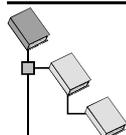




The universal interface comfort 8gang has 8 channels that work as inputs or outputs depending on the application or as a combination of both (4 inputs/4 outputs). As a result, the universal interface comfort 8gang can control up to 8 LEDs over its separate outputs or read in up to 8 potential-free push buttons with its inputs and accordingly send telegrams to the instabus. The outputs are resistant to short-circuits, protected against overloading and protected against polarity reversal. The connecting of 230V signals to the inputs is not allowed.

Database structure:



Gebr. Berker

- Inputs
- Binary input universal
- Universal interface comfort 8gang



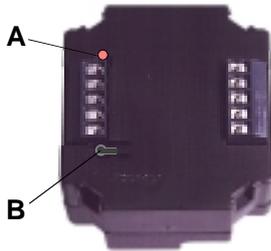
Application summary:

- 8 inputs 704101
- 4 inputs 4 outputs, 8 outputs 704001

Technical Data

Measurements:	Width: 44 mm
	Height: 48 mm
	Depth: 32 mm
Protection class:	IP 20
Safety class:	III
Insulation voltage:	As per V VDE 0829 Part 230
Test symbol:	EIB
Ambient temperature:	-5 °C to +45 °C
Storage / transport temperature:	-25 °C to +70 °C (storage at temperatures above +45 °C reduces the service life)
Installation position:	Any
Minimum clearances:	None
Fixing method:	e.g. install in deep flush-mounted outlet box (Ø 60 mm x 60 mm)
instabus EIB supply	
Voltage:	24 V DC (+6 V / -4 V)
Power consumption:	Typically 150 mW
Connection:	2 x 5 core screw-type terminal strip
External supply	---
Response in case of voltage failure	
Bus voltage only:	No response
Mains voltage only:	---
Bus and mains voltage:	---
Response in case of restarting	
Bus voltage only:	All object values for outputs are deleted See Comments on Software for reaction by inputs!
Mains voltage only:	---
Bus and mains voltage:	---
Inputs:	
Quantity:	Up to 8 (depends on the loaded software)
Cable length:	≤ 10 m
Scanning voltage:	20 V impulses, 2 msec long, cyclically every 60 msec
Outputs:	
Quantity:	Up to 8 (depends on the loaded software)
Cable length:	≤ 10 m
Output current:	0.8 mA (constant)

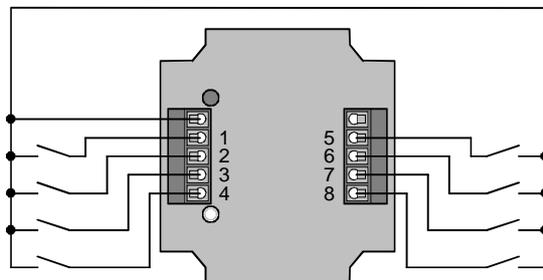
Illustration:



Operating elements:

- A) Programming LED
- B) Programming button

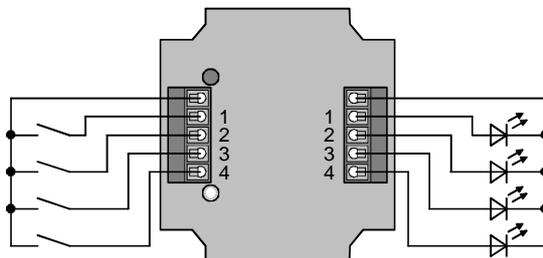
Connection diagram:



Terminal assignment:

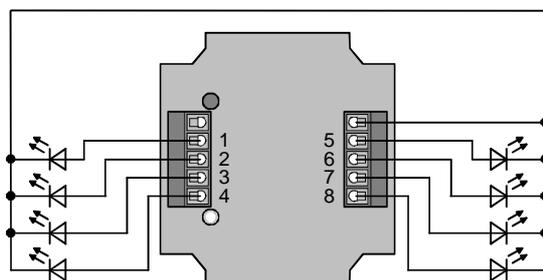
**Universal interface comfort used for
8 x inputs**

Note: Only potential-free switches or sensors can be connected



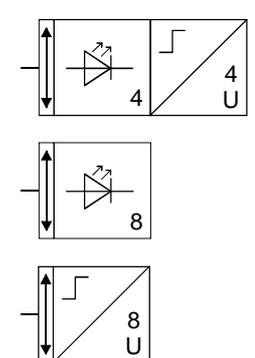
**Universal interface comfort used for
4 x inputs and 4 x outputs**

Note: Only potential-free switches or sensors can be connected. Pay attention to reference potential for inputs and outputs!



**Universal interface comfort used for
8 x outputs**

Comments on hardware: To avoid interfering EMC beams, the circuits for the inputs should not be installed in parallel to mains conducting lines. The connection of 230V signals to the inputs is not permitted.

Description of software			
Universal interface used for 4 x inputs and 4 x outputs		ETS-Symbol: 	
Universal interface used for 8 x outputs			
Universal interface used for 8 x inputs			
AST Type	00 _{Hex}	0 _{Dez}	No adapter used
Applications:			
No.	Brief description:	Name:	Version:
1	4 inputs and 4 outputs or 8 outputs	4 inputs 4 outputs, 8 outputs 704001	0.1
2	8 inputs	8 inputs 704101	0.1
Application: 1. 4 inputs 4 outputs, 8 outputs 704001			
Executable from mask version: 1.1			
Number of addresses (max): 26		Dynamic Table Management	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Number of assignments (max): 26		Max. table length	52
Communications objects: 18			
Application configured as "4 inputs, 4 outputs":			
Function: No function (for all 4 Inputs *)			
Object	Function	Name	Type Flag
 4-7	Switching	Output x	1 Bit C W
Function: Switching / Toggle (for all 4 Inputs *)			
Object	Function	Name	Type Flag
 0-3	Switching	Input x	1 Bit C W T
 4-7	Switching	Output x	1 Bit C W
Function: Dimming (for all 4 Inputs *)			
Object	Function	Name	Type Flag
 0-3	Switching	Input x	1 Bit C W T
 4-7	Switching	Output x	1 Bit C W
 8-11	Dimming	Input x	4 Bit C T
Function: Shutter control (for all 4 Inputs *)			
Object	Function	Name	Type Flag
 0-3	Step operation	Input x	1 Bit C W T
 4-7	Switching	Output x	1 Bit C W
 8-11	Move operation	Input x	1 Bit C T
Function: Value transmitter / Lighting scene extension (Button function: "Call lighting scene with/without memory function" for all 4 Inputs *)			
Object	Function	Name	Type Flag
 4-7	Switching	Output x	1 Bit C W
 8-11	Lighting scene extension	Input x	1 Byte C T
Function: Value transmitter / Lighting scene extension (Button function: "Value transmitter 1 Byte" for all 4 Inputs *)			

Object	Function	Name	Type	Flag
 4-7	Switching	Output x	1 Bit	C W
 8-11	Value transmitter 1 Byte	Input x	1 Byte	C W T
Function: Forced guidance operation (for all 4 Inputs *)				
Object	Function	Name	Type	Flag
 0-3	Forced guidance	Input x	2 Bit	C W T
 4-7	Switching	Output x	1 Bit	C W
Function: Control (for all 4 Inputs *)				
Object	Function	Name	Type	Flag
 0-3	Control	Input x	1 Byte	C W T
 4-7	Switching	Output x	1 Bit	C W
Application configures as "8 outputs":				
Object	Function	Name	Type	Flag
 0-7	Switching	Output x	1 Bit	C W
The functions Switching, Dimming, Shutter control, Value transmitter, Forced guidance operation and Control can be separately selected for each input. Thus, the names of the communications objects and the object table (dynamic object structure) will be changed.				

Application:		2. 8 inputs 704101		
Executable as of mask version:		1.1		
Number of addresses (max):	26	Dynamic Table Management	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Number of assignments (max):	26	Max. Table length	52	
Communications Objects:		18		
Function: No function (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
No switching, dimming, step operation, move operation, light scene or value transmitter objects!				
Function: Switching / Toggle (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 0-7	Switching	Input x	1 Bit	C W T
Function: Dimming (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 0-7	Switching	Input x	1 Bit	C W T
 8-15	Dimming	Input x	4 Bit	C T
Function: Shutter control (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 0-7	Step operation	Input x	1 Bit	C W T
 8-15	Move operation	Input x	1 Bit	C T
Function: Value transmitter / Light scene extension (Button function: "Call light scene with/without memory function" for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 8-15	Light scene extension	Input x	1 Byte	C T
Function: Value transmitter / Lighting scene extension (Button function: "Value transmitter 1 Byte" for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 8-15	Value transmitter 1 Byte	Input x	1 Byte	C W T
Function: Forced guidance operation (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 0-7	Forced guidance operation	Input x	2 Bit	C W T
Function: Control (for all 8 Inputs *)				
Object	Function	Name	Type	Flag
 0-7	Control	Input x	1 Byte	C W T
Other Object: (Only for "two" operating levels!)				
Object	Function	Name	Type	Flag
 16	Switch over	Operating level	1 Bit	C W T
The functions Switching, Dimming, Shutter control, Value transmitter, Forced guidance operation and Control can be separately selected for each input. Thus, the names of the communications objects and the object table (dynamic object structure) will be changed.				

Description of objects

Objects for application "4 Inputs 4 Outputs , 8 Outputs 704001" only:

☐↔ 4-7 or 0-7 Switching 1 Bit object to control outputs (connected LEDs)

Objects for application "8 Inputs 704101" only:

☐↔ 16 Switch over 1 Bit object to switch between two operating levels

Objects:

☐↔	0-3 or 0-7	Switching	1 Bit object to send switch telegrams (ON, OFF)
☐↔	8-11 or 8-15	Dimming	4 Bit object to change relative brightness between 0 and 100%
☐↔	0-3 or 0-7	Step operation	1 Bit object for the step operation of a shutter to rotate the lamella
☐↔	8-11 or 8-15	Move operation	1 Bit object for the move operation of a shutter to close or open completely
☐↔	8-11 or 8-15	Light scene extension	1 Byte object for use as a light scene extension
☐↔	8-11 or 8-15	Value transmitter 1 Byte	1 Byte object for the value transmitter application (0-255)
☐↔	0-3 or 0-7	Forced guidance operation	2 Bit object for the forced guidance operation (priority) of switching channels
☐↔	0-3 or 0-7	Control	1 Bit object for sending out control telegrams (Play, Stop, Rewind, Forward, Stop, Record)

Functional scope

• General

- Free assignment of the functions Switching / Toggle, Dimming, Shutter control, Value transmitter / Light scene extension, Forced guidance operation and Control to a maximum of 8 inputs (depends on the programmed application)
- Maximal 8 Outputs to display status or operation via LED (depends on the programmed application)
- 2 operating levels parameterisable (only for the application "8 Inputs 704101")
- Freely selectable 4 digit switch over code to change operating levels

Function: Switching / Toggle

- Adjustable command with rising or falling edge (ON, OFF, TOGGLE, no function)
- Cyclic transmission is possible

Function: Dimming

- Possibility to parameterise one or two button operation
- Adjustable time between dimming and switching and adjustable dimming speed
- Possibility to send repeat telegram and stop telegrams for automatic dim function

Function: Shutter

- Button function (UP, DOWN), i.e. the function of an input and the time between move and step operation can be set
- Adjustable lamella adjustment time (time in which the move command can be completed before releasing the button at the input)

Functions: Value transmitter / Light scene extension

- Parameterisable button function, i.e. the function of an input, 1 Byte Value transmitter or call up light scenes with/without memory function
- Possibility to change value using long "button pressure"

• Function: Forced guidance operation

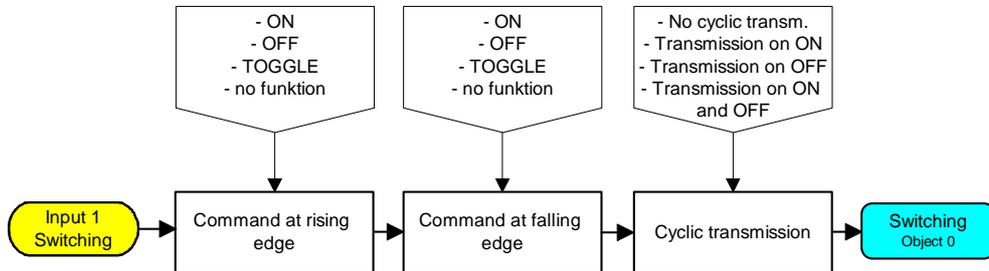
- Adjustable command for rising and falling edge (see Description of Function for forced guidance operation)

• Function: Control

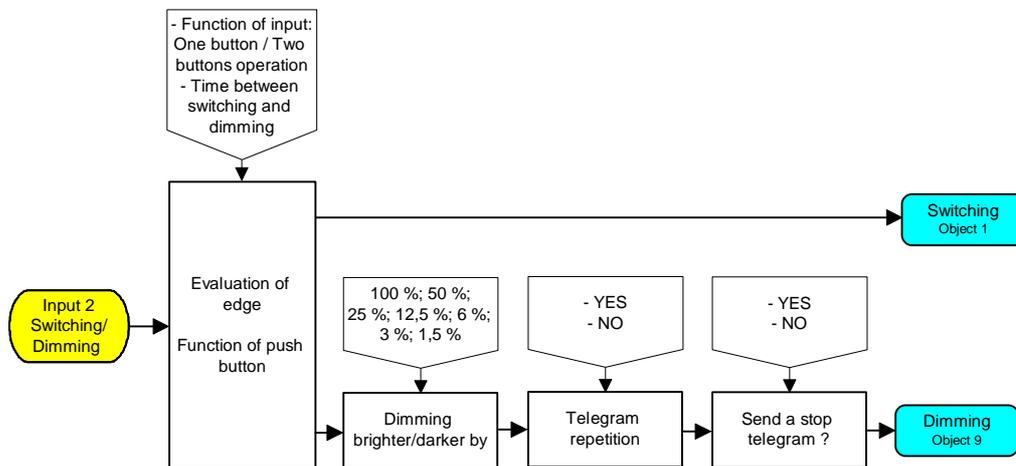
- Adjustable response or command for rising or falling edge (see Description of Function on Control)

Functional schematics

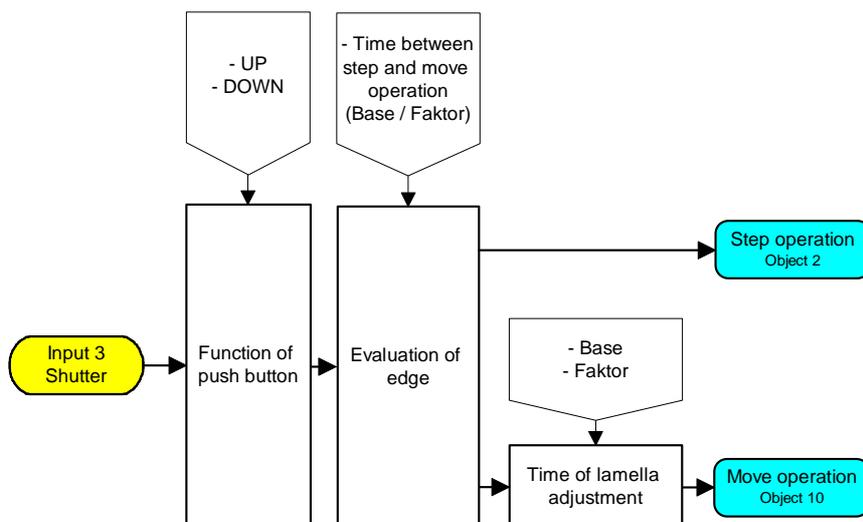
Function: Switching / Toggle (e.g. for Input 1):



Function: Dimming (e.g. for Input 2):

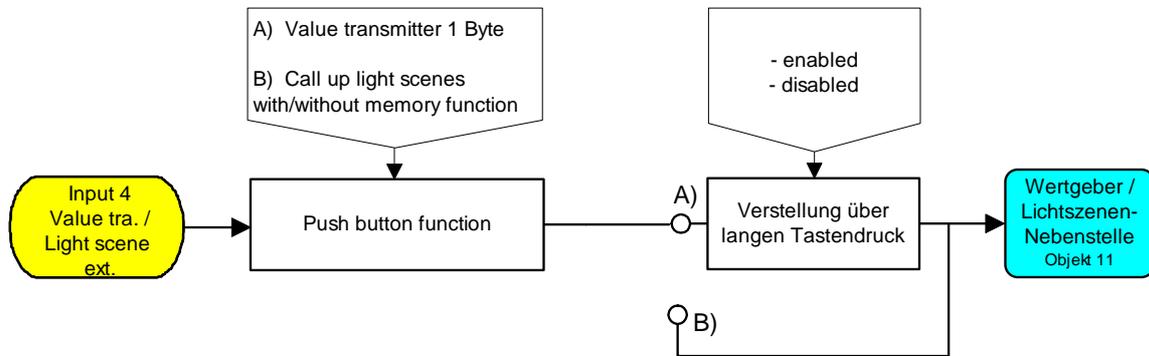


Function: Shutter control (e.g. for Input 3):

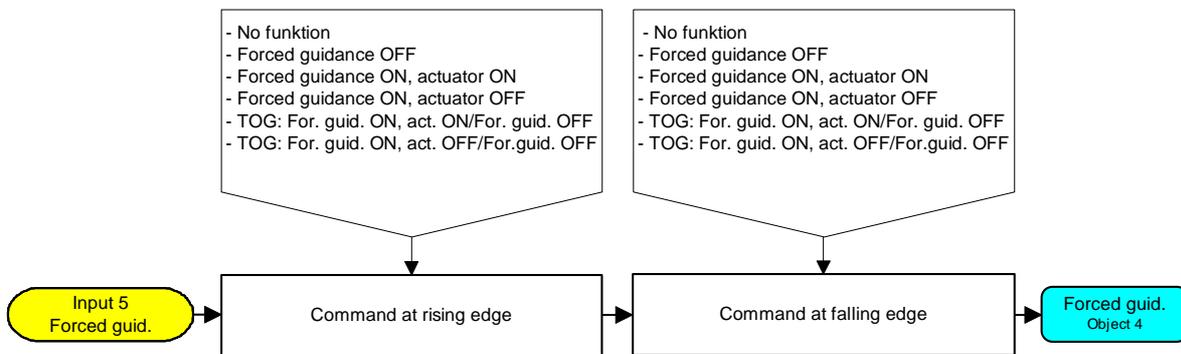


Functional schematics

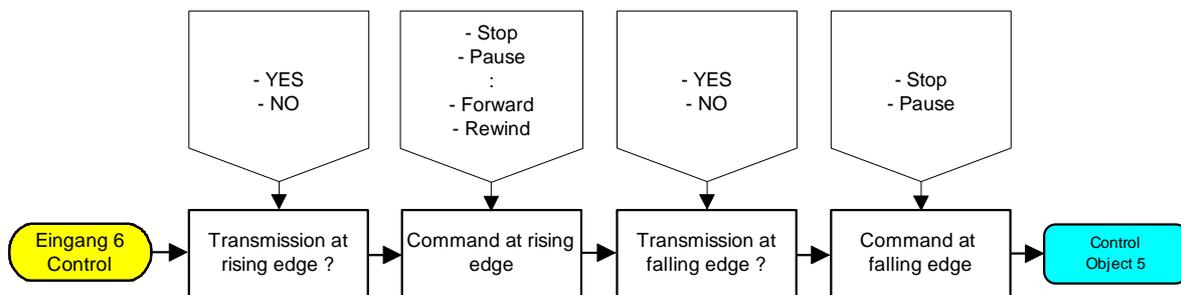
Function: Value transmitter / Light scene extension (e.g. for Input 4):



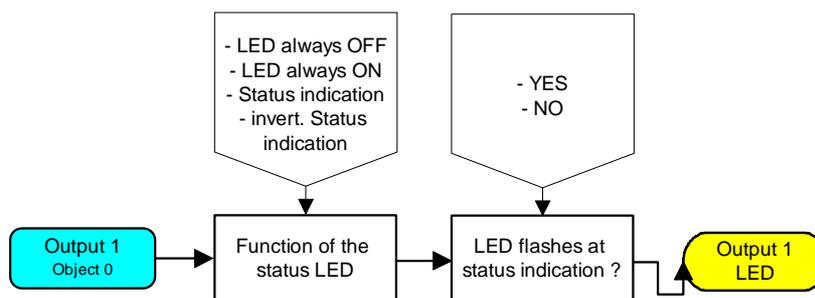
Function: Positively-driven operation (e.g. for Input 5 with "8 Inputs 704101") application



Function: Control (e.g. for Input 6 with "8 Inputs 704101") application:



Output (e.g. for Output 1 only with "4 Inputs 4 Outputs , 8 Outputs 704001" application:



Description of functions

Status display

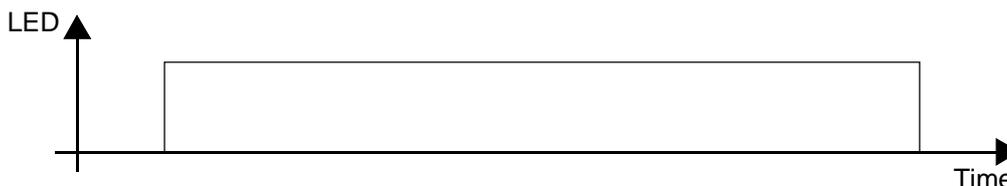
Depending the parameter "Function of the status LED" and "LED flashes at status indication ?" the status LEDs show various responses at the outputs:

Example: The Switching - Object of an input is connected with the Switching - Object from an output:

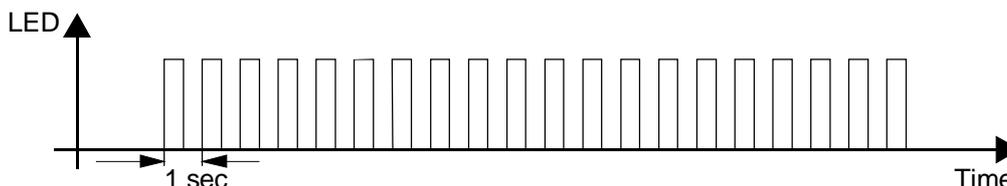
Activating the button for an input signal:



Status LED function: LED flashes at status indication? NO Status indication NO



Status LED function: LED flashes at status indication? YES Status indication YES



Value transmitter 1 Byte: "Adjust with long button pressure"

Adjusting the value to be sent is possible with a long activation of the input (> 5 sec) with value transmitter parameters (closer activated at input > 5 sec / opener not activated at Input > 5 sec). Here, the current value is decreased or increased (toggle function) by the parameterised increment or sent. After releasing the button connected to the input, the last sent value remains in memory. In the case of a bus voltage failure or restoration of bus voltage or in the case of a bus reset, the value programmed with the ETS is accepted and therefore overwrites the value set as a result of the change.

Button function	Value range	Increments
Call light scene with/without memory effect	1...8	No value change possible with long button pressure!
Value transmitter 1 Byte	0...255	1...10

Description of Functions

Manual switch over between two operating levels (only with the "8 Inputs 704101" application)

The universal interface comfort 8gang can be switched between two operating levels with a "3 button operation" (inputs 1+5+8 closed) and a freely selectable switching code. The parameter "Switch over to operating level" must be set to "manual" or "by object and manual" for onsite adjustment (switch code).

Switching between operating levels can also additionally or exclusively occur via Object 16.

In operating level 1, the functions Switching, Dimming, Shutter control, Value transmitter / Light scene extension, Forced guidance operation or Control can be assigned to any input. In operating level 2, inputs 1, 3, 5 and 7 or inputs 2, 4, 6 and 8 is assigned to one function from the functions for the inputs for operating level 1.

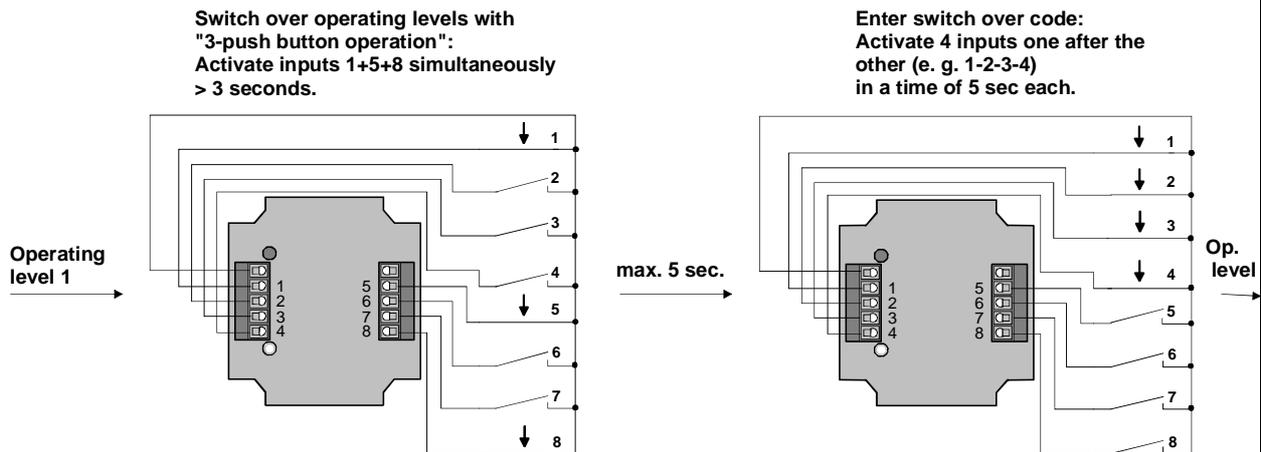
Operating level 1:

One function per input from the following:
Switching, Dimming, Shutter control, Value transmitter / Light scene extension, Forced guidance operation, Control

Operating level 2:

- Inputs 1, 3, 5 and 7 ⇒ 4 Inputs with the same function
- Inputs 2, 4, 6 and 8 ⇒ 4 Inputs with the same function
- Function can be selected from the operating level 1 functions

Switch over between the two operating levels occurs as a result of a 3 button operation (inputs 1+5+8 closed) for approximately 3 sec and a parameterisable reversal code. The following illustration depicts manual switching from operating level 1 to 2. The reversed direction can be carried out accordingly.



Comments:

The time between the "3 button operation" and the individual four activations of the reversal code may not exceed 5 seconds. Otherwise the universal interface cancels the operating level changeover and returns to the previously current operating level.

If the parameter "Switch over behaviour" is parameterised to "Switch over to op. level 2 for a time interval", then the activated operating level 2 switches back automatically to operating level 1 after a preset period of time.

Changeovers are also possible via Object 16 in addition to via manual changing of the operating level (see Description of Object).

Description of Function

Function: Control

The Control communications object is encoded as follows:

Command	Binary	Hexadecimal	Decimal
Stop	00000000	0	0
Pause	00000010	2	2
Record	00000100	4	4
Play	00001000	8	8
Forwards	00001001	9	9
Rewind	00001010	A	10

Function: Forced guidance operation

The switching channel for a switch actuator can be forced into a switching position independent of the switching object by the 2 Bit forced guidance operation object.

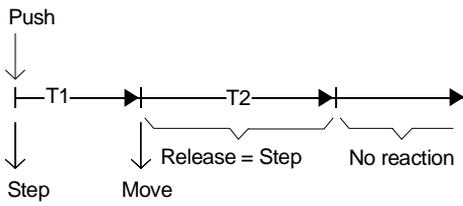
The importance of the 2 Bit telegram can be seen in the following status table:

Bit 1	Bit 0	Forced guidance operation	Actuator status
0	0	OFF	Value of the switching object
0	1	OFF	Value of the switching object
1	0	ON	OFF
1	1	ON	ON

Here, the 1 Bit value for the forced guidance operations object enables the forced guidance operation and Bit 0 defines the forced guidance switching status. If the forced guidance operation (Bit 1 = 0) is inactive, then Bit 0 has no importance and the switching object controls the switching channel.

Parameters		
Description:	Values:	Comments:
 General		
Application ⁽¹⁾	4 inputs, 4 outputs 8 outputs	Defines the use of the application.
Operating levels ⁽²⁾	one two	Defines whether two operating levels can be set up.
 Input 1		
Function	No function Switching / Toggle Dimming Shutter control Value transmitter / Light scene extension Forced guidance Control	Choice of functions for individual inputs.
Input 1 parameterised with function "Switching / Toggle"		
Command at rising edge	No function ON OFF TOGGLE	No telegram is triggered. An ON telegram is triggered. An OFF telegram is triggered. The internally saved switching state is toggled (reversed). If the saved status is ON (OFF), then an OFF (ON) telegram is triggered.
Command at falling edge	No function ON OFF TOGGLE	No telegram is triggered. An ON telegram is triggered. An OFF telegram is triggered. The internally saved switching state is toggled (reversed). If the saved status is ON (OFF), then an OFF (ON) telegram is triggered.
Cyclic transmission	No cyclical sending Transmission on ON Transmission on OFF Transmission on ON and OFF	Cyclical transmission is inactive. Cyclical transmission is only active after an ON, OFF or an ON and OFF telegram.
Cyclic transmission, base (1...255) x 5 sec	1...255; 1	Defines the basis for the cyclic transm. time. Cyclical transm. time = Base · 5 sec · x Factor
Cyclic transmission, factor (1...255)	1...255; 1	Defines the basis for the cyclic transm. time. Cyclical transm. time = Base · 5 sec · x Factor
Cyclic transmission started via the switch object?	YES NO	Cyclical transmission can also be started via the switching object.
Cyclic transmission interrupted via the switch object?	YES NO	Cyclical transmission can also be terminated via the switch object. (Only possible with "Transm. at ON" or "Transm. at OFF").

Input 1 parameterised for "Dimming" function		
Function of the input	<p>Operation with two inputs: darker (OFF)</p> <p>Operation with two inputs: brighter (ON)</p> <p>Operation with one input: brighter/darker (TOG)</p>	<p>With short activation of the input, an OFF telegram is triggered, a dimming telegram (darker) is triggered with longer activation.</p> <p>With short activation of the input, an ON telegram is triggered, a dimming telegram (brighter) is triggered with longer activation.</p> <p>The internally saved switching state is switched with brief button activation. When the saved status is ON (OFF), then an OFF (ON) telegram is triggered. With longer button activation, a "darker" telegram is sent after a "brighter" telegram and vice versa.</p>
Time between switching and dimming, base	<p>130 msec 260 msec 520 msec 1 sec</p>	<p>Defines the time basis up to long-term operation (Dimming).</p> <p>Time = Base x Factor</p>
Time between switching and dimming, factor (2...127)	<p>2...127; 3</p>	<p>Defines the time factor up to long-term operation (Dimming).</p> <p>Preliminary setting: 130 msec x 3 = 390msec</p>
Dimming brighter by	<p>100 % 6 % 50 % 3 % 25 % 1,5 % 12,5 %</p>	<p>Maximum brighter dimming of x% with a dimming telegram. (relative dimming increment)</p>
Dimming darker by	<p>100 % 6 % 50 % 3 % 25 % 1,5 % 12,5 %</p>	<p>Maximum darker dimming of x% with a dimming telegram. (relative dimming increment)</p>
Telegram repetition?	<p>YES NO</p>	<p>Defines whether the dimming telegram should be cyclically repeated with a long activation of the input.</p>
Time between two telegrams	<p>200 ms. 750 msec 300 msec 1 sec 400 msec 1.5 sec 500 msec 2 sec</p>	<p>Time between two telegrams when telegram repetition is set. A new dimming telegram is triggered after this time elapses.</p>
Send stop telegram?	<p>YES NO</p>	<p>A stop telegram or no telegram is sent when activation of the input is completed.</p>
Input 1 parameterised for "Shutter control" function		
Function of the input	<p>UP Preliminary setting: buttons 1, 3, 5, 7</p> <p>DOWN Preliminary setting: buttons 2, 4, 6, 8</p>	<p>Upon brief activation of the button, a STEP telegram (UP) is triggered; a MOVE telegram (up) is triggered upon long activation of the button.</p> <p>Upon brief activation of the button, a STEP telegram (DOWN) is triggered; a MOVE telegram (down) is triggered upon long activation of the button.</p>

<p>Time between step and move operation, base</p>	<p>8 ms 130 ms 2.1 s 33s</p>	<p>Defines the time base up to a move (long-term) operation (T1, see figure below).</p>
<p>Time between step and move operation, factor (0...255)</p>	<p>0 ... 255; 46</p>	<p>Time = Base x Factor Defines the time base up to a move (long-term) operation (T1, see figure below).</p> <p>Preliminary setting : 8 ms x 46 = 368 msec</p>
<p>Time for lamella adjustment, base</p>	<p>8 ms 130 ms 2.1 s 33s</p>	<p>Time during which a MOVE telegram can be terminated by releasing the button (closer) at the input (T2, see figure below).</p> <p>Time = Base x Factor</p>
<p>Time for lamella adjustment, factor (0...255)</p>	<p>0 ... 255; 20</p>	<p>Time during which a MOVE telegram can be terminated by releasing the button (closer) at the input (T2, see figure below).</p> <p>Preliminary setting: 8 ms x 20 = 160 msec</p>  <p>T1 = Time between Step and Move</p> <p>A STEP is sent and the time T1 starts after the pressing (closer) or releasing (opener) of the button at the input. No further telegram is sent if the button is released (closer) or pushed (opener) within T1. This STEP is used to stop continuous movement of a shutter or blind.</p> <p>If the button at the input is pressed for longer than T1 (closer) or remained inactivated (opener), then a MOVE is sent automatically after T1 is completed and time T2 starts. If the button is released again within T2 (closer) or is pressed (opener), then a STEP telegram is sent. This function is used to adjust the lamellas in shutters. T2 should correspond to the time for a 180° rotation of the lamellas.</p>

Taste 1: parameterised for "Value transmitter" function		
Function of the input	Value transmitter 1 Byte Call light scene without memory function Call light scene with memory function	Selection for the value to be set for the value transmitter function.
Value (0...255)	0...255; 0	Setting for the value to be sent for 1 byte value transmitter
Light scene number (1...8)	1...8; 1	Setting for the light scene to be sent for calling light scene with/without memory function
Variation by means of a long signal	disabled enabled	No adjustment possible with long button pressure. If the button remains pressed for at least 5 seconds, then the actual value is cyclically increased or decreased and sent by the parameterised increment (see below) (Time between two telegrams). After releasing the button, the last sent value is saved. After a repeated long button pressure, the direction of the value change changes (see Description of functions).
Time between two telegrams	0.5 sec; 1 sec ; 1.5 sec; 2 sec	Time between two telegrams for value change.
Step size (1...10)	1...10; 1	Increments by which the set value is increased or decreased with long button pressure and parameterised 1 Byte value transmitter.
Input 1 parameterised for "Forced guidance operation" function		
Command at rising edge	No function Forced guidance OFF Forced guidance ON, actuator ON Forced guidance ON, act. OFF TOGGLE: Forced guidance ON, actuator ON / Forced guidance OFF TOGGLE: Forced guidance ON, actuator ON / Forced guid. OFF	Defines the 2 Bit forced guidance operation command that is sent upon activation of a button (closer).
Command at falling edge	No function Forced guidance OFF Forced guidance ON, actuator ON Forced guidance ON, act. OFF TOGGLE: Forced guidance ON, actuator ON / Forced guidance OFF TOGGLE: Forced guidance ON, actuator ON / Forced guid. OFF	Defines the 2 Bit forced guidance operation command that is sent upon activation of a button (closer).
Input 1 parameterised for the "Control" function		
Transmission at rising edge ?	YES NO	Defines whether a control command should be sent upon activation of a button (closer) on the input.

Command at of rising edge	Stop Pause Record Play Forwards Rewind	Defines the command that will be sent when pressing a button (closer) on the input.
Transmission at falling edge ?	YES NO	Defines whether a control command is to be sent when releasing a button (closer) on the input.
Command at falling edge	Stop Pause	Defines the command that is to be sent when releasing a button (closer) on the input.
 Inputs 2 – 4 und Inputs 5 - 8 ⁽³⁾		
See Input 1		
 Output 1 ⁽⁴⁾		
Function of the status LED	LED always OFF LED always ON Status indication Inverted status indication	Defines the function of the LED connected to the output.
LED flashes at status indication ?	YES NO	Defines whether the LED connected to the output is to blink as a status indication.
 Outputs 2 – 4 and Outputs 5 – 8 ⁽⁵⁾		
See Output 1		
 Operating Level ⁽⁶⁾		
Universal interface in second operating level without any function ?	YES NO	It is possible to block the universal interface comfort in operating level 2, i.e. all inputs have no function in this case (YES).
Function of input 1, 3, 5 and 7 like input (1...8)	1...8, 1	Defines the function of inputs 1, 3, 5, 7 for operating level 2. The function can be selected from the functions for operating level 1 inputs.
Function of input 2, 4, 6 and 8 like input (1...8)	1...8, 2	Defines the function of inputs 2, 4, 6, 8 for operating level 2. The function can be selected from the functions for operating level 1 inputs.
Switch over behaviour	No time behaviour	Switching from operating level 2 to operating level 1 does not occur automatically.
Time interval, base	Switch over to op. level 2 for a time interval 300 msec, 500 msec 1 sec , 5 sec 1 min, 5 min, 60 min	Switching from operating level 2 to operating level occurs via a time function (period of time). Period of time after which a switch from operating level 2 to operating level 1 occurs. Time = Base x Factor

Time interval, factor (3...255)	3...255; 3	Period of time after which a switch from operating level 2 to operating level 1 occurs. Preliminary setting: 1 sec x 3 = 3sec
Switch over to operating level	manually by object by object and manual	Switching operating levels occurs manually with a "3 button operation" and switch over code. Switching operating levels occurs via the operating level object (No. 16). Switching operating levels can occur manually and with the operating level object.
Values for operating levels	0 = operating level 1; 1 = operating level 2 1 = operating level 1; 0 = operating level 2	Defines the value of the operating levels for an operating level switch over via the operating level object.
 Switch over code for second operating level ⁽⁷⁾		
1 st code input	Input 1 Input 2 Input 3 Input 4	Input 5 Input 6 Input 7 Input 8
2 nd code input	Input 1 Input 2 Input 3 Input 4	Input 5 Input 6 Input 7 Input 8
3 rd code input	Input 1 Input 2 Input 3 Input 4	Input 5 Input 6 Input 7 Input 8
4 th code input	Input 1 Input 2 Input 3 Input 4	Input 5 Input 6 Input 7 Input 8
<p>(1) Parameter is only available for application "4 Inputs 4 Outputs, 8 Outputs 704001"! (2) Parameter is only available for application "8 Inputs 704101"! (3) Inputs 5 – 8 only exist for application "8 Inputs 704101"! (4) Outputs only exist for application "4 Inputs 4 Outputs, 8 Outputs 704001"! (5) Outputs 5 – 8 only exist for application "4 Inputs 4 Outputs, 8 Outputs 704001" and parameter "Application = 8 Outputs"! (6) The parameter card "Operating level" only exists for application "8 Inputs 704101"! (7) The parameter card " Switch over code for second operating level " only exists for application "8 Inputs 704101"!</p>		

Comments on Software

General

Parameter editing must be set to "Full Access" (FA) in order to edit all the parameters.

Dimming function

If an LED output is to be used as a switching status display, then the corresponding objects (output or switch) must be connected via the same group address. The connected dim actuator must send back its status to the switching object or the output object in order for the status LED to function properly (set Transmit Flag on actuator).

With one level operation, only the switching object is corrected. The dimming object (dimming direction) is not corrected so when extensions are used (2 or more dimmers dim one lamp), the dimming direction of the lamp does not always change over after repeated button pressure.

The objects for the buttons or inputs that "belong together" must have the same group address for two level operations. In this case, the buttons should preferably be connected to input n.

Shutter control function

A "complete" shutter function (UP/DOWN) is only supported by two level operation. The respective short-term objects (Step) and long-term objects (Move) for the buttons "belonging together" must have the same group address. In this case, the buttons should preferably be connected to input n.

Inputs

A multiple evaluation of the inputs is only possible for the functions "Switching / Toggle", "Forced guidance operation", "Light scene extension without memory function" and "Control". With these functions, the switches or buttons connected to Input n can simultaneously be activated; in addition, a further function ("Dimming", "Shutter", "Value transmitter 1 Byte" or "Light scene extension with memory function") can also be addressed. However, if two inputs are occupied with one of the aforementioned functions and are addressed simultaneously, then this will be evaluated to be an undefined button pressure and the universal interface will not respond. (See Comments on restoration of bus voltage, below)

Information on application "8 Inputs 704101":

If a second operating level is parameterised (it does not need to be active?), then only one button can be activated at one time!

Outputs

The status object values of the outputs are deleted by a reset or after a download.

Bus voltage failure

Value transmitter function: When the value setting is changed by a long button pressure, the newly set value is only retained in the RAM, i.e. these value are replaced by the pre-set values that were parameterised by the ETS after a voltage failure or a bus reset.

If operation level 2 is set, it will be reset to operating level after a bus voltage failure.

Restoration of bus voltage

With the "Switching / Toggle", "Forced guidance operation", "Light scene extension without memory function" and "Control" functions, telegrams are sent as though they had just been sent to this position after the restoration of the bus voltage with closed inputs (closer = activated / opener = not activated).

With the "Dimming", "Shutter" and "Value transmitter / Light scene extension with memory function" functions, a telegram is sent, as previously described, if only one input is closed that has been configured for this function. If two or more inputs are closed with one of these functions, then the universal interface does not show any reaction for these inputs when the bus voltage is restored.

Note on "8 Inputs 704101" application:

If a second operating level is parameterised, then inputs with the functions "Switching / Toggle", "Forced guidance operation", "Light scene extension without save function" and "Control" will only be evaluated when the bus voltage is restored if only one input is closed. If several inputs with these functions are closed, then the universal interface will not display any function here.