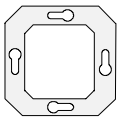
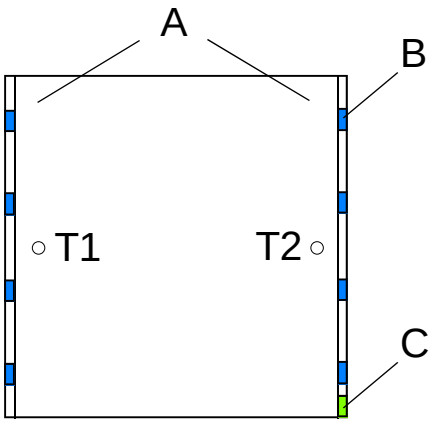


Product name: **Push button sensor 2 2fold without controller F-Line**
Design: Flush-mounting type (uP)
Article no.: **2012 …**
ETS search path: Push button / Push button, 2fold / push sensor 2 2fold without controller F-line

## Functional description:

The push sensor 2 F-line is plugged onto a flush-mounted bus coupler (cf. wiring diagram). On pressing of a key, the push sensor 2 F-line transmits telegrams depending on the application program programmed via the KNX / EIB. These may include telegrams for switching or dimming or for blind/shutter control. It is also possible to program value-transmit functions such as dimming value transmitter or light-scene extensions. The keys or rockers can be assigned to the different functions depending on the application program.

**Layout:**




**Dimensions:**

Width: 70 mm
Height: 70 mm
Depth: 13 mm (without PEI)

**Controls:**

A: rocker or buttons with labelling field

B: status-LEDs (blue)

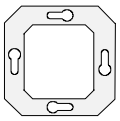
C: 1 operation-LED (green) (goes out automatically when the status-LED lights up)

## Technical data:

| | |
|---|---|
| External supply | --- |
| KNX / EIB supply | |
| voltage: | 21 ... 32 V DC SELV |
| power consumption: | typically 150 mW |
| connection: | 2 x 5-pole male connector strip |
| Input: | --- |
| Output: | --- |
| Response to mains failures | |
| bus voltage only: | object values are deleted, LEDs switch 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: | --- |

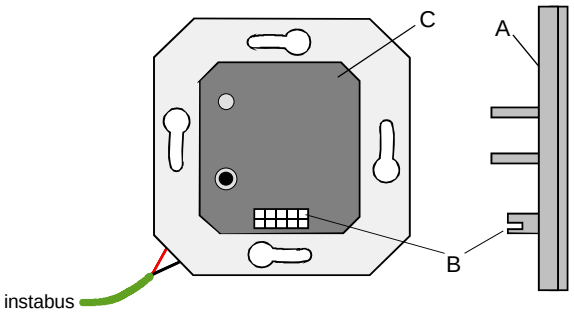
## instabus KNX/EIB System

## Sensor



| | |
|---|---|
| Type of protection: | IP 20 |
| Safety class: | III |
| Mark of approval: | KNX / 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 (please refer to: "Hardware information") |
| Minimum distances: | none |
| Type of fastening: | plug-in on flush-mounted bus coupler<br>(please refer to: "Hardware information") |

**Wiring:**



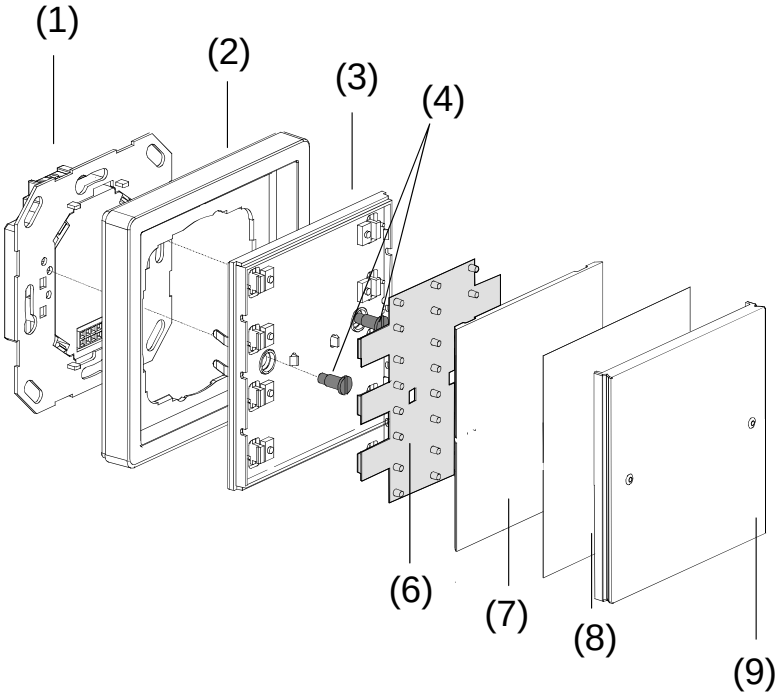

**Terminal connections:**

A: push sensor 2 F-line
B: user interface
C: bus coupler


## Hardware remarks:

- The push sensor 2 F-line with controller may only be plugged into bus couplers of the "new generation" (cf. bus coupler picture above with round programming button). Plugging the push sensor 2 F-line into older flush-mounted bus couplers results in malfunctions.
- The operation-LED (green) goes out automatically when the status-LED above lights up

## Montage



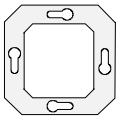

Procedure:

1.) Assembly without anti-theft protection:
Place the cover frame (2) and the user module (3) on a flush-mounted BCU (1).

2.) Assembly with removal protection:
The device is protected against theft by fastening it with screws on the bus coupler insert.
- remove the cover frame (9),
- remove the rocker carrier (7) carefully with a screwdriver or with your fingernail,
- lift off the ESD protection mat (6),
- place the cover frame (2) and the user module (3) on the flush-mounted BCU already in place (1),
- screw the pushbutton sensor to the insert using only the screw set (4, 5a, 5b, 5c) supplied with the device,
- put the ESD protection mat (6) carefully back in place.
  Important: proper functioning can only be guaranteed when the ESD protection mat is in place. Otherwise risk of irreparable damage to the device in operation by electro-static discharge.
- Fit the rocker carrier (7), the inscription foil (8) and the rocker cover (9) by snap-fastening them on the device.

**instabus KNX/EIB System**

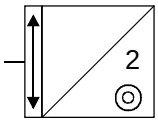
**Sensor**



## Software description:

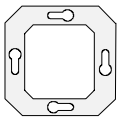
ETS-search path:
push button / push button, 2fold / push sensor 2 2fold without controller F-line

ETS-symbol:




Applicationen:

| Summarized description: | Name: | Date: | Page: | Version: |
|---|---|---|---|---|
| Switching, status | Switching, status 100302 | 01/07 | 5 | 20129190 |
| Switching, acknowledgement | Switching, acknowledgement 100A02 | 01/07 | 6 | 20129190 |
| Dimming | Dimming 102A01 | 01/07 | 7 | 20129190 |
| Shutter | Shutter 104702 | 01/07 | 8 | 20129190 |
| Dimming / shutter | Dimming / shutter 103A02 | 01/07 | 11 | 20129190 |
| Switching / dimming | Switching / dimming 103C02 | 01/07 | 14 | 20129190 |
| Switching / shutter | Switching /shutter 103B02 | 01/07 | 17 | 20129190 |
| Switching / pushbutton operation | Switching / pushbutton operation 103402 | 01/07 | 20 | 20129190 |
| Value transmitter | Value transmitter 101C02 | 01/07 | 22 | 20129190 |



**Application description:** **Switching, status100302**

## Scope of functions

- Function of operating LED and of status LED parameterizable
- Command on key press parameterizable (ON, OFF)

| Object | Object description |
|---|---|
| **0 – 1 (Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |

| | | | |
|---|---|---|---|
| Number of addresses (max): | 10 | dynamic table handling | Yes ☒ No ☐ |
| Number of assignments (max): | 10 | maximum length of table | 20 |
| Communication objects | 2 | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Rocker 1 | 1 bit | C, W, T |
| 0 | Switching | Rocker 2 | 1 bit | C, W, T |

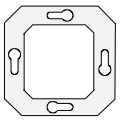
| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Command on pressing of left keys | OFF<br>**ON** | Defines the command transmitted on pressing of the left keys. |
| Command on pressing of right keys | **OFF**<br>ON | Defines the command transmitted on pressing of te right keys. |
| Rocker 1 | | |
| Function status LED | OFF<br>**ON** | Determines the status of the operation LED. |
| Rocker 2 | | |
| Function status LED | OFF<br>**ON** | Defines the status of the operation LED. |

## Software remarks

- The status LEDs indicate the current state of the object. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated, but the corresponding status LED is not lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up

**instabus KNX/EIB System**

**Sensor**



**Application description:** **Switching, acknowlegment 100A02**

## Scope of functions

- Function of operating LED and of status LED parameterizable
- Command on key press parameterizable (ON, OFF)

| Object | | Object description |
|---|---|---|
| **0 – 1** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |

| | | | | | |
|---|---|---|---|---|---|
| Number of addresses (max): | 10 | | dynamic table handling | Yes ☒ | No ☐ |
| Number of assignments (max): | 10 | | maximum length of table | 20 | |

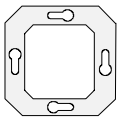
Communication objects 2

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Rocker 1 | 1 bit | C, W, T |
| 0 | Switching | Rocker 2 | 1 bit | C, W, T |

| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| LED ON-time rocker 1 and 2 | 0.75 s 4.5 s<br>1.5 s 6.0 s<br>2.25 s 10 s<br>2.7 s 15 s<br>3.0 s 20 s | Defines the time during which the status LEDs of rockers 1 and 2 are on in case of a positive acknowledgement from an addressed actuator. |
| Command on pressing of left keys | OFF<br>**ON** | Defines the command transmitted on pressing of the left keys. |
| Command on pressing of right keys | **OFF**<br>ON | Defines the command transmitted on pressing of the right keys. |
| Rocker 1 | | |
| Function status LED | OFF<br>**ON** | Defines the status of the status LED. |
| Rocker 2 | | |
| Function status LED | OFF<br>**ON** | Defines the status of the status LED. |

## Software remarks

- The status LED is on for a parameterizable time in case of a positive acknowledgement from an addressed actuator. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated, but the corresponding status LED is not lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up



**Application description:** **Dimming 102A01**

## Scope of functions

- Function of operating LED and of status LED parameterizable

| Object | | Object description |
|---|---|---|
| **0 – 1** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **2 – 3** | **(Dimming)** | 4-bit object for change of relartive brightness between 0 and 100 % |

| | | | |
|---|---|---|---|
| Number of addresses (max): | 6 | dynamic table handling | Yes ☒ No ☐ |
| Number of assignments (max): | 6 | maximum length of table | 12 |
| Communication objects | 4 | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Rocker 1 | 1 bit | C, W, T |
| 1 | Switching | Rocker 2 | 1 bit | C, W, T |
| 2 | Dimming | Rocker 1 | 4 bit | C, W, T |
| 3 | Dimming | Rocker 2 | 4 bit | C, W, T |

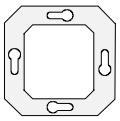
| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Function status LED | OFF<br>**ON** | Defines the status of the status LED. |

## Software remarks

- The status LED indicates the current status of the switching object. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated and the corresponding status LED is lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up

**instabus KNX/EIB System**

**Sensor**



**Application description:** **Shutter 104702**

## Scope of functions

- Function of operating LED and of status LED parameterizable
- The status LED can be controlled by separate objects (status indication)
- Rockers 1 and 2 independently parameterizable as switching or shutter-control sensors
- Key functions (ON / OFF resp. UP / DOWN) can be assigned independent of one another
- Time between short-time and long-time operation and slat adjustment time (time during which a long-time command (Move) can be terminated by releasing the key at the input) presettable depending on operating concept.

| Object | | Object description |
|---|---|---|
| **0, 1** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **0, 1** | **(Short-time operation)** | 1-bit object for short-time operation of a shutter |
| **2, 3** | **(Long-time operation)** | 1-bit object for long-time operation of a shutter |
| **4, 5** | **(Status-LED)** | 1-bit object for operation LED control |

| | | | | |
|---|---|---|---|---|
| Number of addresses (max): | 10 | dynamic table handling | Yes ☒ | No ☐ |
| Number of assignments (max): | 10 | maximum length of table | 20 | |
| Communication objects | 6 | | | |

**Objects with key function "Shutter-control sensor" for both rockers:**

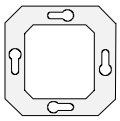
| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Short-time operation | Rocker 1 | 1 bit | C, W, T |
| 1 | Short-time operation | Rocker 2 | 1 bit | C, W, T |
| 2 | Long-time operation | Rocker 1 | 1 bit | C, W, T |
| 3 | Long-time operation | Rocker 2 | 1 bit | C, W, T |

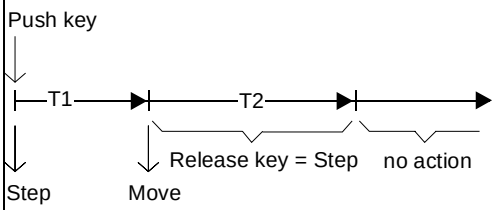
**Objects with key function "Switching sensor" for both rockers:**

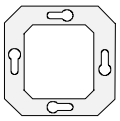
| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Rocker 1 | 1 bit | C, T |
| 1 | Switching | Rocker 2 | 1 bit | C, T |

**Objects with both key functions:**

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 4 | Status-LED | Rocker 1 | 1 bit | C, W |
| 5 | Status-LED | Rocker 2 | 1 bit | C, W |



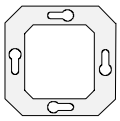
| **Parameters** | | | |
|---|---|---|---|
| Description: | Values: | | Remarks: |
| General | | | |
| Function operation LED | OFF<br>**ON** | | Defines the status of the operation LED. |
| ON-time of LED as key-press indicator<br>Base | **130 ms** | | Defines the ON-time of the status LED when one of the rockers is pressed.<br>Only if "Status LED function = "key-press indicator".<br>Time = Base · Factor |
| ON-time of LED as key-press indicator<br>Factor (2...127) | 2 to 127, **6** | | Defines the ON-time of the status LED when one of the rockers is pressed.<br>Only if "Status LED function = "key-press indicator".<br>Presetting: 6 · 130 ms = 780 ms |
| Time between short- and long-time operation,<br>base | 0.5 ms<br>**8 ms**<br>130 ms | 2.1 s<br>33s | Defines the time base up to long-time operation.<br>(T1 see diagram below).<br>Time = Base · Factor |
| Time between short- and long-time operation,<br>factor (2...255) | 2 to 255, **46** | | Defines the time factor up to long-time operation.<br>(T1 see diagram below).<br>Presetting: 8 ms · 46 = 368 ms |
| Slat adjustment time<br>base | 0 ms<br>0.5 ms<br>8 ms | 130 ms<br>2.1 s<br>33s | Time during which a MOVE telegram for slat adjustment can be terminated by releasing the key (T2 see diagram below).<br>Time = Base · Factor |
| Slat adjustment time,<br>factor (1...255) | 1 to 255; **23** | | Time during which a long-time operation for slat adjustment can be terminated by releasing the key (T2 see diagram below).<br>Presetting: 130 ms · 23 = 2.99 s<br>  <br><br>T1 = Time between short- and long-time operation<br>Pressing a key will transmit a STEP command and time T1 is started. If the key is released within T1, no further telegram will be transmitted by the touch sensor. This STEP command serves the purpose of stopping a continuous motion of a blind or shutter in progress. |



| | | |
|---|---|---|
| | | If the key is pressed for a time longer than T1, a MOVE command is automatically transmitted after T1 has elapsed and time T2 is started. A STEP command will be transmitted, if the key is released again within T2. This function is used to adjust the slats of a blind. T2 should correspond to the time needed for a slat rotation through 180°. |
| Rocker 1 | | |
| Mode of operation | **Shutter-control sensor**<br>Switching sensor | Defines the mode of operation of the rocker. |
| Status LED function | | The status LED can be parameterized as status or as key-press indicator. |
| | Status indication via object | The status LED is switched on via an additional object. |
| | **Key-press indication** | The status LED is switched on when a key is pressed. |
| | OFF | The status LED is always off. |
| Key function. | "Mode of operation = shutter-control sensor":<br>**Left = UP, right = DOWN**<br>Left = DOWN, right = UP<br><br>"Mode of operation = switching sensor":<br>Left = ON, right = OFF<br>Left = OFF, right = ON | Defines the key function depending on the mode of operation. |

## Software remarks

- The status LED indicates the current status of the switching object. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated and the corresponding status LED is lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up



**Application description:** **Dimming / shutter 103A02**

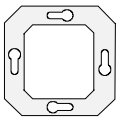
## Scope of functions

- Function of operation LED and ON-time of status LED in case of key-press indication and "Dimming" function parameterizable
- Status indication with "Dimming" function possible
- Rocker 1 as a function of rocker 2 (or vice versa) parameterizable as dimming or shutter sensor
- Key functions (ON/brighter OFF/darker or UP / DOWN) can be parameterized
- Time between switching and dimming, dimming step and transmission of stop telegrams possible with dimming sensor
- Time between two telegrams and number of steps before continuous run (slat adjustment) presettable in shutter operation

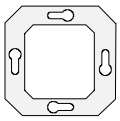
| Object | | Object description |
|---|---|---|
| **0** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **1** | **(Dimming)** | 4-bit object for change of relative brightness between 0 and 100 % |
| **2** | **(Short-time operation)** | 1-bit object for short-time operation of a shutter |
| **3** | **(Long-time operation)** | 1-bit object for long-time operation of a shutter |

| | | | |
|---|---|---|---|
| Number of addresses (max): | 13 | dynamic table handling | Yes ☒ No ☐ |
| Number of assignments (max): | 13 | maximum length of table | 26 |
| Communication objects | 3 | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Rocker | 1 bit | C, W, T |
| 1 | Dimming | Rocker | 4 bit | C, T |
| 2 | Short-time operation | Rocker | 1 bit | C, W, T |
| 3 | Long-time operation | Rocker | 1 bit | C, W, T |



| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function of operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Rocker configuration | **upper Rocker: dimming**<br>**lower Rocker: shutter**<br><br>upper Rocker: shutter<br>lower Rocker: dimming | Defines the function of the individual rockers. |
| Function Dimming | | |
| Function of status LED | <br><br>as status indicator<br><br>as key-press indicator<br><br>always OFF<br><br>always ON | Defines the operation of the status LED.<br><br>The status LED indicates the status of the switching object.<br><br>The status LED light up when a key is pressed.<br><br>The status LED is always off.<br><br>The status LED is always on |
| LED ON-time | 0.75 s; 2.25 s; **3 s**, 4.5 s; 6 s; 10 s; 15 s | Defines the time during which the status LED is on when a key is pressed.<br>Only if "Status LED function = key-press indicator"). |
| Key function. | **left = brighter (ON)**<br>**right = darker (OFF)**<br><br>left = darker (OFF)<br>right = brighter (ON) | Defines the command transmitted on pressing of the keys. |
| Time between switching and dimming, base | **130 ms**; 260 ms; 520 ms;<br>1 s; 2.1 s; 4.2 s; 8,4 s; 17 s; 34 s<br>1.1 min; 2.2 min; 4.5 min; 9 min;<br>18 min; 35 min;<br>1.2 h | Defines the time base for a key-press to send a telegram<br>Time = base · factor |
| Time between switching and dimming, factor (2...127) | 2 ... 127; **3** | Defines the time factor for a key-press to send a dimming telegram<br>Time = base · factor<br>Presetting: 130 ms · 3 = 390 ms |
| Increase brightness by | **100 %** 6 %<br>50 % 3 %<br>26 % 1.5 %<br>12.5 % | Defines the maximum dimming step performed on reception of a relative dimming telegram (brighter). |



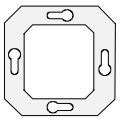
| | | |
|---|---|---|
| Reduce brightness by | **100 %** 6 %<br>50 % 3 %<br>26 % 1.5 %<br>12.5 % | Defines the maximum dimming step performed on reception of a relative dimming telegram (darker). |
| Send stop telegram ? | **YES**<br>NO | Defines whether a dimming procedure in progress is to stop when the key is released (YES). |
| Function Shutter | | |
| Key function | **left = UP, right = DOWN**<br>left = DOWN, right = UP | Defines the command transmitted on pressing the keys. |
| Number of steps before continuous run (1...30) | 1 ... 30; **1** | A short-time telegram (STEP) permits adjusting the slats of a shutter.<br>This parameter defines how many short-time telegrams are transmitted before a continuous run (MOVE) after a long key-press. |
| Time between two telegrams, base | 0.5 ms; 8 ms; **130 ms**<br>2.1 s; 33 s | Defines the time base between two telegrams.<br>(Time between STEP – STEP or between STEP – MOVE)<br>Time = base · factor |
| Time between two telegrams, factor (2...255) | 2 ... 255; **10** | Defines the time factor between two telegrams.<br>(Time between STEP – STEP or between STEP – MOVE)<br>Time = base · factor<br>Presetting: 130 ms · 10 = 1.3 ms |

## Software remarks

- For editing all of the parameters, the access in the ETS 2 must be set to "high access".
- The status LED indicates either the current status of the switching object or a key-press. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated and the corresponding status LED is lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up

**instabus KNX/EIB System**

**Sensor**



**Application description:** **Switching / dimming 103C02**

## Scope of functions

- Function of operation LED and ON-time of status LED in case of key-press indication parameterizable
- Status indication possible
- Rocker 1 as a function of rocker 2 (or vice versa) parameterizable as switching or dimming sensor
- Key functions (ON / OFF / TOGGLE or ON/brighter OFF/darker can be parameterized
- Time between switching and dimming, dimming step and transmission of stop telegrams possible with dimming sensor

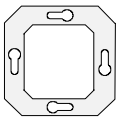
| Object | | Object description |
|---|---|---|
| **0 – 2** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **3** | **(Dimming)** | 4-bit object for change of relative brightness between 0 and 100 % |

| | | | |
|---|---|---|---|
| Number of addresses (max): | 7 | dynamic table handling | Yes ☒ No ☐ |
| Number of assignments (max): | 8 | maximum length of table | 15 |
| Communication objects | 4 | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Key left | 1 bit | C, W, T |
| 1 | Switching | Key right | 1 bit | C, W, T |
| 2 | Switching (dimming) | Rocker | 1 bit | C, W, T |
| 3 | Dimming | Rocker | 4 bit | C, T |

| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function of operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Rocker configuration | **upper Rocker: dimming**<br>**lower Rocker: switching**<br><br>upper Rocker: switching<br>lower Rocker: dimming | Defines the function of the individual rockers. |
| Function: Switching | | |
| Function of status LED | | Defines the operation of the status LED. |
| | **as status indicator** | The status LED indicates the status of the switching object. |
| | as key-press indicator | The status LED light up when a key is pressed. |
| | always OFF | The status LED is always off. |
| | always ON | The status LED is always on. |

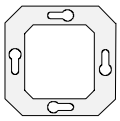
| | | |
|---|---|---|
| LED ON-time | 0.5 s; 1 s; **2.1 s**; 4.2 s; 8.4 s | Defines the time during which the status LED is on when a key is pressed.<br>Only if "Status LED function = key-press indicator"). |
| Command on pressing of left key | press = ON, release = ON<br>press = ON, release = OFF<br>**press = ON, release = ---**<br>press = OFF, release = ON<br>press = OFF, release = OFF<br>press = ON, release = ---<br>press = TOGGLE, release = TOGGLE<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the left key. |
| Command on pressing of right key | press = ON, release = ON<br>press = ON, release = OFF<br>press = ON, release = ---<br>press = OFF, release = ON<br>press = OFF, release = OFF<br>**press = OFF, release = ---**<br>press = TOGGLE, release = TOGGLE<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the right key. |
| Function: Dimming | | |
| Function of status LED | | Defines the operation of the status LED. |
| | **as status indicator** | The status LED indicates the status of the switching object. |
| | as key-press indicator | The status LED light up when a key is pressed. |
| | always off | The status LED is always off. |
| | always ON | The status LED is always on |
| LED ON-time | 0.5 s; 1 s; **2.1 s**; 4.2 s; 8.4 s | Defines the time during which the status LED is on when a key is pressed.<br>Only if "Status LED function = key-press indicator"). |



| | | |
|---|---|---|
| Key function | **left = brighter(ON)**<br>**right = darker(OFF)**<br><br>left = darker(OFF)<br>right = brighter(ON) | Defines the command transmitted on pressing of the keys. |
| Time between switching and dimming, base | **130 ms**; 260 ms; 520 ms;<br>1 s; 2.1 s; 4.2 s; 8.4 s; 17 s; 34 s<br>1.1 min; 2.2 min; 4.5 min; 9 min;<br>18 min; 35 min;<br>1.2 h | Defines the time base for a key-press to send a telegram<br>Time = base · factor |
| Time between switching and dimming, factor (2...127) | 2 ... 127; **3** | Defines the time factor for a key-press to send a dimming telegram<br>Time = base · factor<br>Presetting: 130 ms · 3 = 390 ms |
| Increase brightness by | **100 %** 6 %<br>50 % 3 %<br>26 % 1.5 %<br>12.5 % | Defines the maximum dimming step performed on reception of a relative dimming telegram (brighter). |
| Reduce brightness by | **100 %** 6 %<br>50 % 3 %<br>26 % 1.5 %<br>12.5 % | Defines the maximum dimming step performed on reception of a relative dimming telegram (darker). |
| Send stop telegram ? | **YES**<br>NO | Defines whether a dimming procedure in progress is to stop when the key is released (YES). |

## Software remarks

- For editing all of the parameters, the access in the ETS 2 must be set to "high access".
- The status LED indicates either the current status of the switching object or a key-press. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated and the corresponding status LED is lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up



**Application description:** **Switching /shutter 103B02**

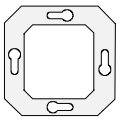
## Scope of functions

- Function of operation LED and ON-time of status LED in case of key-press indication parameterizable
- Status indication possible
- Rocker 1 as a function of rocker 2 (or vice versa) parameterizable as switching or shutter sensor
- Key functions (ON / OFF / TOGGLE or UP / DOWN) can be parameterized
- Time between two telegrams and number of steps before continuous run (slat adjustment) presettable in shutter operation

| Object | | Object description |
|---|---|---|
| **0 – 1** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **2** | **(Short-time operation)** | 1-bit object for short-time operation of a shutter |
| **3** | **(Long-time operation)** | 1-bit object for long-time operation of a shutter |

| | | | |
|---|---|---|---|
| Number of addresses (max): | 9 | dynamic table handling | Yes ☒ No ☐ |
| Number of assignments (max): | 11 | maximum length of table | 20 |
| Communication objects | 4 | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Key left | 1 bit | C, W, T |
| 1 | Switching | Key right | 1 bit | C, W, T |
| 2 | Switching (dimming) | Rocker | 1 bit | C, W, T |
| 3 | Dimming | Rocker | 4 bit | C, T |



| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function of operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Rocker configuration | upper Rocker: shutter<br>lower Rocker: switching<br><br>**upper Rocker: switching**<br>**lower Rocker: shutter** | Defines the function of the individual rockers. |
| Function: Switching | | |
| Function of status LED | <br><br>as status indicator<br><br>**as key-press indicator**<br><br>always OFF<br><br>always ON | Defines the operation of the status LED.<br><br>The status LED indicates the status of the switching object.<br><br>The status LED light up when a key is pressed.<br><br>The status LED is always off.<br><br>The status LED is always on. |
| LED ON-time | 0.75 s; 2.25 s; **3 s**; 4.5 s; 6 s; 10 s; 15 s | Defines the time during which the status LED is on when a key is pressed.<br>Only if "Status LED function = key-press indicator"). |
| Command on pressing of left key | **press = ON, release = ---**<br>press = OFF, release = ---<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ON, release = OFF<br>press = OFF, release = ON<br>press = ON, release = ON<br>press = OFF, release = OFF<br>press = TOGGLE, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the left key. |

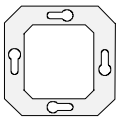
| | | |
|---|---|---|
| Command on pressing of right key | press = ON, release = ---<br>**press = OFF, release = ---**<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ON, release = OFF<br>press = OFF, release = ON<br>press = ON, release = ON<br>press = OFF, release = OFF<br>press = TOGGLE, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the right key. |
| Function: Shutter | | |
| Key function. | **left = UP, right = DOWN**<br>left = DOWN, right = UP | Defines the command transmitted on pressing of the keys. |
| Number of steps before continuous run (1...30) | 1 ... 30; **1** | A short-time telegram (STEP) permits adjusting the slats of a shutter.<br>This parameter defines how many short-time telegrams are transmitted before a continuous run (MOVE) after a long key-press. |
| Time between two telegrams, base | 0.5 ms; **8 ms**; 130 ms;<br>2.1 s; 33 s | Defines the time base between two telegrams.<br>(Time between STEP – STEP or between STEP – MOVE)<br>Time = base · factor |
| Time between two telegrams, factor(2...255) | 2 ... 255; **46** | Defines the time factor between two telegrams.<br>(Time between STEP – STEP or between STEP – MOVE)<br>Time = base · factor<br>Presetting: 8 ms · 46 = 368 ms |

## Software remarks

- For editing all of the parameters, the access in the ETS 2 must be set to "high access".
- The status LED indicates either the current status of the switching object or a key-press. If a key is pressed (e.g. ON) and if the push button sensor does not get a positive acknowledgement (IACK) from an addressed actuator, the object status is updated and the corresponding status LED is lit up.
- The operation-LED (green) goes out automatically when the status-LED above lights up

**instabus KNX/EIB System**

**Sensor**



**Application description:** **Switching / pushbutton operation 103402**

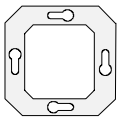
## Scope of functions

- Function of operation LED can be parameterized and status indication controlled by means of objects
- Key functions (ON / OFF / TOGGLE) can be parameterized

| Object | | Object description |
|---|---|---|
| **0 – 3** | **(Switching)** | 1-bit object for the transmission of switching telegrams (ON, OFF) |
| **4 – 5** | **(LED control)** | 1-bit object for status LED control |

| | | | | |
|---|---|---|---|---|
| Number of addresses (max): | 11 | dynamic table handling | Yes ☒ | No ☐ |
| Number of assignments (max): | 11 | maximum length of table | 22 | |
| Communication objects | 6 | | | |

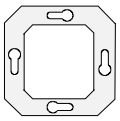
| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| 0 | Switching | Key upper left | 1 bit | C, W, T |
| 1 | Switching | Key upper right | 1 bit | C, W, T |
| 2 | Switching | Key lower left | 1 bit | C, W, T |
| 3 | Switching | Key lower right | 1 bit | C, W, T |
| 4 | LED control | Status LED upper | 1 bit | C, W, T |
| 5 | LED control | Status LED lower | 1 bit | C, W, T |



| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| General | | |
| Function of operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Upper keys | | |
| Function of status LED | <br><br>**ON**<br><br>LED always ON<br><br>LED always OFF | Defines the operation of the status LED.<br><br>The status LED indicates the object status of the LED control object.<br><br>The status LED is always on.<br><br>The status LED is always off. |
| Command on pressing of left key | press = ON, release = ON<br>press = ON, release = OFF<br>**press = ON, release = ---**<br>press = OFF, release = ON<br>press = OFF, release = OFF<br>press = OFF, release = ---<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the left key. |
| Command on pressing of right key | press = ON, release = ON<br>press = ON, release = OFF<br>press = ON, release = ---<br>press = OFF, release = ON<br>press = OFF, release = OFF<br>**press = OFF, release = ---**<br>press = TOGGLE, release = ---<br>press = ---, release = ON<br>press = ---, release = OFF<br>press = ---, release = TOGGLE<br>press = ---, release = --- | Defines the command transmitted on pressing or on releasing of the right key. |
| Lower keys | | |
| See upper keys 1 | | |

## Software remarks

- The operation-LED (green) goes out automatically when the status-LED above lights up



**Application description:** **Value transmitter 101C02**

## Scope of functions

- Function of operating LED and of status LED parameterizable
- Mode of operation (value transmitter / light-scene recall with / without storage function) freely selectable
- Values (1 byte) or light-scene numbers (1...8) for all keys individually parameterizable

| | Object | | Object description |
|---|---|---|---|
| ☐ \| | 0 | **(Value / light-scene)** | 1-byte object for transmitting value telegrams of for recalling light-scenes |

| | | | | |
|---|---|---|---|---|
| Number of addresses (max): | 1 | dynamic table handling | Yes ☒ | No ☐ |
| Number of assignments (max): | 1 | maximum length of table | 2 | |
| Communication objects | 1 | | | |

| Object | Function | Name | Type | Flag |
|---|---|---|---|---|
| ☐ \| 0 | Value / light-scene | Rockers | 1 byte | C, T |

| **Parameters** | | |
|---|---|---|
| Description: | Values: | Remarks: |
| 🗁 General | | |
| Function of operation LED | OFF<br>**ON** | Defines the status of the operation LED. |
| Function status LED | OFF<br>**ON** | Defines the status of the status LED. |
| Mode of operation | Value transmitter<br><br>**Light-scene recall without storage function**<br><br>Light-scene recall with storage function | Defines the function of the push button sensor. |
| 🗁 Rocker 1 with "Mode of operation = value transmitter" | | |
| Value (0...255) left key | 0 ... 255; **1** | Defines the value transmitted when the left key is pressed. |
| Value (0...255) right key | 0 ... 255; **3** | Defines the value transmitted when the right key is pressed. |
| 🗁 Rocker 1 with "Mode of operation = light-scene recall with / without storage function" | | |
| Light-scene (1...8)<br>left key | 1 ... 8; **1** | Defines the value transmitted when the left key is pressed. |
| Light-scene (1...8)<br>right key | 1 ... 8; **3** | Defines the value transmitted when the right key is pressed. |
| 🗁 Rocker 2 with "Mode of operation = value transmitter" | | |

| | | |
|---|---|---|
| Value (0...255) left key | 0 ... 255; **2** | Defines the value transmitted when the left key is pressed. |
| Value (0...255) right key | 0 ... 255; **4** | Defines the value transmitted when the right key is pressed. |
| Rocker 2 with "Mode of operation = light-scene recall with / without storage function" | | |
| Light-scene (1...8) left key | 1 ... 8; **2** | Defines the value transmitted when the left key is pressed. |
| Light-scene (1...8) right key | 1 ... 8; **4** | Defines the value transmitted when the right key is pressed. |

## Software remarks

- Light-scene extension unit:
  When a key is pressed for more than 1 s, the parameterized light-scene is recalled and the pertaining status LED switched on for about 1 s. If a key is pressed during a light-scene recall with storage function for more than 5 s, a storage telegram corresponding to the parameterized light-scene will be transmitted and the status LED is lit up for 4 s. Pressing a key with storage function for a time between 1 s and 5 s is without effect.
  The status LED lights up after a key-press only in conjunction with a positive acknowledgement (IACK) from an addressed actuator.
- Value transmitter:
  The status LED lights up after a key-press only in conjunction with a positive acknowledgement (IACK) from an addressed actuator.
- The operation-LED (green) goes out automatically when the status-LED above lights up