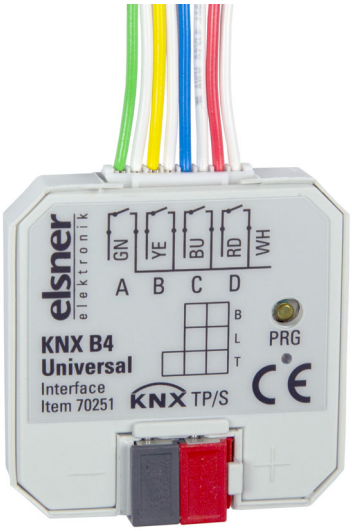
KNX B4 Universal
Interface

Item number 70251



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Installation and Adjustment

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This manual is amended periodically and will be brought into line with new software releases. The change status (software version and date) can be found in the contents footer. If you have a device with a later software version, please check **www.elsner-elektronik.de** in the menu area "Service" to find out whether a more up-to-date version of the manual is available.

Clarification of signs used in this manual

Safety advice.

Safety advice for working on electrical connections, components, etc.

DANGER! ... indicates an immediately hazardous situation which will lead to death or severe injuries if it is not avoided.

WARNING! ... indicates a potentially hazardous situation which may lead to death or severe injuries if it is not avoided.

CAUTION! ... indicates a potentially hazardous situation which may lead to trivial or minor injuries if it is not avoided.

ATTENTION! ... indicates a situation which may lead to damage to property if it is not avoided.

ETS In the ETS tables, the parameter default settings are marked by underlining.

1. Safety and usage instructions

Installation, testing, operational start-up and troubleshooting should only be performed by an authorised electrician.

CAUTION!
Live voltage!
There are unprotected live components inside the device.

- Inspect the device for damage before installation. Only put undamaged devices into operation.
- Comply with the locally applicable directives, regulations and provisions for electrical installation.
- Immediately take the device or system out of service and secure it against unintentional switch-on if risk-free operation is no longer guaranteed.

Use the device exclusively for building automation and observe the operating instructions. Improper use, modifications to the device or failure to observe the operating instructions will invalidate any warranty or guarantee claims.
Operate the device only as a fixed-site installation, i.e. only in assembled condition and after conclusion of all installation and operational start-up tasks, and only in the surroundings designated for it.
Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

For information on installation, maintenance, disposal, scope of delivery and technical data, please refer to the installation instructions.

2. Description

The **KNX B4 Universal Interface** is a 4-fold KNX binary input to sensor contacts and to control/switch/operate KNX devices via classical conventional switches and push buttons. The input module is suitable to process binary signals of potential-free contacts. Due to its small housing (diagonal of 50 mm) **KNX B4 Universal** finds enough room in a flush-mounted box (Ø 60 mm) behind the switch. The connecting cable pairs of 28 cm can be extended up to 10 m when twisted.

Designed for KNX-enabling of conventional switches and push buttons, **KNX B4 Universal** provides a 3.3 V sensing voltage for contact scanning. All usual input functions like switching, dimming, shutters, blinds control, counter and scenes can be used in a common way.

Due to its small housing with a diagonal of 50 mm, **KNX B4 Universal** finds enough room in a flush-mounted box (Ø 60 mm x 40 mm) behind the switch. The connecting cable pairs of 28 cm can be extended up to 10 m when twisted.

In this document, individually addressed telegrams are named Physical Telegrams.

In this document, group-oriented telegrams are named Group Telegrams.

Functions:

- 4-fold KNX binary input module suitable for potential-free contacts
- Contact scanning of window contacts, door contacts etc.
- KNX-enabling of classical conventional switches and push-buttons
- Small dimensions suitable for flush mounting
- Simple low-cost device
- Low current consumption
- Internal supply via KNX TP bus line
- Average input sensing voltage of 3.3 V
- NO or NC contact operation
- Detection of short and long button press
- Channels separately configurable
- Interlock function
- Large number of KNX input applications:
  Sun protection (one-button and two-button shutter)
  Dimming (one-button and two-button dimming)
  Switch (short/long button press)
  Scene (8-bit with/without saving function, 1-bit)
  Counter (8-bit, 16-bit, 32-bit)
  Send value (percent, angle, temperature, 2-bit, 8-bit, 16-bit)
- Push-button for programming the Individual Address
- Can be used with ETS 3.0d and higher

3. Commissioning

Configuration is made using the KNX software as of ETS 3.0d. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on **www.elsner-elektronik.de** in the "Service" menu. There you will also find the product manual.

3.1. Addressing of the device at the bus

The equipment is delivered with the individual address 15.15.255. This can be changed via the ETS. A button and a control LED are located on the unit for this purpose.

4. Operation

In network installations, **KNX B4 Universal** can be used as KNX binary input for potential-free contacts. After connecting to KNX TP, **KNX B4 Universal** operates with its default settings. Setting the correct Individual Address is necessary to include **KNX B4 Universal** in the present KNX bus system.

4.1. Binary Input Application

KNX B4 Universal provides four binary input channels for contact scanning. They can be used as single channels and pairwise combined for two-button functions. For all functions the contact type can be set (NO or NC) and a locking function ("Interlock") is available. Excluding the counter function also the differing between long and short button press can throughout be set.

Combining two channels (A/B or C/D) enables the two-button functions "Dimming" and "Shutter". In single channel mode, following functions can be assigned to a single channel:

- Switch (toggle, status, short/long)
- Scene (1-bit scene, 8-bit scene with and without long button press saving function)
- Counter (8-bit, 16-bit, 32-bit)
- Send value: Percent, Angle, Temperature, 2-bit, 8-bit, 16-bit
- One-button dimming
- One-button shutter

To reset an input channel´s counter, a telegram containing "0" or "1" must be received by the corresponding communication object "Counter reset".

4.2. Programming

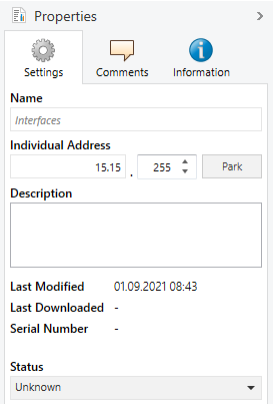
4.2.1. Programming of Individual Address and Application

To download Individual Address and/or ETS application the Programming Mode must be activated. Successive pressing the Programming Button will turn on and off Programming Mode. LED C lighting in red colour indicates Programming Mode is active.

To make a download and configure the device, an interface connection (IP, USB) to the KNX bus system is required. When Programming Mode is activated, the ETS is able to start the download.

The Individual Address can be assigned to the device by setting the desired address in the properties window of the ETS. After starting the ETS download and then pressing the Programming Button the device restarts itself.

Fig. 1: ETS Properties Window



5. Transfer protocol

5.1. List of all communication objects

Abbreviations:
R Read
W Write
C Communication
T Transmit
U Update
DPT Data Point Type

No.	Name	Function	Description	Lenght	DPT	Flags
0	Dimming on/off	Input A/B	This object is used to switch on/off a dimmable light source (two-button dimming).	1 bit	DPT1	CR-T-
0	Sun protec-tion up/ down	Input A/B	This object is used to move the shutter(s) up or down (two-button shutter).	1 bit	DPT1	CR-T-
0	Switch	Input A	This object is used to switch on/off, to toggle or to "send status".	1 bit	DPT1	CR-T-
0	Switch short	Input A	This object is used to switch on/off or to toggle on a short button press.	1 bit	DPT1	CR-T-
0	Counter reset	Input A	This object is used to reset the counter on receiving a telegram with "0" or "1".	2 bit, 1 byte, 2 bytes	DPT1	CR-T-
0	Send value	Input A	This object is used to send a predefined value on a short button press.	1 bit	DPT2, DPT5, DPT7, DPT9	C-W-U
0	Dimming on/off	Input A	This object is used to switch on/off a dimmable light source (one-button dimming).	1 bit	DPT1	CR-T-
0	Sun protec-tion up/ down	Input A	This object is used to move the shutter(s) up or down (one-button shutter).	1 bit	DPT1	CR-T-
1	Dimming	Input A/B	This object is used to dim brighter or darker (two-button dimming).	1 byte	DPT3	CR-T-

No.	Name	Function	Description	Lenght	DPT	Flags
1	Blinds open/ close	Input A/B	This object is used to close or open the blinds (two-button shutter).	1 bit	DPT1	CR-T-
1	Switch long	Input A	This object is used to switch on/off or to toggle on a long button press.	2 bytes	DPT1	CR-T-
1	Counter limit	Input A	This object is used to set the counter limit availability.	4 bytes	DPT1	CR-TU
1	Send value long	Input A	This object is used to send a predefined value on a long button press.	2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
1	Dimming	Input A	This object is used to dim brighter or darker (one-button dimming).	4 bytes	DPT3	CR-T-
1	Blinds open/ close	Input A	This object is used to stop movement and adjust the blinds (one-button shutter).	1 bit	DPT1	C-WTU
2	Scene	Input A	This object is used to recall or learn the configured 8-bit scene (1-64).	1 byte	DPT18	CR-T-
2	1-bit Scene	Input A	This object is used to recall or learn the configured 1-bit scene (1 or 2).	1 bit	DPT1	CR-T-
3	Counter	Input A	This object is used as counter (8-bit, 16-bit or 32-bit) for rising edge, falling edge or both edges.	1 byte, 2 bytes, 4 bytes	DPT5, DPT7, DPT12	CRWTU
4	Interlock	Input A/B	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	C-WTU
4	Interlock	Input A	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	C-WTU
5	Switch	Input B	This object is used to switch on/off, to toggle or to "send status".	1 bit	DPT1	CR-T-
5	Threshol d 1	Input B	This object is used to switch on/off or to toggle on a short button press.	1 bit	DPT1	CR-T-
5	Duration 2	Input B	This object is used to reset the counter on receiving a telegram with "0" or "1".	1 bit	DPT1	CR-T-

No.	Name	Function	Description	Lenght	DPT	Flags
5	Counter 2	Input B	This object is used to send a predefined value on a short button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
5	Threshol d 2	Input B	This object is used to switch on/off a dimmable light source (one-button dimming).	1 bit	DPT1	CR-T-
5	Duration 3	Input B	This object is used to move the shutter(s) up or down (one-button shutter).	1 bit	DPT1	CR-T-
6	Switch long	Input B	This object is used to switch on/off or to toggle on a long button press.	1 bit	DPT1	CR-T-
6	Counter limit	Input B	This object is used to set the counter limit availability.	1 bit	DPT1	CR-TW
6	Send value long	Input B	This object is used to send a predefined value on a long button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
6	Dimming	Input B	This object is used to dim brighter or darker (one-button dimming).	1 bit	DPT3	CR-T-
6	Blinds open/ close	Input B	This object is used to stop movement and adjust the blinds (one-button shutter).	4 bit	DPT1	CR-T-
7	Scene	Input B	This object is used to recall or learn the configured 8-bit scene (1-64).	1 byte	DPT18	CR-T-
7	1-bit Scene	Input B	This object is used to recall or learn the configured 1-bit scene (1 or 2).	1 bit	DPT1	CR-T-
8	Counter	Input B	This object is used as counter (8-bit, 16-bit or 32-bit) for rising edge, falling edge or both edges.	1 byte, 2 bytes, 4 bytes	DPT5, DPT7, DPT12	CRWTU
9	Interlock	Input B	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	C-WTU
10	Dimming on/off	Input C/D	This object is used to switch on/off a dimmable light source (two-button dimming).	1 bit	DPT1	CR-T-

No.	Name	Function	Description	Lenght	DPT	Flags
10	Sun protection up/down	Input C/D	This object is used to move the shutter(s) up or down (two-button shutter).	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
10	Switch	Input C	This object is used to switch on/off, to toggle or to "send status".	1 bit	DPT1	CR-T-
10	Switch short	Input C	This object is used to switch on/off or to toggle on a short button press.	1 bit	DPT1	CR-T-
10	Counter reset	Input C	This object is used to reset the counter on receiving a telegram with "0" or "1".	1 bit	DPT1	CR-T-
10	Send value	Input C	This object is used to send a predefined value on a short button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-TW
10	Dimming on/off	Input C	This object is used to switch on/off a dimmable light source (one-button dimming).	1 bit	DPT1	CR-T-
10	Sun protection up/down	Input C	This object is used to move the shutter(s) up or down (one-button shutter).	1 bit	DPT1	CR-T-
11	Dimming	Input C/D	This object is used to dim brighter or darker (two-button dimming).	4 bit	DPT3	CR-T-
11	Blinds open/close	Input C/D	This object is used to close or open the blinds (two-button shutter).	1 byte	DPT1	CR-T-
11	Switch long	Input C	This object is used to switch on/off or to toggle on a long button press.	1 bit	DPT1	CR-T-
11	Counter limit	Input C	This object is used to set the counter limit availability.	1 bit	DPT1	CRWTU
11	Send value long	Input C	This object is used to send a predefined value on a long button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
11	Dimming	Input C	This object is used to dim brighter or darker (one-button dimming).	4 bit	DPT3	CR-T-
11	Blinds open/close	Input C	This object is used to stop movement and adjust the blinds (one-button shutter).	1 bit	DPT1	CR-T-

No.	Name	Function	Description	Lenght	DPT	Flags
12	Scene	Input C	This object is used to recall or learn the configured 8-bit scene (1-64).	1 byte	DPT1	CR-T-
12	1-bit Scene	Input C	This object is used to recall or learn the configured 1-bit scene (1 or 2).	1 bit	DPT1	CR-T-
13	Counter	Input C	This object is used as counter (8-bit, 16-bit or 32-bit) for rising edge, falling edge or both edges.	1 byte, 2 bytes, 4 bytes	DPT5, DPT7, DPT12	CRWTU
14	Interlock	Input C/D	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	CR-TU
14	Interlock	Input C	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	CR-TU
15	Switch	Input D	This object is used to switch on/off, to toggle or to "send status".	1 bit	DPT1	CR-T-
15	Switch short	Input D	This object is used to switch on/off or to toggle on a short button press.	1 bit	DPT1	CR-T-
15	Counter reset	Input D	This object is used to reset the counter on receiving a telegram with "0" or "1".	1 bit	DPT1	C-W-U
15	Send value	Input D	This object is used to send a predefined value on a short button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-T-
15	Dimming on/off	Input D	This object is used to switch on/off a dimmable light source (one-button dimming).	1 bit	DPT1	CR-T-
15	Sun protec-tion up/ down	Input D	This object is used to move the shutter(s) up or down (one-button shutter).	1 bit	DPT1	CR-T-
16	Switch long	Input D	This object is used to switch on/off or to toggle on a long button press.	1 bit	DPT1	CR-T-
16	Counter limit	Input D	This object is used to set the counter limit availability.	1 bit	DPT1	CR-T-
16	Send value long	Input D	This object is used to send a predefined value on a long button press.	2 bit, 1 byte, 2 bytes	DPT2, DPT5, DPT7, DPT9	CR-TU

No.	Name	Function	Description	Lenght	DPT	Flags
16	Dimming	Input D	This object is used to dim brighter or darker (one-button dimming).	4 bit	DPT3	CR-T-
16	Scene	Input D	This object is used to stop movement and adjust the blinds (one-button shutter).	1 bit	DPT18	CR-T-
17	Counter limit	Input D	This object is used to recall or learn the configured 8-bit scene (1-64).	1 byte	DPT1	CR-T-
17	1-bit Scene	Input D	This object is used to recall or learn the configured 1-bit scene (1 or 2).	1 bit	DPT1	CR-TU
18	Counter	Input D	This object is used as counter (8-bit, 16-bit or 32-bit) for rising edge, falling edge or both edges.	1 byte, 2 bytes, 4 bytes	DPT5, DPT7, DPT12	CRWTU
19	Interlock	Input D	This object is used to lock/ unlock functioning on receiving the value 1.	1 bit	DPT1	C-WTU

6. ETS Database Parameters

The default settings of the parameter are labelled by an underscore.

6.1. General

The Input channels can be used as single channels and pairwise combined for functions "Dimming" and "Shutter".

Debounce time	10 ms • 30 ms • 60 ms • 120 ms
Setting the debouncing time prevents unwanted multiple operation of the inputs e.g. due to bouncing of the contact. It applies to all four channels.	
Function channels A/B	• not active • single channels • Dimming • Shutter
Configuration of input channels A/B.	
Function channels C/D	• not active • single channels • Dimming • Shutter
Configuration of input channels C/D.	

6.2. Channel A, B, C, D

When Inputs are used as single channels, following functions are available and described in this chapter.

Function	• inactive • Switch • Counter • Send value • One-button dimming • One-button shutter
Functions that can be set for each channel.	

6.2.1. Switch

Sub function	• switch on rising edge • toggle on rising edge • send status • switch on short/long button press
Defines the sub function on which the object value is changed.	
Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Value rising edge	off • on

The here defined value will be sent to the object on a rising edge; available for "switch on rising edge".	
Value falling edge	off • on
The here defined value will be sent to the object on a falling edge; available for "switch on rising edge" and "send status".	
Send cyclic	• disabled • if value = 1 • if value = 0 • toggle
If enabled, the parameterized object value will be sent cyclically; available for "send status".	
Cyclic sending [s]	1...3000; 10
Time interval for "Send cyclic".	
Value short press	• nothing • off • on • if contact is opened or closed
The here defined action is executed after a short button press; available for "switch on short/long button press".	
Value long press	• nothing • off • on • if contact is opened or closed
The here defined action is executed after a long button press; available for "switch on short/long button press".	
Long button press after	0.3...30.0 s; 2.0 s
Duration that the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent; available for "Switch short/long".	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.2.2. Scene

If the saving function is enabled, a long button press can be used to store an 8-bit scene. For 8-bit scenes there are 64 scene numbers available and for 1-bit scenes there are 2 scene numbers available.

Scene	• without saving function • saving function • 1-bit
Sets the saving option for an 8-bit scene or sets 1-bit scenes.	
Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	

Scene number	Scene 1…64
One of the 64 possible 8-bit scenes can be recalled; available for "without saving function" and "saving function".	
Value falling edge	off • on
The here defined value will be sent to the object on a falling edge; available for "switch on rising edge" and "send status".	
Value long press	• nothing • off • on • if contact is opened or closed
The here defined action is executed after a long button press; available for "switch on short/long button press".	
Long button press after	0.3...30.0 s; 2.0 s
Duration that the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent; available for "Switch short/long".	
Scene	Scene 1 • Scene 2
One of 2 possible 1-bit scenes can be recalled; available for "1-bit".	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.2.3. Counter

Count edge	• rising edge • falling edge • both edges
Defines on which edge(s) the counter is increasing.	
Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Counter type	8-bit • 16-bit • 32-bit
Counters to be set according to the application´s requirement.	
Counter limit active	no • yes
Must be set to "yes", when a counter limit is needed.	
Counter limit value	8-bit: 1…255; 5 16-bit: 1…65535; 100 32-bit: 1…65535; 250
Sets the counter limit value; available if "Counter limit active" is set to "yes".	
Sending difference	8-bit: 1…255; 50 16-bit: 1…65535; 200 32-bit: 1…2147483647; 500
Object is sent when the sending difference is reached.	
Write value via KNX	disabled • enabled

Must be enabled if a value shall be written to the counter via KNX.	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.2.4. Send value

Send value	• on rising edge • on both edges • on short/long button press • on long button press
Defines on which event(s) the object value is sent.	
Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Value type	• Percent • Angle • Temperature • 2-bit value (forced operation) • 8-bit value • 16-bit value
Sets the type of value.	
Value rising edge	Percent: 0 % ...100 % Angle: 0° • 5° • 10° ...360° Temperature (x 100/°C): -27300..32000; 0 2-bit: • ON, activate forced operation • OFF, activate forced operation • deactivate forced operation 8-bit: 0...255 16-bit: 0...65535
Sets value; available for "on rising edge" and "on both edges".	
Value falling edge	Percent: 0 % ...100 % Angle: 0° • 5° • 10° ...360° Temperature (x 100/°C): -27300..32000; 0 2-bit: • ON, activate forced operation • OFF, activate forced operation • deactivate forced operation 8-bit: 0...65535 16-bit: 0...65535
Sets value; available for "on both edges".	

Value short press	Percent: 0 % ...100 % Angle: 0° • 5° • 10° ...360° Temperature (x 100/°C): -27300..32000; 0 2-bit: • ON, activate forced operation • OFF, activate forced operation • deactivate forced operation 8-bit: 0...65535 16-bit: 0...65535
Sets value; available for "on short/long button press".	
Value long press	Percent: 0 % ...100 % Angle: 0° • 5° • 10° ...360° Temperature (x 100/°C): -27300..32000; 0 2-bit: • ON, activate forced operation • OFF, activate forced operation • deactivate forced operation 8-bit: 0...65535 16-bit: 0...65535
Sets value; available for "on short/ long button press" and "on long button press".	
Long button press after	0.3...30.0 s; 2.0 s
Time the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent; available for "on short/long button press" and "on long button press".	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.2.5. One-button dimming

A long button press affects the communication object "Dimming" which is responsible for the dimming process. A short keystroke button press affects the switching object "Dimming on/off". Dimming direction is toggled by every button press. The one-button dimming is a start stop dimming meaning a darker or brighter command is sent until the button is released. After releasing the button the dimming process stops.

Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Long button press after	0.3...30.0 s; 2.0 s
Time the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent.	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.2.6. One-button shutter

A long button press affects the communication object "Sun protection up/down" which is responsible for starting the up down movement of the shutter or blind. Movement direction is toggled by every button press. The one-button shutter is a start movement function meaning a move up or move down command is sent on activation. A short button press affects the switching object "Blinds open/close" for stopping the movement and/or adjusting the blinds.

Contact type	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Long button press after	0.3...30.0 s; 2.0 s
Time the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent.	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

6.3. Channels A/B, C/D

Combined input channels have one two-button function. Configuring the two-button functions "Dimming" and "Shutter" is only possible by use of combined channels. According to the setting in the "General" tab either two-button dimming or two-button shutter can be configured for a combined input. In contrast to the one-button functions, assignment of buttons can be made individually. For example, it is possible to configure one button will drive shutters up and the other one will drive them down.

6.3.1. Two-button dimming

Contact type - Channel A	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Contact type - Channel B	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Dimming function A/B	brighter/darker • darker/brighter
Defines the inputs for dimming up and dimming down. brighter/darker: • Input A dims up and switches to on. • Input B dims down and switches to off. darker/brighter: • Input A dims down and switches to off. • Input B dims up and switches to on.	
Long button press after	0.3...30.0 s; 2.0 s
Time the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent.	

Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

Channel C/D accordingly.

6.3.2. Two-button shutter

Contact type - Channel A	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Contact type - Channel B	normally open • normally closed
Defines the contact type at the input, NO or NC. If NO is selected, the input is logic high after the contact is closed.	
Shutter function A/B	up/down • down/up
Defines the inputs for moving the shutter up and for moving the shutter down. up/down: • Channel A moves the shutter up. • Channel B moves the shutter down. down/up: • Channel A moves the shutter down. • Channel B moves the shutter up.	
Long button press after	0.3...30.0 s; 2.0 s
Time the input needs to be logical high to start the long operation. If the input is logical high for a shorter time, only the command for short operation will be sent.	
Interlock	disabled • enabled
If Interlock is active, changes at the Input are not considered until the Interlock is deactivated again.	

Channel C/D accordingly.

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