B.IQ push button 1gang, Flush-mounted (Up)
7516109x

The application module for pushing onto the flush-mounting bus coupling unit/flush-mounting mains coupling unit and the bus coupling unit and actuator modules of the flush-mounting concept. 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.

Supply *instabus* **EIB**
Terminal:

via BCU 1 (24V; +6V/-4V) from internal 5V supply
to BCU 2 x 5-pole AS

Productmanagement
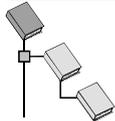
Gebr. Berker
⊠ Push button
⊠ Push button 1gang

Gebr. Berker
⊠ Push button
⊠ B.IQ

Push button 1gang

Dimming	100C03
Shutter	100D03
Switching/push.	103303
Value transm.	101B03
Switching,ackn.	100903

Order data

Design	Colour	Order no.
B.IQ	**polar white**	751610**99**
	stainless steel	751610**93**
	glass, polar white	751610**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
7516109x.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
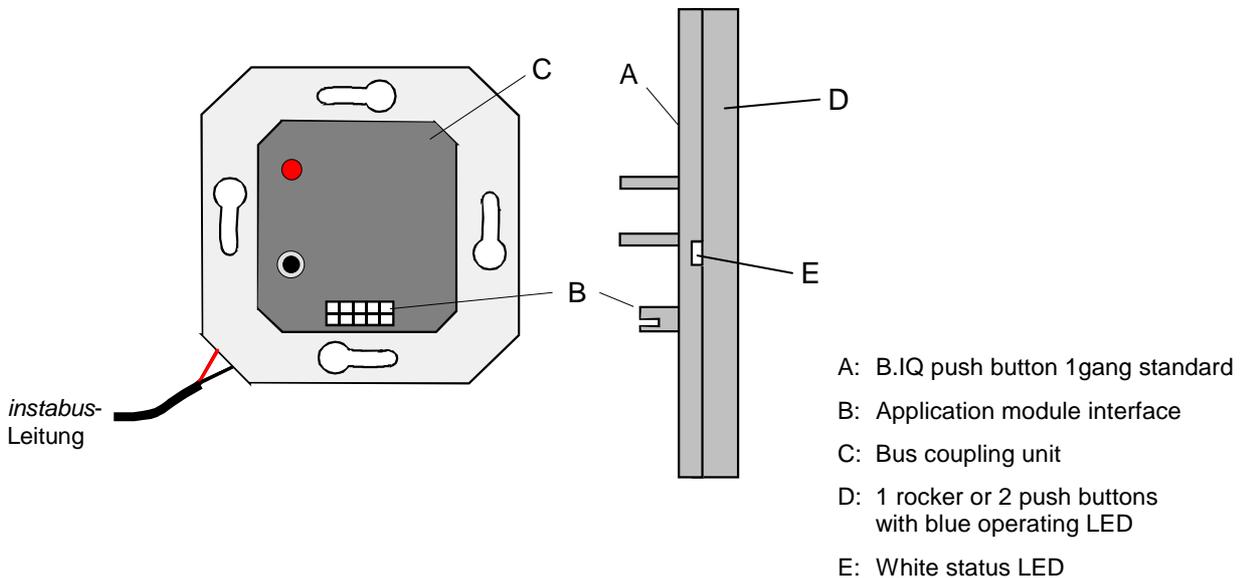
Application remarks:

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
7516109x.doc

Page: 2 / 9
Part 2

Application: Switching, acknowledge 100903					
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:	1				

Object	**Function**	**Name**	**Typ**	**Flags**
🔳 0	Switching	Push buttons	1 Bit	C W T

Object description:

Objects:

🔳 0   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 LED	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 LED at operation indication	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 left push button	ON **OFF**		Defines the command, which will be transmitted after operation.
Command at operation 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
7516109x.doc

Page: 3 / 9
Part 2

Application: Dimming 100C03					
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:		2			

Object	Function	Name	Typ	Flags
🔲↵ 0	Switching	Push buttons	1 Bit	C W T
🔲↵ 1	Dimming	Push buttons	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 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 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.
Dimming brighter by	**100 %** 50 % 26 % 12,5 %	6 % 3 % 1,5 %	Defines the max. dim range after pressing the push button longer.
Dimming darker by	**100 %** 50 % 26 % 12,5 %	6 % 3 % 1,5 %	Defines the max. dim range after pressing the push button longer.
Telegram repetition	**YES** NO		With the parameter setting „Yes" the dim telegram will be repeated cyclically.
Time between 2 telegrams, factor (0...255)	100 ms; 200 ms; 300 ms; **400 ms**; 500 ms 750 ms; 1,0 s; 1,5 s; 2,0 s		Defines the time between two dim telegrams.
Send a stop telegram ?	**YES** NO		With the parameter setting *"Stop telegram: yes"* releasing the button stops the dimming process by sending a stop telegram.

Parameter description

Basic function: The **basic setting: "100%, stop telegram Yes"** can be compared with the function of a conventional touch dimmer: If the dimmer is pressed briefly (<350 ms) an ON/OFF command is sent for the bus devices (dim and/or switch actuators) shown in the group address under "switching objects".
If the button is held, a dimming telegram is sent. The 4-bit information of the dimming telegram determines the direction of dimming and the range. When the button is released a stop telegram is sent in accordance with the

© Gebr.Berker 2004
(subject to prior change)
Act. version: 20.08.2004
7516109x.doc
Page: 4 / 9
Part 2

parameter settings.

Stop telegram: With the parameter setting *"Stop telegram: yes"* releasing the button stops the dimming process by sending a stop telegram. If the setting "**Send a stop telegram: NO**" was selected, after a dimming telegram is sent the light is switched to the max. brightness or dimmed to its min. brightness (with setting 100%). The actuator sets dimming speed.

Telegram repetition ?: For the basic setting described above, set the parameter **Telegram repetition: to NO**. The setting "YES" does not affect the function but increases the bus load by sending unnecessary telegrams and should only by used in the case of area dimming.

Area dimming: The function "Area dimming" is recommended in the case of line-overlapping dimming. Because of the memory function of the couplers, it is not possible to set the lamps evenly in touch dimming operations. However, if the dimming command directly transmits the areas to be set, the time difference for receiving the telegram at the actuators is irrelevant.

The complete dimming range (100%) is divided into ranges through the parameter **Dimming brighter/darker by** (example: 1/16). If a dimming telegram is generated, the actuator makes the brightness about 1/16 lighter or darker and, given the precondition **Send a stop telegram: NO** ends the process at the limit to the next range independently of whether you press the button again or not.

Telegram repetition ?/Time between two telegrams: If you selected the parameter settings **Telegram repetition: YES and Time between the telegrams: x** A new telegram is sent ("dim by 1/16") if you hold the button.

The parameter setting **Time between two telegrams** determines how long you have to hold the button after the last telegram is sent to send another telegram ("dim by 1/16").

Send a stop telegram: A " Stop" telegram is sent to the bus when the button is released. The dimming process can be stopped between two ranges if you set the parameter **Send a stop telegram: YES**. The otherwise constant division of the part ranges is displaced correspondingly.

Application: Shutter 100D03					
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:		2			

Object	**Function**	**Name**	**Typ**	**Flags**
🔲↵ 0	Step operation	Push buttons	1 Bit	C W T
🔲↵ 1	Move operation	Push buttons	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:

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

🔲↵ 3 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.
Number of steps before move operation (1...30)	**1**..10	
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
7516109x.doc

Page: 5 / 9
Part 2

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):**
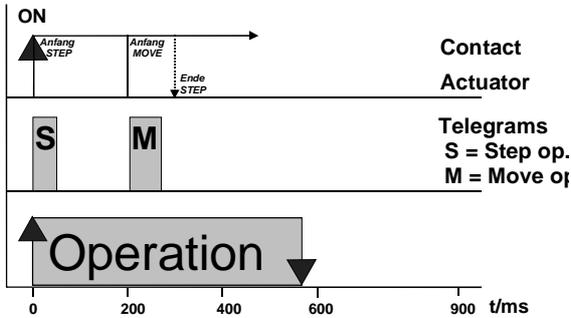

Function sequences **shutter control function** with the parameter settings:
Number of steps before move operation: **1**
Time between two commands: **200 msec**
Step operation setting of actuator: **300 msec**
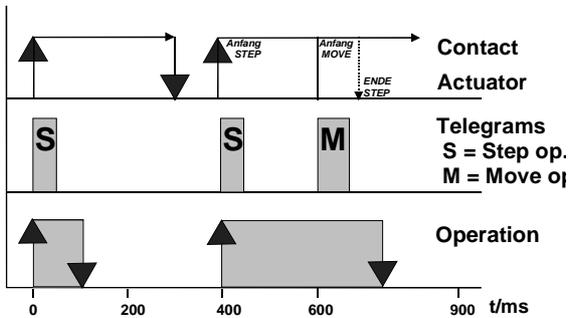
Function sequences **shutter control function** with the parameter settings:
Number of steps before move operation: **1**
Time between two commands: **200 msec**
Step operation setting of actuator: **300 msec**

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
7516109x.doc

Page: 6 / 9
Part 2

B.IQ push button 1gang, Flush-mounted (Up) 7516109x
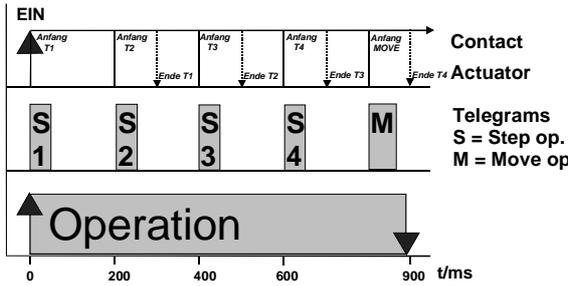
If the button is held after all step commands have been sent a continuous command (move) is sent to the bus in accordance with the set time (factor x base) that controls the actuators into the continuous mode.

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					
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 But 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 LED	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 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 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 operating LED: The device is connected to the system, the system voltage is available.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516109x.doc

Page: 7 / 9
Part 2

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).

Application: Switching/pushing 103303					
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:	3				
Object	**Function**		**Name**	**Typ**	**Flags**
0	Switching		Left push button	1 Bit	C W T
1	Switching		Right push button	1 Bit	C W T
1	Triggering LED		Status LED	1 Bit	C W T
Object description:					
The push button is divided into two separate objects. This means that each object can trigger different switching commands. The object for the status LED receives group telegrams and controls the LED in accordance with the telegram contents.					

Parameter		
Description:	**Values:**	**Remarks:**
📁 **General**		
Function of operating LED	OFF **ON**	Defines the function of the operating LED.
📁 **Push buttons**		
Function of status LED	**ON** LED permanently ON LED permanently OFF	Defines the function of the operating LED.

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516109x.doc

Page: 8 / 9
Part 2

Command at operation left push button	**push = ON; release= --- (left push button)** **push = OFF; release= --- (right push button)** push = TOG; release= --- push = ON; release= --- push = ---; release= ON push = ---; release= OFF push = ---; release= TOG push = ON; release= OFF push = OFF; release= ON push = ON; release= ON push = OFF; release= OFF push = ---; release= ---	The forms of operating (push, release) and the type of switching command (ON, OFF, TOG) enable flexible, cost-saving solutions for new installations and extensions. Application example: bell push button function, 2gang, e.g. for transmitting two independent call commands
Command at operation right push button	**push = ON; release= --- (left push button)** **push = OFF; release= --- (right push button)** push = TOG; release= --- push = ON; release= --- push = ---; release= ON push = ---; release= OFF push = ---; release= TOG push = ON; release= OFF push = OFF; release= ON push = ON; release= ON push = OFF; release= OFF push = ---; release= ---	The forms of operating (push, release) and the type of switching command (ON, OFF, TOG) enable flexible, cost-saving solutions for new installations and extensions. Application example: bell push button function, 2gang, e.g. for transmitting two independent call commands

Command at operating the left/right push button: The forms of operating (push, release) and the type of switching command (ON, OFF, TOG) enable flexible, cost-saving solutions for new installations and extensions. Application example: bell push button function, 2gang, e.g. for transmitting two independent call commands:

Command when left push button pushed:　　　　push = ON / release = OFF
Command when right push button pushed:　　　　push = ON / release = OFF

Application example: touch switch function 2gang, e.g. for the subsequent extension of a push button 1gang with a function without affecting the hardware:

Command when left push button pushed:　　　　push = TOG / release = ---
Command when right push button pushed:　　　　push = TOG / release = ---

Application example: combined function touch switch/push-button bell e.g. for opening a door with the possibility of switching on an indicator light from on operating point:

Command when left push button pushed:　　　　push = TOG / release = ---
　　　Command when right push button pushed:　　　　push = ON / release = OFF

© Gebr.Berker 2004
(subject to prior change)

Act. version: 20.08.2004
7516109x.doc

Page: 9 / 9
Part 2