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The push button interface is used for example for the connection of conventional switches or push buttons. It can be fitted together with a switch in a combined wall and joint box (60 mm Ø, 60 mm deep).

The floating contacts are connected via four core pairs (28 cm long). The prefabricated cables can be extended up to 5 m using twisted cables. The contact scanning voltage is supplied by the push button interface.

The push button interface can send e.g. switching, dimming, shutter control or 1 byte value telegrams to EIB actuators. Inputs A and B or C and D are combined for dimming and shutter control.

The bus connection is established via a bus connecting terminal.

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**Technical Data**

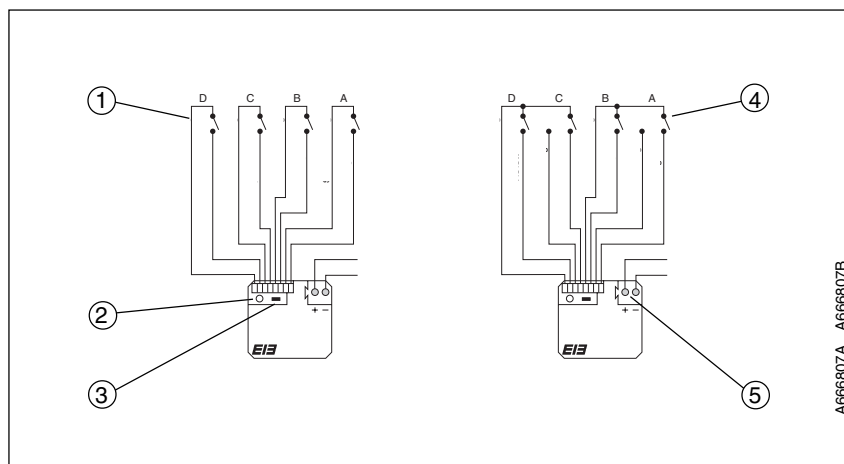
<b>Power supply</b>	– EIB	24 V DC, via the bus line
<b>Inputs</b>	– 4, for floating contacts	
	– Scanning voltage	20 V impulses
	– Scanning current	1 mA with closed contact
	– Cable length	280 mm, can be extended up to 5 m with twisted cables
	– Minimum signal duration	50 ms
	– Signal delay on rising edge	max. 35 ms
	– Signal delay on falling edge	max. 5 ms
<b>Operating and display elements</b>	– Red LED and push button	for assigning the physical address
<b>Connections</b>	– Push button / switch	Four core pairs with plug-in connection
	– EIB	Bus connecting terminal
<b>Type of protection</b>	– IP 20, EN 60 529 when inserted	
<b>Protection class</b>	– II	
<b>Ambient temperature range</b>	– Operation	- 5 °C ... 45 °C
	– Storage	-25 °C ... 55 °C
	– Transport	-25 °C ... 70 °C
<b>Housing, colour</b>	– Plastic housing, grey	
<b>Dimensions</b>	– 38 x 43 x 18 mm (H x W x D)	
<b>Weight</b>	– 0.05 kg	
<b>Certification</b>	– EIB-certified	
<b>CE norm</b>	– in accordance with the EMC guideline and the low voltage guideline	

Application programs	Number of communication objects	Max. number of group addresses	Max. number of associations
Switch Edge Dim Shutter Value Cyclic /2	8	20	20

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**Circuit diagram**



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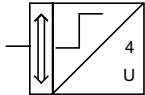
- 1** Connection for single contacts  
Input A: white, black/white  
Input B: orange, black/white  
Input C: pink, black/white  
Input D: purple, black/white
- 2** Programming button
- 3** Programming LED

- 4** Connection for contact pairs  
Input A: white, black/white  
Input B: orange, black/white  
Input C: pink, black/white  
Input D: purple, black/white
- 5** Bus terminal

**Note**

The black/white cores form a common reference potential, enabling serial or shutter switches to be connected. Cores that are not required must be insulated.

**Switch Edge Dim Shutter Value  
Cyclic /2**



**4 Selection in ETS2**

- ABB
  - └ Input
  - └ Binary input, 4-fold

The application program is specifically for use with isolated switches or push buttons. Depending on the setting, the four inputs can be used individually or as two pairs of inputs. Individual inputs can be used for switching, dimming or for sending values. Input pairs can be used for shutter control or for dimming.

It must be specified in the general parameters "Preselection of functions for input ..." whether the inputs are connected individually or as a pair. If the inputs are connected individually, the option "switching / one-touch dimming / 8 bit value" must be set while "dimming / shutter" should be selected when the inputs are connected in pairs.

The period for a long push button action and the debounce time are specified in the general parameters. The "Debounce time" determines how long a contact must be pressed in order for the device to accept the push button action as valid.

So that the bus is not put under load with too many unnecessary telegrams, it is possible to limit the number of telegrams that the devices can send in 17 s.

**Switch**

A 1 bit communication object is available for each input when the switch function is selected.

The parameter "Reaction on change at input" defines the current object value (see also "Edge").

The parameter "Sending condition on change at the input or on bus voltage recovery" specifies when and whether an object value is sent. Depending on the parameter setting, it is possible to send when the contact closes and/or opens. If the object value is not to be sent at all, the parameter should be set to "do not send".

If the sending condition of an object value has been met, it is also possible to specify whether the input sends its current value or not on bus voltage recovery. The current values are sent approx. 14 s after bus voltage recovery.

**Cyclic**

If the parameter "Cyclical sending" is activated, the object values can be sent cyclically. It is possible to send cyclically with an object value of "0" and/or "1". The total cyclic time is calculated with a base and a factor.  
*Cyclic time = Base \* Factor*

**Edge**

The value of the communication object after the closing and/or opening of the contact is defined separately for each input with the setting "Reaction on change at input". The reaction can be "ON", "OFF", "TOGGLE" or "none" depending on the parameterisation.

**Push button function**

With the "Function" parameter, it is possible to use an input both for switching on and off. A distinction is made between a long and a short push button action. It is therefore possible e.g. to switch on with a short push button action and switch off with a long push button action. Alternatively, it could be possible to switch on with a long push button action and switch off with a short push button action.

Depending on the contact type used, it is possible to set either a normally closed or a normally opened contact.

**One-touch dimming**

If the function type "one-touch dimming" is selected, a 1 bit communication object "Telegr. switch" and a 4 bit communication object "Telegr. dimming" is available for the input. After a short push button action, the switching object is toggled while dimming telegrams are triggered at the dimming object after long push button operations.

Whether the device dims up or down is dependent on the last dimming procedure. The dimming telegram that has been triggered always dims in the opposite direction to the last dimming telegram that was sent.

The contact type can be a normally closed or normally opened contact.

#### Dim

If two inputs are used as a pair for dimming, they can dim in two ways. With the setting “switch/dimming sensor” with stop telegram, the inputs operate with the start/stop dimming procedure i.e. a “Dim brighter” or “Dim darker” telegram is sent after a long push button action and a “Stop” telegram is triggered when the push button is released.

Alternatively, it is possible to dim with dimming steps. This means that telegrams are triggered for the duration of the dimming process. The individual telegrams contain the size of the dimming step i.e. the percentage for dimming brighter or darker. The size of the dimming step can be defined with the parameter ‘Long push button action - change by ...%’. The parameter “Telegram is repeated every” specifies how often this telegram is triggered.

With both dimming types, it is possible to set the contact type separately for each input. This can be a normally closed or normally opened contact.

The behaviour after a short or long push button action is fixed. If the input parameter “Input A/B” is set to “ON / OFF”, the first (third) input switches on with a short operation and the second (fourth) input switches off. If the parameter is set to “TOGGLE / TOGGLE”, each input is toggled. After a long push button action at the first (second) input, a dimming brighter process occurs while a long push button action at the second (fourth) input causes the device to dim darker. If “TOGGLE / TOGGLE” is selected, dimming is always carried out in the opposite direction to the last dimming process after a long push button action at any input.

#### Shutter

In the setting “shutter sensor”, two 1 bit communication objects are available for each pair of inputs. An object sends “Adjust lamella / stop” telegrams after a short push button action and “Move shutter up/down” telegrams after a long push button action.

It is specified that input A (C) is used for raising the shutter and input B (D) for lowering the shutter.

#### Value

If the 8 bit value function is set, values between 0 and 255 can be sent to a 1 byte communication object. One value is sent if the contact closes or two values are sent if the contact closes or opens.

**Communication objects**  
for switch inputs

No.	Type	Object name	Function
0	1 bit	Input A	Teleg. switch
2	1 bit	Input B	Teleg. switch
4	1 bit	Input C	Teleg. switch
6	1 bit	Input D	Teleg. switch

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**Communication objects**  
for one-touch dimming

No.	Type	Object name	Function
0	1 bit	Input A	Teleg. switch
1	4 bit	Input A	Teleg. dimming
2	1 bit	Input B	Teleg. switch
3	4 bit	Input B	Teleg. dimming
4	1 bit	Input C	Teleg. switch
5	4 bit	Input C	Teleg. dimming
6	1 bit	Input D	Teleg. switch
7	4 bit	Input D	Teleg. dimming

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**Communication objects**  
for value inputs

No.	Type	Object name	Function
0	1 byte	Input A	Teleg. value
2	1 byte	Input B	Teleg. value
4	1 byte	Input C	Teleg. value
6	1 byte	Input D	Teleg. value

**Communication objects**  
for dimming inputs

No.	Type	Object name	Function
0	1 bit	Input A / B	Teleg. switch
1	4 bit	Input A / B	Teleg. dimming
4	1 bit	Input C / D	Teleg. switch
5	4 bit	Input C / D	Teleg. dimming

**Communication objects**  
for shutter inputs

No.	Type	Object name	Function
0	1 bit	Input A / B	Teleg. lamella adj./stop
1	1 bit	Input A / B	Teleg. move shutter Up-Down
4	1 bit	Input C / D	Teleg. lamella adj./stop
5	1 bit	Input C / D	Teleg. move shutter Up-Down

**General parameters**

The default setting for the values is **printed in bold type**.

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**Parameters** for switch inputs, one-touch dimming or value inputs.

The default setting for the values is **printed in bold type**.

General:

– Preselection of functions for input A / B	<b>switching / one-touch dimming / 8 bit value</b> dimming / shutter
– Preselection of functions for input C / D	<b>switching / one-touch dimming / 8 bit value</b> dimming / shutter
– Push button action interpreted as long from	0.3 s / ... / <b>0.5 s</b> / ... / 7.0 s
– Debounce time	<b>10 ms</b> / 30 ms / 50 ms / 100 ms
– Limit number of telegrams	yes / <b>no</b>
Only if "yes" is selected:	
– Max. number of telegrams in 17 s	30 / 60 / 100 / <b>127</b>

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Only for switching, one-touch dimming and 8 bit value functions:

– Function	<b>switching</b> one-touch dimming 8 bit value (contact closes) 8 bit value (contact closes or opens) short/long push button action
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Only for switch function:

– Reaction on change at input	<b>contact closes: ON,</b> <b>contact opens: OFF</b> contact closes: OFF, contact opens: ON contact closes: ON contact opens: OFF contact closes: OFF contact opens: ON contact closes: TOGGLE contact opens: TOGGLE contact closes: TOGGLE, contact opens: TOGGLE none
– Sending condition on change at the input or on bus voltage recovery	send if contact is closed send if contact is opened <b>send if contact is opened or closed</b> do not send

Only if sending is selected:

– Send current object value on bus voltage recovery	<b>yes</b> no
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The object value depends on the reaction to the change at the input. When and whether a value is sent is dependent on the sending conditions.

– Cyclical sending	<b>no</b> for ON for OFF for ON and OFF
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Only if cyclical sending is selected:

– Time base	130 / ... / <b>8.4 s</b> / ... / 1.2 h
– Factor (5 ... 127)	<b>37</b>

**Parameters** for switch inputs, one-touch dimming or value inputs. The default setting for the values is **printed in bold type**.

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**Parameters** for dimming sensor or shutter sensor functions. The default setting for the values is **printed in bold type**.

Only for one-touch dimming function:

– Contact type **normally opened contact**  
normally closed contact

Only for 8 bit value function (contact closes):

– Value if contact closes **255**  
(0 ... 255)

Only for 8 bit value function (contact closes or opens):

– Value if contact closes **255**  
(0 ... 255)

– Value if contact opens **0**  
(0 ... 255)

Only for short/long push button action:

– Send after a short push button action **ON / OFF**

– Send after a long push button action **ON / OFF**

– Contact type **normally opened contact**  
normally closed contact

Only for dimming sensor and shutter sensor functions:

Separately for inputs A/B and C/D:

– Function shutter sensor  
**switch/dimming sensor (stop telegr.)**  
switch/dimming sensor (dimming steps)

Only for shutter sensor:

Separate for each input:

– Contact type of input ... **normally opened contact**  
normally closed contact  
– Short push button action **adjust lamella/stop**

For input A (C):

– Long push button action **move shutter up**

For input B (D):

– Long push button action **move shutter down**

Only for switch/dimming sensor with stop telegram:

– Input A / B **ON / OFF**  
TOGGLE / TOGGLE

Separate for each input:

– Contact type of input ... **normally opened contact**  
normally closed contact

Only for ON / OFF:

– Short push button action **ON**

For input A (C):

– Long push button action **dim up**

For input B (D):

– Long push button action **dim down**

Only for TOGGLE / TOGGLE:

– Short push button action **TOGGLE**

– Long push button action **dim up/down**

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**Parameters** for dimming sensor and shutter sensor functions.  
The default setting for the values is **printed in bold type**.

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Only for switch/dimming sensor with dimming steps:	
- Input A / B	<b>ON / OFF</b> TOGGLE / TOGGLE
- Long push button action	change by 100% change by 50% change by 25% <b>change by 12.5%</b> change by 6.25% change by 3% change by 1.5%
- Telegram is repeated every	0.3 s / ... / <b>0.5 s</b> / ... / 7.0 s
Separate for each input:	
- Contact type of input ...	<b>normally opened contact</b> normally closed contact
Only for ON / OFF:	
- Short push button action	<b>ON</b>
For input A (C):	
- Long push button action	<b>dim up</b>
For input B (D):	
- Long push button action	<b>dim down</b>
Only for TOGGLE / TOGGLE:	
- Short push button action	<b>TOGGLE</b>
- Long push button action	<b>dim up/down</b>

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