# B.IQ push button 4gang, Flush-mounted (Up) 7516409x

Technical Documentation

B. Berker

The application module for pushing onto the flush-mounting bus coupling unit. Depending on the user software can trigger switch actuators, or dim actuators or shutter actuators, and can also be used as a value transmitter for transmitting brightness values, or for extension operations of the light scene push button.

Productmanagement
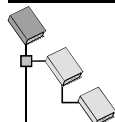
Gebr. Berker
☒ **Push button**
☒ **Push button 4gang**

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

Push button 4gang

Switching, status 102E03
Switching,ackn. 102F03
Dimming   102D03
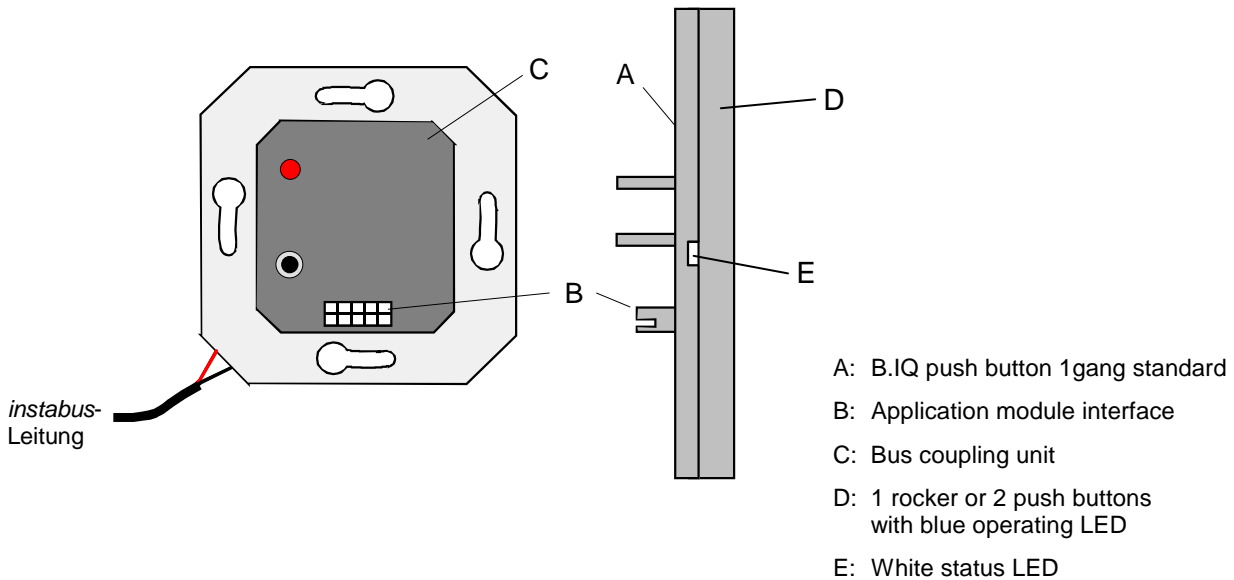Shutter   102C03
Value transm.   101D03

Order data

Design	Colour	Order no.
B.IQ	**polar white**	751640**99**
	stainless steel	751640**93**
	glass, polar white	751640**91**

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 coupling unit (BCU 1)
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:	Object values will be deleted, LED switches OFF
mains voltage only:	---
bus and mains voltage:	---
Response on return of voltage	
bus voltage only:	No reaction
mains voltage only:	---
bus and mains voltage:	---

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 1 / 9
Part 2

Connecting diagram:

instabus-Leitung

A: B.IQ push button 1gang standard

B: Application module interface

C: Bus coupling unit

D: 1 rocker or 2 push buttons
    with blue operating LED

E: White status LED

Application remarks:

The B.IQ push button 1gang standard may only be put on the bus coupling unit of the "new generation" with round programming push button (see picture bus coupling unit above)! If the push button is mounted on an older flush bus coupling unit there will be a failure!

The status LED (right or left) of a rocker is always controlled equally.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 2 / 9
Part 2

Application: Switching, acknowledge 102F03					
Mask version:		1.0			
No. of group addresses:		10	dynamic table handling		Yes ☒ No ☐
No. of associations:		10	maximum lenght of table		20
Communication objects:		4			

Object	Function	Name	Typ	Flags
🟨 0	Switching	Push buttons 1 and 2	1 Bit	C W T
🟨 1	Switching	Push buttons 3 and 4	1 Bit	C W T
🟨 2	Switching	Push buttons 5 and 6	1 Bit	C W T
🟨 3	Switching	Push buttons 7 and 8	1 Bit	C W T

Object description:

Objects:

🟨 0 - 3   Switching: When the push buttons are pressed a telegram corresponding to the parameters is generated.

Range of functions

- Function of operating LED and status LED programmable
- Command of push buttons after operation programmable (ON, OFF)

Parameter			
Description:	Values:		Remarks:
📂 **General**			
Function of operating LED	ON **OFF**		The device is connected to the system, the system voltage is available.
Function of status LEDs	ON **OFF**		Pressing the button sends a telegram to the bus. The devices combined in a group send an acknowledgement to the transmitting devices. The status LED display the successful transmission and acknowledgement status. This procedure applies to bot an "ON" command and to an "OFF" command. The statuses of other groups and transmissions from devices belonging to the same groups are not displayed.
Light duration of the status LEDs (push buttons 1…8)	0,75 s 1,5 s 2,25 s **2,7 s** 3,0 s	4,5 s 6,0 s 10 s 15 s 20 s	Light duration of status LED for confirmation of push-button-press. Only active in conjunction with "Function of status LED = Operating indication".
Command at operation the left push button	ON **OFF**		Defines the command, which will be transmitted after operation.
Command at operation the right push button	**ON** OFF		Defines the command, which will be transmitted after operation.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 3 / 9
Part 2

Application: Switching, status 102E03					
Mask version:		1.0			
No. of group addresses:		13	dynamic table handling	Yes ☒	No ☐
No. of associations:		13	maximum lenght of table	26	
Communication objects:		4			

Object		Function	Name	Typ	Flags
🔲↵	0	Switching	Push buttons 1 and 2	1 Bit	C W T
🔲↵	1	Switching	Push buttons 3 and 4	1 Bit	C W T
🔲↵	2	Switching	Push buttons 5 and 6	1 Bit	C W T
🔲↵	3	Switching	Push buttons 7 and 8	1 Bit	C W T

Object description:

Objects:

🔲↵ 0 - 2   Switching: When the push buttons are pressed a telegram corresponding to the parameters is generated. Successful transmission is signalled by the status LED lighting briefly.

Range of functions

- Function of operating LED and status LED programmable
- Command of push buttons after operation programmable (ON, OFF)

Parameter			
Description:		Values:	Remarks:
📁 General			
Function of operating LED		ON **OFF**	The device is connected to the system, the system voltage is available.
Function of status LEDs		ON **OFF**	Pressing the button sends a telegram to the bus. The devices combined in a group send an acknowledgement to the transmitting devices. The status LED display the successful transmission and acknowledgement status. This procedure applies to bot an "ON" command and to an "OFF" command. The statuses of other groups and transmissions from devices belonging to the same groups are not displayed.
Command at operation the left push button		ON **OFF**	Defines the command, which will be transmitted after operation.
Command at operation the right push button		**ON** OFF	Defines the command, which will be transmitted after operation.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 4 / 9
Part 2

Application: Dimming 102D03					
Mask version:		1.0			
No. of group addresses:		12	dynamic table handling	Yes ☒	No ☐
No. of associations:		12	maximum lenght of table	24	
Communication objects:		8			

Object		Function	Name	Typ	Flags
🔲	0	Switching	Push buttons 1 and 2	1 Bit	C W T
🔲	1	Switching	Push buttons 3 and 4	1 Bit	C W T
🔲	2	Switching	Push buttons 5 and 6	1 Bit	C W T
🔲	3	Switching	Push buttons 7 and 8	1 Bit	C W T
🔲	4	Dimming	Push buttons 1 and 2	4 Bit	C W T
🔲	5	Dimming	Push buttons 3 and 4	4 Bit	C W T
🔲	6	Dimming	Push buttons 5 and 6	4 Bit	C W T
🔲	7	Dimming	Push buttons 7 and 8	4 Bit	C W T

Object description:

Object control is carried out on the basis of the length of time the button is pressed:
Button pressed < 360 msec = telegrams sent through the switching object; button held for longer period = dimming command sent in accordance with parameter settings.

Objects:

🔲 0,2,4,6 Switching: When the push buttons are pressed a telegram corresponding to the parameters is generated. Successful transmission is signalled by the status LED lighting briefly.

🔲 1,3,5,7 Dimming: 4 Bit object to adjust via dim operation the brightness between 0 and 100%.

Range of functions

■ Function of operating LED and status LED programmable

■ Dim step width, telegram repetition and transmission of stop telegram possible

Parameter			
Description:	Values:		Remarks:
📁 **General**			
Function of operating LED	**YES** NO		The bus device is connected to the system and the system voltage is available.
Function of status LED	**YES** NO		The status LED is switched on when the appropriate button is pressed.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 5 / 9
Part 2

Application: Shutter 102C03					
Mask version:		1.0			
No. of group addresses:		12	dynamic table handling	Yes ☒	No ☐
No. of associations:		12	maximum lenght of table	24	
Communication objects:		8			

| Object		Function	Name	Typ	Flags
🔲↵	0	Step operation	Push buttons 1 and 2	1 Bit	C W T
🔲↵	1	Step operation	Push buttons 3 and 4	1 Bit	C W T
🔲↵	2	Step operation	Push buttons 5 and 6	1 Bit	C W T
🔲↵	3	Step operation	Push buttons 7 and 8	1 Bit	C W T
🔲↵	4	Move operation	Push buttons 1 and 2	1 Bit	C W T
🔲↵	5	Move operation	Push buttons 3 and 4	1 Bit	C W T
🔲↵	6	Move operation	Push buttons 5 and 6	1 Bit	C W T
🔲↵	7	Move operation	Push buttons 7 and 8	1 Bit	C W T

Object description:

Object control is carried out on the basis of the length of time the button is pressed:
Button pressed < 360 ms = telegrams sent through the step operation object; button held for longer period = move operation command sent in accordance with parameter settings. If you now press any button a telegram is sent through object 0 and stops the drive.

Objects:

🔲↵ 0,1,2,3   Step operation: 1 Bit object to stop and to adjust the lamella in steps.

🔲↵ 4,5,6,7   Move operation: 1 Bit object to move the shutter into the max. positions.

Parameter		
Description:	Values:	Remarks:
📁 **General**		
Function of operating LED	ON **OFF**	The device is connected to the system, the system voltage is available. The status LED is not active.
📁 **Push button 1 and 2**		
Time between two telegrams, base	approx. 0.5 ms; **8 ms**; 130 ms; 2.1 s; 33 s;	
Time between two telegrams, factor (0...255)	0..**46**..255	
📁 **Push button 3 and 4**		
Time between two telegrams, base	approx. 0.5 ms; **8 ms**; 130 ms; 2.1 s; 33 s;	
Time between two telegrams, factor (0...255)	0..**46**..255	
📁 **Push button 5 and 6**		
Time between two telegrams, base	approx. 0.5 ms; **8 ms**; 130 ms; 2.1 s; 33 s;	
Time between two telegrams, factor (0...255)	0..**46**..255	

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 6 / 9
Part 2

| 🗀 **Push button 7 and 8**	
Time between two telegrams, base	approx. 0.5 ms; **8 ms**; 130 ms; 2.1 s; 33 s;
Time between two telegrams, factor (0...255)	0..**46**..255

Parameter description

Number of steps before move operation: **The overall function of the shutter control function differentiates between a "step" command (step = inching) and a "move" command (move = maintained operations). The two 1 bit switching telegrams are triggered separately in dependence on the operating time (time between step and duration = time between inching and maintained operations):**
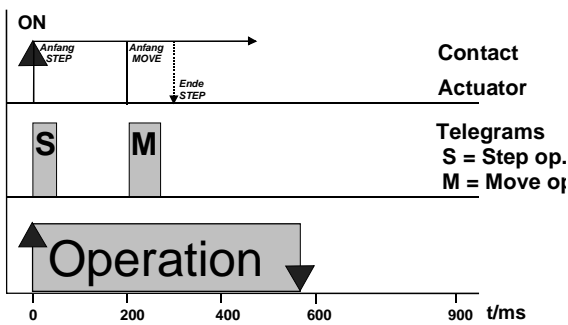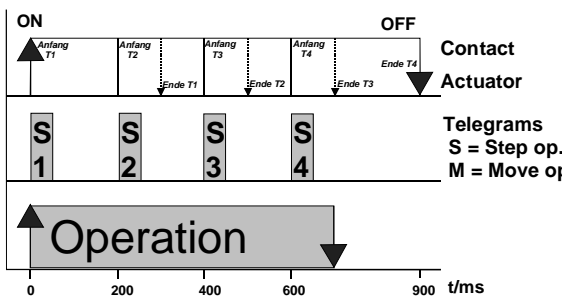

Function sequences **shutter control function** with the parameter settings:
Number of steps before move operation: **1**
Time between two commands: **200 msec**
Step operation setting of actuator: **300 msec**
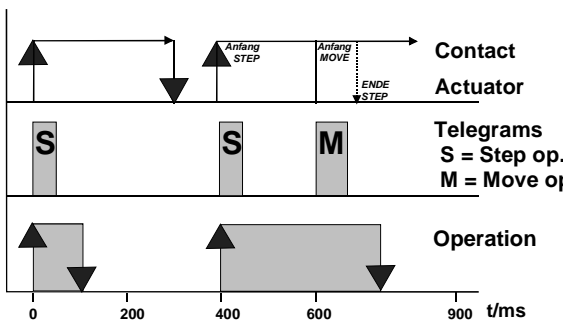
Function sequences **shutter control function** with the parameter settings:
Number of steps before move operation: **1**
Time between two commands: **200 msec**
Step operation setting of actuator: **300 msec**

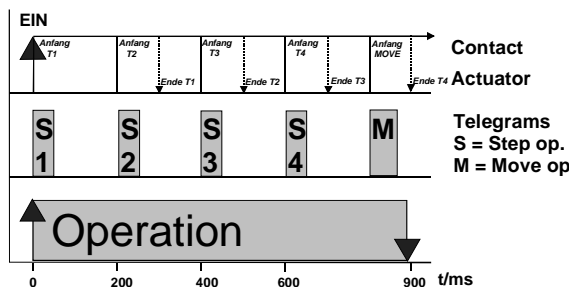Function sequences **shutter control function** with the parameter settings:
Number of steps before move operation: **4**
Time between two commands: **200 msec**
Step operation setting of actuator: **300 msec**

Number of steps before move operation: Depending on the time the button is pressed several step commands can be triggered consecutively to extend the overall time for the inching mode (application: e.g. sunshades). Each start of operations first of all triggers a step command that starts the actuators' step operation function. A second step command resets this time function to the original setting, so that the complete actuator time function only takes effect with the final step command. This procedure should be taken into account when you define the inching mode.
Time between inching and continuous operations = Time between two telegrams

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 7 / 9
Part 2

If the button is held after all step commands have been sent a continuous command (move) is sent to the bus in accordance with the set time (factor x base) that controls the actuators into the continuous mode.

Non-jerking operation: To achieve a smooth transition from step to move operations set the time limit in the sensors slightly **less** than the step operation time for the actuators!

Stopping move operations: Press **any button** to interrupt continuous operations. **Precondition for this is the allocation of the step operation object.**

Application: Value transmitter 101D03				
Mask version:	1.0			
No. of group addresses:	1	dynamic table handling		Yes ☒　No ☐
No. of associations:	1	maximum lenght of table		2
Communication objects:	1			

Object	Function	Name	Typ	Flags
⬜↵　0	Value / Light scene	Push buttons	1 Bit	C W T

Object description:

When the push buttons are pressed an 8-bit telegram corresponding to the parameters is generated.

Objects:

⬜↵　　0　　Value/light scene:　　8 Bit object to transmit brightness values or recall or store light scenes.

Parameter		
Description:	**Values:**	**Remarks:**
📂 **General**		
Function of operating LED	OFF **ON**	Defines the function of the operating LED.
Function of status LEDs	OFF **ON**	Defines the function of the status LED.
Operating mode	Value transmitter **Call light scenes without memory funct.** Call light scenes with memory funct.	Defines the function of the push buttons.
📂 **Push buttons 1 and 2 at operating mode "Value transmitter"**		
Left push button value (0...255)	0 bis 255; **1**	Defines the transmitted value at operation the left push button.
Right push button value (0...255)	0 bis 255; **2**	Defines the transmitted value at operation the right push button.
📂 **Push buttons 1 and 2 at operating mode "Recall light scene with/without memory function"**		
Left push button Light scene (0...255)	1 bis 8; **1**	Defines the transmitted light scene at operation the left push button.
Right push button Light scene (0...255)	1 bis 8; **2**	Defines the transmitted light scene at operation the right push button.
📂 **Push buttons 3 and 4 at operating mode "Value transmitter"**		

Left push button value (0...255)	0 bis 255; **1**	Defines the transmitted value at operation the left push button.
Right push button value (0...255)	0 bis 255; **2**	Defines the transmitted value at operation the right push button.
📁 **Push buttons 3 and 4 at operating mode "Recall light scene with/without memory function"**		
Left push button Light scene (0...255)	1 bis 8; **1**	Defines the transmitted light scene at operation the left push button.
Right push button Light scene (0...255)	1 bis 8; **2**	Defines the transmitted light scene at operation the right push button.
📁 **Push buttons 5 and 6 at operating mode "Value transmitter"**		
Left push button value (0...255)	0 bis 255; **1**	Defines the transmitted value at operation the left push button.
Right push button value (0...255)	0 bis 255; **2**	Defines the transmitted value at operation the right push button.
📁 **Push buttons 5 and 6 at operating mode "Recall light scene with/without memory function"**		
Left push button Light scene (0...255)	1 bis 8; **1**	Defines the transmitted light scene at operation the left push button.
Right push button Light scene (0...255)	1 bis 8; **2**	Defines the transmitted light scene at operation the right push button.
📁 **Push buttons 7 and 8 at operating mode "Value transmitter"**		
Left push button value (0...255)	0 bis 255; **1**	Defines the transmitted value at operation the left push button.
Right push button value (0...255)	0 bis 255; **2**	Defines the transmitted value at operation the right push button.
📁 **Push buttons 7 and 8 at operating mode "Recall light scene with/without memory function"**		
Left push button Light scene (0...255)	1 bis 8; **1**	Defines the transmitted light scene at operation the left push button.
Right push button Light scene (0...255)	1 bis 8; **2**	Defines the transmitted light scene at operation the right push button.

Function of the status LED: If a value (light scene, dimming value) is sent when a switch is pressed, the LED confirms the process by lighting for one second.

Operating mode value transmitter: The value transmitter function of the push button 1gang can be referred to as a 2gang touch dimmer with fixed value memory. The operating button can be assigned two different values. If either the left or the right push button is pressed, this generates a telegram with an 8-bit value field.

Dim actuators, for example, can receive and evaluate this telegram because of the connection with the object *Dimming value*. Depending on the setting in the actuator, the lighting is made brighter or is dimmed darker. The complete dimming range (100%) is divided into 255 steps. An increase by one step results in about 0.4% more brightness. If the value transmitted is 0, this generates a switching off process.

Operating mode Call light scenes with memory funct: This mode enables the extension operation of a light scene push button. **This mode is only practical in combination with a light scene push button.**

When the left/right push button is pressed, a telegram with group address and a light scene identifier with telegram function ("set") is sent. The light scene push button **(object extension mode)** that is connected to the same group address receives the telegram and transmits the brightness/switching values that are stored under the identifier for the light scene to the actuators (object output light scene push button).

The mode allows a light scene to be stored/altered through the extension mode. If the left/right button is held longer than 5 seconds, a telegram with group address, the preselectable identifier of the light scene and telegram function ("save") is sent. The light scene push button (object extension mode) that is connected to the same group address receives the telegram and transmits the request for transmission of the current switching or brightness status to the actuators. The actuators transmit the values that are stored in the light scene push button.

Operating mode Call light scene without memory function: This mode does **not** allow a light scene to be saved/altered. This application is practical, or example, for preventing unwanted saving (e.g. hotel receptions, speaker's desk in lecture rooms).

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516409x.doc

Page: 9 / 9
Part 2