Product manual | **14.02.2024**

Busch-Installationsbus® KNX

BA/U1.0.X Bus coupler KNX, FM

KK/U4.x.11 Keypad, 1-4gang

LFx/A.x.xx.xx Cover

BUSCH-JAEGER

1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also include this manual along with it.

Busch-Jaeger accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact Busch-Jaeger or visit our Internet site at:

www.BUSCH-JAEGER.de

2 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind.

Busch-Jaeger accepts no liability for any failure to observe the safety instructions.

2.1 Information and symbols used

The following Instructions point to particular hazards involved in the use of the device or provide practical instructions:

Danger

Risk of death / serious damage to health

– The respective warning symbol in connection with the signal word "Danger" indicates an imminently threatening danger which leads to death or serious (irreversible) injuries.

Warning

Serious damage to health

– The respective warning symbol in connection with the signal word "Warning" indicates a threatening danger which can lead to death or serious (irreversible) injuries.

Caution

Damage to health

– The respective warning symbol in connection with the signal word "Caution" indicates a danger which can lead to minor (reversible) injuries.

Attention

Damage to property

– This symbol in connection with the signal word "Attention" indicates a situation which could cause damage to the product itself or to objects in its surroundings.

NOTE

This symbol in connection with the word "Note" indicates useful tips and recommendations for the efficient handling of the product.

This symbol alerts to electric voltage.

2.2 Intended use

The keypads and design covers result in combination with the FM inserts, or the Bus coupler KNX, FM in multifunctional control elements with different performance features for the operation of building functions in Busch-Installationsbus® KNX.

Depending on the type of keypad selected, the use with different design lines from the Busch-Jaeger range is possible.

The devices are intended for the following:

- Operation according to the listed technical data
- Installation in dry interior rooms
- Use with the connecting options available on the device

The intended use also includes adherence to all specifications in this manual.

2.3 Improper use

Each use not listed in see chapter 2.2 “Intended use“ on page 8 is deemed improper use and can lead to personal injury and damage to property.

Busch-Jaeger is not liable for damages caused by use deemed contrary to the intended use of the device. The associated risk is borne exclusively by the user/operator.

The device is not intended for the following:

- Unauthorized structural changes
- Repairs
- Outdoor use
- The use in bathroom areas

2.4 Target group / Qualifications of personnel

2.4.1 Operation

No special qualifications are needed to operate the device.

2.4.2 Installation, commissioning and maintenance

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect
2. Secure against being re-connected
3. Ensure there is no voltage
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

2.5 Safety instructions

Danger - Electric voltage!

Electric voltage! Risk of death and fire due to electric voltage of 100 … 240 V.

Dangerous currents flow through the body when coming into direct or indirect contact with live components. This can result in electric shock, burns or even death.

- Work on the 100 … 240 V supply system may only be performed by authorised and qualified electricians.
- Disconnect the mains power supply before installation / disassembly.
- Never use the device with damaged connecting cables.
- Do not open covers firmly bolted to the housing of the device.
- Use the device only in a technically faultless state.
- Do not make changes to or perform repairs on the device, on its components or its accessories.
- Keep the device away from water and wet surroundings.

Caution! - Risk of damaging the device due to external factors!

Moisture and contamination can damage the device.

- Protect the device against humidity, dirt and damage during transport, storage and operation.

3 Information on protection of the environment

3.1 Environment

Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with domestic waste.

– The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS)

(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006).

4 Product Overview

Fig. 1: Product overview

The keypads and design covers result in combination with the Bus coupler KNX, FM multifunctional control elements with different performance features for the control of building functions in Busch-Installationsbus® KNX- systems.

Depending on the type of keypad selected, the use with different design lines from the Busch-Jaeger range is possible. Keypad and design covers must be ordered separately.

The following design lines are available:

- without text in the desired colour
- with standard icons and in the desired colour directly from the catalogue
- individually labelled via web configurator and can be ordered in the desired colour via the generated design ID

Configuration

- Busch-Installationsbus® KNX
- Commissioning is made in combination with the FM insert via the ETS application (from ETS 5).

4.1 Scope of supply

The bus connection terminal is included in the scope of delivery of the Bus coupler KNX, FM.

Notice
The connection with the Busch-Installationsbus® KNX is established via the bus connection terminal.

4.2 Accessories

Removal protection CSE/U0.1.11.CK

Notice
Not included in the scope of delivery, please order separately.

4.3 Overview of types

Article no.	Product Name	Design	Dimensions (mm)
KK/U4.55.11	Keypad, 1-4gang (55 mm)	Busch-art Balance® SI	The dimensions depend on the selected design.
KK/U4.63.11	Keypad, 1-4gang (63 mm)	Busch future	
KK/U4.70.11	Keypad, 1-4gang (70 mm)	Busch-art linear®	
LFx/A.x.xx.xx	Cover	-	
BA/U1.0.11-FX	Bus coupler KNX, FM	-	
CSE/U0.1.11.CK	Removal protection	-	

Table 1: Overview of types

4.4 Functional overview

The keypads and design covers result in combination with the Bus coupler KNX, FM multifunctional control elements with different performance features for the control of building functions in Busch-Installationsbus® KNX systems.

Depending on the type of keypad selected, the use with different design lines from the Busch-Jaeger range is possible.

Various functions can be controlled with the keypads, such as:

- Lighting control
- Blind control
- Heating & air-conditioning
- Individual scenes

4.5 Device overview

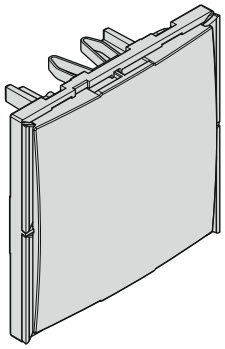


Fig. 2: Overview of devices Keypad, 1-4gang (example illustration)

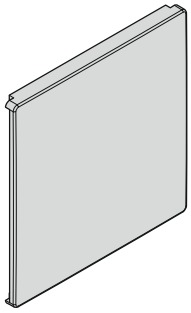


Fig. 3: Overview of devices Cover

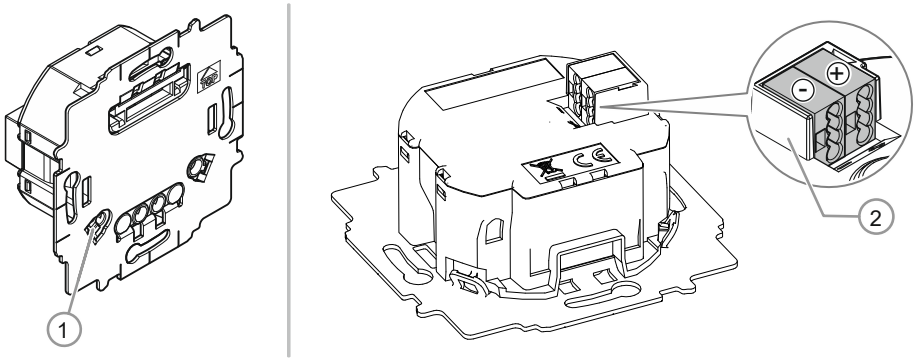


Fig. 4: Overview of devices Bus coupler FM

1 Programming button/LED

2 Clamp block, bus connection

5 Technical data

Technical data Keypad, 1-4gang

Designation	Value
Dimensions: KK/U4.55.11 KK/U4.54.1 KK/U4.63.11 KK/U4.70.11	 55.9 mm x 55.4 mm 54.4 mm x 54.2 mm 64.0 mm x 63.7 mm 54.8 mm x 54.8 mm
Protection type:	IP20
Ambient temperature:	-5°C - +45°C
Storage temperature:	-20°C - +70°C
Startup: ▪ Parameter setting: ▪ Programming:	 ETS 5 or higher KNX bus

Table 2: Technical data Keypad, 1-4gang

Technical data Bus coupler FM

Designation	Value
Supply voltage:	24 V DC (nominal)
Bus (KNX):	21 - 32 V DC
Power consumption:	max. 24 mA at 24 V (depending on the connected sensor)
Medium:	TP - 256
Bus and power supply connection:	**Bus connection terminal:** 0.6 - 0.8 mm **Line type:** J-Y(St)Y, 2 x 2 x 0.8 mm Wire stripping: 5 – 6 mm
Transmission protocol:	KNX (TP, S)
Degree of protection:	IP20
Ambient temperature:	-5 °C - +45 °C
Storage temperature:	-20 °C - +70 °C

Table 3: Technical data Bus coupler KNX, FM

5.1 Dimensional drawings

Notice
All dimensions are in millimetres.

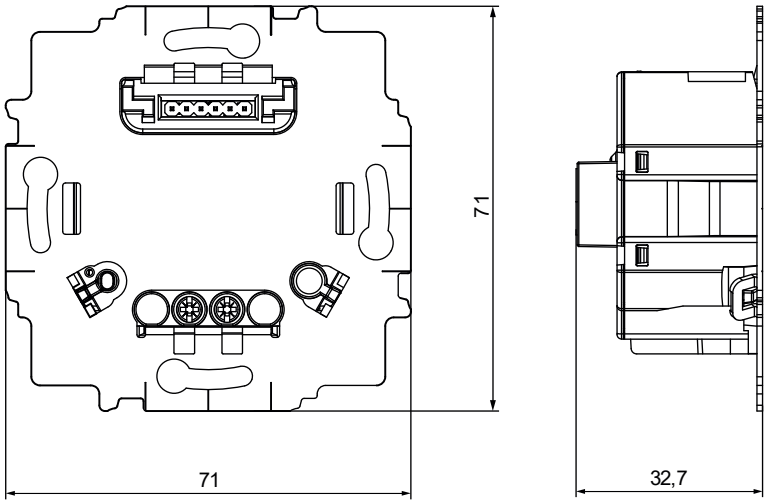


Fig. 5: Bus coupler FM

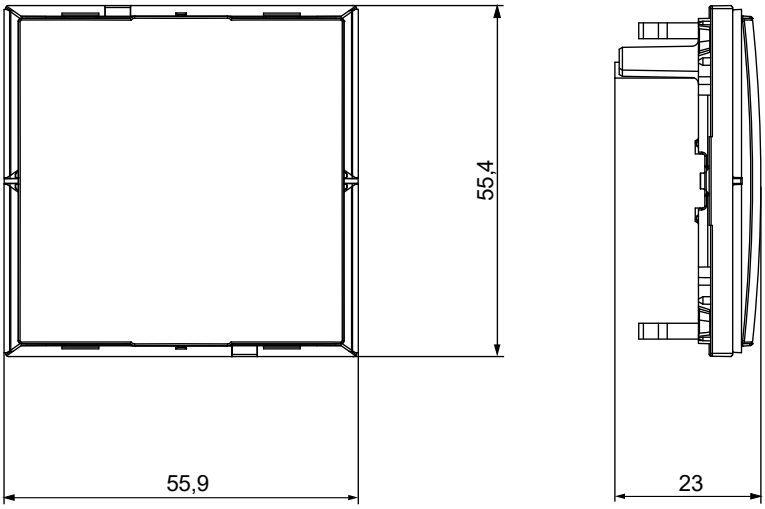


Fig. 6: KK/U4.55.11 Keypad, 1-4gang (55 mm)

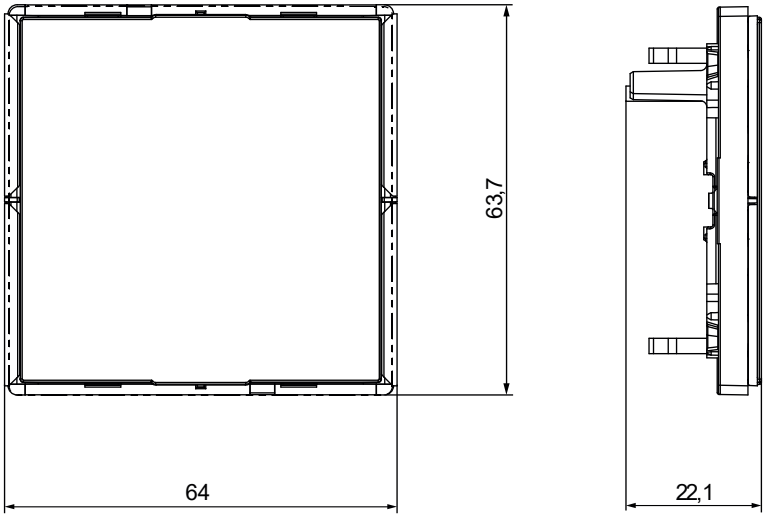


Fig. 7: KK/U4.63.11 Keypad, 1-4gang (63 mm)

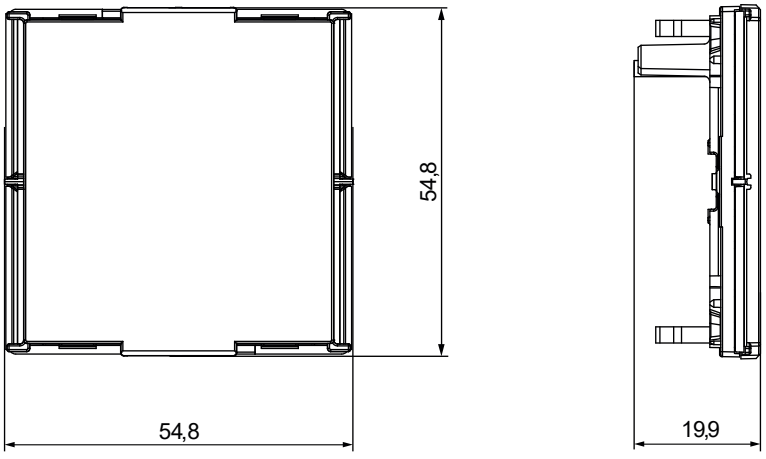


Fig. 8: KK/U4.70.11 Keypad, 1-4gang Busch-art linear®

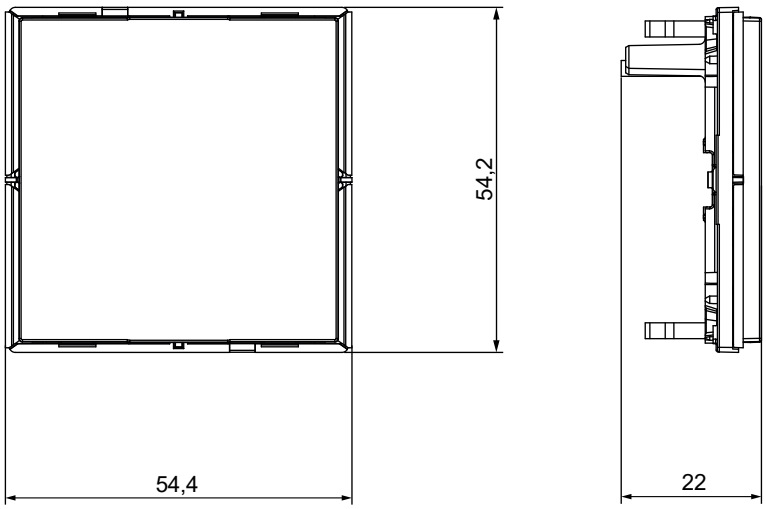


Fig. 9: KK/U4.54.1 Keypad, 1-4gang

Covers

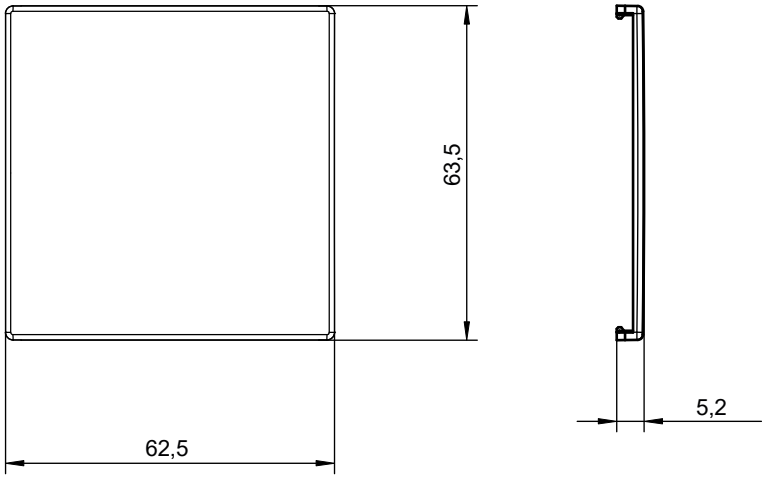


Fig. 10: Cover Busch future

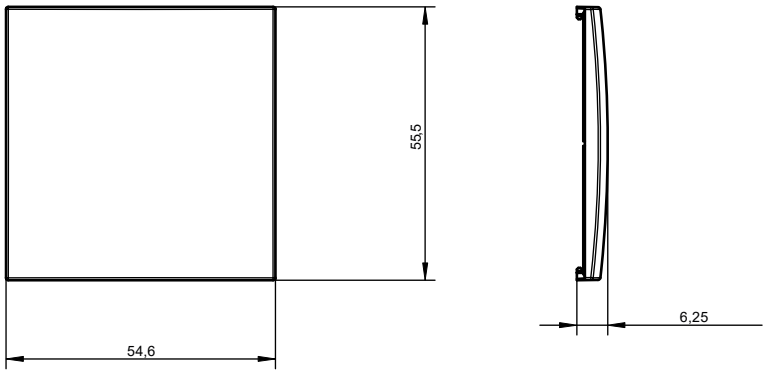


Fig. 11: Cover Busch-balance® SI

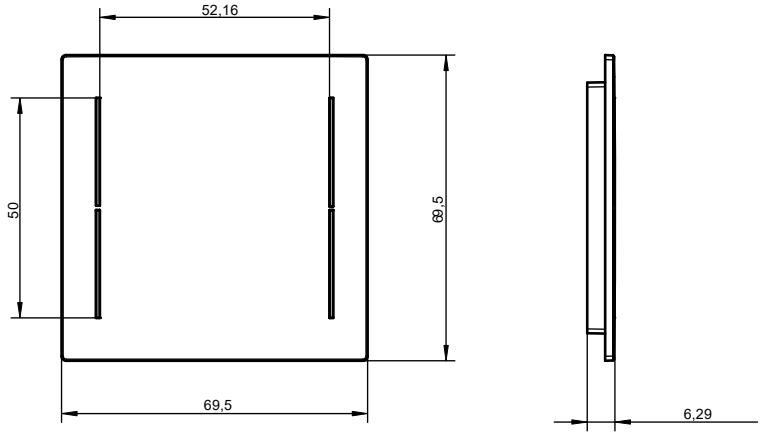


Fig. 12: Cover Busch-art linear®

5.2 Circuit diagrams

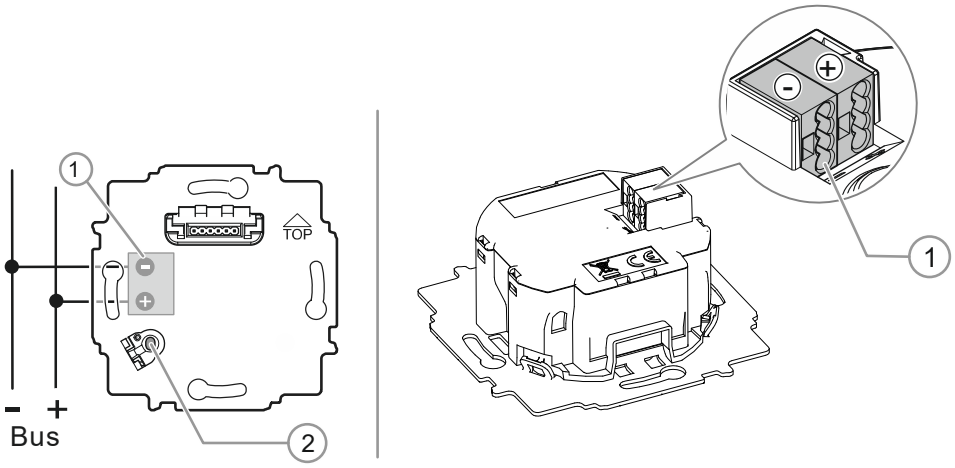


Fig. 13: Electrical connection Bus coupler FM

[1] Bus connection
[2] Programming button

6 Connection, installation / mounting

6.1 Safety instructions

Danger - Electric shock due to short-circuit!

Risk of death due to electrical voltage of 100 to 240 V during short-circuit in the low-voltage line.

– Low-voltage and 100 - 240 V lines must not be installed together in a flush-mounted box!
– Observe the spatial division during installation (> 10 mm) of SELV electric circuits to other electric circuits.
– If the minimum distance is insufficient, use electronic boxes and insulating tubes.
– Observe the correct polarity.
– Observe the relevant standards.

6.2 Requirements for the electrician

Danger - Electric voltage!

Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect
  2. Secure against being re-connected
  3. Ensure there is no voltage
  4. Connect to earth and short-circuit
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

6.3 Preparatory steps

- Terminate all branches of the wiring system with a connected bus device (e.g., indoor station, outdoor station, system device).
- Do not install the wires of the system bus together with 100 - 240 V cores.
- Do not use joint wires for the connecting cables of door openers and wires of the system bus.
- Avoid bridges between different wire types.
- Use only two wires for the system bus in a four-core or multi-core cable.
- During looping, never install the incoming and outgoing bus within a conduit.
- Never install the internal and external bus within a conduit.

6.4 Mounting / dismantling

6.4.1 Removal protection

Removal protection (optional)

Notice

- The Removal protection CSE/U0.1.11.CK is available as an option.
- The Removal protection is available for the following keypads:
  - Keypad, 1-4gang (55 mm) KK/U4.55.11
  - Keypad, 1-4gang KK/U4.54.1
  - Keypad, 1-4gang (63 mm) KK/U4.63.11
  - Keypad, 1-4gang (70 mm) KK/U4.70.11

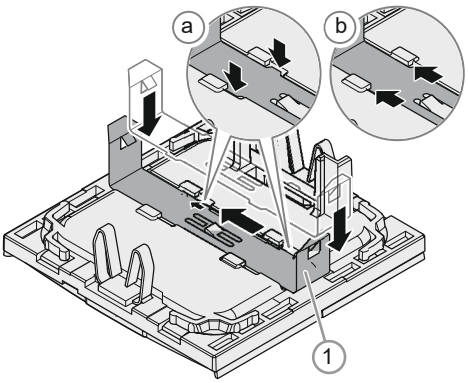


Fig. 14: Installation of the removal protection

■ Insert the removal protection [1] into the gaps [a] and push it in the direction of the lugs [b] until it latches.

6.4.2 Mounting

6.4.3 Mounting/installation of the bus coupler in flush-mounted installation box

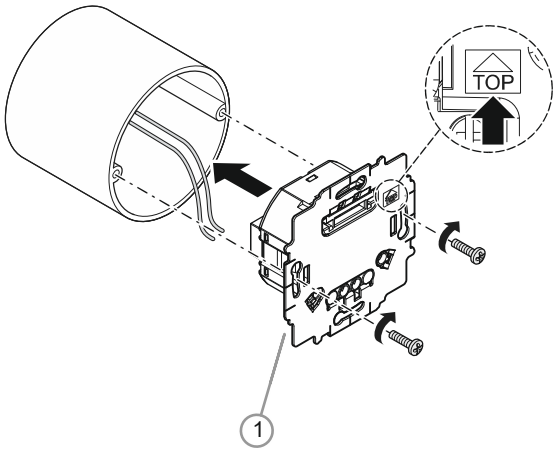


Fig. 15: Mounting of bus coupler

For mounting, the following steps are necessary.

Notice
Alignment for mounting
When mounting the FM insert, the arrow and the marking "Top" on the support ring must point upwards.

1. Connect the back of the coupler with the enclosed 2-pin plug-in terminal with the bus line.

Notice
Check that the polarity is correct!

2. Screw the support ring and flush-mounted box together.

The device is now fully mounted.

6.4.4 Mounting on bus coupler

To mount the cover, the following step is necessary.

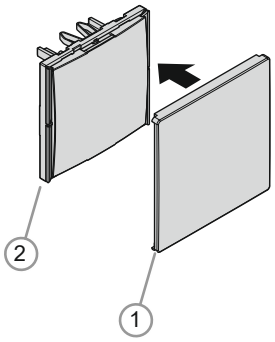


Fig. 16: Mounting the cover on keypad

1. Latch cover [1] onto keypad [2].

To mount the keypad, the following step is necessary.

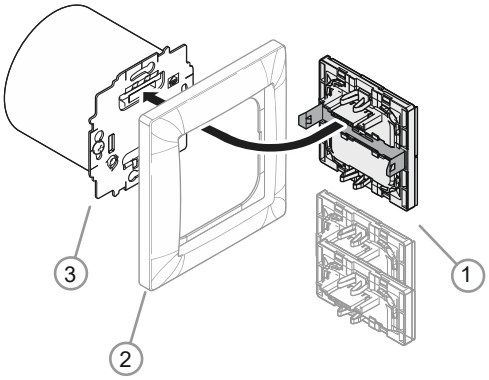


Fig. 17: Mounting keypad on coupler

Notice
If using removal protection, mount beforehand, see see chapter 6.4.1 “Removal protection“ on page 24

1. Plug the keypad [1] together with the cover frame [2] onto the flush-mounted insert [3].

6.5 Dismantling

6.5.1 Dismantling without removal protection

Dismantling **Keypad, 1-4gang without removal protection**

Notice
The Keypad, 1-4gang can be dismantled both with or without attached Cover.

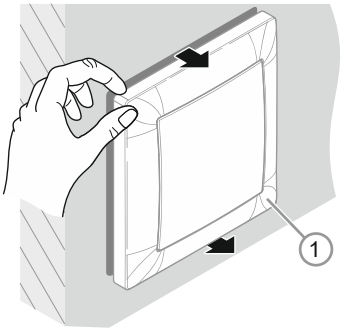


Fig. 18: Dismantling Keypad, 1-4gang without removal protection

1. Pull the Keypad, 1-4gang [1] with cover frame off the FM insert.

Dismantling **the Cover**

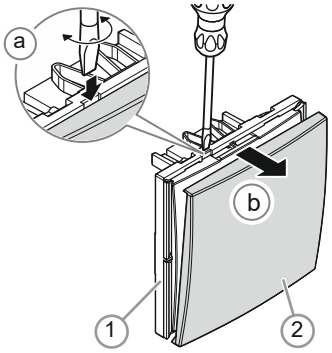


Fig. 19: Dismantling Cover

1. Lever the cover [2] off from the Keypad, 1-4gang [1] [a] with a screw driver via the cavity.
2. Remove the cover [2] [b].

Notice - Dismantling
Dismantling the Bus coupler FM is carried out in the reverse order to mounting.

6.5.2 Dismantling of removal protection

Dismantling **Keypad, 1-4gang of removal protection**

Notice
The Keypad, 1-4gang can be dismantled both with or without attached Cover.

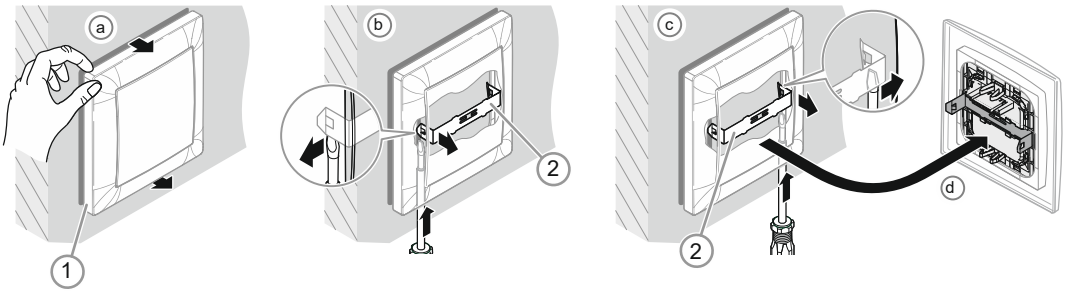


Fig. 20: Dismantling operating field of removal protection:

[a] Loosen the Keypad, 1-4gang with cover frame [1] off the FM insert until the Removal protection prevents a further pulling off.

[b] With a screw driver, press from the inside against the lug on the Removal protection[2] until it loosens from the selected side from the insert.

[c] With a screw driver, press from the inside against the other lug on the Removal protection [2] until it loosens from the insert.

[d] Remove the Keypad, 1-4gang with cover frame off the FM insert.

Notice - Dismantling
Dismantling the Bus coupler FM is carried out in the reverse order to mounting.

Dismantling **the Cover**

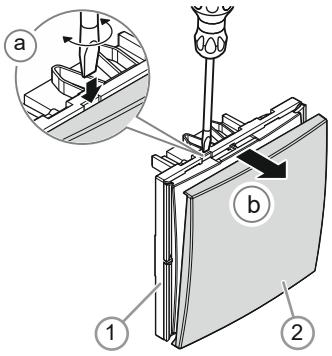


Fig. 21: Dismantling Cover

1. Lever [a] the cover [2] off from the Keypad, 1-4gang [1] with a screw driver via the cavity.
2. Remove the cover [2] [b].

7 Commissioning

Commissioning and parameter setting of the keypads for KNX TP takes place via the Engineering Tool Software (ETS).

7.1 KNX secure

KNX Secure encrypts the data additionally on the bus line (Twisted Pair) or via the wireless communication.

It is a method for safe communication within the KNX installation, and it includes the areas “KNX IP Secure” on the IP-network level and “KNX Data Secure” on the telegram level. Prerequisite for this are KNX Secure-capable devices.

KNX IP Secure

Access (parameter setting) and IP communication of the devices is possible only for authorized participants.

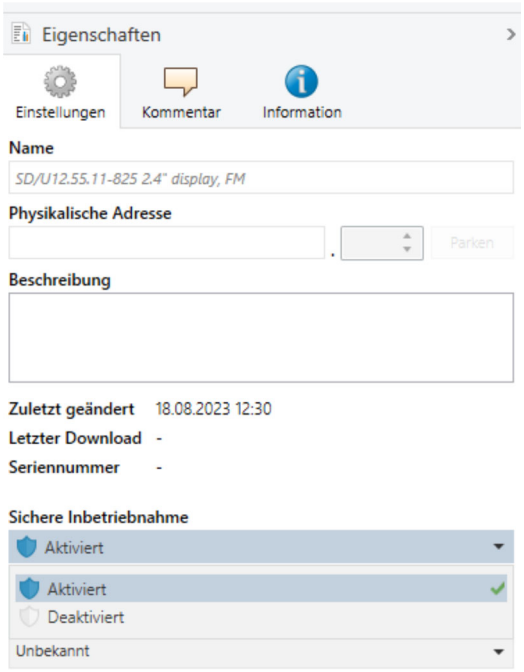
KNX Data Secure

Access (parameter setting) and editing of KNX telegrams for users is possible only for authorized participants.

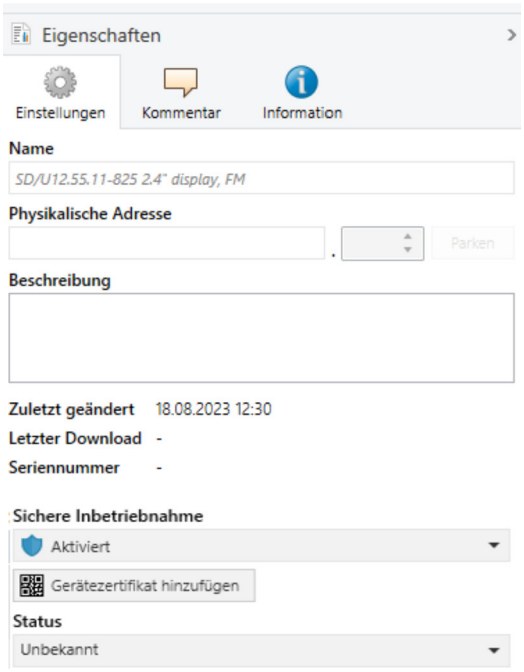
Prerequisite:

– The project must be created and fitted with a password.
– The KNX Secure device must be imported.

To encrypt the data with KNX Secure, proceed as follows:

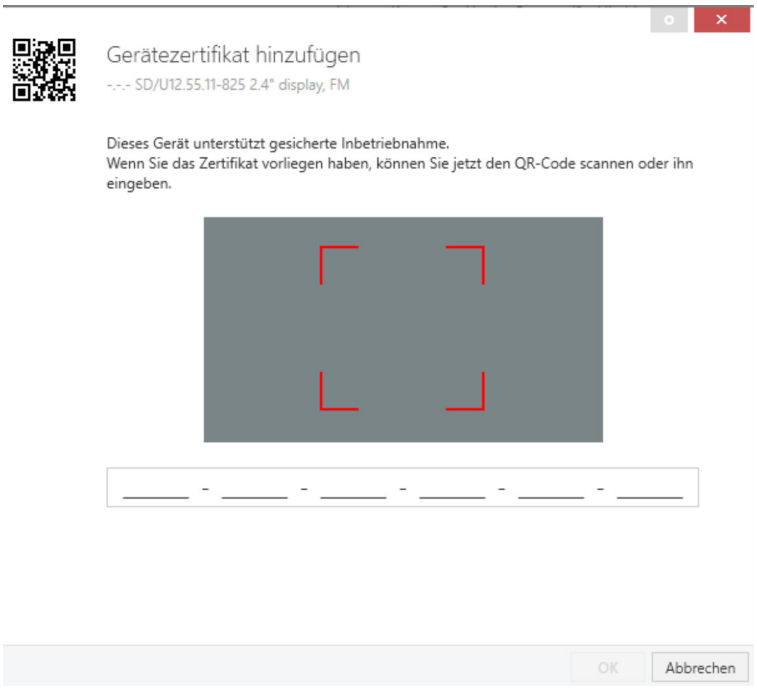


1. In the project under "Characteristics/settings" activate "Safe commissioning".



2. Click on button "Add device certificate".

   The Add device certificate window opens.



3. Add the device certificate (Factory Device Setup Key) by scanning the QR code or by entering it manually and confirm with OK.

   The device is now in safe mode and can be parameterized.

Notice
The QR code and the device-specific key (Factory Device Setup Key) are located on the rear side of the insert.

To cancel the encryption with KNX Secure, proceed as follows:

1. Interrupt the bus voltage on the device.
2. Press the programming button .

   The LED flashes and then starts to flash fast.
3. Reconnect the device with the bus voltage.

   The encryption of the device is cancelled.

Use the physical address and application in ETS, and then one can also use it for other projects -> always reprogram all devices when ETS indicates this (in flag overview!)!

8 Description of application and parameters

The device is parameterised using the Engineering Tool Software ETS.

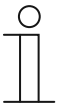
The following chapter describes the parameters of the device on the basis of the parameter windows. The parameter windows are set up dynamically. The parameters are faded in or out depending on the parameter setting and function.

The standard values of the parameters are displayed underlined.

For example:

No (checkbox not set)

Yes (checkbox is set)



Notice
The standard values in the ETS application can, depending on the product version, deviate from the values specified in the product manual.

8.1 Application "Configuration"

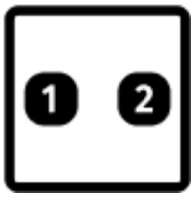
8.1.1 Arrangement

- Arrangement

Options:	Layout 1 - 9

The parameter is used to specify the number and arrangement of the operating areas.

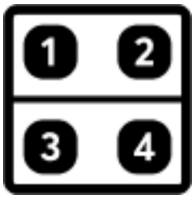
- Layout 1 - operating area 1/2 (1-gang button or 1-gang rocker horizontal, slide function is not available)



- Layout 2 - operating area 1/3 (1-gang button or 1-gang rocker vertical, slide function is available)

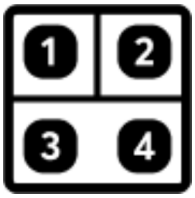
- Layout 3 - operating area 1/3 and 2/4 (2-gang button or 2-gang rocker vertical, slide function is available)

- Layout 4 - operating area 1/2 and 3/4 (2-gang button or 2-gang rocker horizontal, slide function is not available)

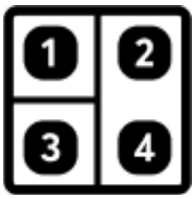


- Layout 5 - operating area 1/2, 3 and 4 (3-gang button or 2-gang button and 1gang rocker horizontal, slide function is not available)

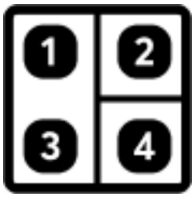
- Layout 6 - operating area 1, 2 and 3/4 (3-gang button or 2-gang button and 1gang rocker horizontal, slide function is not available)



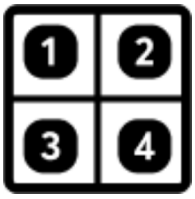
- Layout 7 - operating area 1, 3 and 2/4 (3-gang button or 2-gang button and 1gang rocker vertical, slide function is available)



- Layout 8 - operating area 1/3, 2 and 4 (3-gang button or 2-gang button and 1gang rocker vertical, slide function is available)



- Layout 9 - operating area 1, 2, 3 and 4 (4-gang button)



8.1.2 Configuration

Configuration

The desired operation of the keypad is defined in the chapter. Additionally, up to 5 logic functions can be activated here if desired.

The parameters for the configuration can be selected in column"Application" and fitted with an explanation in column "Description".

- Primary function

Options:	Deactivated
	Switching
	Scenes
	Send value/multiple operation

The parameter is used to specify the primary function.

Notice
The following buttons and rocker switch function can be selected under "Arrangement". The availability of the operating areas depends on the selected layout.

- Operating area 1/2, 1/3 2/4 and 3/4

Options:	Switching
	■ Switching (2-buttons)
	Blinds/roller blinds
	Blinds / roller blinds (2-buttons)
	Blind/roller blind (slider)
	Switching/dimming
	Switching/dimming (2-buttons)
	Switching/dimming (slider)
	Switching sequence
	Switching sequence (2-buttons)
	Scenes
	Send value/multiple operation
	Deactivated

The parameter is used to specify the function or stored application of the respectively combined operating areas.

- Operating area 1, 2, 3 and 4

Options:	Switching
	Blinds/roller shutters
	Switching/dimming
	Scenes
	Switching sequence
	Send value/multiple operation
	Deactivated

Operating area 1 - 4, only button functions.

The parameter is used to specify the function or stored application of the respectively individual operating areas.

- Sensor

Options:	Deactivated
	Temperature sensor

The parameter is used to activate the temperature sensor.

When the temperature sensor is activated, an additional parameter "Sensor" is available.

- Function 1, 2, 3, 4 and 5

Options:	Deactivated
	Telegram cyclical
	Priority
	Logic functions
	Gate
	Staircase lighting
	Delay
	Min/max value transducer
	Light scene actuator
	Sequence

The parameter is used to specify the stored function or application of the respective channel 1 - 5.

The parameter setting is made in the respective parameter window.

8.2 Application "Device settings"

8.2.1 General

In this parameter window the overriding parameter settings relevant for the entire device are made.

8.2.1.1 Enable communication object "In operation"

Options:	No
	Yes, send value 0 cyclic
	Yes, send value 1 cyclic

- No:
  - The communication object is not enabled.
- Yes, send value 0 cyclic:
  - The communication object *In operation* is sent to the KNX bus cyclic with value 0.
- Yes, send value 1 cyclic:
  - The communication object *In operation* is sent to the KNX bus cyclic with value 1.

The communication object *In operation* reports the presence of the device to the KNX bus. This cyclical telegram can be monitored with an external device. If no telegram is received, the device may be defective or the KNX line to the sending device may have been interrupted.

- Sending cycle

Options:	Setting option: 00:00:01 ... 00:10:00 ... 18:12:15 hh:mm:ss

Notice
This parameter is only available if the parameter enable "Communication object "In operation" is set on "Yes, send value 0 cyclic" or "Yes, send value 1 cyclic"

Here the time interval is set with which the communication object *In operation* sends a cyclical telegram.

8.2.2 LED settings

User colour 1…4

Options:	#000000 … #FFFFFF

This parameter is used to specify the user-defined colour for the LED. Then it can, for example, be selected in the "Enable light for orientation" parameter.

The values are displayed hexadecimal.

Fig. 22: User-defined colour for button

The values can be set as follows via the button on the right of the text field:

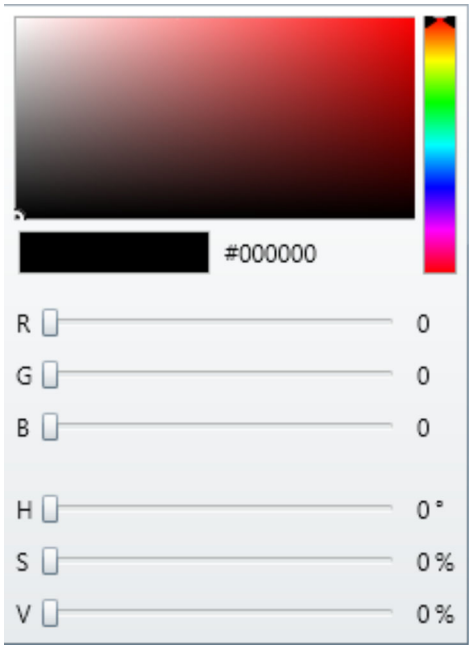


Fig. 23: User-defined colour

- Continuously in a colour selection field
- Via slider in the RGB colour range
- Via slider in the RGB HSV colour range

Activate day/night switchover

Options:	Deactivated
	Activated

The parameter is used to specify whether the brightness of the LED can be switched over between day and night mode.

When parameter "Activate day/night mode switchover" is activated, additional parameters are available.

LED brightness "Day"

Options:	off
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%

The parameter is used to specify the brightness level used for the LED in daytime operation.

LED brightness "Night"

Options:	off
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%

The parameter is used to specify the brightness level used for the LED in night-time operation.

8.2.3 Enable light for orientation

Enable light for orientation

Options:	Deactivated
	Activated

The parameter is used to specify whether the light for orientation is used.

When parameter "Enable light for orientation" is activated, additional parameters are available.

Colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the light for orientation is to have.

Brightness "Day"

Options:	Use of LED brightness settings
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%

The parameter is used to specify the brightness level for the light for orientation in daytime operation.

Brightness "Night"

Options:	Use of LED brightness settings
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%

The parameter is used to specify the brightness level for the light for orientation in night-time operation.

Activate with

Options:	Device
	Communication object "Light for orientation"

The parameter is used to specify how the light for orientation is activated.

– For the selection "Device" the additional parameter "Activate after" is available.
– For the selection "Communication object light for orientation" the additional parameter "Activated by" is available.

Activate after

Options:	00:01:00 … 00:05:00 ... 18:12:15 hh:mm:ss

The parameter is used to specify the time period the light for orientation is activated after the last operation.

Activated by

Options:	1
	0

The parameter is used to specify at which value the communication object "Light for orientation" is activated.

Enable alarm function

Options:	Deactivated
	Activated

The parameter is used to specify whether the alarm function is used.

The alarm function is visualised via the flashing optical fiber right and left with the defined LED colour. If desired, a sound can be additionally activated which the supports the visual alarm acoustically.

When parameter "Alarm function" is activated, additional parameters are available.

Optical alarm

Options:	Activated
	Deactivated

The parameter is used to specify whether the optical alarm (LED) is used.

Notice
With the parameter "Alarm function enabled" is activated, the parameter "Optical alarm" is set automatically on active.

When parameter "Optical alarm" is activated, additional parameters are available.

LED colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED for the optical alarm is to have.

LED brightness

Options:	Use of LED brightness settings
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%

The parameter is used to specify the brightness level used for the optical alarm.

Audible alarm

Options:	Activated
	Deactivated

The parameter is used to specify whether the acoustic alarm is used.

Notice
With the parameter "Alarm function enabled" is activated, the parameter "Acoustic alarm" is set automatically on active.

8.2.4 Acoustic feedback

Button sounds

Options:	off
	Loud
	Lower

The parameter is used to specify whether and which volume of the acoustic feedback is used for the buttons.

If the operation is supported by a sound, the parameter is to be adjusted to the desired volume. The sound is sent out at every contact of the keypad. Exception here is the sliding function, the sound is not sent out during sliding.

8.2.5 Sensitivity to touch

Primary function

Options:	Low
	Medium
	Up

The parameter is used to specify which sensitivity to touch is used for the primary function.

This parameter is only visible if the primary function is active.

Operating area

Options:	Low
	Medium
	Up

The parameter is used to specify which sensitivity to touch is used for the operating area.

8.3 Application "Primary function"

8.3.1 Primary function - Application

In this parameter window the parameter settings relevant for the primary function are made.

The displayed parameters for the primary function depend on the application selected under "Configuration"

The primary function is the parameterized operating function superimposed and is only carried out or recognised when the entire surface of the keypad is touched with a hand or at least 3 fingers.

8.3.1.1 Switching

With the application "Switching" a switching telegram is sent when the rocker is actuated and/or released. The function does not distinguish at which place the surface is touched. In each case, the application makes a separate set of parameters and communication objects available for the surface of the rocker.

- Differentiation between short and long actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the type of actuation (long/short) is different.

- Reaction to touch

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction to the touch of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Reaction during release

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction to the touch of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is inactive.

- Reaction at short actuation

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction at a short actuation of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Reaction at long actuation

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction at a long actuation of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.3.1.2 Scenes

Via the application "Scenes", a predefined scene number is called up when the surface is actuated.

In each case, the application "Scenes"makes a separate set of parameters and communication objects available for the right/top or left/bottom side of the surface.

The application facilitates calling up a scene via a surface side and the other surface side can be assigned an additional "button-orientated" function.

The user has the option to trigger a scene memory command with a long press of the button or an additional scene with a different scene number.

- Differentiation between short and long actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the short or long actuation is different.

- At short actuation: Scene number

Options:	Setting option: 1 - 64

The parameter is used to specify the scene that is carried out at a short actuation.

The parameter can only be set when parameter "Differentiation between short and long actuation" is active.

- Reaction at long actuation

Options:	Save scene
	Call up further scene

The parameter is used to specify the function that is carried out at a long actuation.

The parameter can only be set when parameter "Differentiation between short and long actuation" is active.

- At long actuation: Scene number

Options:	Setting option: 1 - 64

The parameter is used to specify the scene that is called up at a long actuation.

This parameter is only adjustable if the "Behaviour at long actuation" parameter is set on "Call up additional scene".

- Scene number

Options:	Setting option: 1 - 64

The parameter is used to specify the scene that is called up at an actuation.

The parameter can only be set when parameter "Differentiation between short and long actuation" is inactive.

- Scene

Options:	Transmitting
	Save

The parameter is used to specify whether the scene is sent or stored.

The parameter can only be set when parameter "Differentiation between short and long actuation" is inactive.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.3.1.3 Send value/multiple operation

In parameter value x send it is specified at which edge (rising or falling edge) or which actuation (short actuation, long actuation or multiple actuation) a telegram is sent.

Depending on the event, up to four values can be sent via separate communication objects. In the following parameters DPT (Data Point Type) and telegram value of the communication objects are specified.

- Value x DPT
- Value x Value

- Send value at

Options:	Opening/closing the contact
	Short/long actuation
	Multiple actuation

The parameter is used to specify the condition under which the value is sent.

Send value at opening/closing the contact

The parameter can only be set when parameter "Send value at" is set on "Opening/closing the contact".

The following parameters Value 1 / value 2 are used to specify when the value is sent and which value is assigned to the respective data point.

- Value 1 / value 2 - Switching [DPT 1.001]

	Send at	DPT	Value
Value 1	Close	Switching [DPT 1.001]	on off Switchover
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Switching [DPT 1.001]	on off Switchover
Value 2	Open	–	on off Switchover

	Send at	DPT	Value
Value 1	Open	Switching [DPT 1.001]	on off Switchover
Value 2	Close	–	on off Switchover

	Send at	DPT	Value
Value 1	Open	Switching [DPT 1.001]	on off Switchover
Value 2	No reaction	–	–

- Value 1 / value 2 - Forced operation [DPT 2.001]

	Send at	DPT	Value
Value 1	Close	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Open	–	No forced operation Forced operation, value 0 Forced operation, value 1

	Send at	DPT	Value
Value 1	Open	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Close	–	No forced operation Forced operation, value 0 Forced operation, value 1

	Send at	DPT	Value
Value 1	Switchover	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Switchover	–	No forced operation Forced operation, value 0 Forced operation, value 1

- Value 1 / value 2 - Percent [DPT 5.001]

	Send at	DPT	Value
Value 1	Close	Percent [DPT 5.001]	0 … 100 %
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Percent [DPT 5.001]	0 … 100 %
Value 2	Open	–	0 … 100 %

	Send at	DPT	Value
Value 1	Open	Percent [DPT 5.001]	0 … 100 %
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Percent [DPT 5.001]	0 … 100 %
Value 2	Close	–	0 … 100 %

	Send at	DPT	Value
Value 1	Switchover	Percent [DPT 5.001]	0 … 100 %
Value 2	Switchover	–	0 … 100 %

- Value 1 / value 2 - 1 byte without a sign [DPT 5.001]

	Send at	DPT	Value
Value 1	Close	1 byte [DPT 5.001]	0 … 255
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	1 byte [DPT 5.001]	0 … 255
Value 2	Open	–	0 … 255

	Send at	DPT	Value
Value 1	Open	1 byte [DPT 5.001]	0 … 255
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	1 byte [DPT 5.001]	0 … 255
Value 2	Close	–	0 … 255

	Send at	DPT	Value
Value 1	Switchover	1 byte [DPT 5.001]	0 … 255
Value 2	Switchover	–	0 … 255

- Value 1 / value 2 - 1 byte with a sign [DPT 6.010]

	Send at	DPT	Value
Value 1	Close	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Open	–	-128 … 0 … 127

	Send at	DPT	Value
Value 1	Open	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Close	–	-128 … 0 … 127

	Send at	DPT	Value
Value 1	Switchover	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Switchover	–	-128 … 0 … 127

- Value 1 / value 2 - 2 byte without a sign [DPT 7.001]

	Send at	DPT	Value
Value 1	Close	2 byte [DPT 7.001]	0 … 65535
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	2 byte [DPT 7.001]	0 … 65535
Value 2	Open	–	0 … 65535

	Send at	DPT	Value
Value 1	Open	2 byte [DPT 7.001]	0 … 65535
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	2 byte [DPT 7.001]	0 … 65535
Value 2	Close	–	0 … 65535

	Send at	DPT	Value
Value 1	Switchover	2 byte [DPT 7.001]	0 … 65535
Value 2	Switchover	–	0 … 65535

- Value 1 / value 2 - 2 byte with a sign [DPT 8.001]

	Send at	DPT	Value
Value 1	Close	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Open	–	-32768 … 0 … 32767

	Send at	DPT	Value
Value 1	Open	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Close	–	-32768 … 0 … 32767

	Send at	DPT	Value
Value 1	Switchover	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Switchover	–	-32768 … 0 … 32767

- Value 1 / value 2 - 4 byte without a sign [DPT 12.001]

	Send at	DPT	Value
Value 1	Close	4 byte [DPT 12.001]	0 … 4294967295
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Open	–	0 … 4294967295

	Send at	DPT	Value
Value 1	Open	4 byte [DPT 12.001]	0 … 4294967295
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Close	–	0 … 4294967295

	Send at	DPT	Value
Value 1	Switchover	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Switchover	–	0 … 4294967295

- Value 1 / value 2 - Temperature [DPT 9.001]

	Send at	DPT	Value
Value 1	Close	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Open	–	-100 … 20 … 250 °C

	Send at	DPT	Value
Value 1	Open	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Close	–	-100 … 20 … 250 °C

	Send at	DPT	Value
Value 1	Switchover	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Switchover	–	-100 … 20 … 250 °C

- Value 1 / value 2 - Brightness [DPT 7.013]

	Send at	DPT	Value
Value 1	Close	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Open	–	0 … 400 … 65535 Lux

	Send at	DPT	Value
Value 1	Open	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Close	–	0 … 400 … 65535 Lux

	Send at	DPT	Value
Value 1	Switchover	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Switchover	–	0 … 400 … 65535 Lux

- Value 1 / value 2 - Colour [DPT 232.600]

	Send at	DPT	Value
Value 1	Close	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Open	–	#000000 … #FFFFFF

	Send at	DPT	Value
Value 1	Open	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Close	–	#000000 … #FFFFFF

	Send at	DPT	Value
Value 1	Switchover	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Switchover	–	#000000 … #FFFFFF

- Value 1 / value 2 - HVAC mode [DPT 20.102]

	Send at	DPT	Value
Value 1	Close	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Open	–	Automatic mode Comfort Standby Economy Building protection

	Send at	DPT	Value
Value 1	Open	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Close	–	Automatic mode Comfort Standby Economy Building protection

	Send at	DPT	Value
Value 1	Switchover	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Switchover	–	Automatic mode Comfort Standby Economy Building protection

Send value at short/long actuation

The parameter can only be set when parameter "Send value at" is set on "Short/long actuation".

Via application "Send value at short/long actuation", different values can be sent out with a short and/or long actuation of the surface.

The application "Send value at short/long actuation" does not differentiate between whether the surface is actuated on the left/top or the right/bottom side. In each case, the application makes a separate set of parameters and communication objects available for the right/top and left/bottom side of the surface.

- Switchover value

Options:	Deactivated
	Activated

The parameter is used to specify the switchover of the respective value under value 1 and value 2.

- Value 1

The following parameter is used to specify when the value is sent and which value is assigned to the respective data point.

	Send at	DPT	Value
Value 1	Short actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 2

The following parameter is used to specify when the value is sent and which value is assigned to the respective data point.

	Send at	DPT	Value
Value 2	Long actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

Send value at multiple operation

The parameter can only be set when parameter "Send value at" is set on "Multiple actuation".

- Maximum time between two actuations

Options:	Setting option: 00.3 … 00.4 … 10.0 ss.f

This parameter is used to specify the space of time between two actuations.

- Send values at every actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the value is sent at every actuation.

The following parameters Value 1 / value 2 / value 3 / value 4 are used to specify when the value is sent and which value is assigned to the respective data point.

- Value 1

	Send at	DPT	Value
Value 1	1gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 …127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 2

	Send at	DPT	Value
Value 2	2gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 3

	Send at	DPT	Value
Value 3	3gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 1 Forced operation, value 2
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 4

	Send at	DPT	Value
Value 4	Long actuation 4gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 1 Forced operation, value 2
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	Deactivated
	Activated

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when Parameter "Extended settings" has been activated.

This parameter can only be set when parameter "Send value at" is set on "Short/long actuation" or "Multiple actuation".

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4 Application "Operating area x"

8.4.1 Application - Function

8.4.1.1 Switching

With the application "Switching" a switching telegram is sent when the rocker is actuated and/or released. The function does not distinguish at which place the surface is touched. In each case, the application makes a separate set of parameters and communication objects available for the surface of the rocker.

- Differentiation between short and long actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the type of actuation (long/short) is different.

- Reaction to touch

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction to the touch of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Reaction during release

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction to the touch of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is inactive.

- Reaction at short actuation

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction at a short actuation of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Reaction at long actuation

Options:	off
	on
	Switchover
	No reaction

The parameter is used to specify the reaction at a long actuation of the operating area.

The parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when parameter "Differentiation between long and short actuation" is active.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.2 Switching (2-buttons)

With the "Switching, 2-buttons" application, a telegram is sent at an actuation of the right/top or left/bottom side of the rocker.

The "Switching, 2-buttons" application differentiates here between whether the rocker is actuated on the right/top or the left/bottom side.

Operating area 1

- Reaction at actuation

Options:	off
	on
	Switchover

The parameter is used to specify the reaction at an actuation of the operating area.

Operating area 2

- Reaction at actuation
  - Off (operating area 1 - reaction at actuation - on)
  - On (operating area 1 - reaction at actuation - off)
  - Switchover (operating area 1 - reaction at actuation - switchover)

The reaction at actuation in operating area 2 is automatically assigned in dependence of the selection in parameter "Operating area 1 - reaction at actuation".

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Contact type

Options:	Normally open contact
	Normally closed contact

This parameter is used to specify the contact type.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.3 Blinds/roller shutters

Via the application "Blind/roller shutters", blind movement and/or slats adjustment commands can be sent to connected blind actuators by short or long actuation of the surface. A short button press always triggers a slats adjustment or stop command and a long button press always triggers a travel command.

The control always remembers the surface that is occupied with the "Blind/roller blind" application with the last action. For example: If a blind was lowered and halted at half height via a short button contact, then a renewed long button contact will raise the blind.

- Operating mode

Options:	Blind
	Roller blind

The parameter is used to specify whether the type of actuation (long/short) is different.

- Blind actuation

Options:	Short: Step/stop, long: moving
	Short: Moving, long: Step/stop

The parameter is used to specify the reaction of the blind at the type of actuation of the operating area.

These options can only be set when parameter "Blind" is selected in parameter "Operating mode".

- Cycle for sending the step/stop telegrams

Options:	00.3 … 00.5 … 10.0 ss.f

The parameter is used to specify the cycle for sending the step/stop telegram.

This parameter can only be set when "short: moving, long: step/stop" are selected in parameter "Blind actuation".

- Roller blind

Options:	Short: Stop, long: moving
	Only moving

The parameter is used to specify the reaction of the roller blind at the type of actuation of the operating area.

These options can only be set when parameter "Roller blind" is selected in parameter "Operating mode".

- Stop moving

Options:	<u>at release</u>
	at next actuation

The parameter is used to specify the reaction of the roller blind at the type of actuation of the operating area.

– At release: The roller blind moves up/down at actuation and stops at release
– At the next actuation: At actuation the roller blind moves in the opposite direction of the last movement and stops at the next actuation

This parameter can only be set when "Only moving" is selected in parameter "Roller blind".

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Change of direction of "Movement" to

Options:	00.0 … 59.9 ss.f

The parameter is used to specify the time period for the change of direction during movement.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Change of direction of "Slat adjustment" to

Options:	01.0 … 59.9 ss.f

The parameter is used to specify the time period for the change of direction of the slat adjustment.

These options can only be set when parameter "Extended settings" is active and when "Blind" is selected in parameter "Operating mode".

- Enable LED animation

Options:	Deactivated
	Activated

LED animation is enabled via the parameter.

This parameter can only be set when Parameter "Extended settings" has been activated.

When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Colour of animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for the animation.

- Background colour of the animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour to be used for the background of the animation.

- Duration of the animation

Options:	01 … 59 ss

The parameter is used to specify the duration of the animation.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set for operating mode "Blind" and for operating mode "Roller blind - short: stop, long: move".

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.4 Blinds / roller blinds (2-buttons)

Via the application "Blind/roller blind (2-buttons)", blind movement and/or slats adjustment commands can be sent to connected blind actuators by short or long actuation of the surface. A short button press always triggers a travel command and a long button press always triggers a slats adjustment or stop command.

In each case, the application "Blind/roller blind 2-buttons"makes a separate set of parameters and communication objects available for the right/top or left/bottom side of the surface.

The control always remembers the surface side that is occupied with the "Blind/roller blind (2-buttons)" application with the last action. For example: If a blind was lowered and halted at half height via a long press of the button, then a renewed short press of the button will raise the blind.

- Operating mode

Options:	Blind
	Roller blind

The parameter is used to specify whether the type of actuation (long/short) is different.

Operating area x

- Direction of movement

Options:	Up
	Down

The parameter is used to specify the reaction at an actuation of the operating area.

Operating area y

- Direction of movement
  - Up (operating area x - direction of movement - down)
  - Down (operating area x - direction of movement - up)

The direction of movement in operating area 2 is automatically assigned in dependence of the selection in parameter "Operating area 1 - direction of movement".

- Enable LED animation

Options:	Deactivated
	Activated

LED animation is enabled via the parameter.

This parameter can only be set when Parameter "Extended settings" has been activated.

When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Colour of animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for the animation.

- Background colour of the animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour to be used for the background of the animation.

- Duration of the animation

Options:	01 … 59 ss

The parameter is used to specify the duration of the animation.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Blind actuation

Options:	Short: Step/stop, long: moving
	Short: Moving, long: Step/stop
	Only moving
	Only slat adjustment

The parameter is used to specify the reaction to the type of the actuation.

These options can only be set when Parameter "Extended settings" has been activated.

- Cycle for sending the step/stop telegrams

Options:	00.3 … 00.5 … 10.0 ss.f

The parameter is used to specify the cycle for sending the step/stop telegram.

This parameter can only be set when one of the following options has been selected in parameter "Blind actuation":

– Short: Moving, long: Step/stop
– Only slat adjustment

- Roller blind actuation

Options:	Short: Stop, long: moving
	Only moving

The parameter is used to specify the reaction to the type of the actuation.

These options can only be set when Parameter "Extended settings" has been activated.

This parameter can only be set when the option "Roller blind" is selected in parameter "Operating mode".

- Stop moving

Options:	at release
	at next actuation

The parameter is used to specify the reaction to the type of the actuation.

These options can only be set when Parameter "Extended settings" has been activated.

This parameter can only be set when the option "Only moving" is selected in parameter "Roller blind actuation".

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set for operating mode "Blind" and for operating mode "Roller blind - short: stop, long: move".

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.5 Blind/roller blind (slider)

Via function "Blind/roller blind" (slider), next to the normal short button press for stop, also the blind/slat functions are available as swiping/sliding function. The function has available two different swiping/sliding functions.

- Fast swiping:
  Serves for moving the curtain into the desired top or bottom position when entering the room.
- Slow swiping:
  Serves for activating the position of the curtain or the slat with slow specific swiping. The position of the curtain/slat is directly displayed via the LED.

The following functions can be individually activated/deactivated.

– Brief press of the button

– Fast swiping

Notice
This "Slow swiping" function is always available.

- Type of control

Options:	Blind
	Roller blind

The parameter is used to specify whether the type of actuation (long/short) is different.

Short press

This parameter is activated/deactivated via the checkbox.

- Short press sends step/stop telegram

A short press sends a step/stop telegram.

Fast swiping

This parameter is activated/deactivated via the checkbox.

- Moving to end position

Options:	Height
	Slat

The parameter is used to specify the position the blind takes with a fast swipe.

This parameter can only be set when "Blind" is selected in parameter "Type of control".

- Fast swiping starts movement to the top/bottom end position

The parameter is used to specify the position the movement starts from.

This parameter is only available when "Roller blind" is selected in parameter "Type of control".

Slow swiping

- Move to position

Options:	Height
	Slat

The parameter is used to specify the position the blind takes with a slow swipe.

This parameter can only be set when "Blind" is selected in parameter "Type of control".

When parameter "Move to position - slat" is activated, additional parameters are available.

- Slow swiping starts a value telegram.

Slow swiping starts a value telegram.

This parameter is only available when "Roller blind" is selected in parameter "Type of control".

- Change at complete sliding movement

Options:	25 … 100 %

The parameter is used to specify the change at complete sliding movement

This parameter is only available when "Slat position" is selected in parameter "Setting".

- Update position during swiping

Options:	Deactivated
	Activated

The parameter is used to specify whether the position is updated during swiping.

This parameter is only available when "Slat" is selected in parameter "Move to position".

- Telegram is repeated every

Options:	00.3 … 00.6 … 10.0 ss.f

The parameter is used to specify the time period for the repeat of the telegram.

This parameter can only be set when parameter "Update position during swiping" has been activated.

- LED animation

Options:	None
	Setting
	Setting and movement

LED animation is enabled via the parameter.

This parameter can only be set when Parameter "Extended settings" has been activated.

When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Foreground colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the foreground colour.

- Background colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the background colour.

- Duration of the animation

Options:	01 … 30 … 59 ss

The parameter is used to specify the duration of the animation.

This parameter can only be set when "Setting and movement" is selected in parameter "LED animation".

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.6 Switching/dimming

With the "Switching/dimming" application, a surface has communication objects for switching and for dimming. A distinction is made a between short and long press of the button.

The "Switching/dimming" application differentiates between whether the rocker is actuated on the left/top or on the right/bottom side. The "Principle of operation of the rocker for …" parameter allows adjustment of whether the left/top or right/bottom side switches on or off or whether it is dimmed brighter or darker.

- At short actuation: switching
  - Switchover

The reaction at short actuation is always switching.

- At long actuation: dimming direction

Options:	Alternating
	Alternating, brighter after switching on
	Alternating, darker after switching on

The parameter is used to specify the dimming direction of the brightness change (darker/brighter)

- Enable LED animation

Options:	Deactivated
	Activated

The LED animation is enabled via the parameter.

When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Colour of animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for the animation.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Dimming procedure

Options:	Start-stop dimming
	Step-wise dimming

The parameter is used to specify which dimming procedure is used.

- Change per step

Options:	2%
	3%
	6%
	13%
	25%
	50%
	100%

The parameter is used to specify how large percentage-wise each step is.

This parameter can only be set when "Step-wise dimming" is selected in parameter "Dimming procedure".

- Telegram is repeated every

Options:	00.3 … 00.6 … 30.0 ss.f

The parameter is used to specify the time period for the telegram repetition.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is activated.

8.4.1.7 Switching/dimming (2-buttons)

With the "Switching/dimming (2-buttons)" application, a surface has communication objects for switching and for dimming. A distinction is made between a short (switching) and long (dimming) press of the button.

The "Switching/dimming (2-buttons)" application differentiates not between whether the surface is actuated on the left/top or on the right/bottom side. In each case, the application makes a separate set of parameters and communication objects available for the right/bottom and left/top side of the surface.

Operating area x

- At short actuation

Options:	on
	off
	Switchover
	No reaction

The parameter is used to specify the function that is carried out at a short actuation.

- At long actuation

Options:	Brighter
	Darker

The parameter is used to specify the dimming direction of the brightness change (darker/brighter)

Operating area y

- At short actuation

Options:	on
	off
	Switchover
	No reaction

The parameter is used to specify the function that is carried out at a short actuation.

- At long actuation

The intensity of the brightness (brighter/darker) for the long actuation in operating area y is respectively opposite to the one in operating area x.

- Enable LED animation

Options:	Deactivated
	Activated

LED animation is enabled via the parameter.

When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Colour of animation

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for the animation.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Dimming procedure

Options:	Start-stop dimming
	Step-wise dimming

The parameter is used to specify which dimming procedure is used.

- Change per step

Options:	2%
	3%
	6%
	13%
	25%
	50%
	100%

The parameter is used to specify how large percentagewise each step is.

This parameter can only be set when "Step-wise dimming" is selected in parameter "Dimming procedure".

- Telegram is repeated every

Options:	00.3 … 00.6 … 30.0 ss.f

The parameter is used to specify the time period for the repeat of the telegram.

This parameter can only be set when Parameter "Extended settings" has been activated.

This parameter can only be set when "Step-wise dimming" is selected in parameter "Dimming procedure".

- Long actuation from

Options:	00.3 … 00.6 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.8 Switching/dimming (slider)

Via function "Switching/dimming (slider)", next to the normal short button press for ON/OFF switching, the dimming functions are available as swiping/sliding function. The function has available two different swiping/sliding functions.

– Fast swiping:
  Serves to switch the light on with a fast swiping/sliding process when entering the room.
– Slow swiping:
  Serves to dim the light to the desired brightness level with slow specific swiping. Here the position of the brightness is directly displayed via the LED animation.

The following functions are individually activateable/deactivateable.

– Short press of the button
– Fast swiping

Notice
This "Slow swiping" function is always available.

Short press

This parameter is activated/deactivated via the checkbox.

- Short press sends On/Off telegram

A short press sends an On/Off telegram.

Fast swiping

This parameter is activated/deactivated via the checkbox.

- Send dimming value

Options:	1% or 100%
	0% or 100%

The parameter is used to specify the dimming value that is sent with fast swiping.

Slow swiping

This parameter is constantly activated.

- Update dimming value

Options:	at release
	during swiping

The parameter is used to specify whether telegrams are sent the actuator while the finger is moved on the surface.

When parameter "Update dimming value" is activated, additional parameters are available.

- Telegram is repeated every

Options:	00.3 … 00.6 … 10.0 ss.f

The parameter is used to specify the time period for the repeat of the telegram.
This parameter can only be set when "Yes" is selected in parameter "Update dimming value".

- Enable LED animation

Options:	Deactivated
	Activated

LED animation is enabled via the parameter.
When parameter "Enable LED animation" is activated, additional parameters are available.

Notice
Setting of user colours under device settings.

- Foreground colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the foreground colour.

- Background colour

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the background colour.

- Extended settings

Options:	Inactive
	active

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.9 Switching sequence

The switching sequence makes possible the stepwise triggering of several object values in a defined step sequence.

Function of communication objects

CO Object	CO 1	CO 2	CO 3	CO 4	CO 5
Function	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode

The parameter is used to specify the number and function of the communication objects for the switching steps.

Configuration

Up to six switching steps can be defined for the switching sequence.

- Enable

	Step 1 - 6
Enable	Deactivated
	Activated

The parameter is used to activate/deactivate the individual steps, which is respectively carried out by activating/deactivating the corresponding checkboxes.

- CO 1 - 6 - Switching

	Step 1 - 6
CO x	off
	on
	No reaction

This parameter is used to specify the value for communication object "Switching".

- CO 1 - 6 - Percent

	Step 1 - 6
CO x	0 - 100%

The parameter is used to specify the value for communication object "Percent".

- CO 1 - 6 - Byte

	Step 1 - 6
CO x	0 - 255

The parameter is used to specify the value for communication object "Byte".

- CO 1 - 6 - Scene

	Step 1 - 6
CO x	1 - 64

The parameter is used to specify the value for communication object "Scene".

- CO 1 - 6 - Colour

	Step 1 - 6
CO x	#000000 … #FFFFFF

This parameter is used to specify the user-defined colour.

The values are displayed hexadecimal.

The values can be set as follows via the button on the right of the text field:

- Continuously in a colour selection field
- Via slider in the RGB colour range
- Via slider in the RGB HSV colour range

- CO 1 - 6 - HVAC mode

	Step 1 - 6
CO x	Automatic mode
	Comfort
	Standby
	Economy
	Building control

The parameter is used to specify the value for communication object "HVAC mode".

- Reaction at long actuation

Options:	Corresponds to a short actuation
	Step 1
	Step back

The parameter is used to specify the reaction at a long actuation of the operating area.

- Behaviour after the last step

The following options are available when "Corresponds to a short actuation" in parameter "Reaction at long actuation" is activated.

Options:	Change of direction
	Step 1

The following options are available when "Step 1" or "Step back" in parameter "Reaction at long actuation" is activated.

Options:	Change of direction
	Step 1

The parameter is used to specify the reaction after the last step.

- Send values after evaluation period

Options:	Deactivated
	Activated

The parameter is used to specify whether the values are to be sent after the evaluation period.

- Evaluation period

Options:	00.3 … 02.0 … 30.0 ss.f

The parameter is used to specify the size of the evaluation period.

- Enable communication object "Reset switching sequence"

Options:	Deactivated
	Activated

The parameter is used to specify whether the communication object "Reset switching sequence" is to be enabled.

- Extended settings

Options:	Inactive
	active

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.10 Switching sequence (2-buttons)

The switching sequence makes possible the stepwise triggering of several object values in a defined step sequence.

Function of communication objects

CO Object	CO 1	CO 2	CO 3	CO 4	CO 5
Function	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode	▪ Deactivated ▪ Switching ▪ Percent ▪ Byte ▪ Scene ▪ Colour ▪ HVAC mode

The parameter is used to specify the number and function of the communication objects for the switching steps.

Configuration

Up to six switching steps can be defined for the switching sequence.

- Enable

	Step 1 - 6
Enable	Deactivated
	Activated

The parameter is used to activate/deactivate the individual steps, which is respectively carried out by activating/deactivating the corresponding checkboxes.

- CO 1 - 6 - Switching

	Step 1 - 6
CO x	off
	on
	No reaction

This parameter is used to specify the value for communication object "Switching".

- CO 1 - 6 - Percent

	Step 1 - 6
CO x	0 … 100 %

The parameter is used to specify the value for communication object "Percent".

- CO 1 - 6 - Byte

	Step 1 - 6
CO x	0 … 255

The parameter is used to specify the value for communication object "Byte".

- CO 1 - 6 - Scene

	Step 1 - 6
CO x	1 … 64

The parameter is used to specify the value for communication object "Scene".

- CO 1 - 6 - Colour

	Step 1 - 6
CO x	#000000 … #FFFFFF

This parameter is used to specify the user-defined colour.

The values are displayed hexadecimal.

The values can be set as follows via the button on the right of the text field:

- Continuously in a colour selection field
- Via slider in the RGB colour range
- Via slider in the RGB HSV colour range

- CO 1 - 6 - HVAC mode

	Step 1 - 6
CO x	Automatic mode
	Comfort
	Standby
	Economy
	Building control

The parameter is used to specify the value for communication object "HVAC mode".

- Reaction at long actuation

Options:	Corresponds to a short actuation
	Step 1

The parameter is used to specify the reaction at a long actuation of the operating area.

- Button behaviour

Options:	Button 1: Reduce step, Button 2: Increase step
	Button 1: Increase step, Button 2: Reduce step

The parameter is used to specify the button behaviour.

- Send values after evaluation period

Options:	Deactivated
	Activated

The parameter is used to specify whether the values are to be sent after the evaluation period.

- Evaluation period

Options:	00.3 … 02.0 … 30.0 ss.f

The parameter is used to specify the size of the evaluation period.

- Enable communication object "Reset switching sequence"

Options:	Deactivated
	Activated

The parameter is used to specify whether the communication object "Reset switching sequence" is to be enabled.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 00.4 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when parameter "Extended settings" is active and when "Step 1" or "Step back" in parameter "Reaction at long actuation" has been activated.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.11 Scenes

Via the application "Scenes", a predefined scene number is called up when the surface is actuated.

In each case, the application "Scenes"makes a separate set of parameters and communication objects available for the right/top or left/bottom side of the surface.

The application facilitates calling up a scene via a surface side and the other surface side can be assigned an additional "button-orientated" function.

The user has the option to trigger a scene memory command with a long press of the button or an additional scene with a different scene number.

- Differentiation between short and long actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the type of actuation (long/short) is different.

- At short actuation: Scene number

Options:	1 … 64

The parameter is used to specify the scene that is to be called up at a short actuation.

- Reaction at long actuation

Options:	Save scene
	Call up further scene

The parameter is used to specify whether at a long actuation a further scene is to be called up or the scene is stored.

- At long actuation: Scene number

Options:	1 … 64

The parameter is used to specify the scene that is to be called up at a long actuation.

This parameter is only adjustable if the "Call up additional scene" in parameter "Reaction at long actuation" has been selected.

- Scene number

Options:	1 … 64

The parameter is used to specify the scene that is to be called up.

The parameter can only be set when parameter "Differentiation between short and long actuation" is active.

- Scene

Options:	Transmitting
	Save

The parameter is used to specify whether the scene is sent or stored.

The parameter can only be set when parameter "Differentiation between short and long actuation" is active.

- Extended settings

Options:	Disabled
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	00.3 … 30.0 ss.f

The parameter is used to specify the time period for the long actuation.

The parameter can only be set when parameter "Differentiation between short and long actuation" is active.

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.12 Send value/multiple operation

In parameter value x send it is specified at which edge (rising or falling edge) or which actuation (short actuation, long actuation or multiple actuation) a telegram is sent.

Depending on the event, up to four values can be sent via separate communication objects. In the following parameters DPT (Data Point Type) and telegram value of the communication objects are specified.

- Value x DPT
- Value x Value

- Send value at

Options:	Opening/closing the contact
	Short/long actuation
	Multiple actuation

The parameter is used to specify the condition under which the value is sent.

Send value at opening/closing the contact

The parameter can only be set when parameter "Send value at" is set on "Opening/closing the contact".

The following parameters Value 1 / value 2 are used to specify when the value is sent and which value is assigned to the respective data point.

- Value 1 / value 2 - Switching [DPT 1.001]

	Send at	DPT	Value
Value 1	Close	Switching [DPT 1.001]	on off Switchover
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Switching [DPT 1.001]	on off Switchover
Value 2	Open	–	on off Switchover

	Send at	DPT	Value
Value 1	Open	Switching [DPT 1.001]	on off Switchover
Value 2	Close	–	on off Switchover

	Send at	DPT	Value
Value 1	Open	Switching [DPT 1.001]	on off Switchover
Value 2	No reaction	–	–

- Value 1 / value 2 - Forced operation [DPT 2.001]

	Send at	DPT	Value
Value 1	Close	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Open	–	No forced operation Forced operation, value 0 Forced operation, value 1

	Send at	DPT	Value
Value 1	Open	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Close	–	No forced operation Forced operation, value 0 Forced operation, value 1

	Send at	DPT	Value
Value 1	Switchover	Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
Value 2	Switchover	–	No forced operation Forced operation, value 0 Forced operation, value 1

- Value 1 / value 2 - Percent [DPT 5.001]

	Send at	DPT	Value
Value 1	Close	Percent [DPT 5.001]	0 … 100 %
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Percent [DPT 5.001]	0 … 100 %
Value 2	Open	–	0 … 100 %

	Send at	DPT	Value
Value 1	Open	Percent [DPT 5.001]	0 … 100 %
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Percent [DPT 5.001]	0 … 100 %
Value 2	Close	–	0 … 100 %

	Send at	DPT	Value
Value 1	Switchover	Percent [DPT 5.001]	0 … 100 %
Value 2	Switchover	–	0 … 100 %

- Value 1 / value 2 - 1 byte without a sign [DPT 5.001]

	Send at	DPT	Value
Value 1	Close	1 byte [DPT 5.001]	0 … 255
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	1 byte [DPT 5.001]	0 … 255
Value 2	Open	–	0 … 255

	Send at	DPT	Value
Value 1	Open	1 byte [DPT 5.001]	0 … 255
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	1 byte [DPT 5.001]	0 … 255
Value 2	Close	–	0 … 255

	Send at	DPT	Value
Value 1	Switchover	1 byte [DPT 5.001]	0 … 255
Value 2	Switchover	–	0 … 255

- Value 1 / value 2 - 1 byte with a sign [DPT 6.010]

	Send at	DPT	Value
Value 1	Close	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Open	–	-128 … 0 … 127

	Send at	DPT	Value
Value 1	Open	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Close	–	-128 … 0 … 127

	Send at	DPT	Value
Value 1	Switchover	1 byte with a sign [DPT 6.010]	-128 … 0 … 127
Value 2	Switchover	–	-128 … 0 … 127

- Value 1 / value 2 - 2 byte without a sign [DPT 7.001]

	Send at	DPT	Value
Value 1	Close	2 byte [DPT 7.001]	0 … 65535
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	2 byte [DPT 7.001]	0 … 65535
Value 2	Open	–	0 … 65535

	Send at	DPT	Value
Value 1	Open	2 byte [DPT 7.001]	0 … 65535
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	2 byte [DPT 7.001]	0 … 65535
Value 2	Close	–	0 … 65535

	Send at	DPT	Value
Value 1	Switchover	2 byte [DPT 7.001]	0 … 65535
Value 2	Switchover	–	0 … 65535

- Value 1 / value 2 - 2 byte with a sign [DPT 8.001]

	Send at	DPT	Value
Value 1	Close	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Open	–	-32768 … 0 … 32767

	Send at	DPT	Value
Value 1	Open	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Close	–	-32768 … 0 … 32767

	Send at	DPT	Value
Value 1	Switchover	2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
Value 2	Switchover	–	-32768 … 0 … 32767

- Value 1 / value 2 - 4 byte without a sign [DPT 12.001]

	Send at	DPT	Value
Value 1	Close	4 byte [DPT 12.001]	0 … 4294967295
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Open	–	0 … 4294967295

	Send at	DPT	Value
Value 1	Open	4 byte [DPT 12.001]	0 … 4294967295
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Close	–	0 … 4294967295

	Send at	DPT	Value
Value 1	Switchover	4 byte [DPT 12.001]	0 … 4294967295
Value 2	Switchover	–	0 … 4294967295

- Value 1 / value 2 - Temperature [DPT 9.001]

	Send at	DPT	Value
Value 1	Close	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Open	–	-100 … 20 … 250 °C

	Send at	DPT	Value
Value 1	Open	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Close	–	-100 … 20 … 250 °C

	Send at	DPT	Value
Value 1	Switchover	Temperature (DPT 9.001)	-100 … 20 … 250 °C
Value 2	Switchover	–	-100 … 20 … 250 °C

- Value 1 / value 2 - Brightness [DPT 7.013]

	Send at	DPT	Value
Value 1	Close	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Open	–	0 … 400 … 65535 Lux

	Send at	DPT	Value
Value 1	Open	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Close	–	0 … 400 … 65535 Lux

	Send at	DPT	Value
Value 1	Switchover	Brightness [DPT 7.013]	0 … 400 … 65535 Lux
Value 2	Switchover	–	0 … 400 … 65535 Lux

- Value 1 / value 2 - Colour [DPT 232.600]

	Send at	DPT	Value
Value 1	Close	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Open	–	#000000 … #FFFFFF

	Send at	DPT	Value
Value 1	Open	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Close	–	#000000 … #FFFFFF

	Send at	DPT	Value
Value 1	Switchover	Colour [DPT 232.600]	#000000 … #FFFFFF
Value 2	Switchover	–	#000000 … #FFFFFF

- Value 1 / value 2 - HVAC mode [DPT 20.102]

	Send at	DPT	Value
Value 1	Close	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Close	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Open	–	Automatic mode Comfort Standby Economy Building protection

	Send at	DPT	Value
Value 1	Open	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	No reaction	–	–

	Send at	DPT	Value
Value 1	Open	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Close	–	Automatic mode Comfort Standby Economy Building protection

	Send at	DPT	Value
Value 1	Switchover	HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
Value 2	Switchover	–	Automatic mode Comfort Standby Economy Building protection

Send value at short/long actuation

The parameter can only be set when parameter "Send value at" is set on "Short/long actuation".

Via application "Send value at short/long actuation", different values can be sent out with a short and/or long actuation of the surface.

The application "Send value at short/long actuation" does not differentiate between whether the surface is actuated on the left/top or the right/bottom side. In each case, the application makes a separate set of parameters and communication objects available for the right/top and left/bottom side of the surface.

- Switchover value

Options:	Deactivated
	Activated

The parameter is used to specify the switchover of the respective value under value 1 and value 2.

- Value 1

The following parameter is used to specify when the value is sent and which value is assigned to the respective data point.

	Send at	DPT	Value
Value 1	Short actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 2

The following parameter is used to specify when the value is sent and which value is assigned to the respective data point.

	Send at	DPT	Value
Value 2	Long actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

Send value at multiple operation

The parameter can only be set when parameter "Send value at" is set on "Multiple actuation".

- Maximum time between two actuations

Options:	Setting option: 00.3 … 00.4 … 10.0 ss.f

This parameter is used to specify the space of time between two actuations.

- Send values at every actuation

Options:	Deactivated
	Activated

The parameter is used to specify whether the value is sent at every actuation.

The following parameters Value 1 / value 2 / value 3 / value 4 are used to specify when the value is sent and which value is assigned to the respective data point.

- Value 1

	Send at	DPT	Value
Value 1	1gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 …127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 2

	Send at	DPT	Value
Value 2	2gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 0 Forced operation, value 1
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 3

	Send at	DPT	Value
Value 3	3gang actuation	Switching [DPT 1.001]	on off Switchover
		Forced operation [DPT 2.001]	No forced operation Forced operation, value 1 Forced operation, value 2
		Percent [DPT 5.001]	0 … 100 %
		1 byte without a sign [DPT 5.001]	0 … 255
		1 byte with a sign [DPT 6.010]	-128 … 0 … 127
		2 byte without a sign [DPT 7.001]	0 … 65535
		2 byte with a sign [DPT 8.001]	-32768 … 0 … 32767
		4 byte without a sign [DPT 12.001]	0 … 4294967295
		Temperature (DPT 9.001)	-100 … 20 … 250 °C
		Brightness [DPT 7.013]	0 … 400 … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	Automatic mode Comfort Standby Economy Building protection
		Deactivated	–

- Value 4

	Send at	DPT	Value
Value 4	Long actuation 4gang actuation	Switching [DPT 1.001]	<u>on</u> off Switchover
		Forced operation [DPT 2.001]	<u>No forced operation</u> Forced operation, value 1 Forced operation, value 2
		Percent [DPT 5.001]	<u>0</u> … 100 %
		1 byte without a sign [DPT 5.001]	<u>0</u> … 255
		1 byte with a sign [DPT 6.010]	-128 … <u>0</u> … 127
		2 byte without a sign [DPT 7.001]	<u>0</u> … 65535
		2 byte with a sign [DPT 8.001]	-32768 … <u>0</u> … 32767
		4 byte without a sign [DPT 12.001]	<u>0</u> … 4294967295
		Temperature (DPT 9.001)	-100 … <u>20</u> … 250 °C
		Brightness [DPT 7.013]	0 … <u>400</u> … 65535 Lux
		Colour [DPT 232.600]	#000000 … #FFFFFF
		HVAC mode [DPT 20.102]	<u>Automatic mode</u> Comfort Standby Economy Building protection
		Deactivated	–

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Long actuation from

Options:	Deactivated
	Activated

The parameter is used to specify the time period for the long actuation.

This parameter can only be set when Parameter "Extended settings" has been activated.

This parameter can only be set when parameter "Send value at" is set on "Short/long actuation" or "Multiple actuation".

- Disable input

Options:	Deactivated
	For value 0
	For value 1

The parameter is used to specify the value at which the input is disabled.

This parameter can only be set when Parameter "Extended settings" has been activated.

- Status after ETS download or bus voltage recovery

Options:	Last status
	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

This parameter can only be set when parameter "Disable input" is not deactivated.

8.4.1.13 LED x

With the application "LED x", the LED next to the surface can be used for orientation illumination, for status display or for function display. The LED can light up in different colours. The LED can also flash for alarm display (see) and/or scene storage display.

- Operating mode

Options:	Status illumination
	Function illumination

The parameter is used to specify whether the LED is used as status or function illumination.

- Colour of function illumination

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED for the optical alarm is to have.

This parameter is only adjustable when "Function illumination" in parameter "Operating mode" has been selected.

- Object type for status object

Options:	1 bit
	1 Byte (0 - 100%)

The parameter is used to specify the object type.

This parameter is only adjustable when "Status illumination" in parameter "Operating mode" has been selected.

Colour for Off

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for "Off".

This parameter can only be set when "1 bit" in parameter "Object type for status object" has been selected.

Colour for On

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for alarm "On".

This parameter can only be set when "1 bit" in parameter "Object type for status object" has been selected.

Colour for Zone 1 (corresponds to 0%)

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for area 1.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

Colour for area 2 (starts at 1%)

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for area 2.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

- Threshold value between area 2 and area 3

Options:	1 … 33 … 98 %

The threshold value between area 2 and area 3 is specified via the parameter.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

Colour for Zone 3

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for area 3.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

- Threshold value between area 3 and area 4

Options:	1 … 66 … 98 %

The threshold value between area 3 and area 4 is specified via the parameter.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

Colour for Zone 4 (up to 99%)

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for area 4.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

Colour for Zone 5

Options:	off
	Yellow
	Red-orange
	Red
	Violet
	Blue
	Green
	White
	User colour 1
	User colour 2
	User colour 3
	User colour 4

The parameter is used to specify the colour the LED is to have for area 5.

This parameter can only be set when "1 byte (0 - 100%)" in parameter "Object type for status object" has been selected.

- Considering the alarm function

Options:	Deactivate
	activate

The parameter is used to specify whether the alarm function is to be considered.

- Light scene storage function

Options:	Deactivate
	activate

The parameter is used to specify whether memory function for the light scene is to be used.

8.5 Application "Sensor"

8.5.1 Application - Sensor

8.5.1.1 Temperature sensor

The device has an integrated temperature sensor. The measured temperature value is transmitted via a 2-byte communication object to the bus to be linked, for example, with room temperature controller.

- Send temperature

Options:	Cyclic
	On change and cyclic

The parameter is used to specify whether the temperature value is sent only cyclic or also at value changes.

- Sending cycle

Options:	00:00:25 … 01:30.00 hh:mm:ss

The period for the cycle time for sending the actual temperature is specified via the parameter.

- Sending at change of (*0.1 K)

Options:	0 ... 255

The parameter is used to specify at which change the value is to be sent.

This parameter can only be set when "At change or cyclic" in parameter "Send temperature" is active.

- Overwrite this temperature offset after the download

Options:	Deactivated
	Activated

The parameter is used to specify whether the set offset in parameter "Offset (x 0.1 K)" is to be used after the download.

- Offset (x 0.1 K)

Options:	-127 … 0 … 127

The internal offset of the temperature sensor is specified via the parameter.

Notice
This temperature must not deviate more than +/- 12.7 K from the currently measured temperature.

8.6 Application "Function"

8.6.1 Application - Function

The application for the respective function 1 - 5 is assigned under application "Configuration".

Notice
The following parameters can only be adjusted when the corresponding application (see above) is selected.

The applications listed in the following are available.

- Deactivated:
  - The application is not active. No parameters are available.
- Telegram cyclic:
  - After the receipt of a telegram on object "GFx: input", a telegram with the same content is sent cyclic via object "GFx: output".
- Priority:
  - With the application a forced guidance (priority) can be activated for switching outputs.
- Logic functions:
  - Up to ten input values can be linked with each other via the application.
- Gate:
  - The application can be used to filter certain signals and to block the flow of signals temporarily.
- Staircase lighting:
  - The application can be used to supply switching telegrams or value telegrams with a switch-off delay.
- Delay:
  - Telegrams can be received via the "GFx: input" object with the application.
- Min/max value transducer:
  - Up to eight input values can be compared with each other with the application.
- Light scene actuator:
  - With the application it is possible to call up scenes that are stored in the device via the receipt of a scene number on the 1-byte communication object "Scene call-up".
- Sequence:
  - Via the parameter it is possible to send out multiple telegrams with different values in a predefined sequence consecutively over the same object.

8.6.2 Cyclic telegram

Via the "Cyclic telegram" application and after receipt of a telegram on the "Input" object, a telegram with the same volume is cyclically sent out on the "Cyclic output" object.

The object types for "Input" and "Output" can be collectively parameterised for the different applications.

The times for cyclic sending on the "Output" object are adjustable.

An additional "Enable" object provides the option of temporarily blocking the function.

- Data type

Options:	Switching [DPT 1.001]
	Alarm [DPT 1.005]
	Percent [DPT 5.001]
	1 byte without a sign [DPT 5.010]
	2-byte floating point value [DPT 9.***]
	2 byte with a sign [DPT 8.001]
	2 byte without a sign [DPT 7.001]
	Temperature (DPT 9.001)
	4-byte floating point value [DPT 14.***]
	4 byte with a sign [DPT 13.001]
	4 byte without a sign [DPT 12.001]

The parameter is used to specify the data type for the "Cyclic telegram" application.

Via the "Cyclic telegram" application and after receipt of a telegram on the "Input" object, a telegram with the same content is cyclically sent out on the cyclic "Output" object.

- Sending cycle

Options:	Setting option: 00.00:55 … 00.10.00… 01:30:00 hh:mm:ss

The parameter is used to specify the times for cyclic sending.

- Extended settings

Options:	Deactivated
	Activated

The extended settings can be activated via this parameter.

When parameter "Extended settings" is activated, additional parameters are available.

- Enable "Disable" communication object

Options:	Deactivated
	Activated

The parameter is used to enable the "Block" communication object.

When parameter "Enable "Disable" communication object is activated, additional parameters are available.

- Disable at value

Options:	0
	1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	blocked
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

- Cyclic sending

Options:	Always activated
	Activated at a specified value
	Activated except at a specified value

The parameter is used to specify the options for cyclic sending.

- Value for cyclic sending

Options:	Off - on
	0 … 50 … 100%
	0 … 255
	-671088.64 … 0 … 670760.96
	-32768 … 0 … 32767
	0 … 65535
	-273 … 20 … 500 °C
	-4000000 … 0 … 4000000
	-2147483648 … 0 … 2147483647
	0 … 4294967295

The parameter, in dependence of the selected data type, is used to specify the value for cyclic sending.

8.6.3 General parameters - Priority

The "Priority" application has 3 communication objects, a 1-bit object "Switch input", a 2-bit object "Input priority" and a 1-bit object "Output". The telegrams received on the "Switch input" are transferred to the "Output" depending on the state of the "Input priority" object.

The 2-bit object "Input priority" can receive and differentiate between four different values (0, 1, 2 and 3). Here, the "Output" object is positively driven. Three different statuses are differentiated:

– "Input priority" has value "3": the value that is present on "Switch input" has no meaning. The "Output" is switched to positively driven and has the value "1".

– "Input priority" has the value "2". The value that is present on "Switch input" has no meaning. The "Output" is switched off positively driven and has the value "0".

– "Input priority" has the value "1" or "0". The "Switching input" is transferred to the "Output".

During a positive drive, changes of the "Switching input" object are saved, even if the current state on the "Output" object does not immediately change through this. If the positive drive is terminated, a telegram transmission on the "Output" occurs according to the current value of the "Switching input" object.

8.6.4 Logic functions

- Function

Options:	AND
	OR
	XOR
	XNOR
	NAND
	NOR
	NOT

The parameter is used to specify the logic gate the communication objects are to be linked with.

- Number of inputs:

Options:	Setting option: 2 - 10

The parameter is used to set the number of inputs that are to be linked in the logic function.

	DPT	Initial value	Inverted input
Input x	Switching [DPT 1.001] 1 byte without a sign [DPT 5.010]	0 1	Deactivated Activated

The parameter is used to assign the data point types and the initial value depending on the number of selected inputs (2 - 10) for each input separately. The inputs can be individually inverted.

- Object type output

Options:	Switching [DPT 1.001]
	1 byte without a sign [DPT 5.010]

Each logical function has an output object. The result determined from the inputs is sent on the bus via the output object.

The parameter is used to specify the bit size for the output object.

- Send output value at

Options:	With each input telegram
	Value change

- With each input telegram:
  - When a telegram is received via the input object, the communication object always sends the value of the output object on the bus. This also happens if the value of the output object has not changed.
- Value change:
  - The communication object only sends a telegram when the value of the output object has changed.

The parameter is used to specify whether a telegram is sent via communication object "GFx: Output" at each receipt of a telegram or only at a change of the output object.

- Output value for "true" is

Options:	1
	As defined below

- 1:
  - As soon as the condition is fulfilled, a logical "1" is present on the output. This equally applies when the "Object type output" parameter is set on "1 byte".
- As defined below:
  - The value that is present on the output when the condition has been met, can be set via parameter "Value".

The parameter is used to specify the value of the output object in the logic status "True".

- Value

Options:	0
	1

- True = 0:
  - When the condition has been met, value "0" is present at communication object "GFx: Output".
- True = 1:
  - When the condition has been met, value "1" is present at communication object "GFx: Output".

The parameter is used to specify the value that is sent via the communication object "GFx: Output" when a condition (true) has been met.

This parameter is only adjustable if the parameter "Output value" for "true" is set on "As defined below".

- Output value for "false" is

Options:	0
	As defined below

- 0:
  - As soon as the condition has been met, a logical "0" is present on the output.
- As defined below:
  - The value that is present on the output when the condition has been met, can be set via parameter "Value".

The parameter is used to specify the value that is sent via object "GFx: Output" when a condition (false) has not been met.

- Value

Options:	0
	1

- Untrue = 0
  - When the condition has been met, value "0" is present at communication object "GFx: Output".
- Untrue = 1
  - When the condition has been met, value "1" is present at communication object "GFx: Output".

The parameter is used to set the value that is sent via the communication object "GFx: Output" when a condition (false) has been not been met.

This parameter is only adjustable if the parameter "Output value" for "false" is set on "As defined below".

8.6.5 Gate

The "Gate" application allows specific signals to be filtered and the signal flow to be temporarily blocked. The function has three communication objects: "Control input", "Input" and "Output".

- Data type

Options:	Switching [DPT 1.001]
	Up/down [DPT 1.008]
	Step [DPT 1.007]
	Forced operation [DPT 2.001]
	Dimming [DPT 3.007]
	Percent [DPT 5.001]
	1 byte without a sign [DPT 5.010]
	2-byte floating point value [DPT 9.***]
	2 byte with a sign [DPT 8.001]
	2 byte without a sign [DPT 7.001]
	Daytime [DPT 10.001]
	Date [DPT 11.001]
	4-byte floating point value [DPT 14.***]
	4 byte with a sign [DPT 13.001]
	4 byte without a sign [DPT 12.001]

The parameter is used to specify the data type that is to be used.

- Filter function

Options:	Deactivated
	Filter out "On"
	Filter out "Off"

- Deactivated:
  - No telegrams are filtered out.
- Filter out on:
  - On telegrams are filtered out.
- Filter out "Off"
  - Off telegrams are filtered out.

The parameter can be used to filter On or Off telegrams (1 bit) out. The function is used, for example, when only the On telegram is needed by a sensor and the sensor does not offer any filter function in its application program

This parameter can only be set when in parameter "Data type" the option "Switching [DPT 1.001]" is selected.

- Direction of data flow

Options:	Input to output
	Output to input
	In both directions

- Input to output:
  - Telegrams are transferred from object "GFx: Input" to object "GFx: Output".
- Output to input:
  - Telegrams are transferred from object "GFx: Output" to object "GFx: Input".
- In both directions:
  - Telegrams are transferred in both directions.

The parameter is used to specify the direction in which the signal is to be transferred.

- Value of output

Options:	Normal
	Inverse

The parameter is used to specify whether the value normal or inverse is sent.

This parameter can only be set when in parameter "Object type" the option "1-bit switching is selected.

- Enable "Disable" communication object

Options:	Deactivated
	Activated

The parameter is used to enable the "Disable" communication object.

When parameter "Enable "Disable" communication object" is activated, additional parameters are available.

- Disable at value

Options:	0
	1

The parameter is used to specify the value at which the input is disabled.

- Status after ETS download or bus voltage recovery

Options:	Disabled
	Enabled

The parameter is used to specify the status the input takes after download or bus voltage recovery.

- Save input signal

Options:	Deactivated
	Activated

- Inactive:
  - Input telegrams are not saved during the blocking phase.
- Active:
  - Input telegrams are saved during the blocking phase.

The parameter is used to specify whether input signals are saved during the blocking phase. The further behaviour depends on the setting of the "Data flow direction" parameter.

For example:

Data flow direction: Input towards the output.

If the setting "activated" has been selected, the output sends its value after the blocking phase if a telegram has been received on the input during the blocking phase.

8.6.6 Staircase lighting

With the "Staircase lighting" application, switching telegrams or value telegrams can be provided with a switch-off delay. Depending on the parameterisation, the application offers different communication objects:

- Data type

Options:	Combined communication object switching (DPT 1.001)
	Separated communication objects switching [DPT 1.001]
	Separated communication objects percent [DPT 5.001]

The parameter is used to specify the data type that is to be used.

- Switch-off delay

Options:	Setting option: 00.00:10 … 00.03.00 … 01:30:00 hh:mm:ss

The parameter is used to set the switch-off delay of the staircase lighting.

The start of the switch-off delay is dependent on the setting of the "Data type" parameter.

- Retriggering

Options:	Deactivated
	Activated

- Inactive:
  - The set switch-off delay always runs to its end, so that a telegram is always sent via object "GFx: Output" after the delay time has expired.
- Active:
  - The switch-off delay is always restarted when a telegram is received via the "GFx: Input" object.

The parameter is used to specify whether the switch-off delay is restarted when a further telegram is received via object "GFx: Input". This behaviour is called retriggering.

For example, retriggering makes sense for a switch-off delay of movement detectors. This ensures that the on-time continues to be reset as long as there is movement detected.

If telegrams with different values are received during the retriggering phase, only the last value received is always sent via the "GFx: Output" object after expiration of the on-time.

- Switch-off prewarning

Options:	Deactivated
	Activated

- Inactive:
  - The staircase lighting goes out without flickering at the end of the switch-off delay.
- Active:
  - The staircase lighting flickers before the expiry of the switch-off delay.

Before the staircase lighting switches itself off, the end of the illumination period is signalled by means of brief flickering or dimming darker. The user can then keep the light-on in time.

The parameter is used to specify whether an additional value is sent via the output object just before the switch-off delay expires.

When parameter "Switch-off prewarning" is activated, additional parameters are available.

- Duration

Options:	Setting option: 1 … 5 … 5400 s

The parameter is used to specify when the staircase lighting by means of flickering or dimming darker is to warn of the end of the switch-off delay. The warning is carried out according to the set time before the expiry of the light-on time.

- Value

Options:	Setting option: 0 … 10 … 100%

The parameter is used to specify the value of the switch-off prewarning.

This parameter can only be set when in parameter "Data type" the option "Separated communication objects percent [DPT 5.001]" is selected.

- Overwrite light-on time and switch-off prewarning time during download

Options:	Deactivated
	Activated

- Deactivated:
  - The switch-off delay and switch-off prewarning time will not be overwritten when the device is reprogrammed.
- Enabled:
  - The switch-off delay and switch-off prewarning time will be overwritten when the device is reprogrammed.

Telegrams with new times can be received via communication objects "GFx: Switch-off delay" and "GFx: Switch-off prewarning". The received 2-byte values are written to the memory of the device and are retained even after a power failure.

The parameter is used to specify whether the received storage values are to be retained for a reprogramming of the device or replaced by the values specified in the parameterising software.

8.6.7 Delay

Telegrams can be received via the "Input" object using the "Delay" application. The telegrams received are sent out on the "Output" object with a set delay time.

- Data type

Options:	Switching [DPT 1.001]
	Up/down [DPT 1.008]
	Step [DPT 1.007]
	Percent [DPT 5.001]
	1 byte without a sign [DPT 5.010]
	2-byte floating point value [DPT 9.***]
	2 byte with a sign [DPT 8.001]
	2 byte without a sign [DPT 7.001]
	4-byte floating point value [DPT 14.***]
	4 byte with a sign [DPT 13.001]
	4 byte without a sign [DPT 12.001]

The parameter is used to specify the data type that is to be used.

- Delay time

Options:	Setting option: 00:00:01.000 … 01:00:00.000 hh:mm:ss.fff

The parameter is used to specify the evaluation period in seconds.

- Retriggering

Options:	Deactivated
	Activated

- Inactive:
  - The set switch-off delay always runs to its end, so that a telegram is always sent via object "GFx: Output" after the on-time has expired.
- Active:
  - The switch-off delay is always restarted when a telegram is received via the "GFx: Input" object.

The parameter is used to specify whether the switch-off delay is restarted when a further telegram is received via object "GFx: Input". This behaviour is called retriggering.

For example, retriggering makes sense for a switch-off delay of movement detectors. This ensures that the on-time continues to be reset as long as there is movement detected.

- Filter active

Options:	Deactivated
	Activated

- Inactive:
  - Filter is not active.
- Active:
  - Filter is active. Filter function and filter value can be set.

The parameter is used to specify whether a filter is used for the delay of telegrams.

- Filter function

Options:	Filter value is delayed, other values are sent directly
	Filter value is delayed, other values are suppressed
	Filter value is sent directly, other values are delayed
	Filter value is suppressed, other values are delayed

- Filter value is delayed, others are sent directly.
  - Only the filter value is sent delayed. All other values are sent directly.
- Filter value is delayed, other values are suppressed.
  - Only the filter value is sent delayed. All other values are blocked.
- Filter value is sent direct, others are sent delayed.
  - Only the filter value is sent direct. All other values are sent delayed.
- Filter value is suppressed, others are delayed.
  - Only the filter value is blocked. All other values are sent delayed.

The parameter can be used to specify a condition for the sending of filter values compared to all other values.

This parameter can only be set when Parameter "Filter active" has been activated.

- Filter value

	Off - on
	Up - down
	0 … 100 %
	0 … 255
	-671088.64 … 0 … 670760.96
	-32768 … 0 … 32767
	0 … 65535
	-4000000 … 0 … 4000000
	-2147483648 … 0 … 2147483647
	0 … 4294967295

The parameter is used to specify the filter value. The data type or the size depends on parameter "Data type".

The connected "Filter function" parameter fixes a condition for the sending of the filter value.

This parameter can only be set when Parameter "Filter active" has been activated.

- Overwrite delay time during download

Options:	Deactivated
	Activated

The parameter is used to specify whether the delay time is to be overwritten during the download.

8.6.8 Min/Max

Up to eight input values can be compared with each other using the "Min/max value transducer" application. The application can output the highest input value, the smallest input value or the average of all input values on the output.

- Data type

Options:	Percent [DPT 5.001]
	1 byte without a sign [DPT 5.010]
	2-byte floating point value [DPT 9.***]
	2 byte with a sign [DPT 8.001]
	2 byte without a sign [DPT 7.001]
	4-byte floating point value [DPT 14.***]
	4 byte with a sign [DPT 13.001]
	4 byte without a sign [DPT 12.001]

The parameter is used to specify the data type that is to be used.

- Number of inputs:

Options:	Setting option: 1 - 8

The parameter is used to set the number of input telegrams to be compared with each other.

- Output sends

Options:	Input assignment
	Value change

- Input assignment:
  - When a telegram is received on one of the input objects, a telegram is always sent via the output object.
- Value change:
  - An output telegram is only sent when the value of the output object changes.

The parameter is used to specify the conditions under which a telegram is sent.

For the setting "Input assignment" an output telegram is sent at every receipt of a telegram on one of the inputs. In this case, also an output telegram is sent if the value of the output does not change.

- Output value is equal

Options:	Maximum input value
	Minimum input value
	Average input value

- Maximum input value:
  - The largest value of all input telegrams is sent via the output object.
- Minimum input value
  - The smallest value of all input telegrams is sent via the output object.
- Average input value:
  - The average value of the input telegrams is sent via the output object.

The "Min/max" application compares the values that are present on the input objects.

The parameter is used to specify whether the largest, smallest or average of all input values is sent. If the average value is sent, the application calculates the arithmetic mean of the inputs. Decimal points are rounded up or down.

For example:

- Object type: "2-byte signed", 2 input objects
- Input 1: Value "4"
- Input 2: Value "5"

(Input 1 + input 2) / 2 = arithmetic mean; (4 + 5) / 2 = 4.5

Sent average value: 5

8.6.9 Light scene actuator

With the "Light scene actuator" application it is possible to call up scenes that are stored in the device via the receipt of a scene number. A maximum of eight scenes with up to eight actuator objects can be created.

- Number of scenes

Options:	Setting option: 1 - 8

The parameter is used to select up to eight scenes.

- Number of actuator groups

Options:	Setting option: 1 - 8

The parameter is used to configure up to eight actuator groups for the light scene actuator.

At a call up of a scene, telegrams are sent consecutively via communication object "GFx: Actuator group x". If, for example, four lamp groups, a blind and an absolute temperature value are to be sent at the call-up of a scene, the parameter must be set on "6" actuator groups.

- Telegram delay between the outputs

Options:	Setting option: 00.100 … 01.000 … 10.000 ss.fff s

The parameter is used to set the delay time between the individual telegrams.

At the call up of a scene, telegrams are sent consecutively via communication objects "GFx: Actuator group x". The sequence is strictly specified. First the telegram of actuator group A is sent out, then the telegram of actuator group B, etc.

- Overwrite scenes at download

Options:	Deactivated
	Activated

- Inactive:
  - The scene values saved by the user remain in the device.
- Active:
  - When reprogramming the device, the values saved by the user are overwritten with the preset values in the parameterisation software.

A scene storage can be triggered with a long press of the button on the device. The communication objects "GFx: Actuator groups x" send read requests to the connected actuators. If the L-flag is set for the objects of the linked actuators, the actuators send an answer telegram to the device with their current values.

If the parameter is activated, the current scene values are saved and at the same time overwrite the previous values.

Configuration of the actuator objects

- Data type actuator group X

Options:	Percent [DPT 5.001]
	Scene [DPT 18.001]
	Switching [DPT 1.001]
	Up/down [DPT 1.008]
	Temperature (DPT 9.001)

The parameter is used to set the data type of communication object "GFx: Actuator group x" for different applications.

Configuration of scene

Communication object	Scene 1 … 8
Scene number	1 … 64
Scene can be saved	Deactivated Activated
Actuator group X	Deactivated Activated
Value	1 … 0 … 100 %
	1 … 64
	off on
	Up Down
	-33.5 … 20 … 93.5 °C

The parameter is used to specify the configuration of the scene.

8.6.10 Sequence

With the "Sequence " application it is possible to send out multiple telegrams with different values in a predefined sequence consecutively over the same object.

In contrast to the Scene, the "Sequence" application has only one communication object on which up to twelve individual values are consecutively sent in twelve firmly set times. The times can be freely set from 1 s to 12 h. The "Sequence" application lends itself to controlling showrooms for example.

The function can be temporarily blocked via an enable object.

- Data type

Options:	Switching [DPT 1.001]
	Percent [DPT 5.001]
	1 byte without a sign [DPT 5.010]
	Scene [DPT 18.001]
	2-byte floating point value [DPT 9.***]
	2 byte without a sign [DPT 7.001]

The parameter is used to specify the data type that is to be used.

- Communication object "Sequence status"

Options:	Deactivated
	Activated

The parameter is used to enable the "Disable" communication object.

When parameter "Enable communication object "Status sequence" is activated, additional parameters are available.

- Value when active

Options:	1
	0

The parameter is used to specify the value for communication object "Status sequence".

- Enable "Disable" communication object

Options:	Deactivated
	Activated

The parameter is used to enable the "Block" communication object.

When parameter "Enable "Disable" communication object is activated, additional parameters are available.

- Disable at value

Options:	0
	1

The parameter is used to specify the value with which the function can be disabled.

- Disabling behaviour

Options:	Process sequence to end
	Abort sequence

The parameter is used to specify the disabling behaviour.

- Behaviour at return of bus voltage

Options:	Do not start sequence
	Start sequence

The parameter is used to specify the behaviour after the bus voltage is restored.

- Start sequence at

Options:	1
	0

The parameter is used to specify the value for the start of the sequence.

- Infinite loop

Options:	Deactivated
	Activated

The parameter is used to specify whether the sequence is repeated in an infinite loop.

- Number of steps

Options:	1 … 12

The parameter is used to specify the number of steps.

- Value after end of sequence:

Options:	off on
	0 … 100 %
	0 … 255
	1 … 64
	-671088.64 … 0 … 670760.96
	0 … 0 … 65535

The parameter is used to specify the value for the start of the sequence.

9 Communication objects

For a quick overview of the function options, all communication objects are listed in an overview table. The detailed function can be read in the following description of the individual communication objects.

Notice
Some communication objects are dynamic and only visible when the corresponding parameters have been activated in the application program.

The communication objects are listed in the following overview:

Device settings

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
In operation	Output	1 bit	[1.002] Boolean	K	-	-	U	A
Alarm	Input	1 bit	[1.001] Switching	K	-	S	-	A
Alarm confirmation	Input	1 bit	[1.003] Enable	K	-	S	-	A
Alarm acknowledgment	Input	1 bit	[1.017] Trigger	K	-	S	-	A
Day/Night	Input	1 bit	[1.024] Enable	K	-	S	-	A
Presence	Input	1 bit	[1.018] Occupancy	K	-	S	-	A

Primary function

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K		S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	Data type [12.001] Counting pulses (unsigned)	K	-	S	U	A

Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

Operating area 1

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S		-

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	1 byte	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-

- Send value/multiple operation

Function	**Object function**	**Length**	**Data type**	**Flags**				
				K	**L**	**S**	**U**	**A**
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	Data type [12.001] Counting pulses (unsigned)	K	-	S	U	A
Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K		S		A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Operating area 1/2

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	1 byte	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Send value/multiple operation

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	Data type [12.001] Counting pulses (unsigned)	K	-	S	U	A
Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

- LED x

Function	**Object function**	**Length**	**Data type**	**Flags**				
				K	**L**	**S**	**U**	**A**
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K		S		A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Operating area 1/3

- Switching

Function	Object function	Length	Data type	Flags				
				K	**L**	**S**	**U**	**A**
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	**L**	**S**	**U**	**A**
Step/stop	Output	1 bit	[1.007] Step	K	-	-	U	-
Moving to height	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Stop	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Move slat	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Height status	Input	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	1 byte	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Send value/multiple operation

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	Data type [12.001] Counting pulses (unsigned)	K	-	S	U	A
Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K		S		A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Operating area 2

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	1 byte	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K		S		A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Operating area 2/4

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K		S		A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Moving to height	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Dimming value	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	1 byte	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Send value/multiple operation

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	Data type [12.001] Counting pulses (unsigned)	K	-	S	U	A
Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

Operating area 3

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K	-	S	-	A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Operating area 3/4

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	-

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K	-	S	-	A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Moving to height	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Send value/multiple operation

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Forced operation	Bidirectional	2 bit	[2.001] Prio. switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 bit	[5.001] Percent	K	-	S	U	A
Value x: 1 byte	Bidirectional	1 byte	[5.010] Counting pulses	K	-	S	U	A
Value x: 1 byte with a sign	Bidirectional	1 byte	[6.010] Counting pulses	K	-	S	U	A
Value x: 2 byte	Bidirectional	2 bytes	[7.001] Pulse	K	-	S	U	A
Value x: 2 byte with a sign	Bidirectional	2 bytes	[8.001] Pulse difference	K	-	S	U	A
Value x: 4 byte	Bidirectional	4 bytes	[12.001] Counting pulses (unsigned)	K	-	S	U	A
Value x: Temperature	Bidirectional	2 bytes	[9.001] Temperature (°C)	K	-	S	U	A
Value x: Brightness	Bidirectional	2 bytes	[7.013] Brightness (lux)	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A

Operating area 4

- Switching

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block x	Input	1 bit	[1.003] Enable	K	-	S	-	

- Blind/roller blind

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Up/down	Bidirectional	1 bit	[1.008] Up/Down	K	-	S	U	A
Step/stop	Bidirectional	1 bit	[1.007] Step	K	-	S	U	A
Status end position top	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Status end position bottom	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Move up/down status	Input	1 bit	[1.002] Boolean	K	-	S	-	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Switching/dimming

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Dimming	Output	4 bit	[3.007] Dimmer step	K	-	-	U	-
Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Scene

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene 1 - 64	Output	1 byte	[18.001] Scene control	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	A

- Switching sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value x: Switching	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
Value x: Percent	Bidirectional	1 byte	[5.001] Percent	K	-	S	U	A
Value x: Byte	Bidirectional	1 byte	[5.010] counting pulses	K	-	S	U	A
Value x: Scene	Bidirectional	1 byte	[18.001] Scene control	K	-	S	U	A
Value x: Colour	Bidirectional	3 bytes	[232.600] RGB value	K	-	S	U	A
Value x: HVAC mode	Bidirectional	1 byte	[20.102] HVAC mode	K	-	S	U	A
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
Reset switching sequence	Input	1 bit	[1.017] Trigger	K	-	S	-	-
Switching step up/down	Input	1 bit	[1.007] Step	K	-	S	-	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- LED x

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Status LED	Input	1 bit	[1.001] Switching	K	-	S	-	A
Status LED	Input	1 byte	[5.001] Percent	K	-	S	-	A
Input	Input	1 byte	[18.001] Scene control	K	-	S	-	A

Sensor: Temperature sensor

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Temperature	Output	2 bytes	[9.001] Temperature (°C)	K	-	-	U	-
Current temperature for calibration	Bidirectional	2 bytes	[9.001] Temperature (°C)	K	-	S	U	A

Function x

- Gate

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Input	Input	1 bit	[1.001] Switching	K	-	S	-	-
Output	Output	1 bit	[1.001] Switching	K	-	-	U	-
Input	Input	1 bit	[1.008] Up/Down	K	-	S	-	-
Output	Output	1 bit	[1.008] Up/Down	K	-	-	U	-
Input	Input	1 bit	[1.007] Step	K	-	S	-	-
Output	Output	1 bit	[1.007] Step	K	-	-	U	-
Input	Input	2 bit	[2.001] Prio. switching	K	-	S	-	-
Output	Output	2 bit	[2.001] Prio. switching	K	-	-	U	-
Input	Input	4 bit	[3.007] Dimming	K	-	S	-	-
Output	Output	4 bit	[3.007] Dimming	K	-	-	U	-
Input	Input	1 byte	[5.001] Percent	K	-	S	-	-
Output	Output	1 byte	[5.001] Percent	K	-	-	U	-
Input	Input	1 byte	[5.010] Counting pulses	K	-	S	-	-
Output	Output	1 byte	[5.010] Counting pulses	K	-	-	U	-
Input	Input	2 bytes	[9.001] Temperature	K	-	S	-	-
Output	Output	2 bytes	[9.001] Temperature	K	-	-	U	-
Input	Input	2 bytes	[8.001] Pulse difference	K	-	S	-	-
Output	Output	2 bytes	[8.001] Pulse difference	K	-	-	U	-
Input	Input	2 bytes	[7.001] Pulse	K	-	S	-	-
Output	Output	2 bytes	[7.001] Pulse	K	-	-	U	-
Input	Input	3 bytes	[10.001] Daytime	K	-	S	-	-
Output	Output	3 bytes	[10.001] Daytime	K	-	-	U	-
Input	Input	3 bytes	[11.001] Date	K	-	S	-	-
Output	Output	3 bytes	[11.001] Date	K	-	-	U	-
Input	Input	4 bytes	[14.005] Amplitude	K	-	S	-	-
Output	Output	4 bytes	[14.005] Amplitude	K	-	-	U	-
Input	Input	4 bytes	[13.001] Counting pulses (signed)	K	-	S	-	-
Output	Output	4 bytes	[13.001] Counting pulses (signed)	K	-	-	U	-
Input	Input	4 bytes	[12.001] Counting pulses (unsigned)	K	-	S	-	-
Output	Output	4 bytes	[12.001] Counting pulses (unsigned)	K	-	-	U	-

Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

- Logic functions

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Output	Output	1 bit	[1.001] Switching	K	L	-	U	-
Input x	Input	1 bit	[1.001] Switching	K	-	S	-	A
Output	Output	1 byte	[5.010] Counting pulses	K	L	-	U	-
Input x	Input	1 byte	[5.010] Counting pulses	K	-	S	-	A

- Telegram cyclic

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Input	Input	1 bit	[1.001] Switching	K	-	S	-	-
Output	Output	1 bit	[1.001] Switching	K	-	-	U	-
Input	Input	1 bit	[1.005] Alarm	K	-	S	-	-
Output	Output	1 bit	[1.005] Alarm	K	-	-	U	-
Input	Input	1 byte	[5.001] Percent	K	-	S	-	-
Output	Output	1 byte	[5.001] Percent	K	-	-	U	-
Input	Input	1 byte	[5.010] Counting pulses	K	-	S	-	-
Output	Output	1 byte	[5.010] Counting pulses	K	-	-	U	-
Input	Input	2 bytes	[9.001] Temperature	K	-	S	-	-
Output	Output	2 bytes	[9.001] Temperature	K	-	-	U	-
Input	Input	2 bytes	[8.001] Pulse difference	K	-	S	-	-
Output	Output	2 bytes	[8.001] Pulse difference	K	-	-	U	-
Input	Input	2 bytes	[7.001] Pulse	K	-	S	-	-
Output	Output	2 bytes	[7.001] Pulse	K	-	-	U	-
Input	Input	4 bytes	[14.005] Amplitude	K	-	S	-	-
Output	Output	4 bytes	[14.005] Amplitude	K	-	-	U	-
Input	Input	4 bytes	[13.001] Counting pulses (signed)	K	-	S	-	-
Output	Output	4 bytes	[13.001] Counting pulses (signed)	K	-	-	U	-
Input	Input	4 bytes	[12.001] Counting pulses (unsigned)	K	-	S	-	-
Output	Output	4 bytes	[12.001] Counting pulses (unsigned)	K	-	-	U	-

- Priority

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Switching	Input	1 bit	[1.001] Switching	K	-	S	-	-
Priority	Input	2 bit	[2.001] Switching	K	-	S	-	-
Output	Output	1 bit	[1.001] Switching	K	L	-	U	-

- Staircase lighting

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Input / output	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	-
Input	Input	1 bit	[1.001] Switching	K	-	S	U	-
	Input	1 byte	[5.001] Percent	K	-	S	U	-
Output	Output	1 bit	[1.001] Switching	K	-	S	U	-
	Output	1 byte	[5.001] Percent	K	-	S	U	-
Switch-off delay	Bidirectional	2 bytes	[7.005] Time (s)	K	L	S	-	-

- Delay

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Input	Input	1 bit	[1.001] Switching	K	-	S	-	-
Output	Output	1 bit	[1.001] Switching	K	-	-	U	-
Input	Input	1 bit	[1.008] Up/Down	K	-	S	-	-
Output	Output	1 bit	[1.008] Up/Down	K	-	-	U	-
Input	Input	1 bit	[1.007] Step	K	-	S	-	-
Output	Output	1 bit	[1.007] Step	K	-	-	U	-
Input	Input	1 byte	[5.001] Percent (0 - 100%)	K	-	S	-	-
Output	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Input	Input	2 bytes	[9.001] Temperature	K	-	S	-	-
Output	Output	2 bytes	[9.001] Temperature	K	-	-	U	-
Input	Input	2 bytes	[8.001] Pulse difference	K	-	S	-	-
Output	Output	2 bytes	[8.001] Pulse difference	K	-	-	U	-
Input	Input	2 bytes	[7.001] Pulse	K	-	S	-	-
Output	Output	2 bytes	[7.001] Pulse	K	-	-	U	-
Input	Input	4 bytes	[14.005] Amplitude	K	-	S	-	-
Output	Output	4 bytes	[14.005] Amplitude	K	-	-	U	-
Input	Input	4 bytes	[13.001] Counting pulses (signed)	K	-	S	-	-
Output	Output	4 bytes	[13.001] Counting pulses (signed)	K	-	-	U	-
Input	Input	4 bytes	[12.001] Counting pulses (unsigned)	K	-	S	-	-
Output	Output	4 bytes	[12.001] Counting pulses (unsigned)	K	-	-	U	-
Delay time	Bidirectional	2 bytes	[7.005] Time (s)	K	-	S	-	-

- Min/Max

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Output	Output	1 byte	[1.001] Switching	K	-	-	U	-
Input x	Input	1 byte	[1.001] Switching	K	-	S	-	-
Output	Output	1 byte	[5.001] Percent (0 - 100%)	K	-	-	U	-
Input x	Input	1 byte	[5.001] Percent (0 - 100%)	K	-	S	-	-
Output	Output	1 byte	[5.010] Counting pulses (0 - 255)	K	-	-	U	-
Input x	Input	1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	-	-
Output	Output	2 bytes	[9.001] Temperature	K	-	-	U	-
Input x	Input	2 bytes	[9.001] Temperature	K	-	S	-	-
Output	Output	2 bytes	[8.001] Pulse difference	K	-	-	U	-
Input x	Input	2 bytes	[8.001] Pulse difference	K	-	S	-	-
Output	Output	2 bytes	[7.001] Pulse	K	-	-	U	-
Input x	Input	2 bytes	[7.001] Pulse	K	-	S	-	-
Output	Output	4 bytes	[14.005] Amplitude	K	-	-	U	-
Input x	Input	4 bytes	[14.005] Amplitude	K	-	S	-	-
Output	Output	4 bytes	[13.001] Counting pulses (signed)	K	-	-	U	-
Input x	Input	4 bytes	[13.001] Counting pulses (signed)	K	-	S	-	-
Output	Output	4 bytes	[12.001] Counting pulses (unsigned)	K	-	-	U	-
Input x	Input	4 bytes	[12.001] Counting pulses (unsigned)	K	-	S	-	-

- Light scene actuator

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Scene number	Input	1 byte	[18.001] Scene control	K	-	S	-	A
Actuator group x	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
		1 bit	[1.008] Up/Down	K	-	S	U	A
		1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
		1 byte	[18.001] Scene control	K	-	S	U	A
		2 bytes	[9.001] Temperature	K	-	S	U	A

- Sequence

Function	Object function	Length	Data type	Flags				
				K	L	S	U	A
Value sequence	Bidirectional	1 bit	[1.001] Switching	K	-	S	U	A
		1 byte	[5.001] Percent (0 - 100%)	K	-	S	U	A
		1 byte	[5.010] Counting pulses (0 - 255)	K	-	S	U	A
		1 byte	[18.001] Scene control	K	-	S	U	A
		2 bytes	[9.001] Temperature	K	-	S	U	A
		2 bytes	[7.001] Pulse	K	-	S	U	A
Sequence start	Input	1 bit	[1.001] Switching	K	-	S	-	-
Sequence status	Output	1 bit	[1.001] Switching	K	-	-	U	-
Block	Input	1 bit	[1.003] Enable	K	-	S	-	-

9.1 Communication objects device settings

9.1.1 In operation

Function	Object function	Length	Data type
In operation	Output	1 bit	[1.002] Boolean

This communication object sends an in-operation telegram cyclic to the bus. The sending cycle is set in parameter "Sending cycle".

Telegram value:

- 1 = Device in operation
- 0 = Device in operation

Notice
With this communication object the operational readiness can be monitored by another KNX device. If no telegram is received, the sending device may be defective or the bus line to the sending device may have been interrupted.

9.1.2 Alarm

Function	Object function	Length	Data type
Alarm	Input	1 bit	[1.001] Switching

This communication object receives an alarm telegram from the bus. If an alarm is set (value 1), then the status on the device can be indicated with the LEDs or acoustic. The alarm is reset with value 0.

9.1.3 Alarm acknowledgment

Function	Object function	Length	Data type
Acknowledgement	Input	1 bit	[1.017] Trigger

An alarm acknowledgment can be made both with value 1 and value 0.

9.1.4 Alarm acknowledgment

Function	Object function	Length	Data type
Alarm acknowledgment	Input	1 bit	[1.003] Enable

This communication object receives an alarm acknowledgment from the bus. An active alarm with possible display via the LEDs or acoustic, is herewith reset also when the alarm input itself has not been set (value 1).

9.1.5 Day/Night

Function	Object function	Length	Data type
Day/Night	Input	1 bit	[1.024] Day/Night

This communication object receives a telegram for the day/night switchover from the bus. The value 1 stands for night and value 0 for day.

9.1.6 Presence

Function	Object function	Length	Data type
Presence	Input	1 bit	[1.018] Occupancy

This communication object switches the device LEDs over between function/status display and light for orientation. It is activated when the light for orientation is enabled and the activation is set via the communication object.

Value 1 activates the function/status display. Value 0 switches the LEDs over to light for orientation.

9.2 Communication objects primary function

9.2.1 Switching

Function	Object function	Length	Data type
Switching x	Bidirectional	1 bit	[1.001] Switching

This communication object sends a switching telegram to the bus.

Telegram value:

- 1 = On
- 0 = Off

9.2.2 Scenes

Function	Object function	Length	Data type
Scene 1 - 64	Output	1 byte	[18.001] Scene control

This communication object sends a scene telegram to the bus.

Telegram value:

0 - 63 = Call up scene x (x = 1 - 64)

9.2.3 Send value/multiple operation

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked or activated. Value 1 blocks the operation, value 0 activates it.

Function	Object function	Length	Data type
Value x: Send	Bidirectional	1 bit	[1.001] Switching

This communication object sends the configured values to the bus.

9.3 Communication objects switching

9.3.1 Switching

Function	Object function	Length	Data type
Switching x	Bidirectional	1 bit	[1.001] Switching

This communication object sends a switching telegram to the bus.

Telegram value:

- 1 = On
- 0 = Off

9.3.2 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked.

The parameters are used to set whether the function is blocked with value 0 or 1 . The other value is used to cancel the blockage.

9.4 Communication objects blinds/roller blinds

9.4.1 Up/down

Function	Object function	Length	Data type
Up/down	Bidirectional	1 bit	[1.008] Up/Down

This communication object sends the command for moving the curtain to the bus.

Telegram value:

- 1 = Down
- 0 = Up

9.4.2 Stop

Function	Object function	Length	Data type
Stop	Output	1 bit	[1.007] Step

This communication object sends the command for stopping the movement action to the bus.

Telegram value:

- 1 = Stop
- 0 = Stop

9.4.3 Step/stop

Function	Object function	Length	Data type
Step/stop	Bidirectional	1 bit	[1.007] Step

This communication object sends the command for stopping the movement action or changing the slat position to the bus.

Telegram value:

- 1 = Stop / Closing the slats
- 0 = Stop / Opening the slats

9.4.4 Moving to height

Function	Object function	Length	Data type
Moving to height	Output	1 byte	[5.001] Percent (0 - 100%)

This communication object sends the command for moving the height of the curtain to the bus.

- 0 - 100%

9.4.5 Move slat

Function	Object function	Length	Data type
Move slat	Output	1 byte	[5.001] Percent (0 - 100%)

This communication object sends the command for moving the slats to the bus.

- 0 - 100%

9.4.6 Status end position top

Function	Object function	Length	Data type
Status end position top	Input	1 bit	[1.002] Boolean

With this communication object the information as to whether the curtain is in the top end position is received via the bus.

Telegram value:

- 1 = Curtain in top end position
- 0 = Curtain not in top end position

9.4.7 Status end position bottom

Function	Object function	Length	Data type
Status end position bottom	Input	1 bit	[1.002] Boolean

With this communication object the information as to whether the curtain is in the bottom end position is received via the bus.

Telegram value:

- 1 = Curtain in bottom end position
- 0 = Curtain not in bottom end position

9.4.8 Move up/down status

Function	Object function	Length	Data type
Status end position up/down	Input	1 bit	[1.002] Boolean

With this communication object the information as to whether the curtain is to be moved is received via the bus.

Telegram value:

- 1 = Curtain moves
- 0 = Curtain rests

9.4.9 Height status

Function	Object function	Length	Data type
Height status	Input	1 byte	[5.001] Percent

With this communication object the information about the height in which the curtain is located is received via the bus.

Telegram value:

- 0 - 100%

9.4.10 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked.

1 = Operation is blocked

0 = Operation enabled

9.5 Communication objects switching/dimming

9.5.1 Switching

Function	Object function	Length	Data type
Switching x	Bidirectional	1 bit	[1.001] Switching

This communication object sends a switching telegram to the bus.

Telegram value:

- 1 = On
- 0 = Off

9.5.2 Dimming

Function	Object function	Length	Data type
Dimming	Output	4 bit	[3.007] Dimmer step

This communication object sends a dimming telegram on the bus.

Telegram value:

- 0000: Stop
- 0001: 100% darker
- 1000: Stop
- 1001: 100% brighter

9.5.3 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked.

The parameters are used to set whether the function is blocked with value 0 or 1 . The other value is used to cancel the blockage.

9.6 Communication objects scene

9.6.1 Scene 1 - 64

Function	Object function	Length	Data type
Scene 1 - 64	Output	1 byte	[18.001] Scene control

This communication object sends a scene control telegram to the bus.

9.6.2 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked.

The parameters are used to set whether the function is blocked with value 0 or 1 . The other value is used to cancel the blockage.

9.7 Communication objects switching sequence

9.7.1 Value x: Switching

Function	Object function	Length	Data type
Value x: Switching	Bidirectional	1 bit	[1.001] Switching

This communication object sends a value to the bus. The telegram value depends on the setting in the parameter value x.

9.7.2 Actuating number

Function	Object function	Length	Data type
Actuating number	Bidirectional	1 byte	[5.010] Counting pulses (0 - 255)

This communication object sends the current actuating number of up to six-step switching sequence to the bus.

9.7.3 Reset switching sequence

Function	Object function	Length	Data type
Reset switching sequence	Input	1 bit	[1.017] Trigger

A telegram for resetting the switching sequence is sent to the bus via this communication object.

9.7.4 Switching step up/down

Function	Object function	Length	Data type
Switching step up/down	Input	1 bit	[1.007] Step

A telegram for switching a step up or down in the switching sequence is sent to the bus via this communication object.

9.7.5 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of operation is blocked.

The parameters are used to set whether the function is blocked with value 0 or 1 . The other value is used to cancel the blockage.

9.8 Communication objects LED

9.8.1 Status LED

Function	Object function	Length	Data type
Status LED	Input	1 bit	[1.001] Switching

This communication object is used to switch the LED on or off via the bus.

This communication object is the 1-bit input for the LED function. The LED colours for input values 0 and 1 are set in the parameters.

Function	Object function	Length	Data type
Status LED	Input	1 byte	[1.001] Switching

This communication object is the 1-byte input for the LED function. The LED colours for input value areas are set in the parameters.

9.8.2 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching

With this communication object a "Save scene" telegram is received from the bus. The LED flashes at the receipt for approx. 4 s to display the storage process.

9.9 Communication objects send value/multiple operation

9.9.1 Value x: Switching

Function	Object function	Length	Data type
Value x: Switching	Bidirectional	1 bit	[1.001] Switching

This communication object sends a value to the bus. The telegram value depends on the setting in the parameter value x.

9.10 Communication objects temperature sensor

9.10.1 Temperature

Function	Object function	Length	Data type
Temperature	Output	2 bytes	[9.001] Temperature (°C)

The communication object outputs the measured temperature of the internal temperature sensor.

9.10.2 Current temperature for calibration

Function	Object function	Length	Data type
Current temperature for calibration	Bidirectional	2 bytes	[9.001] Temperature (°C)

The communication object receives the value of the current room temperature (e.g. after measurement via a different temperature measurer) for calibrating the internal temperature sensor.

For a correct calibration the measuring location of the external temperature measurer must be close to the device. Otherwise effects from the movement of air or mounting location (e.g. inside wall, outside wall) can reduce the quality of the calibration.

Notice
The temperature sent must not deviate to a maximum of +/- 12.7 K from the temperature measured currently in the device.

9.11 Communication objects function

9.11.1 Communication objects - Function - Gate

9.11.1.1 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching

With this communication object a "Save scene" telegram is received from the bus. The LED flashes at the receipt for approx. 4 s to display the storage process.

9.11.1.2 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching

An output object is sent to the bus with this communication object.

9.11.1.3 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

This communication object blocks or opens the gate for guiding the telegrams through. It is activated via the "Enable "Block" communication object" parameter.

9.11.2 Communication objects - Function - Logic functions

9.11.2.1 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching

An output object is sent to the bus with this communication object.

Function	Object function	Length	Data type
Output	Output	1 byte	[5.010] Counting pulses

An output object is sent to the bus with this communication object.

9.11.2.2 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching

With this communication object a "Save scene" telegram is received from the bus. The LED flashes at the receipt for approx. 4 s to display the storage process.

Function	Object function	Length	Data type
Input	Input	1 byte	[5.010] Counting pulses

An input object is sent to the bus with this communication object.

9.11.3 Communication objects: Function - Cyclical telegram

9.11.3.1 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching [1.005] Alarm
		1 byte	[5.001] Percent [5.010] Counting pulses
		2 bytes	[9.001] Temperature [8.001] Pulse difference [7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

An input object is received from the bus with this communication object.

9.11.3.2 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching [1.005] Alarm
		1 byte	[5.001] Percent [5.010] Counting pulses
		2 bytes	[9.001] Temperature [8.001] Pulse difference [7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

An output object is sent to the bus with this communication object.

9.11.4 Communication objects - Function - Priority

9.11.4.1 Switching

Function	Object function	Length	Data type
Switching x	Input	1 bit	[1.001] Switching

This communication object receives a switching command from the bus. This is transmitted on the output when no command with priority is pending on the priority input.

9.11.4.2 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching

An output object is sent to the bus with this communication object. It takes on the value of the priority function, or the value of the input object when the priority function is not pending.

9.11.4.3 Priority

Function	Object function	Length	Data type
Priority	Input	2 bit	[2.001] Switching

This communication object receives a priority telegram from the bus.

If the priority bit is set, the associated switching value is sent to the output object. If the priority bit is not set, then the value of the input object is passed on to the output object.

- 00: No priority
- 01: No priority
- 10: Priority "Off"
- 11: Priority "On"

9.11.5 Communication objects - Function - Staircase lighting

9.11.5.1 Input / output

Function	Object function	Length	Data type
Input / output	Bidirectional	1 bit	[1.001] Switching

An input or output object is sent to the bus or received from the bus with this communication object. The communication object is bidirectional.

9.11.5.2 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching
		1 byte	[5.001] Percent

An input object is received from the bus with this communication object.

9.11.5.3 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching
		1 byte	[5.001] Percent

An output object is sent to the bus with this communication object.

9.11.5.4 Light-on time

Function	Object function	Length	Data type
Light-on time	Bidirectional	2 bytes	[7.005] Time (s)

With this communication object a communication object is sent to the bus via the switch-off delay or received from the bus. The communication object is bidirectional.

9.11.6 Communication objects - Function - Delay

9.11.6.1 Input

Function	Object function	Length	Data type
Input	Input	1 bit	[1.001] Switching [1.008] Up/Down [1.007] Step
		1 byte	[5.001] Percent (0 - 100%)
		2 bytes	[9.001] Temperature [8.001] Pulse difference [7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

An input object is received from the bus with this communication object.

9.11.6.2 Output

Function	Object function	Length	Data type
Output	Output	1 bit	[1.001] Switching [1.008] Up/Down [1.007] Step
		1 byte	[5.001] Percent (0 - 100%)
		2 bytes	[9.001] Temperature [8.001] Pulse difference [7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

An input object is received from the bus with this communication object.

9.11.6.3 Delay time

Function	Object function	Length	Data type
Delay time	Bidirectional	2 bytes	[7.005] Time (s)

The delay time can be set via the bus with this communication object. This changes the parameterized delay time.

9.11.7 Communication objects - Function - Min/max

9.11.7.1 Output

Function	Object function	Length	Data type
Output	Output	1 byte	[5.001] Percent (0 - 100%)
			[5.010] Counting pulses (0 - 255)
		2 bytes	[9.001] Temperature
			[8.001] Pulse difference
			[7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

This is the output object of the min/max function. Depending on the parameterization, it sends the minimum or maximum value of the inputs or their average value.

9.11.7.2 Input

Function	Object function	Length	Data type
Input x	Input	1 byte	[5.001] Percent (0 - 100%)
			[5.010] Counting pulses (0 - 255)
		2 bytes	[9.001] Temperature
			[8.001] Pulse difference
			[7.001] Pulse
		4 bytes	[14.005] Amplitude [13.001] Counting pulses (signed) [12.001] Counting pulses (unsigned)

This is the input object of the min/max function. Up to eight input objects can be activated.

9.11.8 Communication objects - Function - Light scene actuator

9.11.8.1 Actuator group x

Function	Object function	Length	Data type
Actuator group x	Bidirectional	1 bit	[1.001] Switching
		1 bit	[1.008] Up/Down
		1 byte	[5.001] Percent (0 - 100%)
		1 byte	[18.001] Scene control
		2 bytes	[9.001] Temperature

With this communication object an actuator group is activated with its current scene value.

9.11.8.2 Scene number

Function	Object function	Length	Data type
Scene number	Input	1 byte	[18.001] Scene control

This communication object sends a scene control telegram to the bus.

9.11.9 Communication objects - Function - Sequence

9.11.9.1 Value sequence

Function	Object function	Length	Data type
Value sequence	Bidirectional	1 bit	[1.001] Switching
		1 byte	[5.001] Percent (0 - 100%)
		1 byte	[5.010] Counting pulses (0 - 255)
		1 byte	[18.001] Scene control
		2 bytes	[9.001] Temperature
		2 bytes	[7.001] Pulse

The parameterized sequence value is sent to the bus with this communication object.

9.11.9.2 Sequence start

Function	Object function	Length	Data type
Sequence start	Input	1 bit	[1.001] Switching

A sequence is started or stopped with this communication object.

Telegram value:

- 1 = Start
- 0 = Stop

9.11.9.3 Sequence status

Function	Object function	Length	Data type

Sequence status	Output	1 bit	[1.001] Switching

The status of a sequence is sent to the bus with this communication object.

Telegram value:

- 1 = On
- 0 = Off

9.11.9.4 Block

Function	Object function	Length	Data type
Block	Input	1 bit	[1.003] Enable

With this communication object the execution of the sequence is blocked.

1 = Execution is blocked

0 = Execution is enabled

10 Maintenance

10.1 Cleaning

Caution! - Risk of damaging the device!

- When spraying on cleaning agents, these can enter the device through crevices.
  - Do not spray cleaning agents directly onto the device.
- Aggressive cleaning agents can damage the surface of the device.
  - Never use caustic agents, abrasive agents or solvents.

Clean dirty devices with a soft dry cloth.

– If this is insufficient, the cloth can be moistened slightly with a soap solution.

11 Notes

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