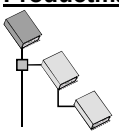
B.IQ push button comfort 1- 4gang, Flush-mounted (Up) 7516159x, 7516259x, 7516359x, 7516459x

Technical Documentation

The B.IQ push-button comfort is plugged onto a flush-mounted bus coupling unit (flush-mounted BCU). The push-buttons of the device can be programmed for the following functions: switching, dimming, blind/shutter control, value transmitter, light-scene recall, forced guidance and control. Push-button assignment is free and fixed in the project.
Depending on the preset functions, a press on any of the push-buttons sends telegrams to the instabus EIB which trigger switching, dimming or blind/shutter functions, recall or store light-scenes and set dimming, brightness or temperature values in the respective actuators.

Productmanagement



Gebr. Berker
- ☒ **Push button**
- ☒ **Push button xgang comfort**

Gebr. Berker
- ☒ **Push button**
- ☒ **B.IQ**

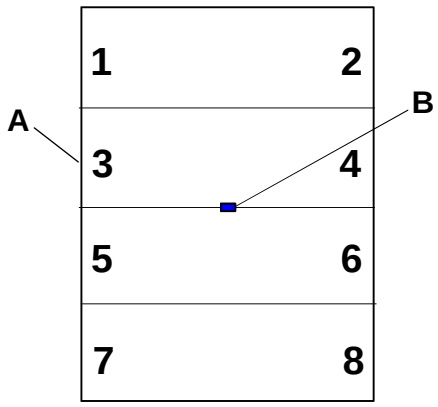
Push button 1gang comfort
B.IQ 1gang comfort 109301
Push button 2gang comfort
B.IQ 2gang comfort 109201
Push button 3gang comfort
B.IQ 3gang comfort 109101
Push button 4gang comfort
B.IQ 4gang comfort 109001

Order data

Design	Colour	Order no.
B.IQ	**polar white**	7516 x5 **99**
	stainless steel	7516 x5 **93**
	glass, polar white	7516 x5 **91**

Layout:

e.g. B.IQ push button 4gang comfort



Dimensions:

4-gang:
height: 11.8 cm

1-, 2- and 3-gang:
height: 8.8 cm

All:
width: 8.8 cm
depth:1.3 cm (without BCU)

All dimensions without inscription strips.

Controls:

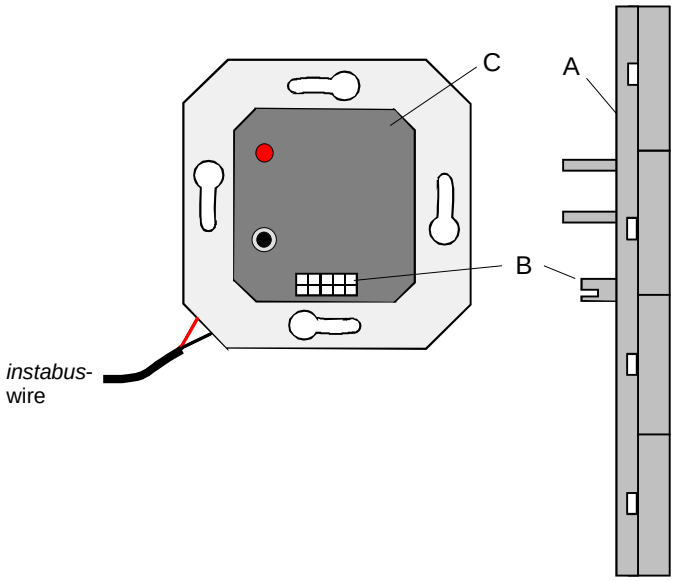
A: status LED (white) number depending on variant.
B: 1 operation LED (blue)

Technical data	
Type of protection:	IP 20
Safety class:	III
Mark of approval:	EIB
Ambient temperature:	-5 °C ... +45 °C
Storage / transport temperature:	-25 °C ... +70 °C (storage above +45 °C reduces the service life)
Mounting position:	any
Minimum distances:	none
Type of fastening:	plug-in on flush-mounted bus coupler
instabus EIB supply	
voltage:	21 – 32 V DC SELV
power consumption:	typically 150 mW
connection:	2 x 5 pole male connector strip
External supply	---

Response to mains failures	
bus voltage only:	no reaction
mains voltage only:	---
bus and mains voltage:	---
Response on return of voltage	
bus voltage only:	all object values deleted (cf. software information)
mains voltage only:	---
bus and mains voltage:	---

Wiring:

Terminal connections:



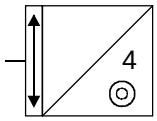
A: push-button comfort
B: physical external interface
C: bus coupling unit

Hardware information

- Article nos.:

Product	Berker artikel. no.
B.IQ push-button comfort 4gang	7516459x
B.IQ push-button comfort 3gang	7516359x
B.IQ push-button comfort 2gang	7516259x
B.IQ push-button comfort 1gang	7516159x

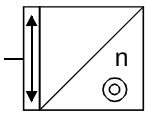
Software description

ETS search path for B.IQ push-button comfort 4gang:	**ETS symbol:**
B.IQ push button comfort 4gang	

PEI type	00 Hex	00 Dez	No adapter used

Applications:

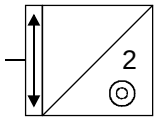
No.	Summarized description:	Name:	Version:
1	Multifunction push-button with alarm message and 16-Bit value transmission	B.IQ 4gang comfort 109001	0.1

ETS search path for B.IQ push-button comfort 3gang:	**ETS symbol:**
B.IQ push-button comfort 2gang	

PEI type	00 Hex	00 Dez	No adapter used

Applications:

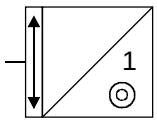
No.	Summarized description:	Name:	Version:
1	Multifunction push-button with alarm message and 16-Bit value transmission	B.IQ 3gang comfort 109101	0.1

ETS search path for B.IQ push-button comfort 2gang:	**ETS symbol:**
B.IQ push-button comfort 2gang	

PEI type	00 Hex	00 Dez	No adapter used

Applications:

No.	Summarized description:	Name:	Version:
1	Multifunction push-button with alarm message and 16-Bit value transmission	B.IQ 2gang comfort 109201	0.1

ETS search path for B.IQ push-button comfort 1gang:	**ETS symbol:**
B.IQ push-button comfort 1gang	

PEI type	00 Hex	00 Dez	No adapter used

Applications:

No.	Summarized description:	Name:	Version:
1	Multifunction push-button with alarm message and 16-Bit value transmission	B.IQ 1gang comfort 109301	0.1

Application:	B.IQ 4gang comfort 109001 B.IQ 3gang comfort 109101 B.IQ 2gang comfort 109201 B.IQ 1gang comfort 109301		
Executable from mask version:	1.1		
Number of addresses (max):	25	**dynamic table handling**	Yes ☒ No ☐
Number of assignments (max):	25	**maximum lenght of table**	50
Communication objects:	18		

Function: Switching / Toggle (for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
0-7	Switching	Push-button 1 - Push-button 8	1 bit	W, C, T, (R) [3]

Function: Dimming (for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
0-7	Switching	Push-button 1 - Push-button 8	1 bit	W, C, T, (R) [3]
8-15	Dimming	Push-button 1 - Push-button 8	4 bit	C, T

Function: Blind/shutter (for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
0-7	Move (long-time) operation	Push-button 1 - Push-button 8	1 bit	W, C, T, (R) [3]
8-15	Step (short-time) operation	Push-button 1 - Push-button 8	1 bit	C, T

Function: Value transmitter (pb function: light-scene recall with/without storage function for all pbs [1])

Object [2]	Function	Name [2]	Type	Flag
8-15	Light-scene extension	Push-button 1 - Push-button 8	1 byte	C, T

Function: Value transmitter (Push-button function: value transmitter 1 byte for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
8-15	Value transmitter 1 byte	Push-button 1 - Push-button 8	1 byte	W, C, T

Function: Value transmitter (Push-button function: temperature value transmitter for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
8-15	Temperature value transmitter	Push-button 1 - Push-button 8	2 bytes	W, C, T

Function: Value transmitter (Push-button function: brightness value transmitter for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
8-15	Brightness value transmitter	Push-button 1 - Push-button 8	2 bytes	W, C, T

Function: Value transmitter (Push-button function: value transmitter 2 bytes for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
8-15	Value transmitter 2 bytes	Push-button 1 - Push-button 8	2 bytes	W, C, T

Function: Forced guidance (for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
0-7	Forced guidance	Push-button 1 – Push-button 8	2 bits	W, C, T, (R) [3]

Function: Control (for all push-buttons [1])

Object [2]	Function	Name [2]	Type	Flag
0-7	Control	Push-button 1 - Push-button 8	1 bit	W, C, T, (R) [3]

Function: Operating level switch-over

Object	Function	Name	Type	Flag
16	Switch-over	Operating level	1 bit	W, C, T, (R) [3]

Function: Alarm function

Object	Function	Name	Type	Flag
17	Alarm message 1 bit	Application module	1 bit	W, C, T, (R) [3]

[1] The functions switching / toggle, dimming, blind/shutter, light-scene extension, value transmitter, forced guidance and control can be selected for each individual push-button. In this case, the names of the communication objects and the object table change accordingly (dynamic object structure).

[2]: Depending on the projected variant (1-, 2- , 3- or 4-gang), the number of push-buttons and thus the number of visible communication objects are reduced.

[3]: For objects marked (R), the current object status can be read out (set "R" flag!).

Object description

0-7	Switching:	1-bit object for transmission of switching telegrams
0-7	Move (long-time) operation:	1-bit object for step (long-time) operation of a blind/shutter
0-7	Forced guidance:	2-bit object for forced guidance (priority) of switching channels
0-7	Control:	1-bit object for transmission of control telegrams
8-15	Dimming:	4-bit object for relative change of brightness between 0 and 100 %
8-15	Step (short-time) operation:	1-bit object for short-time operation of a blind/shutter
8-15	Light-scene extension:	1-byte object for recalling / storing of light-scenes (1 - 8)
8-15	Value transmitter 1 byte:	1-byte object for transmission of value telegrams (0 - 255)
8-15	Temperature value transmitter:	2-byte object for setting of a defined temperature value (0-40 °C)
8-15	Brightness value transmitter:	2-byte object for setting of a defined brightness value (0-1500 lux)
8-15	Value transmitter 2 bytes:	2-byte object for transmission of value telegrams (0-65535)
16	Switch-over:	1-bit object for switching over between the 2 operating levels
17	Alarm message:	1-bit object for transmission of an alarm message (user module removed)

Scope of functions

General

- Switching / toggle, dimming, blind/shutter, value transmitter/light-scene extension and control functions can be freely assigned to the push-buttons
- 2 operating levels parameterizable
- Status indication for each push-button by means of white LED possible
- Operation indication by means of blue LED parameterizable
- 4-digit push-button code for operating level switch-over and for disabling of push-button freely selectable
- Alarm message after withdrawal of device from flush-mounted bus coupling unit programmable

Switching / toggle function

- Command on pressing or releasing of push-button presettable (ON, OFF, TOGGLE, no function)
- Cyclical transmission possible

Dimming function

- Push-button operation with one push-button or 2 push-buttons parameterizable
- Time between dimming and switching and dimming interval presettable
- Telegram repetition and transmission of stop telegram possible

Blind/shutter function

- Push-button function (UP, DOWN, TOGGLE) and time between step (short-time) and move (long-time) operation presettable
- Lamella (slat) adjustment time (time during which a MOVE command can be terminated by releasing the push-button)

Value transmitter / light-scene extension function

- Push-button functions 1-byte value transmitter or light-scene recall with/without storage function parameterizable
- Push-button functions 2-byte value transmitter, brightness value transmitter and temperature value transmitter parameterizable
- Value readjustment by means of long push-button-press possible

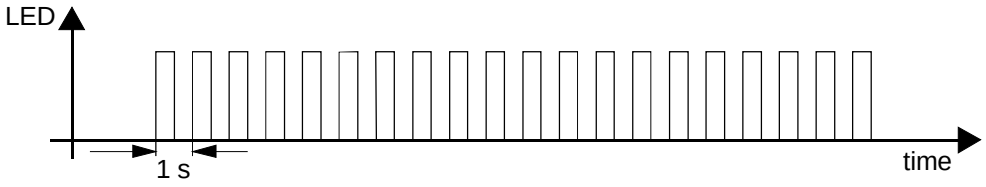
Functional description

Switching / toggle: status indication
Depending on the "Function of status LED", "Flashing LED at status indication?" and "Cyclical transmission" parameters, the status LEDs of the individual push-buttons show a different behaviour with the switching/toggle function:

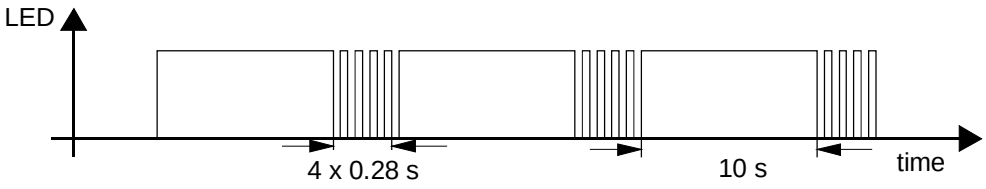
Push-button operation:

Function of status LED:	Status indication
Flashing status LED at status indication?	NO
Cyclical transmission:	No cyclical transmission

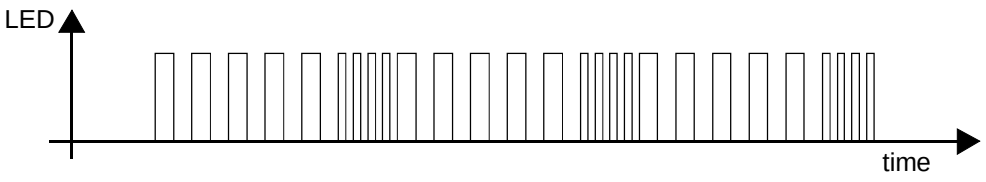
Function of status LED:	Status indication
Flashing status LED at status indication?	YES
Cyclical transmission:	No cyclical transmission



Function of status LED:	Status indication
Flashing status LED at status indication?	NO
Cyclical transmission:	Transmission when ON



Function of status LED:	Status indication
Flashing status LED at status indication?	YES
Cyclical transmission:	Transmission when ON



Value transmitter: readjustment by long push-button press

If a value transmitter has been parameterized, the value to be transmitted can be readjusted by a long push-button press (> 5 s). In this case, the current value is increased by the parameterized interval and transmitted. After releasing the push-button, the value last transmitted remains stored. During the next long push-button press, the value is readjusted in the opposite direction.

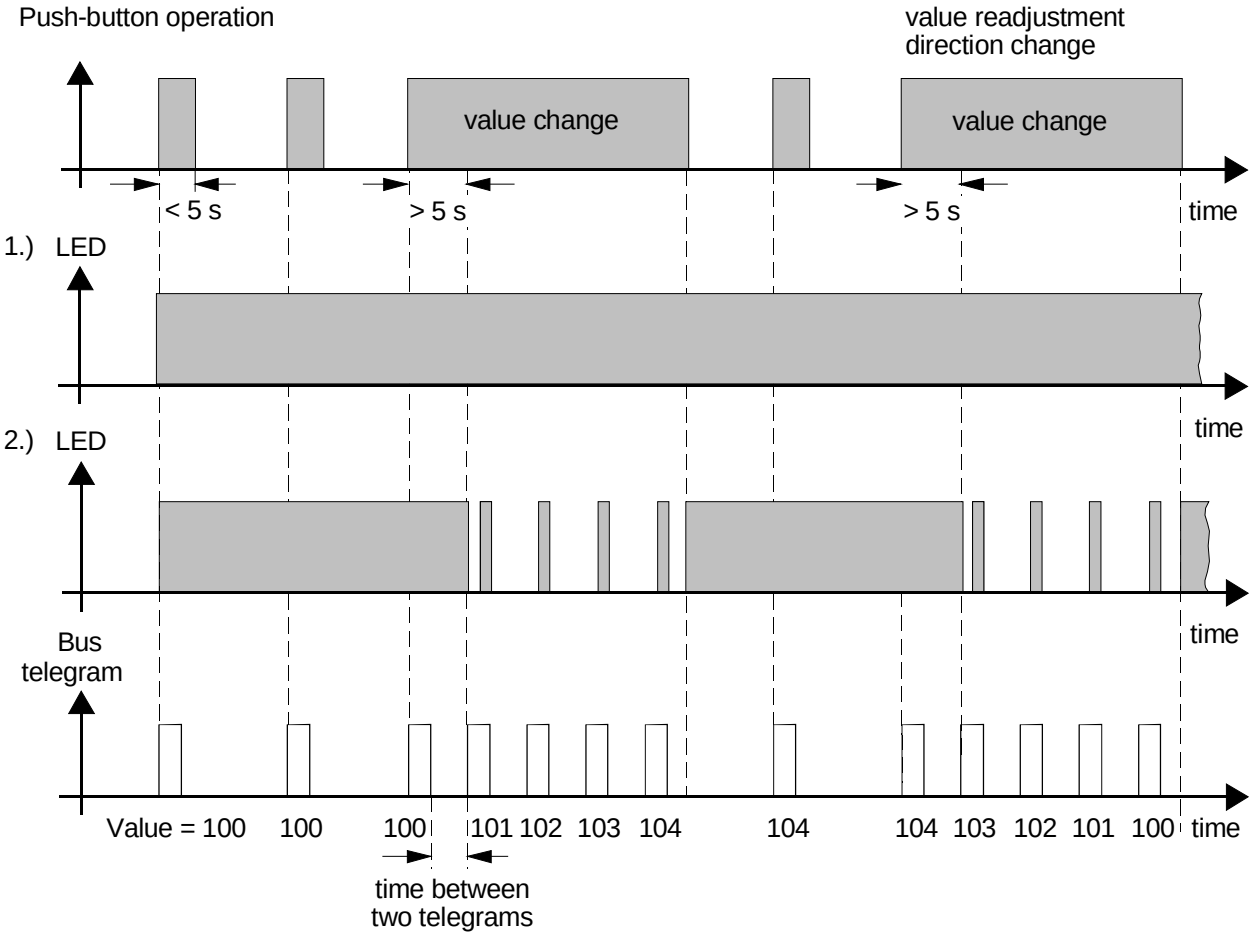
Depending on parametrization, the status LED shows a different behaviour during value readjustment (see below):

1.) Function of status LED: status indication
Flashing LED at status indication? NO
Function of status LED at value adjustment: indication of status

⇨ Status LED permanently lit up

2.) Function of status LED: status indication
Flashing LED at status indication? NO
Function of status LED at value adjustment: flashing at value adjustment

⇨ During value change, the status LED flashes with every new value



Push-button function	Value range	Interval
Light-scenes with/without storage f.	1...8	---
Brightness value transmitter	0...1500 lux	50 lux
Temperature value transmitter	0...40 °C	1 °C
Value transmitter 1 byte	0...255	1...10
Value transmitter 2 bytes	0...65535	1, 2, 5, 10, 20, 50, 75, 100, 200, 500 , 750, 1000

Operating levels

In operating level 1, each push-button can be assigned any of the functions switching / toggle, dimming, blind/shutter, forced guidance, value transmitter/light-scene extension or control. In operating level 2, the lefthand and the righthand push-button column is assigned a function from among the push-button functions of operating level 1.

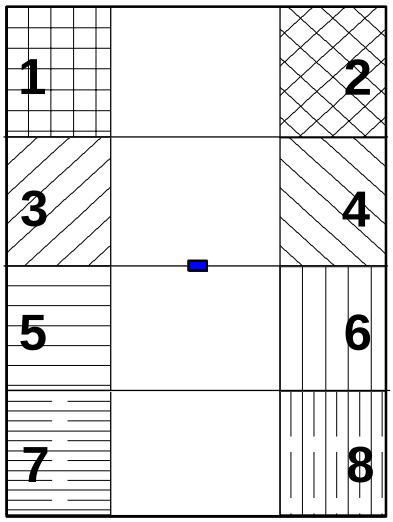
Operating level 1:

- per push-button one function from among: switching / toggle, dimming, blind/shutter, forced guidance, value transmitter/light-scene extension or control

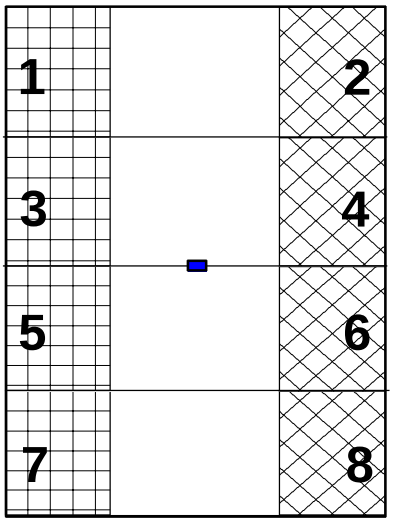
Operating level 2:

- left push-button colum ⇨ 4 push-buttons with the same function
- right push-button colum ⇨ 4 push-buttons with the same function
- function to be selected from the functions of level 1

e.g. 4-gang:



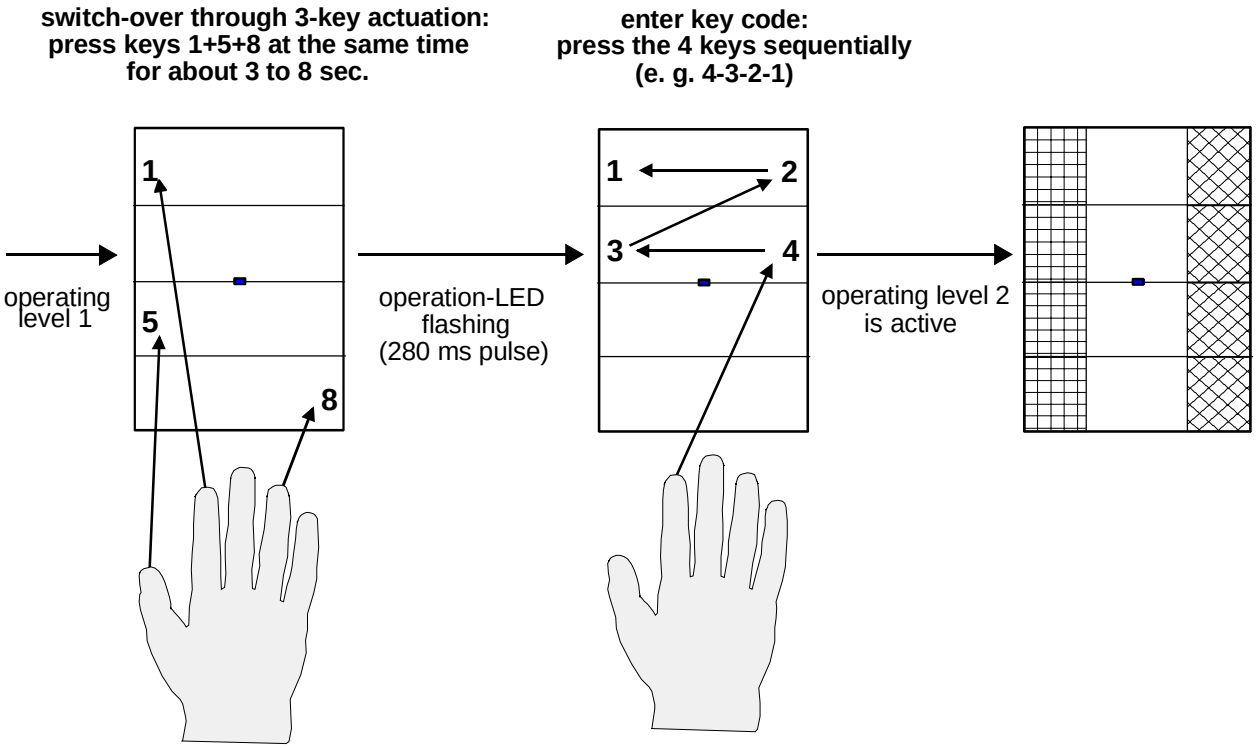
e.g. 4-gang:



Switching-over between operating levels is ensured by a separate object "Operating level". The polarity of this object can be programmed. In the 4-gang type, switching over can additionally be effected locally on the push-button itself (see next page).
Operating level 2 can be permanently activated (e.g. switch-back to operating level 1 manually or via object) or, as an alternative, remain activated for a parameterized time. The switch-over mode is determined by the "Switch-over" parameter.

Manual switch-over between the two operating levels

The push-button comfort 4-gang can be switched by means of a 3-push-button actuation (push-buttons 1+5+8) and push-button code between the two operating levels (the "Operating level switch-over" parameter must then be set to "manual" or "via object and manual").
The operating level switch-over is effected by means of the 3-push-button actuation for approx. 3 s and by entry of the parameterized push-button code. The following illustration shows manual switching from operating level 1 to operating level 2. Switching back to operating level 1 is analogous with the first procedure.

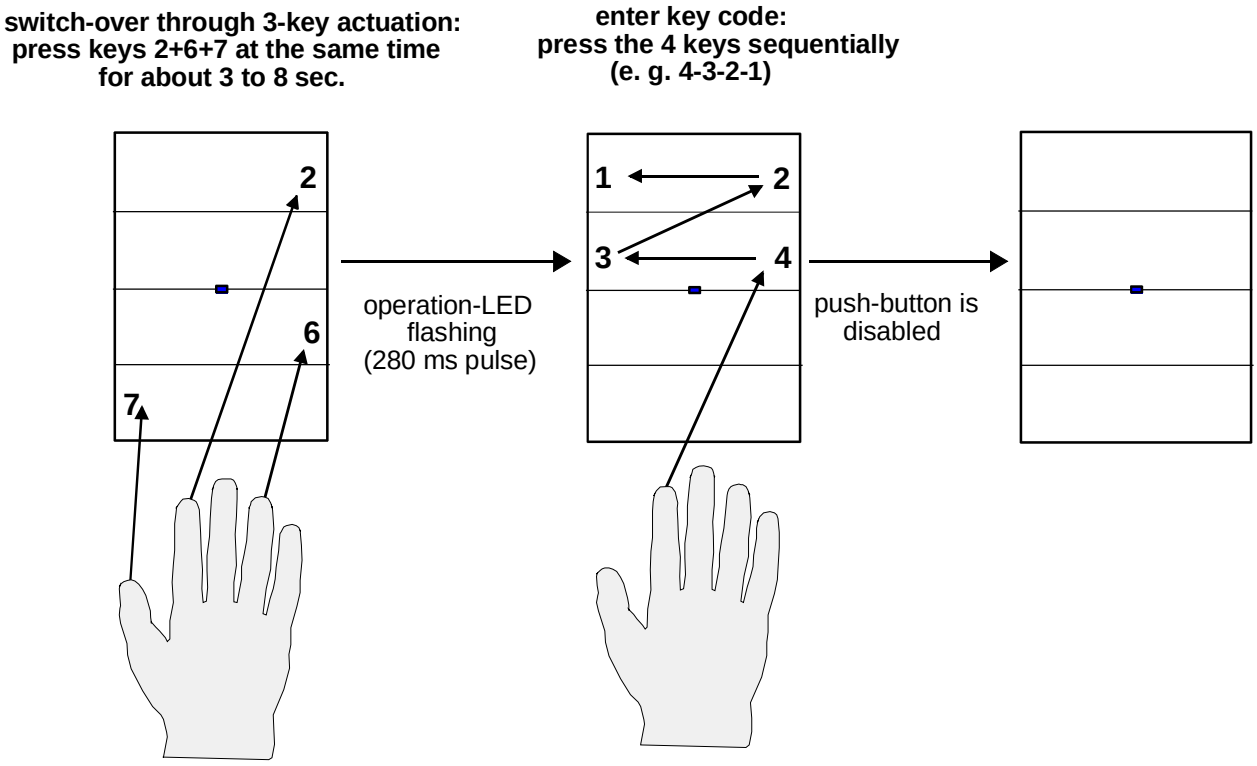


Remarks:

- The function of the operation LED (green) for an active operating level 1 is parameterized on parameter card "General", whereas the function of the operation LED for an active operating level 2 is parameterized on parameter card "Operating level".
- If the "Switch-over" parameter is set to "Switch-over to level 2 for a time interval", the push-button comfort switches back automatically to operating level 1 after the preset time.

Push-button-lock by code

This function requires that local disabling of the push-button (4-gang only) has been enabled beforehand in the "Lock function?" parameter.
The push-buttons are locked by the so-called 3-push-button actuation (push-buttons 2+6+7) for about 3 s and by entry of the parameterized push-button code. A push-button (when locked) can be unlocked by means of the same push-button actuation and the current code. The following illustration shows the push-button-lock procedure.



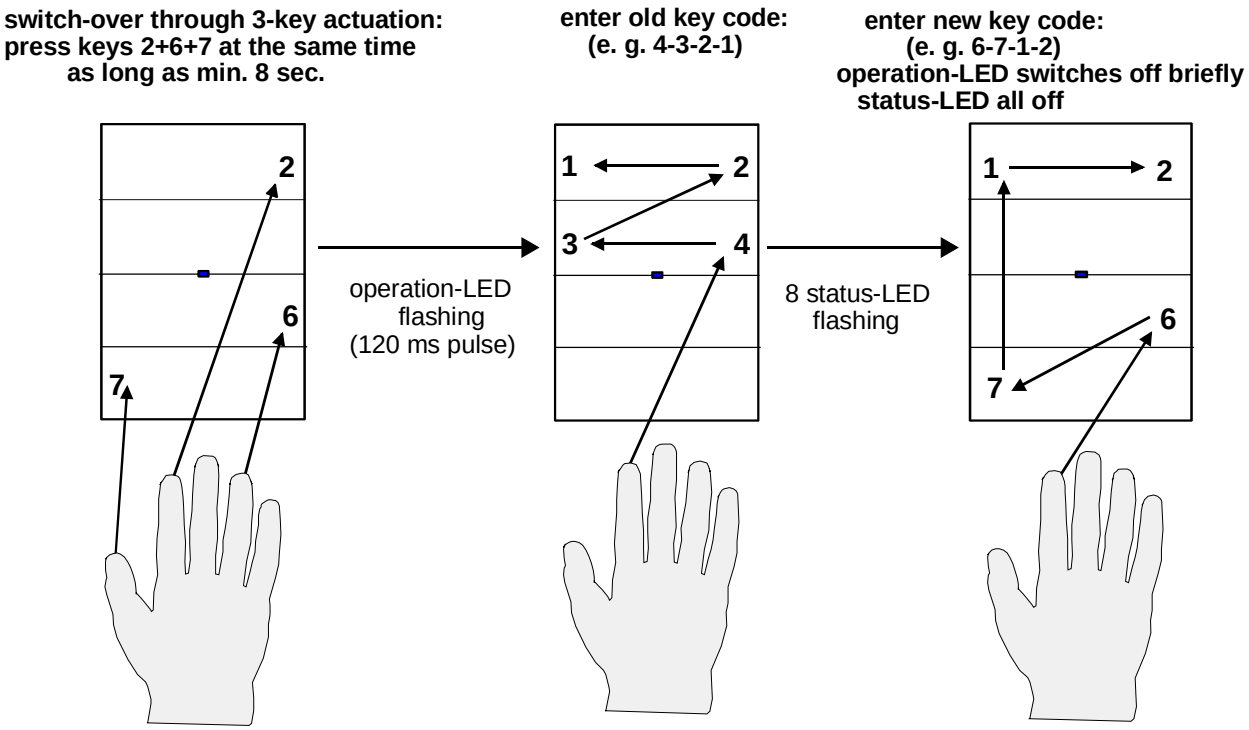
Remarks:

- The push-button lock function is available from operating level 1 and from operating level 2.
- The function of the operation LED with a locked push-button is parameterized on the "General" parameter card.

Changing the push-button code

The push-button code is parameterized in the ETS and can be changed in the push-button comfort 4-gang by local manual operation.
Push-button code change by local operation of the push-button must have been enabled beforehand in the ETS in the "Local adjustmet of push-button code" parameter.
The push-button code is changed by means of the so-called "3-push-button actuation, i.e. pressing 2+6+7 for at least 8 s followed by the entry of the old push-button code. This is confirmed by all 8 status LEDs flashing at the same time. The new code can be entered thereafter.

The following illustration shows how to change the push-button code:



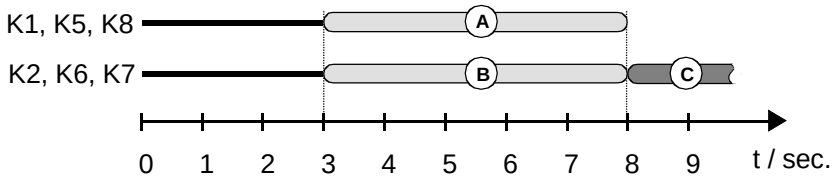
Remark:

- A push-button code change can be made in operating level 1, in operating level 2 and when the complete push-button is locked.

Operating combinations overview

The 4 operating combinations and the pertaining 3-push-button actuations and push-button-press durations are summarized in the table below and in the timing diagram:

Function	3-push-button actuation	1st entry	2nd entry
Operating level switch-over	press push-buttons 1+5+8 for 3 s (A)	enter push-button code	
Push-button lock	press push-buttons 2+6+7 for 3 s (B)	enter push-button code	
Push-button code adjustment	press push-buttons 2+6+7 for 8 s (C)	enter old code	enter new code

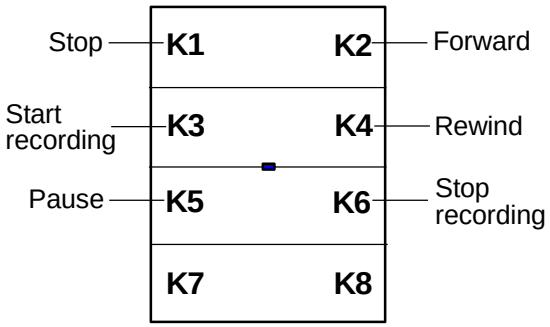


"Control" function

The "Control" communication object is coded as follows:

Command	Binary	Hexadecimal	Decimal
Stop	00000000	0	0
Pause	00000010	2	2
Play	00000100	4	4
Record	00001000	8	8
Forward	00001001	9	9
Rewind	00001010	A	10

Configuration example of push-button comfort 4-gang for controlling an external memory device (e.g. chip card):



"Forced guidance" function

By means of the 2-bit forced-switching object, it is possible, for instance, to force the switching channel of a switching actuator independent of the switching object into a certain switching position.

The 2-bit telegram controls the states shown in the table below:

Bit 1	Bit 0	Forced guidance	Actuator state
0	0	OFF	Value of switching object
0	1	OFF	Value of switching object
1	0	ON	OFF
1	1	ON	ON

Bit 1 of the forced guidance object enables forced guidance and bit 0 determines the switching state the actuator is to adopt. When forced guidance is inactive (bit 1 = 0), bit 0 is irrelevant and the switching channel is controlled by the switching object of the actuator.

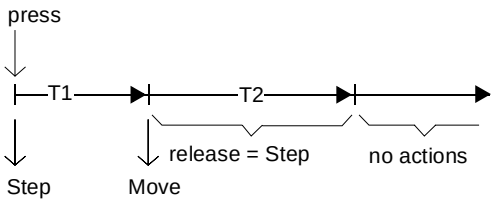
Parameters		
Description:	**Values:**	**Remarks:**
General		
Function of operation LED	**ON** OFF	The blue operation LED is lit up in operating level 1 after arrival of supply voltage (ON) or always off (OFF).
Light duration of status LED at operating indication	**0.75 s** 2.25 s 3 s	Light duration of status LED for confirmation of push-button-press. Only active in conjunction with "Function of status LED = push-button-press confirmation".
Operating levels (HA)	**one** two	Number of usable operating levels.
Lock function? (HA)	**NO** YES	The push-button can be disabled by of 3-push-button actaution so that none of the push-buttons will trigger an action. With Push-button comfort 4-gang only.
Function of operation LED at lock function (HA)	Permanently OFF Permanently ON **Flashing**	When the light-scene push-button is disabled, the operation LED is permanently OFF, permanently ON or in a flashing mode (1.6 s clock). With Push-button comfort 4-gang only.
Push-button 1		
Function of status LED	LED permanently OFF	The status LED is permanently OFF.
	LED permanently ON	The status LED is permanently ON.
	Status indication default for control	The status LED is ON after successful transmission or reception of an ON telegram and switches off after successful transmission or reception of an OFF telegram.
	Inverted status indication	(inverted: opposite behaviour).
	Operation indication default for switching / toggling, dimming, blind/shutter, value transmitter, light-scene extension, forced guidance	The status LED is on after successful transmission or reception of an ON / OFF telegram for the time specified under "Light duration of status LED at operation indication".
Flashing LED at (inverted) status indication?	**NO**	Status indication: status LED permanently on .
	YES	Status indication: status LED flashing
Function	No function **Switching / toggle** Dimming Blind / shutter Value transmitter / light-scene extension Forced guidance Control	Function selection for the push-button.

Push-button 1: "Switching / Toggling" function parameterized		
Command at pressing the push button	No function	No telegram triggered.
	ON	ON telegram triggered.
	OFF	OFF telegram triggered.
	TOGGLE	The internally stored switching state is reverted. If the state stored is ON (OFF), an OFF (ON) telegram is triggered.
Command at releasing the push button	No function	No telegram triggered.
	ON	ON telegram triggered.
	OFF	OFF telegram triggered.
	TOGGLE	The internally stored switching state is reverted. If the state stored is ON (OFF), an OFF (ON) telegram is triggered.
Cyclical transmission (HA)	**No cyclical transmission**	Cyclical transmission is inactive.
	Transmit at ON Transmit at OFF Transmit at ON and OFF	Cyclical transmission is active only after an ON, an OFF or after an ON and an OFF telegram.
Cyclical transmission, base (1...255) x 5 sec (HA)	1...255; **1**	Defines the base of the cyclical transmit time. Cyclical transmit time = base •· 5 s • factor
Cyclical transmission, factor (1...255) (HA)	1...255; **1**	Defines the factor of the cyclical transmit time. Cyclical transmit time = base •· 5 s • factor
Start of cyclical transmission via switching object? (HA)	YES **NO**	Cyclical transmission can additionally be started via the switching object.
Stop cyclical transmission via switching object? (HA)	YES **NO**	Cyclical transmission can additionally be terminated via the switching object (only available with "Transmission when ON" or "Transmission when OFF").

Push-button 1: "Dimming" function parameterized		
Function of push-button	Operation with two buttons: brighter (ON)	A short push-button-press triggers an ON telegram, a long push-button-press triggers a dimming telegram (brighter).
	Operation with two buttons: darker (OFF)	A short push-button-press triggers an OFF telegram, a long push-button-press triggers a dimming telegram (darker).
	Operation with one button: brighter/darker (TOGGLE)	The internally stored is reverted with a short push-button-press. If the the stored state is ON (OFF), an OFF (ON) telegram is triggered. After a long push-button-press, a "darker" telegram is transmitted after a "brighter" telegram and vice versa.

Time between switching and dimming base (HA)	**130 ms** 260 ms 520 ms 1 s		Time after which the long push-button-press function (dimming) is executed. Time = base • factor
Time between switching and dimming factor (2…127) (HA)	2...127; **3**		Time after which the long push-button-press function (dimming) is executed. Default: 130 ms • 3 = 390 ms
Dimmming brighter by (HA)	**100 %** 50 % 25 % 12.5 %	6 % 3 % 1.5 %	With a dimming telegram, the brightness can be increased by x % max.
Dimming darker by (HA)	**100 %** 50 % 25 % 12.5 %	6 % 3 % 1.5 %	With a dimming telegram, the brightness can be reduced by x % max.
Telegram repetition (HA)	YES **NO**		Cyclical telegram repetition during push-button-press.
Time between two telegrams (HA)	**200 ms** 300 ms 400 ms 500 ms	750 ms 1 s 1.5 s 2 s	Time between two telegrams when telegram repetition is active. A new dimming telegram is triggered after this period.
Send stop telegram ? (HA)	**YES** NO		On release of the push-button a stop telegram is transmitted or not.

Push-button 1: "Blind/shutter control function" parameterized		
Function of push button	**UP** default: push-buttons 1, 3, 5, 7 **DOWN** default: push-buttons 2, 4, 6, 8 TOGGLE	A short push-button-press triggers a STEP telegram (UP), a long push-button-press triggers a MOVE telegram (UP). A short push-button-press triggers a STEP telegram (DOWN), a long push-button-press triggers a MOVE telegram (DOWN). With this setting, the internally stored moving direction is followed up via the bus and switched over after each long-time operation (MOVE). If a STEP telegram is transmitted by a short push-button-press, this STEP command always has the opposite direction of the last MOVE command. Several successive STEP telegrams always have the same direction.
Time between step and move operation base (HA)	**8 ms** 130 ms 2.1 s 33s	Time after which the long push-button-press function is executed (T1 see diagram below). Time = base •· factor
Time between step and move operation factor (HA)	0 ... 255; **46**	Time after which the long push-button-press function is executed (T1 see diagram below). Default: 8 ms • 46 = 368 ms

Time of lamella adjustment base (HA)	**8 ms** 130 ms 2.1 s 33s	Time during which a MOVE telegram for slat adjustment can be terminated by releasing the push-button (T2 see diagram below). Time = base •· factor
Time of lamella adjustment factor (0…255) (HA)	0 ... 255; **20**	Time during which a MOVE telegram for lamella (slat) adjustment can be terminated by releasing the push-button (T2 see diagram below). Default: 130 ms • 20 = 2.6 s  T1 = time between Step and Move Pressing the push-button sends a STEP and starts time T1. If the push-button is released within T1, no further telegram will be transmitted. This STEP serves the purpose of stopping a continuous run. If the push-buttons is held depressed for longer than T1 a MOVE is transmitted automatically after the end of T1 and time T2 is started. If the push-button is then released again within T2, a STEP is transmitted. This function is used for slat adjustment (T2). T2 should correspond to the time needed for a slat rotation through 180°.

Push-button 1: "Value transmitter" parameterized		
Push button function	**Value transmitter 1 byte** Recall light scene with memory function Recall light scene without memory function Brightness value transmitter Temperature value transmitter Value transmitter 2 bytes	Selection of value transmitter function to be preset.
Value (0...255)	0...255; **0**	Setting of value to be transmitted with value transmitter 1 byte.
Light scene (1...8)	1...8; **1**	Setting of light scene to be transmitted with light scene recall with / without memory function.
Value (0...1500 lux)	0...1500 lux; **0 lux**	Setting of brightness value to be transmitted with brightness value transmitter
Value (0...40 °C)	0...40 °C; **0 °C**	Setting of temperature value to be transmitted with temperature value transmitter
Value (0...65535)	0...65535; **0**	Setting of value to be transmitted with value transmitter 2 bytes

Variation by means of a long push (HA)	**disabled** enabled	No adjustment with long push-button-press possible. If the push-button is held depressed for at least 5 s, the current value is cyclically (time between two telegrams) increased or reduced by the parameterized interval (see below) and transmitted. After releasing of the push-button, the value last transmitted remains stored. A new long push-button-press changes the direction of value adjustment (see also functional description).
Function of status LED at value adjustment	**Status indication** Flashing at status indication	The status LED is off if the value = 0 and otherwise on. The status LED flashes once per value change.
Time between two telegrams (HA)	0.5 s; **1 s**; 1.5 s; 2 s	Time between two value change telegrams.
Step width (1…10) (HA)	1...10; **1**	Interval by which the set value is reduced or increased with a long push-button-press and for parameterized 1-byte value transmitter.
Step width (HA)	1, 2, 5, 10, 20 50, 75, 100, 200, 500, 750, **1000**	Interval by which the set value is reduced or increased with a long push-button-press and for parameterized 2-byte value transmitter.

Push-button 1: "Forced guidance" function parameterized		
Command at pushing the push button	No function **Forced guidance ON and actuator OFF** Forced guidance ON and actuator ON Forced guidance ON and actuator OFF Tog: Forced guidance ON and actuator ON / forced g. OFF Tog: Forced guidance ON and actuator OFF / forced g. OFF	2-bit forced guidance command transmitted on pressing of push-button.
Command at releasing the push-button	No function **Forced guidance ON and actuator OFF** Forced guidance ON and actuator ON Forced guidance ON and actuator OFF Tog: Forced guidance ON and actuator ON / forced g. OFF Tog: Forced guidance ON and actuator OFF / forced g. OFF	2-bit forced guidance command transmitted on releasing of push-button.

Push-button 1: "Control" function parameterized		
Transmit at pressing the push button ?	**YES** NO	On press of push-button, a control command / no control command is transmitted (YES/ NO).
Command at pressing the push button	**Play** Record Forward Rewind Pause Stop	Defines the command transmitted on pressing of push-button.
Transmit at releasing the push button ?	YES **NO**	On release of push-button, a control command / no control command is transmitted (YES/ NO).
Command at releasing the push button	**Stop** Pause	Defines the command transmitted on releasing of push-button.
Push-button 2, Push-button 3, Push-button 4, Push-button 5, Push-button 6, Push-button 7, Push-button 8		
See push-button 1!		

Operating levels	(only if "Operating level = two"!) (HA)	
Function of all left side push buttons like push-button (1...8) (HA)	1...8; **1**	Defines the function of the upper row of push-buttons of the 2nd operating level. The function can be selected from among the push-button functions of the 1st operating level.
Function of all right side push buttons like push-button (1...8) (HA)	1...8; **2**	Defines the function of the lower row of push-buttons of the 2nd operating level. The function can be selected from among the push-button functions of the 1st operating level.
Behaviour of switch over (HA)	**No time behaviour**	Switching over from the 2nd operating level into the 1st operating level is not automatic.
	Switch-over to level 2 for a time interval	Switching over from the 2nd operating level into the 1st operating level is effected with a time function (time period).
Time interval base (HA)	300 ms, 500 ms **1 s**, 5 s 1 min, 5 min, 60 min	Time interval after which the 2nd operating level is switched back to the 1st operating level. Time = base •·factor Only if "Behaviour of switch-over = switch over to 2nd op. level for a time interval"!
Time interval factor (3...255) (HA)	3...255; **3**	Time interval after which the 2nd operating level is switched back to the 1st operating level. Default: 1 s • 3 = 3s Only if " Behaviour of switch-over = switch over to 2nd op. level for a time interval"!

Switch over to operating level (HA)	**Manually** Via object Via object and manually	Operating level switched over manually by means of 3-push-button actuation and push-button code. Operating level switched over by means of object 16 "Operating level". Operating lebel can be switched manually and via the operating level object. With B.IQ 1-, 2- and 3-gang push-button comfort, operating level switch-over can be effected via the object only.
Value for operating levels (HA)	**0 = operating level 1** **1 = operating level 2** 1 = operating level 1, 0 = operating level 2	Defines the polarity of object 16 "Operating level" for operating level switch-over.

Push-button code	(only with Push-button comfort 4-gang!) (HA)		
1st push-button (HA)	**Push-button 1** Push-button 2 Push-button 3 Push-button 4	Push-button 5 Push-button 6 Push-button 7 Push-button 8	Defines the 1st push-button of the push-button code. The push-button code is used for operating level switch-over and for activation of the push-button disable function.
2nd push-button (HA)	Push-button 1 **Push-button 2** Push-button 3 Push-button 4	Push-button 5 Push-button 6 Push-button 7 Push-button 8	Defines the 2nd push-button of the push-button code. The push-button code is used for operating level switch-over and for activation of the push-button disable function.
3rd push-button (HA)	Push-button 1 Push-button 2 **Push-button 3** Push-button 4	Push-button 5 Push-button 6 Push-button 7 Push-button 8	Defines the 3rd push-button of the push-button code. The push-button code is used for operating level switch-over and for activation of the push-button disable function..
4th push-button (HA)	Push-button 1 Push-button 2 Push-button 3 **Push-button 4**	Push-button 5 Push-button 6 Push-button 7 Push-button 8	Defines the 4th push-button of the push-button code. The push-button code is used for operating level switch-over and for activation of the push-button disable function.
Local adjustment of the push button code (HA)	**disabled** enabled		Local change of push-button code not possible. Push-button code can be changed locally by 3-push-button actuation (see functional description).

Alarm (HA)		
Alarm function? (HA)	YES **NO**	If the alarm function is active, a telegram is transmitted via object 17 "User module" whenever the push-button is being removed from the flush-mounted bus coupler.
Data format of alarm telegram (HA)	**1 bit** 1 byte	Defines the data format of the alarm object.
Value in case of alarm (HA)	**ON telegram** OFF telegram	In the event of an alarm, a switching telegram is transmitted. Only with "Data format for alarm = 1 bit"
Value in case of alarm (1...255) (HA)	1 to 255, **1**	In the event of an alarm, a value telegram is transmitted. Only with "Data format for alarm = 1 byte"
Transmission delay of alarm telegram base (HA)	8 ms **130 ms** 2.1 s 33 s	On removal of the user module, the alarm telegram will be transmitted at the end of the transmit delay. Transmit delay = base • factor
Transmission delay of alarm telegram factor (1...255) (HA)	1 to 255, **3**	Definition of time factor for the transmit delay. Transmit delay = base • factor Preset: 130 ms • 3 = 390 ms

Software information

- For access to all parameters, parameter editing must be set to "High access"" (HA).

Switching function

- For operation with two buttons (double-push-button operation), the objects of combined push-buttons must be assigned the same group address.
- If the status LED is not parameterized for "permanently ON" or " permanently OFF", cyclical transmisson is indicated by the status LED flashing 4 times every 10 s. In between these intervals, the LED performs its parametrized functions.

Dimming function

- For correct functioning of the status LED during indication of status, the connected dimming actuator must return its status to the switching object (set T flag).
- For correct functioning of the operation with one button (single-push-button operation) (brighter /darker (TOGGLE)), the connected dimming actuator must also return its status to the switching object.
- During operation with one button (single-push-button operation), only the switching object will be followed up internally and externally. The dimming object (dimming direction) is followed up only internally so that the dimming direction is not toggled with each press of a push-button when extensions are used (2 or more push-buttons dimming one lamp).
- For operation with two buttons (double-push-button operation), the objects of combined push-buttons must be assigned the same group address.

Blind/shutter function

- For operation with two buttons (double-push-button operation), the step (short-time) objects and the move (long-time) objects of combined push-buttons must be assigned the same group address.

Bus voltage failure

- An active disable function and the current push-button code are not lost during bus voltage failure and recovery.
- Value transmitter function: In the event of value change by long push-button-press, the newly set values are saved only in the RAM, so that these values will be replaced after bus voltage failure or after a bus reset by the predefined values parameterized in the ETS.
- In the event of bus voltage failure, operating level 2 – if activated – will be set back to operating level 1.