of the basic module
GM BMG6 I5	Parameter for input 5 of the basic module
GM BMG6 I6	Parameter for input 6 of the basic module
EM1 BMG6 I1	Parameter for channel 1 of the first upgrade module.
EM1 BMG6 I2	Parameter for channel 2 of the first upgrade module.
EM1 BMG6 I3	Parameter for channel 3 of the first upgrade module.
EM1 BMG6 I4	Parameter for channel 4 of the first upgrade module.
EM1 BMG6 I5	Parameter for channel 5 of the first upgrade module.
EM1 BMG6 I6	Parameter for channel 6 of the first upgrade module.
EM2 BMG6 I1	Parameter for channel 1 of the second upgrade module.
EM2 BMG6 I2	Parameter for channel 2 of the second upgrade module.
EM2 BMG6 I3	Parameter for channel 3 of the second upgrade module.
EM2 BMG6 I4	Parameter for channel 4 of the second upgrade module.
EM2 BMG6 I5	Parameter for channel 5 of the second upgrade module.
EM2 BMG6 I6	Parameter for channel 6 of the second upgrade module.

Each channel has a parameter page. All pages (and channels) have an identical layout.

The first and most important parameter on a page is the parameter “Function of the input”. This defines the function of the channel.

Possible functions include:

- **Switch / key**
- **Dimmer control**
- **Control of blinds**
- **Valuator**
- **Counter**
- **Send 2 telegrams**

Depending on the function selected, the parameters listed below may change.

3.3.2 Parameter description

3.3.2.1 The function “Switch / key”

An input is connected to a key or a switch.

When this is pressed, then a switching, value, priority or temperature value telegram is sent to the bus.

The following parameters are available:

Table 8

Designation	Values	Description
Debounce time	30 ms 50 ms 80 ms 100 ms 200 ms 1 sec. 5 sec. 10 sec.	In order to avoid a disruptive switching due to debouncing of the contact connected to the input, the new status of the input is only accepted after a delay time. Larger values ($\geq 1s$) can be used as a switch-on delay
Object type	Switching (1-bit) Priority (2-bit) Value 0.. 255 (1-byte) Temperature value (2-byte)	Channel sends: Switching telegrams Priority telegrams Any desired value between 0 and 255 A temperature value in EIS5 format

Binary input modules of the **MX** series **BMG6 – BME 6 theben**

Designation	Values	Description								
Response to rising edge	For object type Switching :									
		How should the channel respond when an input voltage is applied?								
	None	Ignore								
	ON	Send ON telegram								
	OFF	Send OFF telegram								
	Toggle	Reverse channel status (cf. notching relay)								
	For object type Priority 2-bit									
	None	No response. Telegrams:								
	Priority inactive (00)	<table border="1"> <thead> <tr> <th>Function</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Priority inactive (no control)</td> <td>0 (00_{bin})</td> </tr> <tr> <td>Priority ON (control: enable, on)</td> <td>3 (11_{bin})</td> </tr> <tr> <td>Priority OFF (control: disable, off)</td> <td>2 (10_{bin})</td> </tr> </tbody> </table>	Function	Value	Priority inactive (no control)	0 (00 _{bin})	Priority ON (control: enable, on)	3 (11 _{bin})	Priority OFF (control: disable, off)	2 (10 _{bin})
Function	Value									
Priority inactive (no control)	0 (00 _{bin})									
Priority ON (control: enable, on)	3 (11 _{bin})									
Priority OFF (control: disable, off)	2 (10 _{bin})									
	Priority ON (11)									
	Priority OFF (10)									
	For object type Value :									
		Any value between 0 and 255 can be sent. These values can also be used as percentage values or as HVAC commands (H/AC/V: Heating/Air Conditioning/Ventilation).								
	None	No response								
	0 = 0 % (corresponds to HVAC mode: Auto)	0, 0% or H/AC/V operating mode "Auto"								
	1 (corresponds to HVAC mode: Comfort)	1 or H/AC/V operating mode Comfort								
	2 (corresponds to HVAC mode: Standby)	2 or H/AC/V operating mode Standby								
	3 (corresponds to HVAC mode: Night-time temperature reduction)	3 or H/AC/V operating mode Temperature reduction at night								
	4 (corresponds to HVAC mode: Frost protection)	4 or H/AC/V operating mode Frost protection								
	5 .. 255	Any desired value or percentage value								
Response to falling edge	See response to rising edge	How should the channel respond when the input signal changes from 1 to 0? See response to rising edge.								

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
For object type <i>Temperature value</i> :		
Temperature value with a rising edge	Do not send any temperature value 0°C .. 40°C in 1°C increments	No response. Send temperature value. This function can be used to send a setpoint value to a thermostat, for example.
Temperature value with a falling edge	See temperature value with a rising edge	What temperature values should be sent when the input signal changes from 1 to 0?
Common parameters		
Send telegram cyclically	No Yes Only after rising edge Only after falling edge	What events should be sent cyclically?
Cycle time	2 minutes, 3 minutes, 5 minutes, 10 minutes, 15 minutes, 20 minutes, 30 minutes, 45 minutes, 60 minutes	At what time interval are the cyclic telegrams to be sent again?
Response when setting the disable	Ignore disable No response when the disable is set Same as after rising edge Same as after falling edge	Disable telegrams are ignored If necessary respond only when the disable is cancelled Send the same telegram as for response which has parameterized for rising edge Send the same telegram as for response which has parameterized for falling edge
Response when cancelling the disable	No response when the disable is cancelled. Update Same as after rising edge Same as after falling edge	If necessary respond only when the disable is set The current status of the channel is sent. See above, no response when the disable is set See above, no response when the disable is set

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
Response after restoration of the bus supply	None	No response.
	Update	The current status of the channel is sent.
	Same as after rising edge	Response parameterized as for rising edge.
	Same as after falling edge	Response parameterized as for falling edge.
	Update after 5 sec.	The current status of the channel is sent after a delay.
	Update after 10 sec.	
	Update after 15 sec.	
	After 5 sec. same as after rising edge	Response parameterized as for rising edge, but delayed.
	After 10 sec. same as after rising edge	
	After 15 sec. same as after rising edge	
After 5 sec. same as after falling edge	Response parameterized as for falling edge, but delayed.	
After 10 sec. same as after falling edge		
After 15 sec. same as after falling edge		

3.3.2.2 The “Dimming” function

One input (two inputs) is (are) connected to a simple or double key (rocker).

If one of these keys is pressed, a dimming telegram or an ON/OFF telegram is sent on the bus to the dimmer.

The following parameters are available:

Table 9

Designation	Values	Description
Debounce time	30 ms 50 ms 80 ms 100 ms 200 ms 1 sec. 5 sec. 10 sec.	Debouncing of the connected key (see “The function Switch / key” above)
Response to “short” / “long”	Single button operation Brighter / ON Brighter / TOGGLE Darker / OFF Darker / TOGGLE	<p>This input distinguished between a long and a short keystroke, and can thus carry out two functions</p> <p>The dimmer is operated with a single switch. Short keystroke = ON/OFF Long keystroke = brighter / darker Release = stop</p> <p>With the other variants, the dimmer is operated using two keys (rocker).</p> <p>Short keystroke = ON Long keystroke = brighter Release = stop</p> <p>Short keystroke = ON/OFF Long keystroke = brighter Release = stop</p> <p>Short keystroke = OFF Long keystroke = darker Release = stop</p> <p>Short keystroke = ON/OFF Long keystroke = darker Release = stop</p>

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
Long keystroke starting at	300 .. 1000ms	This function serves to clearly differentiate between long and short keystrokes. If the key is pressed at least as long as the set time, then a long keystroke will be registered.
Increment for dimmer	100 % 50 % 25 % 12.5 % 6 % 3 % 1.5 %	With a long keystroke, the dimming value is: Increased (or decreased) until the key is released. Increased (or decreased) by 50% Increased (or decreased) by 25% Increased (or decreased) by 12.5% Increased (or decreased) by 6% Increased (or decreased) by 3% Increased (or decreased) by 1.5%
Response when setting the disable	Ignore disable None ON OFF	Disable telegrams are ignored No response when the disable is set Send switch-on telegram Send switch-off telegram
Response to cancellation of the disable	None ON OFF	No response when the disable is cancelled Switch dimmer on Switch dimmer off
Response after restoration of the bus supply	None ON OFF ON after 5 sec ON after 10 sec ON after 15 sec OFF after 5 sec OFF after 10 sec OFF after 15 sec	No response Send switch-on telegram Send switch-off telegram Send switch-on telegram with delay Send switch-off telegram with delay

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
Response after restoration of the bus supply	None ON OFF ON after 5 sec ON after 10 sec ON after 15 sec OFF after 5 sec OFF after 10 sec OFF after 15 sec	No response Send switch-on telegram Send switch-off telegram Send switch-on telegram with delay Send switch-off telegram with delay

3.3.2.4 The “Valuator” function

Basic functionality:

Pressing the connected key triggers a value telegram.

Depending on the parameterization, two different telegrams can also be sent (“long/short” function).

Table 11

Designation	Values	Description
Debounce time	30 ms, 50 ms , 80 ms 100 ms, 200 ms, 1 sec. 5 sec., 10 sec.	Debouncing of the connected key (see “The function Switch / key” above)
Type of valuator	Valuator short/long Percentage valuator Valuator for light setting Valuator for blinds Repeat last telegram received	Sends two different values, depending on whether the key is pressed for a long or short period Sends percentage values 0 .. 100%. Send a scene number between 0 and 63. Sends a height telegram and a slats telegram The last telegram received is sent to the bus when the connected key is pressed.
Parameter for the type of valuator “short / long”		
Value	Input 0 ... 255	Value which is to be sent with a short* keystroke.
Special function after long keystroke	No Yes	Should a different value be sent with a long keystroke?
Long keystroke starting at	1 sec. 2 sec. 3 sec. 5 sec.	This function serves to clearly differentiate between long and short keystrokes. If the key is pressed at least as long as the set time, then a long keystroke will be registered.
Value with a long keystroke	Input 0 ... 255	Value which is to be sent with a long keystroke

* If the parameter “Special function after long keystroke” is set to “no”, then the length of the keystroke is irrelevant.

Binary input modules of the **MX** series **BMG6 – BME 6 theben**

Designation	Values	Description
Parameter for the type of valuator "Percentage valuator"		
Percentage value	0 .. 100 % in 5 % increments	Percentage value which is to be sent when the key is pressed
Special function after long keystroke	Yes No	Should a second telegram be sent with a long keystroke?
Long keystroke starting at	1 sec. 2 sec. 3 sec. 5 sec.	This function serves to clearly differentiate between long and short keystrokes. If the key is pressed at least as long as the set time, then a long keystroke will be registered.
Scrolling strategy (Increment 10 %, interval 1 sec.)	Increase only Decrease only Reversal of direction at the stops	New telegrams are sent continually for as long as the key is pressed. The value of the telegrams changes with an increment of 10% The telegram value is increased until 100% is reached. The value is decreased until 0% is reached. The value is increased to 100%, then decreased again to 0%, increased again at 0%, etc. Pressing the key once again changes the direction.
Parameter for the type of valuator "Valuator for light scene"		
Scene number	Input 0 ... 63	Sends the set scene number (call scene)
Save when long time operation	No Yes	Should a saved scene telegram be sent with a long keystroke?
Long keystroke starting at	1 sec. 2 sec. 3 sec. 5 sec.	This function serves to clearly differentiate between long and short keystrokes. If the key is pressed at least as long as the set time, then a long keystroke will be registered.
Parameter for the type of valuator "Valuator for blinds"		
Height	0 .. 100 % in 5 % increments	Sends a positioning telegram to the blinds / shutter actuator
Slats	0 .. 100 % in 5 % increments	What slat position should be sent to the actuator together with the positioning telegram?
Special function after long time operation	No All the way UP (0%) All the way DOWN (100%)	What function should be carried out with a long keystroke?

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
Parameter for the type of valuator “Repeat last telegram received”		
Object type of the telegram	Value 0..255 (1-byte) Temperature or gen. EIS5 value (2-byte)	Format of the telegram to be received that is to be sent once again by activation of the input
Common parameters		
Response when setting the disable	Ignore disable	Disable telegrams are ignored
	Disable	After a disable telegram (status =1) is received, the channel no longer transmits.
Response when cancelling the disable	No response	No response when the disable is cancelled.
	Update	When the disable is cancelled (status=0), the current channel status should be sent again.
Response after restoration of the bus supply	None	No response after restoration of the bus supply.
	Update	Send the current channel status again.
	Update after 5 sec.	Send the current channel status only after a delay.
	Update after 10 sec. Update after 15 sec.	

3.3.2.5 The “Counter” function

Basic functionalities:

Two basic types of counter are possible:

- The event counter is incremented and sends its status to the bus.
- The compare function compares the counter status with a fixed parameterized counted measurand (comparison value). When the comparison value is reached, the channel sends a preset telegram to the bus, and the counter is reset.

Moreover, if necessary both the rising and the falling signal edge can be evaluated.

The counting capacity is up to 65,535, and can be extended to 65,535,000 through the use of the prescaler.

Table 12

Designation	Values	Description
Debounce time	30 ms, 50 ms , 80 ms 100 ms, 200 ms, 1 sec. 5 sec., 10 sec.	Debouncing of the connected key (see “The function Switch / key” above)
Counting at	Falling edge Rising edge Both edges	With what status change should the counter be incremented? With a change from 1 to 0 With a change from 0 to 1 In both cases
Prescaler	Input: 1 .. 1000	The prescaler is a virtual counter which is connected upstream of the actual counter. With the setting 1, the prescaler is inoperative, and the counter is increased with each input pulse. If the prescaler is set to 10, then only every 10th pulse is forwarded to the counter. The counter status must be multiplied by 10 in any case. This function makes it possible to count large quantities without exceeding the maximum counter status of 65,535. Calculating the actual counted measurand: Real counter status = Prescaler x counted measurand sent Example: Prescaler = 10 Sent counter status = 100 Actual counter status = 100 x 10 =1000

Binary input modules of the **MX** series BMG6 – BME 6 **theben**

Designation	Values	Description
Function of the input object	<p>Disable</p> <p>Enable</p> <p>Reset</p>	<p>Counter response depending on object 2*</p> <p>Count only if disable = 0.</p> <p>Count only if enable = 1.</p> <p>Reset counter status to 0 if a telegram is received (0 or 1)</p>
Counter type	<p>Event counter</p> <p>Compare function</p>	<p>The counter counts up until it is reset to 0 by the reset object or once the maximum value (65,535) is reached</p> <p>When the comparison value is reached, the set telegram (see below) is sent to the bus and the counter is reset to 0.</p>
Comparison value	<p>Input: 1 .. 1000</p>	<p>Only for counter type: Compare function</p> <p>What value should the counter (compare function) count up to?</p>
Telegram once the comparison value is reached	<p>OFF otherwise ON</p> <p>ON otherwise no</p> <p>OFF otherwise no</p> <p>ON otherwise OFF</p>	<p>Only for counter type: Compare function:</p> <p>When the comparison value is reached, send OFF, and as long as the value is not reached, send ON.</p> <p>Send only when the comparison value has been reached (ON telegram).</p> <p>Send only when the comparison value has been reached (OFF telegram).</p> <p>When the comparison value is reached, send ON, and as long as the value is not reached, send OFF.</p>
Send all counter status	<p>Input: 1 .. 1000</p>	<p>At what counter interval is the current counter status to be sent?</p>
Send counter status cyclically	<p>No</p> <p>Yes</p>	<p>Is the counter status to be sent at regular time intervals?</p>
Cycle time	<p>2 minutes, 3 minutes, 5 minutes, 10 minutes, 15 minutes, 20 minutes, 30 minutes, 45 minutes, 60 minutes</p>	<p>At what time interval is the current counter status to be sent?</p>

* (or 5, 8, 11, 14, 17, 22, 25, 28, 31, 34, 37, 42, 45, 48, 51, 54, 57)

3.3.2.6 The function “Send 2 telegrams”

Basic functionality:

Activation of the input triggers the sending of two telegrams.

The 1st telegram is a switching command, and the second can be either a switching command or

a value (0 .. 255).

The disable response can be specified individually for each of the two telegrams.

Application example: conventional motion sensor in a business:

The 1st telegram switches the light on via a switching actuator.

The 2nd telegram is linked to the alarm system.

By targeted disabling of the telegrams it is possible to enable or disable the alarm telegrams depending on the time of day.

Table 13

Designation	Values	Description
Debounce time	30 ms, 50 ms , 80 ms 100 ms, 200 ms, 1 sec. 5 sec., 10 sec.	Debouncing of the connected key (see “The function Switch / key” above)
Response to rising edge	None ON OFF Toggle	Ignore Send ON telegram Send OFF telegram Reverse channel status (cf. notching relay)
Response to falling edge	None ON OFF Toggle	See above.
Object type for second object	Switching (1-bit) Value 0.. 255 (1-byte)	ON/OFF command Any value between 0 and 255 can be sent. These values can also be used as percentage values (see Appendix) or as HVAC commands (H/AC/V: Heating/Air Conditioning/Ventilation). 0 = H/AC/V operating mode Auto 1 = H/AC/V operating mode Comfort 2 = H/AC/V operating mode Standby 3 = H/AC/V operating mode Temperature reduction at night 4 = H/AC/V operating mode Frost protection
Response to rising edge	None ON OFF Toggle	See above.

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Designation	Values	Description
Response to falling edge	None ON OFF Toggle	See above.
Send telegram cyclically	No Object 1 only Object 2 only Object 1 & 2	What objects should be sent cyclically?
Response to disable telegram	Ignore disable Disable object 1, no response when cancelling Disable object 1, update when cancelling Disable object 2, no response when cancelling Disable object 2, update when cancelling Disable objects 1 & 2, no response when cancelling Disable objects 1 & 2, update when cancelling	No response to disable telegrams Disable only first object. No response when the disable is cancelled. Disable only first object. When the disable is cancelled, the current object status should be sent again. (1st object only). Disable only second object. No response when the disable is cancelled. Disable only second object. When the disable is cancelled, the current object status should be sent again (second object only). Disable both objects. No response when the disable is cancelled. Disable both objects. When the disable is cancelled, the current status of both objects should be sent.

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Designation	Values	Description
Response after restoration of the bus supply	None	After a bus failure, which objects should be sent after the bus voltage has been restored? Should they be sent only after a delay?
	Update object 1	
	Update object 2	
	Update objects 1 & 2	
	Update object 1 after 5 sec.	
	Update object 1 after 10 sec.	
	Update object 1 after 15 sec.	
	Update object 2 after 5 sec.	
	Update object 2 after 10 sec.	
	Update object 2 after 15 sec.	
	Update objects 1 & 2 after 5 sec.	
	Update objects 1 & 2 after 10 sec.	
	Update objects 1 & 2 after 15 sec.	

4 Appendix

4.1 Conversion of percentages to hexadecimal and decimal values

Percentage value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hexadecimal	00	1A	33	4D	66	80	99	B3	CC	E6	FF
Decimal	00	26	51	77	102	128	153	179	204	230	255

All values from 00 to FF hex. (0 to 255 dec.) are valid.