

PRODUCT MANUAL

# ABB i-bus® KNX

## JRA/S x.x.5.2

### Blind/Shutter Actuator



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# 1 About this document

## 1.1 Using the product manual

This manual provides detailed technical information on the function, installation and programming of the ABB i-bus® KNX device.

## 1.2 Legal disclaimer

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## 1.3 Explanation of symbols

1.	Instructions in specified sequence and result
2.	
⇒	
▶	Individual actions
a)	Priorities
1)	Processes run by the device in a specific sequence
•	List level 1
–	List level 2

Tab. 1: Explanation of symbols

Notes and warnings are represented as follows in this manual:



**DANGER**

This symbol is a warning about electrical voltage and indicates high-risk hazards that will definitely result in death or serious injury unless avoided.



**DANGER**

Indicates high-risk hazards that will definitely result in death or serious injury unless avoided.



**WARNING**

Indicates medium-risk hazards that could result in death or serious injury unless avoided.



**CAUTION**

Indicates low-risk hazards that could result in slight or moderate injury unless avoided.



**CAUTION**

Indicates a risk of malfunctions or damage to property and equipment, but with no risk to life and limb.

**Example**

For use in application, installation and programming examples

**i Note**

For use in tips on use and operation

## 1.4

### 2D code

The packaging and the device are labeled with a 2D code. These codes are used for unique identification of the device and include the following information:

- Link to the product page
- Order number
- Device serial number

The 2D codes can be read using any mobile device with an appropriate 2D code reader.

By scanning the 2D codes with the [ABB Product Scanner](#), you can open additional digital services.

## 2 Safety

### 2.1 General safety instructions

- ▶ Protect the device from moisture, dirt and damage during transport, storage and operation.
- ▶ Operate the device only in a closed housing (distribution board).
- ▶ Operate the device only within the specified technical data.
- ▶ Mounting, installation, commissioning and maintenance must be carried out only by qualified electricians.
- ▶ Disconnect device from the supply of electrical power before mounting.

### 2.2 Qualification of the specialist personnel

Programming the device requires detailed specialist knowledge – particularly about the ETS commissioning software – through KNX training courses.

### 2.3 Proper use

Device types JRA/S x.230.2.2 and x.230.5.2 are intended to be used to activate 230 V AC blind, shutter or ventilation flap drives in a KNX environment.

Device type JRA/S x.24.x.2 is intended to be used to activate 24 V DC blind, shutter or ventilation flap drives in a KNX environment.

## 3 Product overview

### 3.1 Device description

The devices are modular installation devices (MDRC) in proM design. They are designed for installation in electrical distribution boards and small housings with a 35 mm mounting rail (according to EN 60715).

The devices are KNX-certified and can be used as products in a KNX system  
→ EU declaration of conformity.

The devices are powered via the bus (ABB i-bus® KNX) and require no additional auxiliary voltage.

The connection to the bus (ABB i-bus® KNX) is made via a KNX bus connection terminal on the front of the housing.

The connections at the inputs or outputs are made via screw terminals  
→ terminal designation on the housing.

The software application Engineering Tool Software (ETS) is used for physical address assignment and parameterization.

#### 3.1.1 Membrane keypad

The devices can be operated manually using the membrane keypad.

##### **i** Note

The safety functions as well as operation using the i-bus® Tool have a higher priority than the *Manual operation* mode. An output cannot be operated using the membrane keypad if it is blocked by a safety function or can be operated using the i-bus® Tool. If the safety function is canceled in *Manual operation* operating mode, the output reacts corresponding to its parameterization.

### 3.2 Product name description

The table below lists the product name descriptions of all devices in the product family.

Abbreviation	Description
JRA	Blind/Shutter Actuator
/S	MDRC
x.	2 = 2-fold
	4 = 4-fold
	8 = 8-fold
	12 = 12-fold
x.	24 = 24 V DC
	230 = 230 V AC
x.	2 = manual operation
	4 = Travel detection, binary input
	5 = Travel detection, manual operation
	7 = 3 limit switches, travel detection, binary input, manual operation
x	x = Version number (x = 1, 2, etc.)

Tab. 2: Product name description

### 3.3 Ordering details

Description	MB	Type	Order no.	Packaging unit [pcs.]	Weight (incl. packaging) [kg]
Blind/Shutter Actuator	2	JRA/S 2.230.5.2	2CDG110288R0011	1	0.261
Blind/Shutter Actuator	4	JRA/S 4.230.5.2	2CDG110289R0011	1	0.306
Blind/Shutter Actuator	8	JRA/S 8.230.5.2	2CDG110290R0011	1	0.502
Blind/Shutter Actuator	12	JRA/S 12.230.5.2	2CDG110291R0011	1	0.701
Blind/Shutter Actuator	4	JRA/S 4.24.5.2	2CDG110298R0011	1	0.296

Tab. 3: Ordering details

### 3.4 Connections

The devices have the following connections:

- depending on the device type, 2, 4, 8 or 12 outputs for activating 230 V AC (JRA/S x.230.x.2) or 24 V DC (JRA/S x.24.x.2) blind, shutter or ventilation flap drives
- 1 KNX bus connection

#### 3.4.1 Inputs

**Note**

This section is not relevant for these devices.

#### 3.4.2 Outputs

**Note**

The largest and most extensive device in the product family is described below as an example.

Function	A	B	C	D	E	F	G	H	I	J	K	L
Blind	x	x	x	x	x	x	x	x	x	x	x	x
Shutter	x	x	x	x	x	x	x	x	x	x	x	x
Ventilation flap	x	x	x	x	x	x	x	x	x	x	x	x
Switching output	x	x	x	x	x	x	x	x	x	x	x	x

Tab. 4: Functions of the outputs

### 3.5 Product family

The product family described in this document includes the following devices:

Device type	Name	Features
JRA/S 2.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 2-fold, 230 V AC, MDRC
JRA/S 4.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 4-fold, 230 V AC, MDRC
JRA/S 8.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 8-fold, 230 V AC, MDRC
JRA/S 12.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 12-fold, 230 V AC, MDRC
JRA/S 4.24.5.2	Blind/Shutter Actuator	travel detection, manual operation, 4-fold, 24 V DC, MDRC

Tab. 5: Product family

#### 3.5.1 Dimension drawing

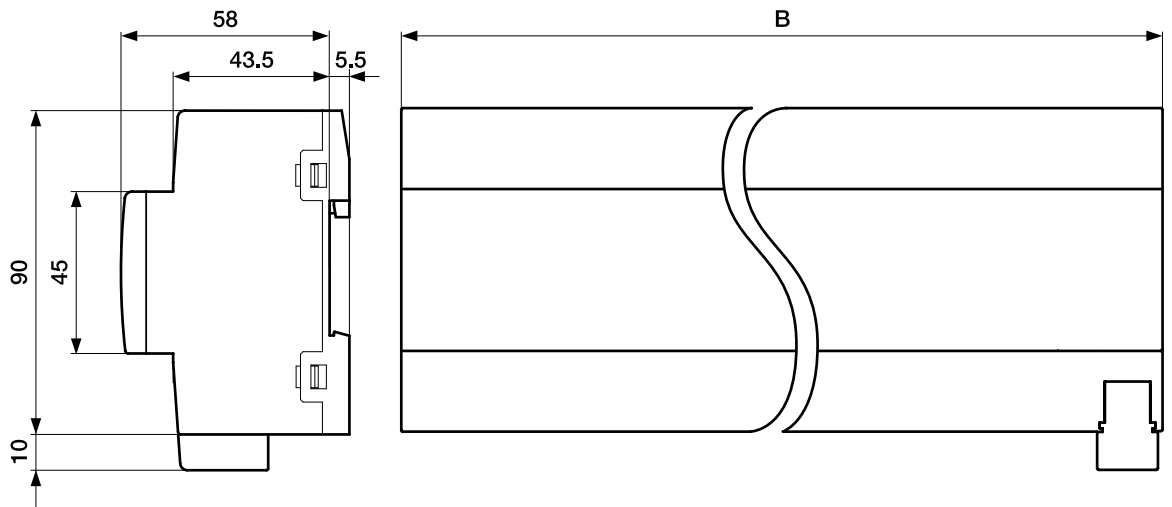


Fig. 1: Dimension drawing for product family

Device type	B
JRA/S 2.230.5.2	4 space units, 70 mm
JRA/S 4.230.5.2	4 space units, 70 mm
JRA/S 8.230.5.2	8 space units, 140 mm
JRA/S 12.230.5.2	12 space units, 210 mm
JRA/S 4.24.5.2	4 space units, 70 mm

Tab. 6: Device width (space units/millimeters)

### 3.5.2 Connection diagram

**Note**

The connection variants are explained in the following based on examples.

#### 3.5.2.1 JRA/S x.24.x.2 connection variant

The connection diagram below applies by way of example to the following devices:

Device type	Name	Features
JRA/S 4.24.5.2	Blind/Shutter Actuator	travel detection, manual operation, 4-fold, 24 V DC, MDRC

Tab. 7: Product family

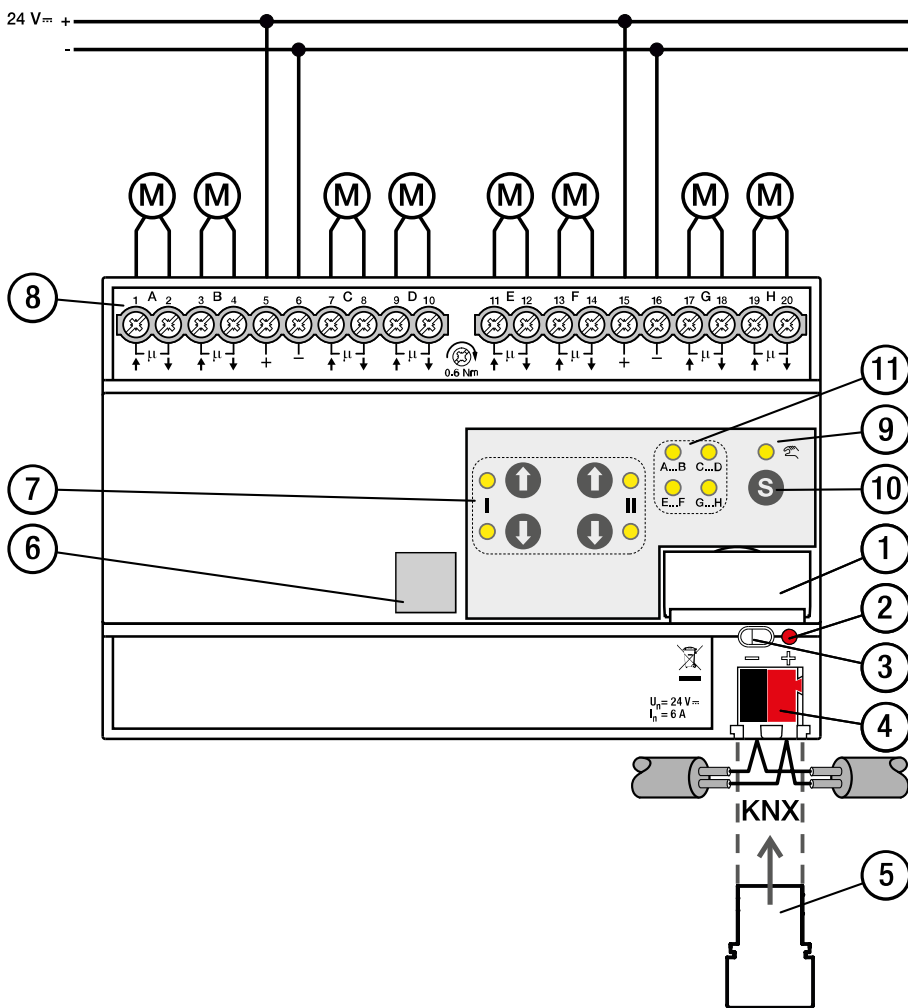


Fig. 2: JRA/S x.24.x.2 connection variant

**Legend**

- 1 Labeling field
- 2 Programming LED
- 3 Programming button
- 4 KNX bus connection terminal
- 5 Cover cap
- 6 2D code
- 7 Input Button/LED
- 8 output
- 9 Manual operation LED
- 10 S button
- 11 Group LED

9AKK108464A0584

### 3.5.2.2 JRA/S 2.230.x.2 connection variant

The connection diagram below applies by way of example to the following devices:

Device type	Name	Features
JRA/S 2.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 2-fold, 230 V AC, MDRC

Tab. 8: Product family

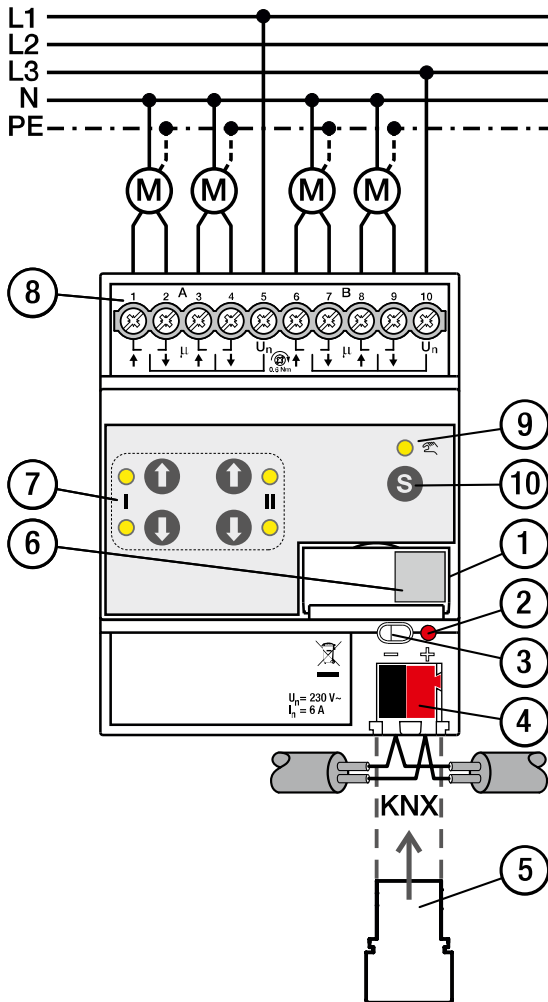


Fig. 3: JRA/S 2.230.x.2 connection variant

**Legend**

- 1 Labeling field
- 2 *Programming LED*
- 3 *Programming button*
- 4 KNX bus connection terminal
- 5 Cover cap
- 6 2D code
- 7 *Input Button/LED*
- 8 output
- 9 *Manual operation LED*
- 10 *S button*

9AKK108464A0453

3.5.2.3 JRA/S 4/8/12.230.x.2 connection variant

The connection diagram below applies by way of example to the following devices:

Device type	Name	Features
JRA/S 4.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 4-fold, 230 V AC, MDRC
JRA/S 8.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 8-fold, 230 V AC, MDRC
JRA/S 12.230.5.2	Blind/Shutter Actuator	travel detection, manual operation, 12-fold, 230 V AC, MDRC

Tab. 9: Product family

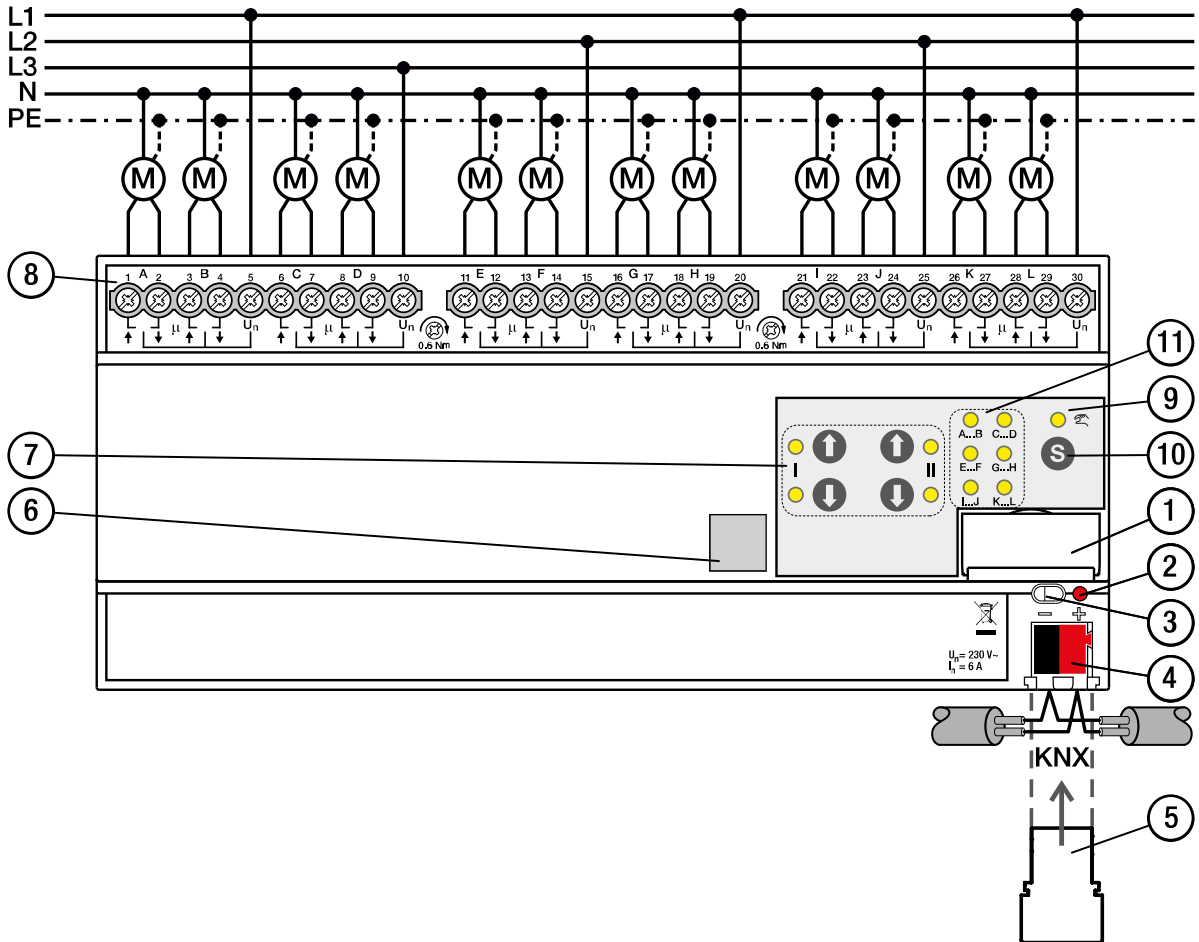


Fig. 4: JRA/S 4/8/12.230.x.2 connection variant



**Legend**

- 1 Labeling field
- 2 Programming LED
- 3 Programming button
- 4 KNX bus connection terminal
- 5 Cover cap
- 6 2D code
- 7 Input Button/LED
- 8 output
- 9 Manual operation LED
- 10 S button
- 11 Group LED

### 3.5.3 Operating controls and display elements



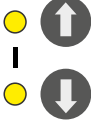

**Note**

The largest and most extensive device in the product family is described below as an example.

Operating control/LED	Description/function	Display
	Assignment of the physical address	LED on: Device in programming mode
	Programming button/LED	












Tab. 10: Operating and display elements

#### 3.5.3.1 Manual mode

Operating control/LED	Description/function	Display
	Short button push < 2 s: Selection of group Button push 2 ... 5 s: Changeover to <i>KNX operation</i> Long button push > 5 s: Selection of all outputs → <a href="#">Central operation via membrane keypad, Page 158</a>	LED on: <i>Manual operation</i> active LED off: <i>KNX operation</i> active
<i>S button / Manual operation LED</i>		
		LED on: Group selected LED off: Group not selected
<i>Output group LED</i>		
	First output of group (A/C/E/G/I/K) Top button: • Long button push > 1 s: up (open) • Short button push < 1 s: stop/slat adjustment Bottom button: • Long button push > 1 s: down (close) • Short button push < 1 s: stop/slat adjustment	Top LED on and bottom LED off: upper end position (ventilation flap is opening or open) Top LED off and bottom LED on: lower end position (ventilation flap is closing or closed) Top and bottom LEDs off: Intermediate position Top LED flashing (1 Hz) and bottom LED off: Up movement Top LED off and bottom LED flashing (1 Hz): Down movement Top LED flashing (1 Hz) and bottom LED flashing (1 Hz): Output blocked Blind or shutter applications only: Top LED flashing (5 Hz) and bottom LED flashing (5 Hz): Output active (after the group is changed or after change to <i>Manual operation</i> operating mode)
<i>Output I button/LED</i>		
	Second output of group (B/D/F/H/J/L) Top button: • Long button push > 1 s: up (open) • Short button push < 1 s: stop/slat adjustment Bottom button: • Long button push > 1 s: down (close) • Short button push < 1 s: stop/slat adjustment	Top LED on and bottom LED off: upper end position (ventilation flap is opening or open) Top LED off and bottom LED on: lower end position (ventilation flap is closing or closed) Top and bottom LEDs off: Intermediate position Top LED flashing (1 Hz) and bottom LED off: Up movement Top LED off and bottom LED flashing (1 Hz): Down movement Top LED flashing (1 Hz) and bottom LED flashing (1 Hz): Output blocked Blind or shutter applications only: Top LED flashing (5 Hz) and bottom LED flashing (5 Hz): Output active (after the group is changed or after change to <i>Manual operation</i> operating mode)
<i>Output II button/LED</i>		

Tab. 11: Operating and display elements

3.5.3.2 KNX operation

Operating control/LED	Description/function	Display
   S button / Manual operation LED	Short button push < 2 s: Selection of group Button push 2 ... 5 s: Change to <i>Manual operation</i>	LED on: <i>Manual operation</i> active LED off: <i>KNX operation</i> active LED flashing (1 Hz): Device connected to i-bus® Tool, <i>Manual operation</i> blocked LED flashing (1 Hz) while button pressed: <i>Manual operation</i> not enabled or blocked
 X...Y Output group LED		LED on: Group selected LED off: Group not selected
   Output I / button/LED	First output of group (A/C/E/G/I/K) Button without function	Top LED on and bottom LED off: upper end position (ventilation flap is opening or open) Top LED off and bottom LED on: lower end position (ventilation flap is closing or closed) Top and bottom LEDs off: Intermediate position Top LED flashing (1 Hz) and bottom LED off: Up movement Top LED off and bottom LED flashing (1 Hz): Down movement Top LED flashing (1 Hz) and bottom LED flashing (1 Hz): Output blocked, or controlled by i-bus® Tool Blind or shutter applications only: Top LED flashing (5 Hz) and bottom LED flashing (5 Hz): Output active (after the group is changed or after change to <i>KNX operation</i> )
    Output II / button/LED	Second output of group (B/D/F/H/J/L) Button without function	Top LED on and bottom LED off: upper end position (ventilation flap is opening or open) Top LED off and bottom LED on: lower end position (ventilation flap is closing or closed) Top and bottom LEDs off: Intermediate position Top LED flashing (1 Hz) and bottom LED off: Up movement Top LED off and bottom LED flashing (1 Hz): Down movement Top LED flashing (1 Hz) and bottom LED flashing (1 Hz): Output blocked, or controlled by i-bus® Tool Blind or shutter applications only: Top LED flashing (5 Hz) and bottom LED flashing (5 Hz): Output active (after the group is changed or after change to <i>KNX operation</i> )

Tab. 12: Operating and display elements

## 3.5.4 Technical data


### 3.5.4.1 General technical data

		JRA/S 2.230.5.2 JRA/S 4.230.5.2 JRA/S 8.230.5.2 JRA/S 12.230.5.2	JRA/S 4.24.5.2
<b>Device</b>	Dimensions	90 × 70 × 63.5 mm (H x W x D) 90 × 70 × 63.5 mm (H x W x D) 90 × 140 × 63.5 mm (H x W x D) 90 × 210 × 63.5 mm (H x W x D)	90 × 70 × 63.5 mm (H x W x D)
	Mounting width in space units	4 modules, 17.5 mm each 4 modules, 17.5 mm each 8 modules, 17.5 mm each 12 modules, 17.5 mm each	4 modules, 17.5 mm each
	Weight	0.173 kg 0.218 kg 0.403 kg 0.588 kg	0.208 kg
	Mounting position	Any	Any
	Mounting variant	35 mm mounting rail	35 mm mounting rail
	Design	proM	proM
	Degree of protection	IP 20	IP 20
	Protection class	II	II
	Overvoltage category	III	III
	Overload protection	Yes	Yes
	Reverse voltage protection	Yes	Yes
	Short-circuit proof	Yes	Yes
	Pollution degree	2	2
<b>Materials</b>	Housing	Polycarbonate, Makrolon FR6002, halogen free	Polycarbonate, Makrolon FR6002, halogen free
<b>Material note</b>	Fire classification	Flammability V-0	Flammability V-0
<b>Electronics</b>	Rated voltage, bus	30 V DC	30 V DC
	Voltage range, bus	21 ... 31 V DC	21 ... 31 V DC
	Current consumption, bus	< 12 mA	< 12 mA
	Power loss, device	≤ 3.85 W ≤ 3.85 W ≤ 7.45 W ≤ 11.08 W	≤ 5.85 W
	Power loss, bus	≤ 0.25 W	≤ 0.25 W
	Power loss, relay output 6 A	≤ 0.9 W	≤ 1.4 W
	KNX safety extra low voltage	SELV	SELV
<b>Connections</b>	Connection type, KNX bus	Plug-in terminal	Plug-in terminal
	Cable diameter, KNX bus	0.6 ... 0.8 mm, solid	0.6 ... 0.8 mm, solid
	Connection type, inputs/outputs	Screw terminal with universal head (PZ 1)	Screw terminal with universal head (PZ 1)
	Pitch	6.35 mm	6.35 mm
	Tightening torque, screw terminals	0.5 ... 0.6 Nm	0.5 ... 0.6 Nm
	Conductor cross-section, flexible	1 × (0.2 ... 4 mm <sup>2</sup> ) / 2 × (0.2 ... 1.5 mm <sup>2</sup> )	1 × (0.2 ... 4 mm <sup>2</sup> ) / 2 × (0.2 ... 1.5 mm <sup>2</sup> )
	Conductor cross section, rigid	1 × (0.2 ... 6 mm <sup>2</sup> ) / 2 × (0.2 ... 1.5 mm <sup>2</sup> )	1 × (0.2 ... 6 mm <sup>2</sup> ) / 2 × (0.2 ... 1.5 mm <sup>2</sup> )
	Conductor cross section with wire end ferrule without plastic sleeve	1 × (0.25 ... 4 mm <sup>2</sup> ) / 2 × (0.25 ... 0.75 mm <sup>2</sup> )	1 × (0.25 ... 4 mm <sup>2</sup> ) / 2 × (0.25 ... 0.75 mm <sup>2</sup> )
	Conductor cross section with wire end ferrule with plastic sleeve	1 × (0.25 ... 2.5 mm <sup>2</sup> )	1 × (0.25 ... 2.5 mm <sup>2</sup> )
	Dimensions of wire end ferrule plastic sleeve	≤ 4.4 × 8 mm	≤ 4.4 × 8 mm
	Conductor cross section with TWIN wire end ferrule	1 × (0.5 ... 2.5 mm <sup>2</sup> )	1 × (0.5 ... 2.5 mm <sup>2</sup> )
	Length, (TWIN) wire end ferrule contact pin	8 mm	8 mm
	Stripping length for KNX terminal	6 mm	6 mm
	Stripping length for load terminal	8 mm	8 mm
<b>Certificates and declarations</b>	CE declaration of conformity	→ <a href="#">9AKK108468A8276</a>	→ <a href="#">9AKK108468A8278</a>
<b>Ambient condition</b>	Operation	-5 ... +45°C	-5 ... +45°C
	Transport	-25 ... +70°C	-25 ... +70°C
	Storage	-25 ... +55°C	-25 ... +55°C
	Humidity	≤ 95%	≤ 95%
	Condensation allowed	No	No
	Atmospheric pressure	≥ 80 kPa (corresponds to air pressure at 2,000 m above sea level)	≥ 80 kPa (corresponds to air pressure at 2,000 m above sea level)

### 3.5.4.2 Outputs Blind Shutter 6 A

		JRA/S 2.230.5.2 JRA/S 4.230.5.2 JRA/S 8.230.5.2 JRA/S 12.230.5.2	JRA/S 4.24.5.2
<b>Rated values</b>	Number of outputs	2 4 8 12	4
	Rated voltage $U_n$	230 V AC	24 V DC
	Rated current $I_n$ (per group)	6 A	6 A
	Rated frequency	50 / 60 Hz	-
	Back-up fuse	≤ 6 A	≤ 6 A
	Relay type	Bi-stable	Bi-stable
<b>Switching currents</b>	AC-1 operation (cos $\varphi = 0.8$ ) at 230 V	≤ 6 A	≤ 6 A
	AC-3 operation (cos $\varphi = 0.45$ ) at 230 V	≤ 6 A	≤ 6 A
	AC-1 operation (cos $\varphi = 0.8$ ) at 400 V	≤ 6 A	≤ 6 A
	AC-3 operation (cos $\varphi = 0.45$ ) at 400 V	≤ 6 A	≤ 6 A
	Switching current at 5 V AC	≥ 100 mA	≥ 100 mA
	Switching current at 12 V AC	≥ 10 mA	≥ 10 mA
	Switching current at 24 V AC	≥ 1 mA	≥ 1 mA
	Switching current at 24 V DC (resistive load)	≤ 6 A	≤ 6 A
<b>Switching capacity</b>	Switching capacity at min. 5 V AC	≤ 0.5 W	≤ 0.5 W
	Switching capacity at min. 12 V AC	≤ 0.12 W	≤ 0.12 W
	Switching capacity at min. 24 V AC	≤ 0.024 W	≤ 0.024 W
<b>Service life</b>	Mechanical service life	≥ 10 <sup>7</sup> switching operations	≥ 10 <sup>7</sup> switching operations
	AC-1 operation (cos $\varphi = 0.8$ )	≥ 10 <sup>5</sup> switching operations	≥ 10 <sup>5</sup> switching operations
	AC-3 operation (cos $\varphi = 0.45$ )	≥ 10 <sup>5</sup> switching operations	≥ 10 <sup>5</sup> switching operations
<b>Switching operations</b>	Switching operations per minute when one relay switches	≤ 1000	≤ 1000
	Switching operations per minute when all relays switch	≤ 500 ≤ 250 ≤ 125 ≤ 83	≤ 250
<b>Starting current</b>	Starting current $I_{peak}$ (150 $\mu$ s)	≤ 100 A	≤ 100 A
	Starting current $I_{peak}$ (250 $\mu$ s)	≤ 80 A	≤ 80 A
	Starting current $I_{peak}$ (600 $\mu$ s)	≤ 50 A	≤ 50 A

#### 3.5.4.2.1 Load table

Load type	Symbol	Max. load
Rated motor power		1380 W

Tab. 13: Load table

## 4 Functional overview

### 4.1 Device functions

The devices have mutually electromechanically interlocked switching relays with which the following functions can be implemented:

- Activation of 230 V AC blind, shutter or ventilation flap drives (JRA/S x.230.2.2, JRA/S x.230.5.2)
- Activation of 24 V DC blind, shutter or ventilation flap drives (JRA/S x.24.x.2)

With device type 2.230.x.2, two drives can be connected to each output. The connections are electromechanically isolated and cannot be activated independently of each other.

On-site operation of the outputs is possible by manual operation. The status of the outputs is indicated via LEDs.

#### Note

Alternatively, to activate a ventilation flap with spring return, the output can be used as a switching output → [Basic settings \[ventilation flap\], Page 80](#).

#### 4.1.1 Overview

Functions	JRA/S x.x.2.2	JRA/S x.x.5.2
<b>Manual operation</b>		
Membrane keypad	x	x
Enable/block manual operation	x	x
Automatically reset manual operation	x	x
<b>Drive activation</b>		
Blind	x	x
Shutter	x	x
Ventilation flap	x	x
Travel detection		x
Reversing time	x	x
Run time delay & minimum run time	x	x
Change direction of rotation	x	x
Dead times	x	x
Reference movement	x	x
Calibration movement		x
Separate activation of two lower end positions		
<b>Function Safety</b>		
Weather alarms & central safeties	x	x
Forced operation	x	x
Individual safeties	x	x
<b>Function Automatic sun protection</b>		
Block direct commands	x	x
Anti-glare protection	x	x
Heating/cooling	x	x
Overheating protection	x	x
<b>Function Scenes</b>		
Recall and save KNX scenes	x	x
<b>Special functions</b>		
Function Sector control	x	x
Function Working position	x	x
Function Logic	x	x
Function Threshold	x	x
Sending and switching delay	x	x
Reaction on KNX voltage failure/recovery	x	x
Status messages	x	x
i-bus® Tool	x	x
Binary inputs		

Tab. 13: Functional overview JRA/S x.x.2.2, JRA/S x.x.5.2

## 4.2 Function diagram

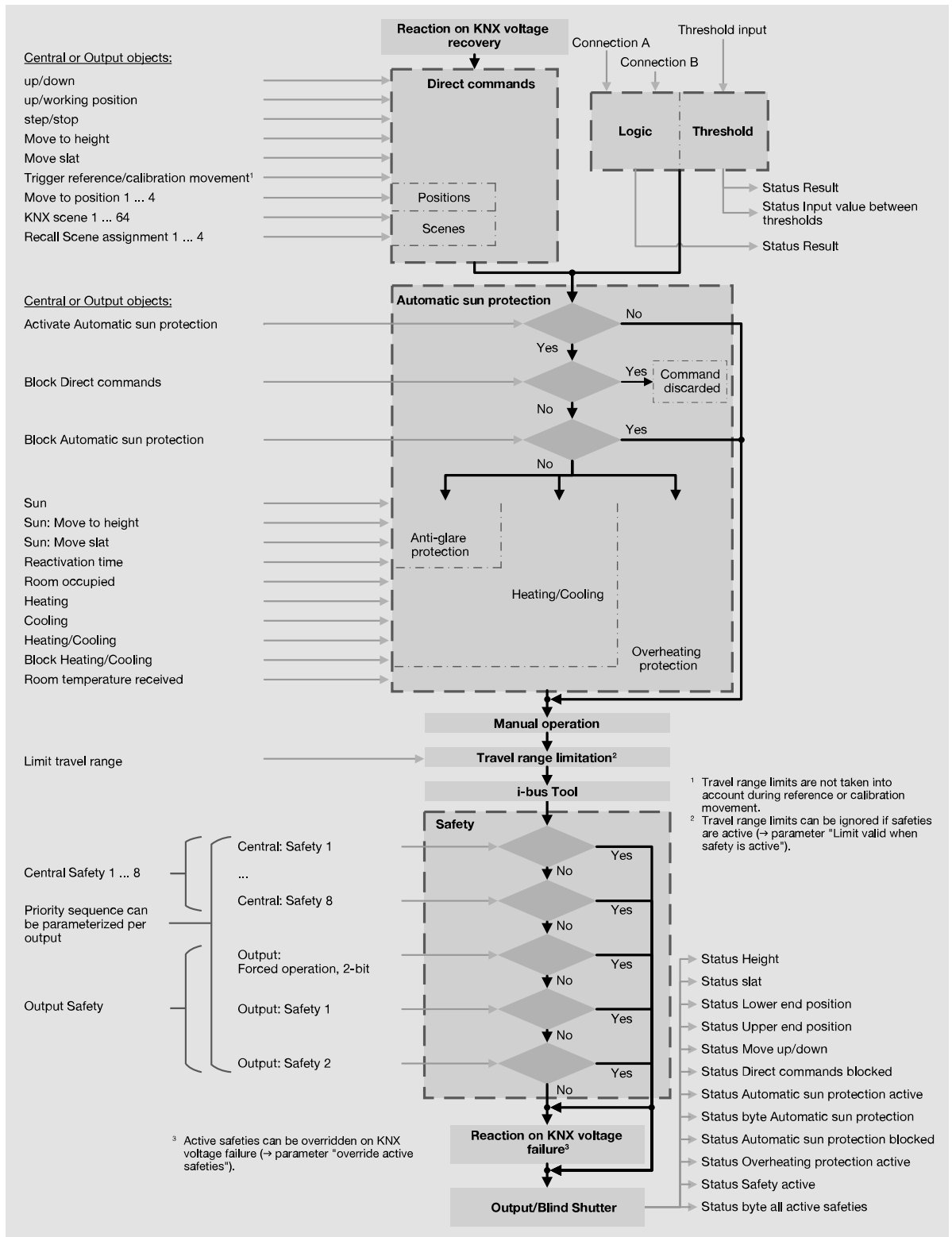


Fig. 5: Function diagram for JRA/S

## 4.3 Device applications

The following device applications are available for the devices described in this document:

Device type	Device application	Max. number of group addresses	Max. number of secure group addresses	Max. number of secure partners
JRA/S 2.230.5.2	Blind, travel detection, 2f/...	2000	2000	400
JRA/S 4.230.5.2	Blind, travel detection, 4f/...	2000	2000	400
JRA/S 8.230.5.2	Blind, travel detection, 8f/...	2000	2000	400
JRA/S 12.230.5.2	Blind, travel detection, 12f/...	2000	2000	400
JRA/S 4.24.2.2	Blind, travel detection, 24V, 4f/...	2000	2000	400

Tab. 14: Device applications

### **i** Note

... = current version number of the application.

See software information on the website, → [www.abb.com/knx](http://www.abb.com/knx).

## 4.4 Applications

### 4.4.1 Overview

Each device output can be assigned a specific application (→ parameter *Output X application*). Settings for this are made in the corresponding parameter window.

The following applications are available for each output:

- Blind application  
For connecting a blind motor.
- Shutter application  
For connecting the motor of a shutter, ventilation flap, window drive, zipscreen or fabric awning.
- Ventilation flap application  
For connecting a ventilation flap with spring return. Alternatively, with this application the output can be used as a switching output.

## 4.5 Functions

### 4.5.1 Function Safety

The function *Safety* can be used to move the blind/shutter to a defined position and block operation.

The parameter *Enable function: Safety* enables the function *Safety* for the whole device. The parameter *Use function Safety* activates or deactivates the function *Safety* individually for each output.

The safeties (e.g. *Wind*, *Rain*, *Frost*, *Block* and *Forced operation*) have priority over all other functions. Exception: In the event of a KNX voltage failure, the active safeties are overridden (→ parameter *Override active safeties*).

To fine-tune the control of the blind/shutter when several safeties are active, the order of priority of safeties can be customized for each output, in the parameter *Priority x safety*.

When a safety is active, the blind/shutter executes the reaction defined in the parameter *Priority x reaction* (exception → [Forced operation 2 bit](#), Page 21) and operation of the corresponding output is blocked. The reaction of the blind/shutter when an active safety is withdrawn is specified in the parameter *Reaction on withdrawal of safeties*.

**i Note**

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

#### 4.5.1.1 Central safety

Settings for this are made in the following parameter window:

- Parameter window [Central safety](#)

The device has eight central safety Group Objects, each of which can be used individually.

The central safety Group Objects are enabled with the parameter *Enable "Safety x"*. The central safety Group Objects apply to the whole device and can be assigned to an output with the parameter *Priority x safety*, → [Assignment of safeties and priorities](#), Page 22.

The parameter *"Safety x" description* can be used to define an individual description for each enabled central safety Group Object, e.g. wind alarm, rain alarm, frost alarm. The description is shown when assigning safeties and priorities in the parameter *Priority x reference* → [Assignment of safeties and priorities](#), Page 22.

The parameter *"Safety x" cyclical monitoring* can be used to set up cyclical monitoring for each central safety Group Object. If the central safety Group Object in question does not receive a telegram within the time that is set here, the corresponding safety is activated.

**i Note**

The monitoring cycle in the device should be at least quadruple the cyclical sending time of the sending device. As a result, the reactions set will not be triggered immediately if a signal is missing, e.g. due to high bus load.

#### 4.5.1.2 Output safety

Settings for this are made in the following parameter window:

- Parameter window [Output X](#) \ Parameter window [Safety](#)

Each output has three safety Group Objects: two for custom use and one for 2-bit forced operation.

The safety Group Objects on the output are enabled using the following parameters:

- [Enable Group Object "Output safety x"](#)
- [Enable Group Object "Output forced operation 2 bit"](#)

The parameter *Description* can be used to define an individual description for each enabled safety Group Object on the output. The description is shown when assigning safeties and priorities in the parameter *Priority x reference* → [Assignment of safeties and priorities](#), Page 22.

##### 4.5.1.2.1 Forced operation 2 bit

Settings for this are made in the following parameter window:

- Parameter window [Output X](#) \ Parameter window [Safety](#)

With 2-bit forced operation, two states are specified that are set if forced operation is activated. Forced operation is activated or deactivated with bit 1. The defined state is set with bit 0.

Bit 1	Bit 0	State of forced operation
0	0	Forced operation deactivated
0	1	Forced operation deactivated
1	0	Forced operation activated, state "UP"
1	1	Forced operation activated, state "DOWN"

Tab. 15: Coding of 2-bit forced operation

The blind/shutter and slat positions of the states are defined in the following parameters:

- *Height (%) forced operation "X"*
- *Slat (%) forced operation "X"*

#### **Note**

Travel range limits are not taken into account with forced operation.

#### **Example**

Forced operation can be used to move the blind/shutter to the upper end position and to block operation so as not to endanger the cleaning personnel while cleaning the windows.

### 4.5.1.3

#### **Assignment of safeties and priorities**

Settings for this are made in the following parameter window:

- Parameter window *Output X* \ Parameter window *Safety*

To fine-tune the control of the blind/shutter when several safeties are active, the order of priority of safeties can be customized for each output, in the parameter *Priority x safety*.

Each output has eight safety priorities. Each priority can be assigned to one of the enabled safety Group Objects (central, output or forced operation).

The parameter *Priority x reference* displays the individual description of the safety Group Object as defined in the following parameters:

- *"Safety x" description*
- *Description*

If the priority is assigned to a safety Group Object that is not enabled, the parameter *Priority x reference* displays an error message.

#### **Note**

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

### 4.5.2

#### **Function Automatic sun protection**

Settings for this are made in the following parameter window:

- Parameter window *Output X* \ Parameter window *Automatic sun protection*

The function *Automatic sun protection* can be used to implement fully automatic room shading solutions depending on the sunshine. Together with other KNX components (in particular with the Shutter Control Unit JSB/S), the device can be used to establish easy-to-use Automatic sun protection control.

The parameter *Enable function: Automatic sun protection* enables the function *Automatic sun protection* for the whole device. The parameter *Use function Automatic sun protection* activates or deactivates the function *Automatic sun protection* individually for each output. The parameter *Reacts to central Group Objects* is used to define whether the function *Automatic sun protection* reacts to telegrams from central Group Objects.

For more information, see:

→ [Automatic operation, Page 170](#)

#### 4.5.2.1

#### Function Anti-glare protection

##### Note

The function *Anti-glare protection* is a component of the function *Automatic sun protection* and cannot be used as a standalone function.

The function *Anti-glare protection* controls the automatic movement of the blind/shutter and the slats depending on the sunshine. Information about sunshine (sun = 1 and sun = 0) can be determined via an external sensor and received via the following Group Objects:

- *Sun* (Central)
- *Sun*

##### Note

- Sun = 0: no sunshine
- Sun = 1: sunshine

The parameter *Sun = x reaction to anti-glare protection* is used to define how the blind/shutter and slats react when the function *Anti-glare protection* is active. The blind/shutter and slats are moved automatically via the output itself.

The blind/shutter and slats can also be directly activated by the following Group Objects:

- *Sun: Move to height* (Central)
- *Sun: Move to height*
- *Sun: Move slat* (Central)
- *Sun: Move slat*

##### Note

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

#### 4.5.2.2

#### Function Heating/Cooling

##### Note

The function *Heating/Cooling* is a component of the function *Automatic sun protection* and cannot be used as a standalone function.

The function *Heating/Cooling* supports room air conditioning through automatic blind/shutter control if the room is vacant.

The function *Heating/Cooling* is enabled with the parameter *Enable function: Heating/Cooling*.

**Example**

Automatic blind/shutter control with heating:

When sun = 1, the blind/shutter is opened fully to help the sunshine warm up the room. When sun = 0, the blind/shutter is closed fully to prevent the room from cooling.

Automatic blind/shutter control with cooling:

When sun = 1, the blind/shutter is closed fully to prevent the sunshine from warming up the room. When sun = 0, the blind/shutter is opened fully to help cool the room.

When the room is occupied, the function *Anti-glare protection* is active.

Information about occupancy status can be determined via an external sensor and received via the following Group Objects:

- [Room occupied](#) (Central)
- [Room occupied](#)

**Note**

- Room occupied = 0: the room is vacant
- Room occupied = 1: the room is occupied

Information about the room operating mode (*Heating* or *Cooling*) is received from an external device, via the following Group Objects (→ Parameter [Control via Group Objects](#)):

- [Heating](#) (Central)
- [Heating](#)
- [Cooling](#) (Central)
- [Cooling](#)
- [Heating/Cooling](#)

These Group Objects are used for changing over between heating and cooling in the function *Heating/Cooling*.

The following parameters are used to define how the blind/shutter and slats react when the function *Heating/Cooling* is active:

- [Sun = x reaction on heating](#)
- [Sun = x reaction on cooling](#)

**Note**

- Sun = 0: no sunshine
- Sun = 1: sunshine

**Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

The Group Object [Block heating/cooling](#) can be used to block the function *Heating/Cooling*.

**Overheating protection on heating**

Overheating protection prevents the room from overheating in *Heating* mode when the function *Heating/Cooling* is active and sun = 1. Overheating protection is enabled with the parameter [Enable overheating protection on heating](#).

The following parameters are used to define the limit temperature and hysteresis:

- [Overheating protection active when sun = 1 and room temperature is greater than](#)
- [Hysteresis](#)

The parameter [Reaction on overheating protection](#) defines how the blind/shutter reacts when overheating protection is active.

### Changeover between the functions Anti-glare protection and Heating/Cooling

If room occupied = 0, the function *Heating/Cooling* is active. If room occupied = 1, the function *Anti-glare protection* is active. The functions change over if the room occupancy status changes.

The parameter *Delay if room occupied = x* can be used to set a delay time. If a delay time is set, change over takes place after the delay time has elapsed. Using a delay time helps to prevent immediate changeover when someone briefly enters or leaves the room.

## 4.5.3 Function Scenes

Settings for this are made in the following parameter window:

- Parameter window *Output X* \ Parameter window *Scenes*

The function *Scenes* can be used to define how the output reacts when KNX scenes are recalled. When a KNX scene is recalled via the bus (ABB i-bus® KNX), an output-specific scene assignment takes place. The scene assignment saves the positions to which the blind/shutter and slats move during scene recall.

The parameter *Enable function: Scenes* enables the function *Scenes* for the whole device. The parameter *Use function Scenes* activates or deactivates the function *Scenes* individually for each output.

Each output has 16 scene assignments. Each scene assignment can be assigned to one of 64 possible KNX scenes. The reaction of the blind/shutter and the slats when a scene assignment takes place is specified in the following parameters:

- *Scene assignment x height (%)*
- *Scene assignment x slat (%)*
- *Scene assignment x delay*

Additional KNX devices can be incorporated in a KNX scene. Prerequisite: all the KNX devices incorporated are parameterized with the same KNX scene, and scene recall is via the same group address.

### Scene recall

A Scene is recalled via the following Group Objects:

- *KNX scenes 1 ... 64* (Central)  
A KNX scene is received via this central Group Object. All the incorporated outputs and KNX devices execute the scene assignments to which this KNX scene is assigned. Depending on the telegram value, the current positions of the blind/shutter and slats for all the incorporated outputs and KNX devices can be saved in the KNX scene.
- *KNX scenes 1 ... 64*  
This Group Object receives a KNX scene. The output executes the scene assignment that is assigned to this KNX scene. Depending on the telegram value, the current positions of the blind/shutter and slats on the output can be saved in the KNX scene.
- *Recall scene assignment x*  
The scene assignment x (x = 1 ... 4) for the output is recalled directly via these 1-bit Group Objects. For the scene assignment to be recalled directly, there must be no KNX scene received on the bus (ABB i-bus® KNX).

#### Note

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

### 4.5.3.1 Structure of 1-byte Scene telegram

A 1-byte Scene telegram contains the Scene number (1 ... 64) and information about whether to recall or save the Scene.

Telegram value:

- 0 ... 63 = Recall Scene x (x = 1 ... 64)
- 128 ... 191 = Save Scene x (x = 1 ... 64)

More information: → [Table of values, Group Object "Scene 1 ... 64", Page 177](#).

## 4.5.4 Function Logic

Settings for this are made in the following parameter window:

- Parameter window [Logic/Threshold](#)
  - Parameter window [Logic/threshold configuration](#)
  - Parameter window [Logic/Threshold x](#)

The function *Logic* can be used across all devices and independently of other functions. Depending on the device variant, there are up to 16 individually parameterizable logic functions available; they are enabled in groups of four (→ parameter [Enable groups: Logic/threshold x-y](#)).

The following logic functions are available:

- AND
- OR
- Exclusive OR
- GATE
- 1 bit Inverter

Two input Group Objects and one result Group Object are available for the AND, OR, exclusive OR and GATE logic functions:

- [Connection A](#)
- [Connection B](#)
- [Status Result \[Logic\]](#)

One input Group Object and one result Group Object are available for the 1 bit Inverter:

- [Connection A](#)
- [Status Result \[Logic\]](#)

The result is calculated when a value is received on one of the input Group Objects. The result can be output on the Group Object [Status Result \[Logic\]](#) or can be linked to an output in the following parameter:

- [Output X reacts to](#)

### Note

If the ETS app *ABB Update Copy Convert* is used to execute the *Channel Exchange* function, the logic/threshold assignments (→ parameter [Output X reacts to](#)) are not exchanged. The assignments must be manually adjusted after exchanging channels.

The result is dependent on the logic function selected and the values in the input Group Objects.

Logic function	Connection A	Connection B	Result	Explanation
AND	0	0	0	The result is 1 if each input value is 1.
	0	1	0	
	1	0	0	
	1	1	1	
OR	0	0	0	The result is 1 if at least one of the input values is 1.
	0	1	1	
	1	0	1	
	1	1	1	
Exclusive OR	0	0	0	The result is 1 if an odd number of input values is 1.
	0	1	1	
	1	0	1	
	1	1	0	
GATE	Blocked	0	-	The input value (connection B) is processed only if the GATE is open. The value is ignored if the GATE is blocked.
	Blocked	1	-	
	Open	0	0	
	Open	1	1	
1 bit Inverter	0	-	1	The input value (connection A) is inverted.
	1	-	0	

Tab. 16: Results of the logic functions

## 4.5.5 Function Threshold

Settings for this are made in the following parameter window:

- Parameter window [Logic/Threshold](#)
  - Parameter window [Logic/threshold configuration](#)
  - Parameter window [Logic/Threshold x](#)

The function *Threshold* can be used independently of other functions. The function *Threshold* compares a value received on the threshold input with the threshold values set in the parameters [Upper threshold](#) and [Lower threshold](#).

One of the "threshold input" Group Objects is used as the threshold input, based on the setting in the parameter [Data point type of Group Object "Threshold input"](#). A separate Group Object is available for each data point type.

A result can be defined in the following parameters depending on whether the value on the threshold input is above or below the thresholds:

- [Result if upper threshold is exceeded](#)
- [Result if lower threshold is dropped below](#)

The following parameters can be used to define how long a threshold must be exceeded before the function outputs a result:

- [Min. duration of the overshoot](#)
- [Min. duration of the undershoot](#)

The result can be output on the Group Object [Status Result \[threshold\]](#) or can be linked to an output in the following parameter:

- [Output X reacts to](#)

### Note

If the ETS app *ABB Update Copy Convert* is used to execute the *Channel Exchange* function, the logic/threshold assignments (→ parameter [Output X reacts to](#)) are not exchanged. The assignments must be manually adjusted after exchanging channels.

### Monitor range between thresholds

The parameter [Monitor range between thresholds](#) can be used to define whether the range between the upper and lower thresholds is monitored and an evaluation is output on the Group Object [Status Input value between thresholds](#).

The parameter *Minimum dwell time between the thresholds* is used to define how long the value received at the threshold input must be between the thresholds before an evaluation occurs.

#### Modifying thresholds via the KNX bus

The thresholds set in ETS can be changed via the bus (ABB i-bus® KNX). The setting is made in the following parameter:

- *Change thresholds via Group Objects*

The modified thresholds are received on separate Group Objects via the bus (ABB i-bus® KNX). A separate Group Object is available for each data point type, based on the setting in the parameter *Data point type of Group Object "Threshold input"*.

The parameter *Overwrite thresholds on download* defines whether the thresholds changed via the bus (ABB i-bus® KNX) are overwritten with the thresholds set in ETS during an application download.

### 4.5.6 Function Sector control

The function *Sector control* can be used to influence the output's reaction, by using a sector call via the bus (ABB i-bus® KNX). With a sector call, the blind/shutter and slats move to the positions that are sent with the sector telegram.

The parameter *Enable function: Sector control* enables the function *Sector control* for the whole device. The parameter *Output X sector* assigns the output to a sector (0 ... 2048).

#### **i** Note

If sector = 0, the output is not assigned to any sector. The output does not react to a sector telegram.

The sector call comes from a central controller (e.g. a weather unit) via the Group Object *Sector control*. The Group Object can be used to execute all automatic, direct, safety and scene commands. The sector telegram contains sector information, the address of the called sector, a command, and command-dependent optional parameters. All outputs assigned to this sector will react to the sector telegram.

### 4.5.7 Function Working position (shading position)

Some blind types can be moved down with open or half-open slats so as not to darken the room when moving the blind. The function *Working position* can be used to operate these types of blind.

The function *Working position* is a range limitation between the upper end position and the first lower end position, in which the blind and slats cannot be fully closed. The use of the function *Working position* is defined with the parameter *Slat moves down in working position*.

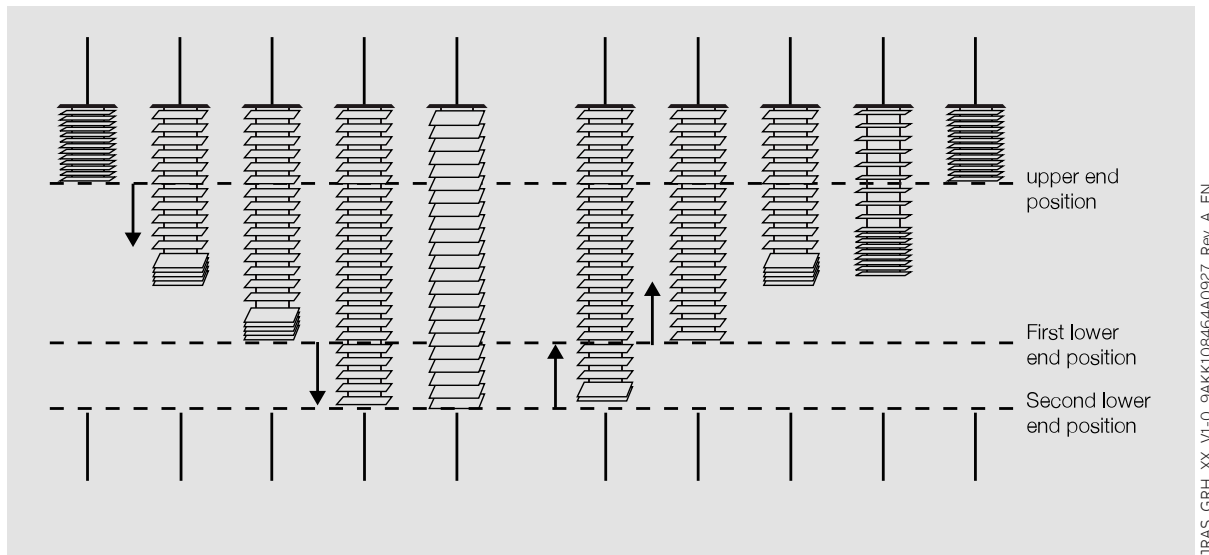


Fig. 6: Working position

### Working position blinds

Defines the range between the upper end position and a position that is just above the physical lower end position, typically 99 %. This position is the first lower end position. The physical lower end position (100 %) is the second lower end position. When the blind moves down out of the range between the upper end position and the first lower end position, the slats are moved to the working position.

### Working position slats

This is preset by the blind mechanism and is typically between 40 % and 60 %. The adjustment time of the slats (from 0 % to working position or from working position to 0 %) must be entered in the parameter *Adjustment time from 0% to working position* to ensure precise calculation of the position.

### First lower end position

If the blind is between the upper end position and the first lower end position, the slats can only be closed as far as the working position of the slats.

The first lower end position is defined in the parameter *Height working position*.

### Second lower end position

The second lower end position defines the position at which the blind is fully closed (100 %). The slats can be fully closed in the range between the first lower end position and the second lower end position.

#### Example

Upper end position = 0 %

First lower end position (parameter *Height working position*) = 99 %

Second lower end position = 100 %

Working position of slat (parameter *Slat working position*) = 60 %

- If the blind is moved down in the range 0 % ... 98 %, the slats are moved to the position 60 % (= working position). If the blind is in the range 0 % ... 99 %, the slats can be closed to maximum 60 %.
- If the blind is moved down in the range 99 % ... 100 %, the slats are moved to the position 100 %. If the blind is in the range 99 % ... 100 %, the slats can be fully closed.
- If the blind is moved down out of position 99 %, the slats are moved to the position 100 %.

If the function *Working position* is used for a blind actuator without 3-end position activation, the second lower end position is activated based on travel detection.

If the function *Working position* is used, the following points must be observed:

- The status Height 100 % is not clearly defined. 100 % may correspond to the first lower end position or the second lower end position.
- The LED indicator *lower end position* on the membrane keypad is not clearly defined. The indicator may correspond to the first lower end position or the second lower end position.
- When the blind is in the working position, all slat commands will be limited to the working position of the slats.

#### **i** Note

If the function *Working position* is used, the range between the first lower end position and the second lower end position can only be approached via the *Up/down* (central) or *Up/down* Group Objects. Travel telegrams from all other Group Objects are limited to the first lower end position.

## 4.6 Integration into i-bus® Tool

i-bus® Tool can be used to read the data from connected devices. It can also be used to simulate values and test the following functions:

- Function of the physical inputs and outputs

If there is no communication between the devices and i-bus® Tool, the simulated values cannot be sent on the bus.

For more information → parameter *i-bus® Tool access*.

i-bus® Tool can be downloaded free of charge from the company homepage ([www.abb.com/knx](http://www.abb.com/knx)).

### 4.6.1 Master-Reset via the i-bus® Tool

The i-bus® Tool function *Master-Reset* can be used to restore a device to the state it was in after the last ETS download. During a Master-Reset, all relay contacts are opened, all saved values (e.g. travel times, staircase lighting times, counter readings, thresholds) are reset, and the device restarts.

To perform a Master-Reset:

1. Open the "Settings" menu.
2. Enable the function "Master-Reset".
3. Open the "Connect to device" menu.
4. Enter the physical address of the device.
5. Click the *Master-Reset* button.
  - ⇒ The Master-Reset is executed; there is no feedback from the device.

#### **i** Note

A Master-Reset can be done at any time, regardless of the setting in the parameter *i-bus® Tool access*.

## 4.7 Special operating states

### 4.7.1 Reaction on KNX voltage failure

KNX voltage failure describes the failure of the KNX voltage, e.g. due to a power failure.

The reaction of the outputs on KNX voltage failure can be specified in the output parameters.

### 4.7.2 Reaction after KNX voltage recovery

KNX voltage recovery is the state that exists after the KNX voltage is restored. The device will restart after KNX voltage recovery.

After the restart, all relay contacts will be opened in order to establish a defined contact position. The time set in the following parameter elapses before the device performs another action:

- [Sending and switching delay after KNX voltage recovery](#)

The reaction of the outputs after the sending and switching delay elapses can be specified in the output parameters.

### 4.7.3 Reaction on ETS reset

ETS reset can be performed in ETS using the Commissioning menu item, in the function *Reset device* (from ETS version 6 *Restart device*).

The device application will restart after ETS reset.

After the restart, all relay contacts will be opened in order to establish a defined contact position. The time set in the following parameter elapses before the device performs another action:

- [Sending and switching delay after KNX voltage recovery](#)

The reaction of the outputs after the sending and switching delay elapses can be specified in the output parameters.

### 4.7.4 Reaction during download

#### Note

The device will no longer operate after the application is uninstalled or the download is canceled.

- ▶ Download again.

Downloading describes loading a modified or updated device application onto the device. The device is not ready to operate during a download. The device will restart after the update.

After the restart, all relay contacts will be opened in order to establish a defined contact position. The time set in the following parameter elapses before the device performs another action:

- [Sending and switching delay after KNX voltage recovery](#)

The reaction of the outputs after the sending and switching delay elapses can be specified in the output parameters.

## 5 Mounting and installation

### 5.1 Information about mounting



#### **DANGER – Severe injuries due to touch voltage**

Electric feedback from different phase conductors can cause contact voltages and lead to serious injuries.

- ▶ Operate the device only in a closed housing.
- ▶ Disconnect all phases before working on the electrical connection.

The device can be mounted in any position as required on a 35 mm mounting rail.

The connection to the bus (ABB i-bus® KNX) is made using the KNX bus connection terminal supplied.

The connections at the inputs or outputs are made via screw terminals  
→ terminal designation on the housing.

#### **i Note**

The maximum permissible current consumption on a KNX line must not be exceeded.

- ▶ During planning and installation, ensure that the KNX line is correctly dimensioned. The device has a maximum current consumption of 12 mA.

### 5.2 Mounting on mounting rail

#### **i Note**

No additional tools are required for mounting on a mounting rail.

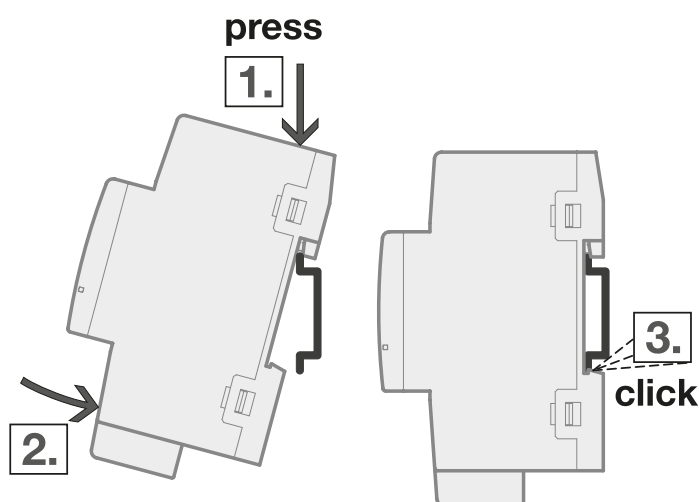


Fig. 7: Mounting on mounting rail

1. Place the mounting rail holder on the upper edge of the mounting rail and push down.
2. Push the lower part of the device toward the mounting rail until the mounting rail holder engages.  
⇒ The device is now mounted on the mounting rail.
3. Relieve the pressure on the top of the housing.

## 6 Commissioning

### 6.1 Prerequisites for commissioning

A PC with ETS and a connection to the bus (ABB i-bus® KNX), e.g. via a KNX interface, are required to commission the device.

- Required ETS version: 5.0 or higher
- Product-specific device application: installed → [Device applications, Page 20](#)

#### **i** Note

See software information on the website → [www.abb.com/knx](http://www.abb.com/knx).

### 6.2 Secure commissioning with KNX DATA Secure

#### **i** Note

KNX DATA Secure is supported by ETS version 5.5.0 or later. ETS version 6 or later is recommended when using KNX DATA Secure. Using older ETS versions can cause errors in project planning, problems during commissioning, or problems when diagnosing group addresses and devices.

This device meets the KNX DATA Secure standard (→ [KNX DATA Secure, Page 172](#)). To commission the device securely, note the following points:

- It is essential to assign a project password if a KNX DATA Secure device is imported into a project. This protects the project against unauthorized access and encrypts the data communication on the bus (ABB i-bus® KNX).
  - Without a password setup, none of the devices in the project can be operated as KNX DATA Secure devices. This means the security of the whole project will be that of a conventional KNX network (KNX plain).
  - The project password must be kept in a safe place. Access to the project is not possible without it. Not even the KNX Association or ABB AG will be able to access it.
- Commissioning a KNX DATA Secure device requires a commissioning key (FDSK = Factory Default Setup Key).
  - The FDSK is attached to the device in duplicate as a removable sticker. The stickers should be removed from the device and kept in a safe place.
  - On the first download, a window opens in ETS, prompting the user to enter the FDSK. Alternatively, the FDSK can be read in with a QR scanner.
  - The FDSKs for all of the KNX DATA Secure devices incorporated in the project can be entered in advance in ETS, → Project overview, "security" tab.
  - After commissioning, ETS assigns new keys. The FDSK will be required again only if the device was reset to its factory settings (e.g. if the device is to be used as a KNX DATA Secure device in a different system with a different ETS project).

### 6.3 Commissioning overview

After the KNX voltage is activated for the first time, the following factory settings will be selected automatically:

- Physical address of the device: 15.15.255
- Device application: preloaded
- Manual operation: enabled

The device can be programmed only using ETS.

**Note**

The device application can be re-downloaded if necessary. Downloads may take longer after a device application is uninstalled or when changing applications.

## 6.4 Putting the device into operation

**CAUTION**

Setting a reversing time that is too short can damage the connected drive.

- ▶ Observe the technical data of the connected drive.

1. Connect the device to the bus (ABB i-bus® KNX).
2. Switch on KNX voltage.
  - ⇒ All relay contacts are open.
3. Switch on supply voltage for the connected loads.
  - ⇒ Device is ready for operation.

## 6.5 Assignment of the physical address

**Note**

If it is set in ETS that the device application is to be downloaded during programming, the download will begin after assignment of the physical address.

Triggering assignment of the physical address via ETS:

1. Press the *Programming* button.
  - ⇒ Programming mode active. The *Programming* LED lights up.
2. Start programming process in ETS.
  - ⇒ Physical address is assigned. Device restarts.

**Note**

The device performs an ETS reset during assignment of the physical address. All states are reset.

## 6.6 Software/device application

### 6.6.1 Download reaction

Depending on the PC, it can take up to 90 seconds for the progress bar to appear during a download.

Using an interface that supports download via "long frames" (e.g. USB/S 1.2 or IPR/S 3.5.1) can greatly shorten the download time.

### 6.6.2 Copying, exchanging and converting

The following functions can be performed with the ETS app *ABB Update Copy Convert*:

- *Update*: Changes the device application to a higher or lower version while retaining the current configurations
- *Convert*: Adopts a configuration from an identical or compatible source device
- *Copy channel*: Copies a channel configuration to other channels on a multichannel device
- *Channel exchange*: Exchanges configurations between two channels on a multichannel device
- *Import/export*: Saves and reads device configurations as external files

The ETS app *ABB Update Copy Convert* can be downloaded free of charge from the KNX Shop  
→ [www.KNX.org](http://www.KNX.org).

**i Note**

If the ETS app *ABB Update Copy Convert* is used to execute the *Channel Exchange* function, the logic/threshold assignments (→ parameter *Output X reacts to*) are not exchanged. The assignments must be manually adjusted after exchanging channels.

## 6.7 Restoring factory settings on a device

- ✓ Before a reset, the device must be connected to the bus (ABB i-bus® KNX).
- 1. Disconnect the device from the bus (ABB i-bus® KNX).
- 2. Press and hold the *Programming* button.
  - ⇒ The *Programming* LED flashes once.
- 3. Connect the device to the bus (ABB i-bus® KNX).
  - ⇒ The *Programming* LED flashes at 1 Hz; the device executes the Master-Reset.
- 4. When the *Programming* LED flashes at 5 Hz, release the *Programming* button.
  - ⇒ The *Programming* LED is off; the device's factory settings have been restored (→ [Commissioning overview, Page 33](#)).

# 7 Parameters

## 7.1 General

### Note

ETS (Engineering Tool Software) is used to parameterize the device.

The following sections describe the device parameters based on the parameter windows. The parameter windows have a dynamic design. Parameters are shown or hidden depending on parameterization and function.

The default values for the parameters are underlined, e.g.:

no (*checkbox cleared*)

yes (checkbox ticked)

### Note

The default values in the device application can vary from the values stated in the product manual depending on the product variant.

### Note

The largest and most extensive device in the product family is described below as an example.

### 7.1.1 Prerequisites for visibility

In the "Prerequisites for visibility" the ETS settings and product variants necessary to display a parameter window/parameter/Group Object are listed. If no "Prerequisites for visibility" are specified, parameter windows/parameters/Group Objects are always shown or the prerequisites are given by the higher-level parameter window.

The "Prerequisites for visibility" are structured as follows:

- Parameter windows: all necessary prerequisites
- Parameters: Settings in other parameter windows, higher-level parameters, product variant required
- Group Objects: all necessary prerequisites

## 7.2 Parameter windows

### 7.2.1 Parameter window Configuration

The following settings can be made in this parameter window:

- Enable outputs
- Define application for each output
- Enable functions *Logic* and *Threshold*
- Enable device-specific functions

Configuration		Configuration		
		Application	Description	Sector
+ Device settings		Output A	Blind	
+ Manual operation		Output B	Blind	
+ Blind template		Output C	Blind	
+ Shutter template		Output D	Blind	
+ Output A:		Output E	Blind	
+ Output B:		Output F	Blind	
+ Output C:		Output G	Blind	
+ Output D:		Output H	Blind	
+ Output E:		Output I	Blind	
+ Output F:		Output J	Blind	
+ Output G:		Output K	Blind	
+ Output H:		Output L	Blind	
+ Output I:		Sector control not enabled.		
+ Output J:		<b>Enable function</b>		
+ Output K:		Sector control	<input type="checkbox"/>	
+ Output L:		Safety	<input type="checkbox"/>	
		Automatic sun protection	<input type="checkbox"/>	
		Scenes	<input type="checkbox"/>	
		Logic/threshold	<input type="checkbox"/>	

Fig. 8: Parameter window Configuration

**This parameter window includes the following parameters:**

- [Output X application, Page 38](#)
  - [Output X description, Page 38](#)
  - [Output X sector, Page 39](#)
- [Enable function: Sector control, Page 39](#)
- [Enable function: Safety, Page 39](#)
- [Enable function: Automatic sun protection, Page 39](#)
- [Enable function: Scenes, Page 40](#)
- [Enable function: Logic/threshold, Page 40](#)

### 7.2.1.1 Output X application

This parameter is used to define which application is used.

Option	
<i>Blind</i>	<p>For connecting a blind motor.</p> <p>The following dependent parameter windows are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X</a></li> <li>• <a href="#">Basic settings [blind, shutter]</a></li> <li>• <a href="#">Drive / blind/shutter</a></li> </ul> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X description</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Up/down</a></li> <li>• <a href="#">Step/stop</a></li> </ul>
<i>Shutter</i>	<p>For connecting a shutter, ventilation flap, window drive, zipscreen or fabric awning motor.</p> <p>The following dependent parameter windows are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X</a></li> <li>• <a href="#">Basic settings [blind, shutter]</a></li> <li>• <a href="#">Drive / blind/shutter</a></li> </ul> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X description</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Up/down</a></li> <li>• <a href="#">Stop</a></li> </ul>
<i>Ventilation flap</i>	<p>For connecting a ventilation flap with spring return. Alternatively, with this application the output can be used as a switching output.</p> <p>The following dependent parameter windows are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X</a></li> <li>• <a href="#">Basic settings [ventilation flap]</a></li> </ul> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Output X description</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Open/close</a></li> </ul>
<i>Deactivated</i>	The output is deactivated.

### 7.2.1.2 Output X description

This parameter is used to define an individual description for a channel, an input or an output. The description is displayed at the following points:

- In the name of the corresponding parameter window
- In the name of the corresponding Group Objects

Option	
<i>Free text entry</i>	Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

#### Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ all options except *Deactivated*

### 7.2.1.3 Output X sector

This parameter assigns the output to a sector (0 ... 2048).

#### **Note**

If sector = 0, the output is not assigned to any sector. The output does not react to a sector telegram.

#### Option

0 ... 2048

#### Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Sector control](#) \ Option *Yes*

### 7.2.1.4 Enable function: Sector control

This parameter enables the function *Sector control*.

More information: → [Function Sector control, Page 28](#).

#### Option

*No*

The function is not enabled.

*Yes*

The following dependent parameters are shown:

- [Output X sector](#)

The following dependent Group Objects are displayed:

- [Sector control](#)

### 7.2.1.5 Enable function: Safety

This parameter enables the function *Safety*.

More information: → [Function Safety, Page 20](#).

#### Option

*No*

The function is not enabled.

*Yes*

The following dependent parameter windows are shown:

- [Central safety](#)
- [Safety](#)
- [Safety \[ventilation flap\]](#)

### 7.2.1.6 Enable function: Automatic sun protection

This parameter enables the function *Automatic sun protection*.

More information: → [Function Automatic sun protection, Page 22](#).

#### Option

*No*

The function is not enabled.

*Yes*

The following dependent parameter windows are shown:

- [Automatic sun protection](#)

**7.2.1.7 Enable function: Scenes**

This parameter enables the function *Scenes*.

More information: → [Function Scenes, Page 25](#).

Option	
<i>No</i>	The function is not enabled.
<i>Yes</i>	The following dependent parameter windows are shown: <ul style="list-style-type: none"> <li>• <a href="#">Scenes</a></li> </ul>

**7.2.1.8 Enable function: Logic/threshold**

This parameter enables the functions *Logic* and *Threshold*. The functions *Logic* and *Threshold* are configured in the parameter window [Logic/Threshold](#).

The functions *Logic* and *Threshold* can be used independently or linked with an output.

More information: → [Function Logic, Page 26](#), → [Function Threshold, Page 27](#).

Option	
<i>No</i>	The functions <i>Logic</i> and <i>Threshold</i> are not enabled.
<i>Yes</i>	The following dependent parameter windows are shown: <ul style="list-style-type: none"> <li>• <a href="#">Logic/Threshold</a></li> <li>• <a href="#">Logic/threshold configuration</a></li> </ul>

## 7.2.2 Parameter window Device settings

The following settings can be made in this parameter window:

- Set sending and switching delay
- Set telegram rate limit
- Enable central and device-specific Group Objects

Configuration	Device settings and central Group Objects	
– Device settings	Device settings and central Group Objects	
Device settings	Sending and switching delay after bus voltage recovery	2 s
+ Manual operation	Value after sending and switching delay has expired	<input checked="" type="radio"/> Last value received <input type="radio"/> Ignore received values
+ Blind template	Telegram rate limit	<input type="checkbox"/>
+ Shutter template	i-bus® Tool access	Full access
+ Output A:	Enable Group Object "In operation"	No
+ Output B:	Enable Group Object "Request status values"	<input type="checkbox"/>
+ Output C:	Enable Group Object "KNX scene 1 ... 64"	<input type="checkbox"/>
+ Output D:	Enable central Group Objects for direct commands	<input type="checkbox"/>
+ Output E:	Enable central Group Objects for automatic sun protection	<input type="checkbox"/>
+ Output F:		
+ Output G:	Random time delay for central automatic and safety commands	<input type="checkbox"/>
+ Output H:		

Fig. 9: Parameter window Device settings

**This parameter window includes the following parameters:**

- [Sending and switching delay after KNX voltage recovery, Page 42](#)
- [Value after sending and switching delay has expired, Page 42](#)
- [Telegram rate limit, Page 42](#)
  - [Maximum number of sent telegrams, Page 42](#)
  - [In period, Page 43](#)
- [i-bus® Tool access, Page 43](#)
- [Enable Group Object "In operation", Page 43](#)
  - [Sending cycle, Page 44](#)
- [Enable Group Object "Request status values", Page 44](#)
- [Enable Group Object "KNX scene 1... 64" \[Central\], Page 44](#)
- [Enable central Group Objects for direct commands, Page 45](#)
- [Enable central Group Objects for automatic sun protection, Page 45](#)
  - [Poll Group Objects after restart, Page 46](#)
  - [Control via Group Objects, Page 46](#)
- [Random time delay for central automatic and safety commands, Page 47](#)
  - [Minimum, Page 47](#)
  - [Maximum, Page 47](#)

### 7.2.2.1 Sending and switching delay after KNX voltage recovery

This parameter is used to define the sending and switching delay after KNX voltage recovery.

More information: → [Sending or switching delay, Page 174](#).

#### **Note**

The device draws energy for switching the outputs via the bus (ABB i-bus® KNX). After application of the KNX voltage or after KNX voltage recovery, it takes about 10 ... 30 seconds before sufficient energy is available to switch all relays simultaneously.

The first relay is not switched until the device has stored sufficient energy to place all outputs in a defined contact position if there is a KNX voltage failure.

#### **Note**

After KNX voltage recovery, the device waits for the sending delay time to elapse before sending telegrams on the bus (ABB i-bus® KNX).

#### Option

*2... 60 s*

### 7.2.2.2 Value after sending and switching delay has expired

This parameter is used to define the values that are applicable at the inputs and outputs after expiration of the sending and switching delay.

More information: → [Sending or switching delay, Page 174](#).

#### Option

*Last value received*

The inputs and outputs react to the last value that was received during the sending and switching delay. If no value was received during the sending and switching delay, the reaction after KNX voltage recovery set in the device parameters applies.

*Ignore received values*

The state of the inputs and outputs remains unchanged until a new value is received after the delay has elapsed.

### 7.2.2.3 Telegram rate limit

This parameter is used to define whether the number of telegrams sent by the device will be limited. The fewer telegrams sent, the lower the bus load will be.

More information: → [Telegram rate limit, Page 174](#).

#### Option

*No*

The number of telegrams is not limited.

*Yes*

The following dependent parameters are shown:

- [Maximum number of sent telegrams](#)
- [In period](#)

### 7.2.2.4 Maximum number of sent telegrams

This parameter is used to define the number of telegrams sent within a period that can be set.

The period is defined in the parameter [In period](#).

More information: → [Telegram rate limit, Page 174.](#)

<b>Option</b>
0 ... 20 ... 100

**Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Telegram rate limit](#) \ Option [Yes](#)

**7.2.2.5 In period**

This parameter is used to define the period during which the device sends telegrams. The telegrams are sent as quickly as possible at the start of a period.

More information: → [Telegram rate limit, Page 174.](#)

**i Note**  
The telegram rate limit is deactivated when the value 0 is selected.

<b>Option</b>
0 ... 1 ... 59 s

**Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Telegram rate limit](#) \ Option [Yes](#)

**7.2.2.6 i-bus® Tool access**

This parameter is used to define whether the device can be accessed via i-bus® Tool.

More information: → [Integration into i-bus® Tool, Page 30.](#)

<b>Option</b>	
<i>No access</i>	Access via the i-bus® Tool is deactivated. A Master-Reset via the i-bus® Tool is possible.
<i>Read only</i>	Values can be displayed via the i-bus® Tool. A Master-Reset via the i-bus® Tool is possible.
<i>Full access</i>	Values can be displayed and changed via the i-bus® Tool. A Master-Reset via the i-bus® Tool is possible.

**7.2.2.7 Enable Group Object "In operation"**

This parameter enables the Group Object [In operation](#).

<b>Option</b>	
<i>No</i>	The Group Object is not enabled.
<i>Yes, send value 0 cyclically</i>	The Group Object is enabled and cyclically sends the value 0.  The following dependent parameters are shown: • <a href="#">Sending cycle</a>  The following dependent Group Objects are displayed: • <a href="#">In operation</a>
<i>Yes, send value 1 cyclically</i>	The Group Object is enabled and cyclically sends the value 1.  The following dependent parameters are shown: • <a href="#">Sending cycle</a>  The following dependent Group Objects are displayed: • <a href="#">In operation</a>

### 7.2.2.8 Sending cycle

This parameter is used to define the cycle in which the Group Object *In operation* sends a telegram.

---

#### Option

*00:00:01 ... 00:10:00 ... 18:12:15 hh:mm:ss*

---

#### Prerequisites for visibility

- Parameter window *Device settings* \ Parameter *Enable Group Object "In operation"* \ Option *Yes, send value 0 cyclically / Yes, send value 1 cyclically*

### 7.2.2.9 Enable Group Object "Request status values"

This parameter enables the Group Object *Request status values*.

All status messages of the device can be requested using the Group Object *Request status values* and sent on the bus (ABB i-bus® KNX).

---

#### Option

*No* The Group Object is not enabled.

*Yes* The following dependent Group Objects are displayed:

- Request status values*

---

### 7.2.2.10 Enable Group Object "KNX scene 1... 64" [Central]

This parameter enables the central Group Object *KNX scenes 1 ... 64*.

More information: → [Function Scenes, Page 25](#).

All outputs assigned to the Scene can be activated together with the central Group Object.

#### Note

Observe the maximum number of switching cycles per minute when using central Group Objects → [Technical data](#).

---

#### Option

*No* The Group Object is not enabled.

*Yes* The following dependent Group Objects are displayed:

- KNX scenes 1 ... 64*

---

### 7.2.2.11 Enable central Group Objects for direct commands

This parameter enables the central Group Objects for direct commands. All assigned outputs can be activated together using the central Group Objects, → parameter *Output reacts to central direct commands*.

More information: → [Direct operation, Page 171](#).

#### **Note**

Observe the maximum number of switching cycles per minute when using central Group Objects → Technical data.

#### Option

<i>No</i>	The Group Objects will not be enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Up/down</i></li> <li>• <i>Up/working position</i></li> <li>• <i>Step/stop</i></li> <li>• <i>Move to height</i></li> <li>• <i>Move slat</i></li> </ul>

### 7.2.2.12 Enable central Group Objects for automatic sun protection

This parameter enables the central Group Objects for automatic sun protection. All assigned outputs can be activated together using the central Group Objects (→ parameter *Reacts to central Group Objects*).

More information: → [Automatic operation, Page 170](#).

#### **Note**

Observe the maximum number of switching cycles per minute when using central Group Objects → Technical data.

#### Option

<i>No</i>	The Group Objects will not be enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <i>Poll Group Objects after restart</i></li> <li>• <i>Control via Group Objects</i></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Activate automatic sun protection</i></li> <li>• <i>Sun</i></li> <li>• <i>Sun: Move to height</i></li> <li>• <i>Sun: Move slat</i></li> <li>• <i>Block automatic sun protection</i></li> <li>• <i>Block direct commands</i></li> <li>• <i>Room occupied</i></li> <li>• <i>Room temperature received</i></li> <li>• <i>Heating</i></li> <li>• <i>Cooling</i></li> </ul>

### 7.2.2.13 Poll Group Objects after restart

This parameter is used to define whether the values for the central Automatic sun protection Group Objects are polled and updated after KNX voltage recovery, download or ETS reset.

More information: → [Value Read, Page 175](#).

**Note**

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

---

**Option**

*No*

*Yes*

---

**Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option *Yes*

### 7.2.2.14 Control via Group Objects

This parameter is used to define which Group Object receives the room operating mode (*Heating* or *Cooling*).

These Group Objects are used for changing over between heating and cooling in the function *Heating/Cooling*.

More information: → [Function Heating/Cooling, Page 23](#).

---

**Option**

*"Heating" and "Cooling"*

The following dependent Group Objects are displayed:

- [Heating](#)
- [Cooling](#)

---

*"Heating/cooling" and "Block heating/cooling"*

The following dependent Group Objects are displayed:

- [Heating/cooling](#)
  - [Block heating/cooling](#)
- 

**Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option *Yes*

### 7.2.2.15 Random time delay for central automatic and safety commands

#### **Note**

If all the drives start up at once due to a central command, load peaks occur. When the blind or shutter applications are used and a random time delay is active, you can specify a range within which drive activation is staggered, thus preventing load peaks.

This parameter is used to activate the random time delay for central automatic and safety commands.

For more information, see:

→ [Group Objects Central – Automatic, Page 132](#)

→ [Group Objects Central – Safety, Page 135](#)

Option	
No	The time delay is not enabled.
Yes	<p>The central automatic and safety commands are executed with a time delay. The outputs are switched at different times within a specified period (load distribution). This time period is specified in the shown parameters.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Minimum</a></li> <li>• <a href="#">Maximum</a></li> </ul>

### 7.2.2.16 Minimum

This parameter is used to define the minimum delay time (→ parameter [Random time delay for central automatic and safety commands](#)).

#### **Example**

- Random time delay is active.
- Minimum = 1 s
- Maximum = 4 s
- A central command to move all blinds/shutters is received.

The device does not react immediately. Within 1 s (= minimum) and 4 s (= maximum) of receiving the direct command, all outputs are switched at different times. The motors do not start simultaneously and there are no load peaks.

Option	
0 ... 1 ... 15 s	

#### **Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Random time delay for central automatic and safety commands](#) \ Option Yes

### 7.2.2.17 Maximum

This parameter is used to define the maximum delay time (→ parameter [Random time delay for central automatic and safety commands](#)).

**Example**

- Random time delay is active.
- Minimum = 1 s
- Maximum = 4 s
- A central command to move all blinds/shutters is received.

The device does not react immediately. Within 1 s (= minimum) and 4 s (= maximum) of receiving the direct command, all outputs are switched at different times. The motors do not start simultaneously and there are no load peaks.

---

**Option**

0 ... 2 ... 15 s

---

**Prerequisites for visibility**

- Parameter window [Device settings](#) \ Parameter [Random time delay for central automatic and safety commands](#) \ Option *Yes*

## 7.2.3 Parameter window Manual operation

The following settings can be made in this parameter window:

- Enable operating state *Manual operation*
- Automatically reset the device to operating state *KNX operation*

More information: → [Manual operation, Page 158](#).

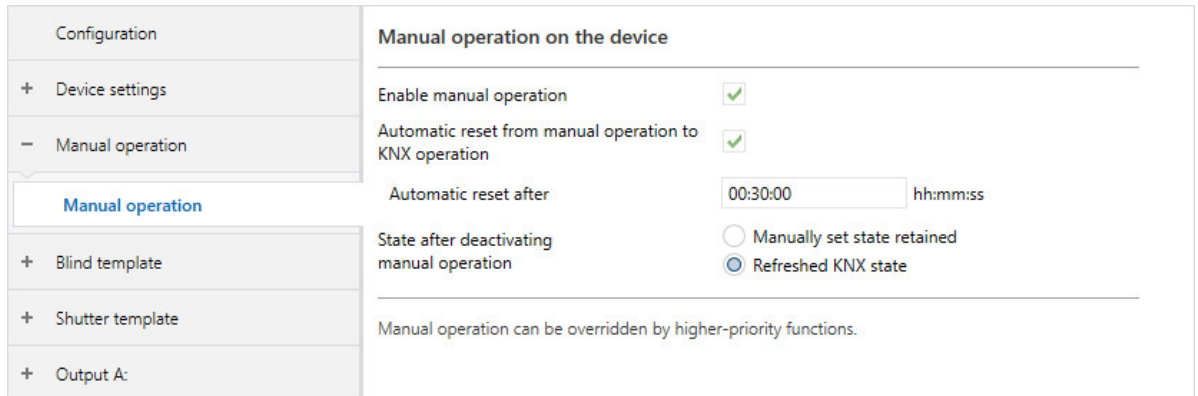


Fig. 10: Parameter window Manual operation

**This parameter window includes the following parameters:**

- [Enable manual operation, Page 49](#)
  - [Automatic reset from manual operation to KNX operation, Page 49](#)
    - [Automatic reset after, Page 50](#)
  - [State after deactivating manual operation, Page 50](#)

### 7.2.3.1 Enable manual operation

This parameter is used to enable the manual operation of the device.

More information: → [Manual operation, Page 158](#).

Option	
<i>No</i>	The manual operation of the device is not enabled.
<i>Yes</i>	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Automatic reset from manual operation to KNX operation</a></li> <li>• <a href="#">State after deactivating manual operation</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Enable/Block Manual operation</a></li> <li>• <a href="#">Deactivate Manual operation</a></li> <li>• <a href="#">Status Manual operation</a></li> </ul>

### 7.2.3.2 Automatic reset from manual operation to KNX operation

This parameter is used to define whether the device is reset from the operating state *Manual operation* to the operating state *KNX operation* after an adjustable time.

Option	
<i>No</i>	Automatic reset is deactivated.
<i>Yes</i>	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Automatic reset after</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Manual operation](#) \ Parameter [Enable manual operation](#) \ Option *Yes*

### 7.2.3.3 Automatic reset after

This parameter is used to define the time after which the device is automatically reset to the operating state *KNX operation*.

After the *Manual operation* button is pressed, the device remains in the operating state *Manual operation* until the button is pressed again or the set time expires.

---

#### Option

00:00:30 ... 00:30:00 ... 18:12:15 hh:mm:ss

---

#### Prerequisites for visibility

- Parameter window [Manual operation](#) \ Parameter [Automatic reset from manual operation to KNX operation](#) \ Option Yes

### 7.2.3.4 State after deactivating manual operation

This parameter is used to define the state of the outputs after deactivating manual operation.

---

#### Option

*Manually set state retained*      The manually set state remains active.

*Refreshed KNX state*              The manually set state is overwritten. The refreshed KNX state is used, → [Refreshed KNX state, Page 175](#).

---

#### Prerequisites for visibility

- Parameter window [Manual operation](#) \ Parameter [Enable manual operation](#) \ Option Yes

## 7.2.4 Parameter window Central safety

The following settings can be made in this parameter window:

- Enable central safety Group Objects
- Set cyclical monitoring

More information: → [Central safety, Page 21.](#)

Configuration	<b>Central safety</b>																																																
+ Device settings	Enable central safety Group Objects																																																
+ Manual operation	<table border="1"> <thead> <tr> <th></th> <th>Enable</th> <th>Description</th> <th colspan="2">Cyclical monitoring</th> </tr> </thead> <tbody> <tr> <td>"Safety 1"</td> <td><input checked="" type="checkbox"/></td> <td>Wind</td> <td>00:00:00</td> <td>hh:mm:ss</td> </tr> <tr> <td>"Safety 2"</td> <td><input checked="" type="checkbox"/></td> <td>Rain</td> <td>00:00:00</td> <td>hh:mm:ss</td> </tr> <tr> <td>"Safety 3"</td> <td><input checked="" type="checkbox"/></td> <td>Frost</td> <td>00:00:00</td> <td>hh:mm:ss</td> </tr> <tr> <td>"Safety 4"</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>"Safety 5"</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>"Safety 6"</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>"Safety 7"</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>"Safety 8"</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Enable	Description	Cyclical monitoring		"Safety 1"	<input checked="" type="checkbox"/>	Wind	00:00:00	hh:mm:ss	"Safety 2"	<input checked="" type="checkbox"/>	Rain	00:00:00	hh:mm:ss	"Safety 3"	<input checked="" type="checkbox"/>	Frost	00:00:00	hh:mm:ss	"Safety 4"	<input type="checkbox"/>				"Safety 5"	<input type="checkbox"/>				"Safety 6"	<input type="checkbox"/>				"Safety 7"	<input type="checkbox"/>				"Safety 8"	<input type="checkbox"/>			
	Enable	Description	Cyclical monitoring																																														
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"Safety 6"	<input type="checkbox"/>																																																
"Safety 7"	<input type="checkbox"/>																																																
"Safety 8"	<input type="checkbox"/>																																																
- Central safety	Cyclical monitoring 00:00:00 = deactivated. The reaction with safeties active is defined in the parameter window "Output X - Safety".																																																
Central safety	Poll Group Objects after restart <input type="checkbox"/>																																																
+ Logic/threshold																																																	
+ Blind template																																																	
+ Shutter template																																																	
+ Output A:																																																	
+ Output B:																																																	
+ Output C:																																																	
+ Output D:																																																	

Fig. 11: Parameter window Central safety

**This parameter window includes the following parameters:**

- [Enable "Safety x", Page 51](#)
  - ["Safety x" description, Page 52](#)
  - ["Safety x" cyclical monitoring, Page 52](#)
- [Poll Group Objects after restart, Page 52](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Enable function: Safety](#) \ Option Yes

### 7.2.4.1 Enable "Safety x"

This parameter is used to enable the central safety Group Objects.

More information: → [Central safety, Page 21.](#)

Option	
No	The Group Objects will not be enabled.
Yes	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">"Safety x" description</a></li> <li>• <a href="#">"Safety x" cyclical monitoring</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Safety x</a></li> </ul>

### 7.2.4.2 "Safety x" description

This parameter is used to specify an individual description for each central safety Group Object. The description is displayed at the following points:

- In the name of the corresponding Group Object
- As a fixed option in the parameter [Priority x reference](#)

Option	
<i>Free text entry</i>	Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

#### Prerequisites for visibility

- Parameter window [Central safety](#) \ Parameter [Enable "Safety x"](#) \ Option Yes

### 7.2.4.3 "Safety x" cyclical monitoring

This parameter is used to activate the cyclical monitoring and to define the monitoring cycle for the safety Group Objects. If the monitoring cycle is specified with the value 00:00:00, the cyclical monitoring is deactivated.

More information: → [Cyclical monitoring, Page 175](#).

#### Note

The monitoring cycle in the device should be at least quadruple the cyclical sending time of the sending device. As a result, the reactions set will not be triggered immediately if a signal is missing, e.g. due to high bus load.

Option	
<i>00:00:00... 12:00:00 hh:mm:ss</i>	

#### Prerequisites for visibility

- Parameter window [Central safety](#) \ Parameter [Enable "Safety x"](#) \ Option Yes

### 7.2.4.4 Poll Group Objects after restart

This parameter is used to define whether the values for the safety Group Objects are polled and updated after KNX voltage recovery, download or ETS reset.

More information: → [Value Read, Page 175](#).

#### Note

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

Option	
<i>No</i>	The safety Group Objects are not polled after KNX voltage recovery or download.
<i>Yes</i>	The safety Group Objects send a Value Read to the sending Group Objects after KNX voltage recovery or download. If alarms are present, the parameterized results are run, → <a href="#">Value Read, Page 175</a> .

## 7.2.5 Parameter window Logic/Threshold

The functions *Logic* and *Threshold* can be set individually for each output in the subordinate parameter windows.

### 7.2.5.1 Parameter window Logic/threshold configuration

The following settings can be made in this parameter window:

- Enable functions *Logic* and *Threshold* in groups of four
- Define and assign reaction of the outputs

The functions *Logic* and *Threshold* can be used independently or linked with an output.

**i Note**

If the ETS app *ABB Update Copy Convert* is used to execute the *Channel Exchange* function, the logic/threshold assignments (→ parameter *Output X reacts to*) are not exchanged. The assignments must be manually adjusted after exchanging channels.

For more information, see:

→ [Function Logic, Page 26](#)

→ [Function Threshold, Page 27](#)

	Reacts to	If result = 0	If result = 1
<b>Output A</b>	Logic/threshold 1	Down	Up
<b>Output B</b>	Logic/threshold 2	Down	Up
<b>Output C</b>	Logic/threshold 3	Down	Up
<b>Output D</b>	Logic/threshold 4	Down	Up
<b>Output E</b>	Logic/threshold 5	Down	Up
<b>Output F</b>	Logic/threshold 6	Down	Up
<b>Output G</b>	Logic/threshold 7	Down	Up
<b>Output H</b>	Logic/threshold 8	Down	Up
<b>Output I</b>	Logic/threshold 9	Down	Up
<b>Output J</b>	Logic/threshold 10	Down	Up
<b>Output K</b>	Logic/threshold 11	Down	Up
<b>Output L</b>	Logic/threshold 12	Down	Up

Fig. 12: Parameter window Logic/threshold configuration

**This parameter window includes the following parameters:**

- [Enable groups: Logic/threshold x-y, Page 54](#)
- [Output X reacts to, Page 54](#)
  - [Output X if result = x, Page 54](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Enable function: Logic/threshold](#) \ Option Yes

**7.2.5.1.1 Enable groups: Logic/threshold x-y**

This parameter enables the functions *Logic* and *Threshold* in groups of four.

The functions *Logic* and *Threshold* are configured in the parameter window [Logic/Threshold x](#).

Option	
No	The logic/threshold groups are not enabled
Yes	The following dependent parameter windows are shown: <ul style="list-style-type: none"> <li>• <a href="#">Logic/Threshold x</a></li> </ul>

**7.2.5.1.2 Output X reacts to**

This parameter is used to define whether the output reacts to the result of a Logic or Threshold function.

** Note**

If the ETS app *ABB Update Copy Convert* is used to execute the *Channel Exchange* function, the logic/threshold assignments (→ parameter [Output X reacts to](#)) are not exchanged. The assignments must be manually adjusted after exchanging channels.

Option	
None	The output does not react to the result of a <i>Logic</i> or <i>Threshold</i> function.
<i>Logic/Threshold x</i>	The output reacts to the result of the function <i>Logic/Threshold x</i> . The reaction of the output is defined in the parameter <a href="#">Output X if result = x</a> .  The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Output X if result = x</a></li> </ul>

**7.2.5.1.3 Output X if result = x**

This parameter is used to define how output X reacts when the result of the function *Logic/threshold* is x.

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <i>Up/down</i> .
<i>Down</i>	Acts like a Down telegram on the Group Object <i>Up/down</i> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <i>Step/stop</i></li> <li>• <i>Stop</i></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height position x</i></li> <li>• <i>Slat position x</i></li> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Scene assignment x height (%)</i></li> <li>• <i>Scene assignment x slat (%)</i></li> </ul>
<i>Close</i>	The ventilation flap closes; the relay contact opens.
<i>Open</i>	The ventilation flap opens; the relay contact closes.

#### Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Output X application* \ all options except *Deactivated*
- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Output X reacts to* \ all options except *None*

### 7.2.5.2 Parameter window Logic/Threshold x

The following settings can be made in this parameter window:

- Parameterize function *Logic*
- Parameterize function *Threshold*

The functions *Logic* and *Threshold* can be used independent of other functions. The results of the functions *Logic* and *Threshold* can be linked with any outputs (→ parameter *Output X reacts to*) and/or sent on the bus (ABB i-bus® KNX).

For more information, see:

→ [Function Logic, Page 26](#)

→ [Function Threshold, Page 27](#)

Configuration <hr/> + Device settings <hr/> + Manual operation <hr/> + Central safety <hr/> - Logic/threshold <hr/> Logic/threshold configuration <hr/> Logic/threshold 1 <hr/> Logic/threshold 2 <hr/> Logic/threshold 3	Logic function <span style="float: right;">AND ▾</span> <hr/> Value of Group Object "Connection A" after bus voltage recovery <input type="radio"/> 1 <input checked="" type="radio"/> 0 Value of Group Object "Connection B" after bus voltage recovery <input type="radio"/> 1 <input checked="" type="radio"/> 0 The result is recalculated only if a value is received on one of the two Group Objects "Connection A" or "Connection B". Read input Group Objects after bus voltage recovery or download <input type="checkbox"/> <hr/> Invert result <input type="checkbox"/> Enable Group Object "Status Result" <input type="checkbox"/>
---	--

Fig. 13: Parameter window Logic/threshold x

**This parameter window includes the following parameters:**

→ [Logic function, Page 57](#)

→ [GATE blocks if Group Object "Connection A" equals, Page 58](#)

→ [Value of Group Object "Connection A" after bus voltage recovery, Page 58](#)

→ [Value of Group Object "Connection B" after bus voltage recovery, Page 58](#)

→ [Read input Group Objects after KNX voltage recovery and download, Page 59](#)

→ [Invert result, Page 59](#)

→ [Enable Group Object "Status Result", Page 59](#)

→ [Send value of Group Object "Status Result", Page 59](#)

→ [Data point type of Group Object "Threshold input", Page 60](#)

→ [Upper threshold, Page 60](#)

→ [Lower threshold, Page 61](#)

→ [Change thresholds via Group Objects, Page 62](#)

→ [Change thresholds via i-bus® Tool, Page 62](#)

→ [Overwrite thresholds on download, Page 62](#)

→ [Result if upper threshold is exceeded, Page 63](#)

→ [Min. duration of the overshoot, Page 63](#)

→ [Monitor range between thresholds, Page 63](#)

→ [Minimum dwell time between the thresholds, Page 63](#)

→ [Result if lower threshold is dropped below, Page 64](#)

→ [Min. duration of the undershoot, Page 64](#)

→ [Read input Group Objects after KNX voltage recovery and download, Page 64](#)

→ [Enable Group Objects "Status Result", "Status Input value between thresholds", Page 65](#)

→ [Send value of Group Objects "Status Result", "Status Input value between thresholds", Page 65](#)

**Prerequisites for visibility**

- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Enable groups: Logic/threshold x-y* \ Option Yes

## 7.2.5.2.1

## Logic function

This parameter is used to define whether one of the logic functions or the threshold function is used.

Option	
<i>None</i>	The logic function is not used.
<i>AND</i>	<p>The logic function <i>AND</i> is used. The result is 1 if each input value is 1.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Value of Group Object "Connection A" after bus voltage recovery</a></li> <li>• <a href="#">Value of Group Object "Connection B" after bus voltage recovery</a></li> <li>• <a href="#">Read input Group Objects after KNX voltage recovery and download</a></li> <li>• <a href="#">Invert result</a></li> <li>• <a href="#">Enable Group Object "Status Result"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connection A</a></li> <li>• <a href="#">Connection B</a></li> </ul>
<i>OR</i>	<p>The logic function <i>OR</i> is used. The result is 1 if at least one of the input values is 1.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Value of Group Object "Connection A" after bus voltage recovery</a></li> <li>• <a href="#">Value of Group Object "Connection B" after bus voltage recovery</a></li> <li>• <a href="#">Read input Group Objects after KNX voltage recovery and download</a></li> <li>• <a href="#">Invert result</a></li> <li>• <a href="#">Enable Group Object "Status Result"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connection A</a></li> <li>• <a href="#">Connection B</a></li> </ul>
<i>Exclusive OR</i>	<p>The logic function <i>exclusive OR</i> is used. The result is 1 if an odd number of input values is 1.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Value of Group Object "Connection A" after bus voltage recovery</a></li> <li>• <a href="#">Value of Group Object "Connection B" after bus voltage recovery</a></li> <li>• <a href="#">Read input Group Objects after KNX voltage recovery and download</a></li> <li>• <a href="#">Invert result</a></li> <li>• <a href="#">Enable Group Object "Status Result"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connection A</a></li> <li>• <a href="#">Connection B</a></li> </ul>
<i>GATE</i>	<p>The logic function <i>GATE</i> is used. If the <i>GATE</i> is open (connection A), the most recent value sent to the input (connection B) remains as the result. If the <i>GATE</i> is blocked (connection A), the value that the result had before the block is retained. After enabling, the result corresponds to the value of the input (connection B).</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">GATE blocks if Group Object "Connection A" equals</a></li> <li>• <a href="#">Value of Group Object "Connection A" after bus voltage recovery</a></li> <li>• <a href="#">Value of Group Object "Connection B" after bus voltage recovery</a></li> <li>• <a href="#">Read input Group Objects after KNX voltage recovery and download</a></li> <li>• <a href="#">Invert result</a></li> <li>• <a href="#">Enable Group Object "Status Result"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connection A</a></li> <li>• <a href="#">Connection B</a></li> </ul>
<i>1 bit Inverter</i>	<p>The logic function <i>1 bit Inverter</i> is used. If the value 1 is present at the input, the result = 0. If the value 0 is present at the input, the result = 1.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Read input Group Objects after KNX voltage recovery and download</a></li> <li>• <a href="#">Enable Group Object "Status Result"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connection A</a></li> </ul>
<i>Threshold</i>	<p>The function <i>Threshold</i> is used. More information: → <a href="#">Function Threshold, Page 27</a>.</p>

### 7.2.5.2.2 GATE blocks if Group Object "Connection A" equals

This parameter is used to define the telegram value on the Group Object *Connection A* for which the GATE is blocked. If the GATE is blocked, telegrams received on the Group Object *Connection B* are ignored.

Option
<u>1</u>
0

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *GATE*

### 7.2.5.2.3 Value of Group Object "Connection A" after bus voltage recovery

This parameter is used to define the value that is written to the *Connection A* Group Object after KNX voltage recovery.

Option	
<u>1</u>	The value 1 is written to the Group Object and the result of the function <i>Logic</i> is calculated.
0	The value 0 is written to the Group Object and the result of the function <i>Logic</i> is calculated.

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *AND / OR / Exclusive OR / GATE*

### 7.2.5.2.4 Value of Group Object "Connection B" after bus voltage recovery

This parameter is used to define the value that is written to the *Connection B* Group Object after KNX voltage recovery.

Option	
<u>1</u>	The value 1 is written to the Group Object and the result of the function <i>Logic</i> is calculated.
0	The value 0 is written to the Group Object and the result of the function <i>Logic</i> is calculated.

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *AND / OR / Exclusive OR / GATE*

### 7.2.5.2.5 Read input Group Objects after KNX voltage recovery and download

This parameter is used to define whether the following input Group Objects are read after KNX voltage recovery or download:

- Connection A
- Connection B

#### **Note**

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

Option	
No	The input Group Objects are not read.
Yes	The input Group Objects are read. The result of the function <i>Logic</i> is re-calculated.

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *AND / OR / Exclusive OR / GATE / 1 bit Inverter*

### 7.2.5.2.6 Invert result

This parameter is used to define whether the result of the function *Logic* is output inverted.

Option	
No	
Yes	

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *AND / OR / Exclusive OR / GATE*

### 7.2.5.2.7 Enable Group Object "Status Result"

This parameter enables the following Group Object:

- *Status Result [Logic]*

Option	
No	The Group Object is not enabled.
Yes	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <i>Send value of Group Object "Status Result"</i></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Status Result [Logic]</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *AND / OR / Exclusive OR / GATE / 1 bit Inverter*

### 7.2.5.2.8 Send value of Group Object "Status Result"

This parameter is used to define when the value of the following Group Object is sent on the bus (ABB i-bus® KNX):

- *Status Result [Logic]*

#### **Note**

Sending on request can be triggered by the reception of a telegram with the value 0 or 1 on Group Object *Request status values*.

Option	
<i>No, update only</i>	The value is updated but is not sent.
<i>On change</i>	The value is sent on a change.
<i>On request</i>	The value is sent on request.
<i>On change or on request</i>	The value is sent on change or on request.
<i>After receiving input value</i>	The value is sent on the input Group Objects after reception of a telegram. The result is recalculated due to the reception of a telegram on the input Group Objects, the result does not necessarily need to change.
<i>After receiving input value or on request</i>	The value is sent on the input Group Objects after reception of a telegram or on request. The result is recalculated due to the reception of a telegram on the input Group Objects; the result does not necessarily need to change.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Enable Group Object "Status Result"](#) \ Option Yes

#### 7.2.5.2.9

#### Data point type of Group Object "Threshold input"

This parameter is used to define the data point type that is received via the Group Object "Threshold input" and evaluated.

Option	
<i>Percent (DPT 5.001)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Meter pulses (DPT 5.010)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Meter pulses (DPT 7.001)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Temperature (DPT 9.001)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Lux (DPT 9.004)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Wind (DPT 9.005)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>mA (DPT 9.021)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>A (DPT 14.019)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>W (DPT 14.056)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>kW (DPT 9.024)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>Wh (DPT 13.010)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>
<i>kWh (DPT 13.013)</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Threshold input</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option [Threshold](#)

#### 7.2.5.2.10

#### Upper threshold

This parameter is used to define the upper threshold. Default values and units depend on the option selected in the [Data point type of Group Object "Threshold input"](#) parameter.

Option	
0 ... 50 ... 100 %	Upper threshold on selection of DPT 5.001.
0 ... 200 ... 255	Upper threshold on selection of DPT 5.010.
0 ... 40000 ... 65535	Upper threshold on selection of DPT 7.001.
-100 ... 22 ... 250 °C	Upper threshold on selection of DPT 9.001.
0 ... 400 ... 100,000 lux	Upper threshold on selection of DPT 9.004.
0 ... 8 ... 100 m/s	Upper threshold on selection of DPT 9.005.
0 ... 16000 ... 240000 mA	Upper threshold on selection of DPT 9.021.
0 ... 16 ... 24 A	Upper threshold on selection of DPT 14.019.
0 ... 4000 ... 10000 W	Upper threshold on selection of DPT 14.056.
0 ... 3 ... 10 kW	Upper threshold on selection of DPT 9.024.
0 ... 10000 ... 2147483647 Wh	Upper threshold on selection of DPT 13.010.
0 ... 10000 ... 2147483647 kWh	Upper threshold on selection of DPT 13.013.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option [Threshold](#)

### 7.2.5.2.11

#### Lower threshold

This parameter is used to define the lower threshold. Default values and units depend on the option selected in the [Data point type of Group Object "Threshold input"](#) parameter.

Option	
0 ... 20 ... 100 %	Lower threshold on selection of DPT 5.001.
0 ... 100 ... 255	Lower threshold on selection of DPT 5.010.
0 ... 10,000 ... 65535	Lower threshold on selection of DPT 7.001.
-100 ... 18 ... 250 °C	Lower threshold on selection of DPT 9.001.
0 ... 100 ... 100,000 lux	Lower threshold on selection of DPT 9.004.
0 ... 4 ... 100 m/s	Lower threshold on selection of DPT 9.005.
0 ... 1000 ... 240000 mA	Lower threshold on selection of DPT 9.021.
0 ... 1 ... 24 A	Lower threshold on selection of DPT 14.019.
0 ... 40 ... 10000 W	Lower threshold on selection of DPT 14.056.
0 ... 1 ... 10 kW	Lower threshold on selection of DPT 9.024.
0 ... 10000 ... 2147483647 Wh	Lower threshold on selection of DPT 13.010.
0 ... 10000 ... 2147483647 kWh	Lower threshold on selection of DPT 13.013.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option [Threshold](#)

### 7.2.5.2.12 Change thresholds via Group Objects

This parameter is used to define whether the thresholds set in ETS can be changed via the corresponding Group Objects.

Option	
<u>No</u>	The values cannot be changed via Group Objects.
<u>Yes</u>	<p>The values can be changed via Group Objects. The Group Objects shown are dependent on the setting in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <i>Overwrite thresholds on download</i></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <i>Change upper threshold</i> (DPT 13.010) <i>Change lower threshold</i> (DPT 13.010)</li> <li>• <i>Change upper threshold</i> (DPT 13.013) <i>Change lower threshold</i> (DPT 13.013)</li> <li>• <i>Change upper threshold</i> (DPT 14.019) <i>Change lower threshold</i> (DPT 14.019)</li> <li>• <i>Change upper threshold</i> (DPT 14.056) <i>Change lower threshold</i> (DPT 14.056)</li> <li>• <i>Change upper threshold</i> (DPT 5.001) <i>Change lower threshold</i> (DPT 5.001)</li> <li>• <i>Change upper threshold</i> (DPT 5.010) <i>Change lower threshold</i> (DPT 5.010)</li> <li>• <i>Change upper threshold</i> (DPT 7.001) <i>Change lower threshold</i> (DPT 7.001)</li> <li>• <i>Change upper threshold</i> (DPT 9.001) <i>Change lower threshold</i> (DPT 9.001)</li> <li>• <i>Change upper threshold</i> (DPT 9.004) <i>Change lower threshold</i> (DPT 9.004)</li> <li>• <i>Change upper threshold</i> (DPT 9.005) <i>Change lower threshold</i> (DPT 9.005)</li> <li>• <i>Change upper threshold</i> (DPT 9.021) <i>Change lower threshold</i> (DPT 9.021)</li> <li>• <i>Change upper threshold</i> (DPT 9.024) <i>Change lower threshold</i> (DPT 9.024)</li> </ul>

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *Threshold*

### 7.2.5.2.13 Change thresholds via i-bus® Tool

This parameter is used to define whether the thresholds set in ETS can be changed via i-bus® Tool.

Option	
<u>No</u>	
<u>Yes</u>	

**Prerequisites for visibility**

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x* \ Parameter *Logic function* \ Option *Threshold*

### 7.2.5.2.14 Overwrite thresholds on download

This parameter is used to define whether the thresholds are overwritten while downloading the application to the device.

Option	
<u>No</u>	The existing values in the device are not overwritten.
<u>Yes</u>	The existing values in the device are overwritten with the values defined in ETS.

#### Prerequisites for visibility

- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x*
  - Parameter *Change thresholds via Group Objects* \ Option Yes
  - Or
  - Parameter *Change thresholds via i-bus® Tool* \ Option Yes

### 7.2.5.2.15 Result if upper threshold is exceeded

This parameter is used to define the result of the function *Threshold* when the value received at the threshold input exceeds the upper threshold.

The result can be linked with any output within the device or output on the following Group Object:

- [Status Result \[threshold\]](#)

Option	
<i>Unchanged</i>	The result of the function <i>Threshold</i> remains unchanged.
<u>1</u>	The result of the function <i>Threshold</i> is 1.
0	The result of the function <i>Threshold</i> is 0.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.16 Min. duration of the overshoot

This parameter is used to define how long the value received at the threshold input must exceed the threshold before the result of the function *Threshold* is updated.

Option	
<i>00:00:00... 18:12:15 hh:mm:ss</i>	

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.17 Monitor range between thresholds

This parameter is used to define whether the range between the thresholds is monitored and evaluated.

Option	
<u>No</u>	The range between the thresholds is not monitored and evaluated.
Yes	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Minimum dwell time between the thresholds</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.18 Minimum dwell time between the thresholds

This parameter is used to define how long the value received at the threshold input must be between the thresholds before an evaluation occurs.

Option	
<i>00:00:00... 18:12:15 hh:mm:ss</i>	

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Monitor range between thresholds](#) \ Option *Yes*

### 7.2.5.2.19 Result if lower threshold is dropped below

This parameter is used to define the result of the function *Threshold* when the value received at the threshold input falls below the lower threshold.

The result can be linked with any output within the device or output on the following Group Object:

- [Status Result \[threshold\]](#)

Option	
<i>Unchanged</i>	The result of the function <i>Threshold</i> remains unchanged.
<i>1</i>	The result of the function <i>Threshold</i> is 1.
<i>0</i>	The result of the function <i>Threshold</i> is 0.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.20 Min. duration of the undershoot

This parameter is used to define how long the value received at the threshold input must undershoot the threshold before the result of the function *Threshold* is updated.

Option	
<i>00:00:00... 18:12:15 hh:mm:ss</i>	

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.21 Read input Group Objects after KNX voltage recovery and download

This parameter is used to define whether the "Threshold input" Group Objects are read after KNX voltage recovery or download, → parameter [Data point type of Group Object "Threshold input"](#).

#### Note

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

Option	
<i>No</i>	The input Group Objects are not read.
<i>Yes</i>	The input Group Objects are read. The result of the function <i>Threshold</i> is re-calculated.

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.22 Enable Group Objects "Status Result", "Status Input value between thresholds"

This parameter enables the following Group Objects:

- [Status Result \[threshold\]](#)
- [Status Input value between thresholds](#)

#### **i** Note

This Group Object [Status Input value between thresholds](#) is available only if, in the parameter [Monitor range between thresholds](#), the option *Yes* is selected.

Option	
<i>No</i>	The Group Objects will not be enabled.
<i>Yes</i>	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Send value of Group Objects "Status Result", "Status Input value between thresholds"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Status Result [threshold]</a></li> <li>• <a href="#">Status Input value between thresholds</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Logic function](#) \ Option *Threshold*

### 7.2.5.2.23 Send value of Group Objects "Status Result", "Status Input value between thresholds"

This parameter is used to define when the values of the following Group Objects are sent on the bus (ABB i-bus® KNX):

- [Status Result \[threshold\]](#)
- [Status Input value between thresholds](#)

#### **i** Note

Sending on request can be triggered by the reception of a telegram with the value 0 or 1 on Group Object [Request status values](#).

Option	
<i>No, update only</i>	The value is updated but is not sent.
<i>On change</i>	The value is sent on a change.
<i>On request</i>	The value is sent on request.
<i>On change or on request</i>	The value is sent on change or on request.
<i>After receiving input value</i>	The value is sent on the input Group Objects after reception of a telegram. The result is recalculated due to the reception of a telegram on the input Group Objects, the result does not necessarily need to change.
<i>After receiving input value or on request</i>	The value is sent on the input Group Objects after reception of a telegram or on request. The result is recalculated due to the reception of a telegram on the input Group Objects; the result does not necessarily need to change.


#### Prerequisites for visibility

- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#) \ Parameter [Enable Group Objects "Status Result", "Status Input value between thresholds"](#) \ Option *Yes*

## 7.2.6 Parameter window Blind template

In this parameter window, the functions can be set for all blind outputs.

The parameterization options in the template and in the parameter windows for the blind outputs are identical.


** Note**

For each output, you can decide whether to use the parameterization from the template (→ parameter [Parameter setting](#)). The individual setting for an output is made in the respective parameter window.

## 7.2.7 Parameter window Shutter template

In this parameter window, the functions can be set for all shutter outputs.

The parameterization options in the template and in the parameter windows for the shutter outputs are identical.

** Note**

For each output, you can decide whether to use the parameterization from the template (→ parameter [Parameter setting](#)). The individual setting for an output is made in the respective parameter window.

## 7.2.8 Parameter window Output X

### **i** Note

An individual description can be added to the name of the parameter window, → parameter *Output X description*.

### Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Output X application* \ all options except *Deactivated*

7.2.8.1 Parameter window Basic settings [blind, shutter]

**Note**  
 If several outputs are to be set to the same values, parameterization can be performed in the template.

The following settings can be made in this parameter window:

- Connection with the central Group Objects
- Enable function-specific Group Objects
- Define reaction during fault
- Define predefined positions
- Define predefined working position

**Basic settings**

Parameter setting  Apply from template  Individual

**Functions**

Output reacts to central direct commands

Move to position Direct

Enable Group Objects  
 "Move to height"   
 "Move slat"

Enable Group Object  
 "Limit travel range"

**Enable Group Object**

"Status Lower end position"   
 "Status Upper end position"   
 "Status Height"   
 "Status Slat"   
 "Status Move"   
 "Status Direct commands blocked"   
 "Status combined (4 bytes)"

**Reaction during fault**

Reaction on KNX voltage failure Up

Override active safeties

Reaction after KNX voltage recovery Stop

Reaction after ETS download Stop

**Predefined positions**

	Position 1	Position 2	Position 3	Position 4	Working position
Height	20 %	40 %	60 %	80 %	100 %
Slat	20 %	40 %	60 %	Unchanged	50 %

If the parameter "Slat moves down in working position" on the "Drive / blind/shutter" page is enabled, then the value "Slat" in the "Working position" column is of no importance.

Move to position 1 ... 4 via 1-bit Group Objects No

Fig. 14: Parameter window Basic settings

**This parameter window includes the following parameters:**

- [Parameter setting, Page 70](#)
  - [Output reacts to central direct commands, Page 70](#)
  - [Move to position, Page 71](#)
  - [Enable Group Objects "Move to height", "Move slat", Page 71](#)
  - [Enable Group Object "Limit travel range", Page 72](#)
    - [Upper limit, Page 72](#)
    - [Lower limit, Page 72](#)
    - [Move to limitation on activation, Page 73](#)
    - [Refresh KNX state on deactivation, Page 73](#)
    - [Limitation valid when safety is active, Page 73](#)
    - [Restore active limitation after KNX voltage recovery or ETS reset, Page 74](#)
  - [Enable Group Object "Status Upper end position", "Status Lower end position", Page 74](#)
  - [Enable Group Object "Status Height", "Status Slat", Page 74](#)
  - [Enable Group Object "Status Move", Page 75](#)
  - [Enable Group Object "Status Direct commands blocked", Page 75](#)
  - [Enable Group Object "Status combined \(4 bytes\)", Page 75](#)
  - [Reaction on KNX voltage failure, Page 76](#)
  - [Override active safeties, Page 76](#)
  - [Reaction after KNX voltage recovery, Page 76](#)
  - [Reaction after ETS download, Page 77](#)
  - [Height position x, Page 78](#)
  - [Slat position x, Page 78](#)
  - [Height working position, Page 78](#)
  - [Slat working position, Page 79](#)
  - [Move to position 1 ... 4 via 1-bit Group Objects, Page 79](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind / Shutter](#)

**7.2.8.1.1**

**Parameter setting**

This parameter is used to define whether the settings for the parameter window are adopted from the template or each parameter is set individually.

Option	
<a href="#">Apply from template</a>	The settings for the parameters are adopted from the template.
<a href="#">Individual</a>	The parameters can be set individually.

**7.2.8.1.2**

**Output reacts to central direct commands**

This parameter is used to define whether the output reacts to central direct commands, → parameter [Enable central Group Objects for direct commands](#).

More information: → [Direct operation, Page 171](#).

Option	
<a href="#">No</a>	
<a href="#">Yes</a>	

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

### 7.2.8.1.3 Move to position

This parameter is used to define how the blind/shutter is moved to the target position.

**Note**

If the function *Working position* is used, positions cannot be indirectly approached via the lower end position.

More information: → [Direct and indirect movement to the position, Page 166](#).

Option	
<i>Direct</i>	The Blind/Shutter is moved directly to the target position.
<i>Indirectly via upper end position</i>	The Blind/Shutter is moved to the upper end position first, then to the target position.
<i>Indirectly via lower end position</i>	The Blind/Shutter is moved to the lower end position first, then to the target position.
<i>Indirectly via shortest way</i>	The Blind/Shutter is moved to the closer end position first, then to the target position.

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.1.4 Enable Group Objects "Move to height", "Move slat"

This parameter enables the following Group Objects:

- Move to height*
- Move slat*

**Note**

This Group Object *Move slat* is available only if, in the parameter *Output X application*, the option *Blind* is selected.

Option	
<i>No</i>	The Group Objects will not be enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><i>Move to height</i></li> <li><i>Move slat</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.1.5 Enable Group Object "Limit travel range"

This parameter enables the following Group Object:

- [Limit travel range](#)

#### **Note**

Travel range limits are not taken into account during reference or calibration movements.

More information: → [Travel range limit, Page 167](#).

#### Option

<i>No</i>	The travel range is not limited.
<i>Yes</i>	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Upper limit</a></li> <li>• <a href="#">Lower limit</a></li> <li>• <a href="#">Move to limitation on activation</a></li> <li>• <a href="#">Refresh KNX state on deactivation</a></li> <li>• <a href="#">Limitation valid when safety is active</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Limit travel range</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.1.6 Upper limit

This parameter is used to define the upper limit for the travel range limit.

More information: → [Travel range limit, Page 167](#).

#### Option

*0 ... 100 %*

#### Prerequisites for visibility

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

### 7.2.8.1.7 Lower limit

This parameter is used to define the lower limit for the travel range limit.

More information: → [Travel range limit, Page 167](#).

#### Option

*0 ... 80 ... 100 %*

#### Prerequisites for visibility

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

### 7.2.8.1.8 Move to limitation on activation

This parameter is used to define whether the blind/shutter is moved to the upper or lower limit when travel range limit is activated.

**Note**

Selecting the option *Yes* moves the blind/shutter to whichever limit is closer when the travel range limit is activated.

**Note**

The positions can be limited by the working position → [Function Working position \(shading position\), Page 28](#).

More information: → [Travel range limit, Page 167](#).

---

**Option**

*No*

*Yes*

---

**Prerequisites for visibility**

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

### 7.2.8.1.9 Refresh KNX state on deactivation

This parameter is used to define whether the blind/shutter is moved to the refreshed KNX state when the travel range limit is deactivated.

More information: → [Refreshed KNX state, Page 175](#).

---

**Option**

*No*

*Yes*

---

**Prerequisites for visibility**

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

### 7.2.8.1.10 Limitation valid when safety is active

This parameter is used to define whether travel range limit also applies when a safety is active.

More information: → [Travel range limit, Page 167](#).

---

**Option**

*No*

*Yes*

---

**Prerequisites for visibility**

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

### 7.2.8.1.11 Restore active limitation after KNX voltage recovery or ETS reset

This parameter is used to define whether the limitation that was active before KNX voltage failure or ETS reset is reactivated after KNX voltage recovery.

Option	
No	
Yes	

#### Prerequisites for visibility

- Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Enable Group Object "Limit travel range"](#) \ Option Yes

### 7.2.8.1.12 Enable Group Object "Status Upper end position", "Status Lower end position"

This parameter enables the following Group Objects:

- [Status Upper end position](#)
- [Status Lower end position](#)

Option	
No	The Group Objects will not be enabled.
Yes	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Status Upper end position</a></li> <li><a href="#">Status Lower end position</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.1.13 Enable Group Object "Status Height", "Status Slat"

This parameter enables the following Group Objects:

- [Status Height](#)
- [Status Slat](#)

#### **i** Note

This Group Object [Status Slat](#) is available only if, in the parameter [Output X application](#), the option [Blind](#) is selected.

Option	
No	The Group Objects will not be enabled.
Yes	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Status Height</a></li> <li><a href="#">Status Slat</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.1.14 Enable Group Object "Status Move"**

This parameter enables the following Group Object:

- [Status Move](#)

Option	
No	The Group Object is not enabled.
Yes	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status Move</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.1.15 Enable Group Object "Status Direct commands blocked"**

This parameter enables the following Group Object:

- [Status Direct commands blocked](#)

Option	
No	The Group Object is not enabled.
Yes	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status Direct commands blocked</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.1.16 Enable Group Object "Status combined (4 bytes)"**

This parameter enables the following Group Object:

- [Status combined \(4 bytes\)](#)

Option	
No	The Group Object is not enabled.
Yes	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status combined (4 bytes)</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.1.17 Reaction on KNX voltage failure

This parameter is used to define how the blind/shutter reacts on KNX voltage failure.

#### **i** Note

The safety functions have priority over all other functions and priorities.  
More information: → [Priorities, Page 162](#).

#### **i** Note

If, in the parameter [Reaction on KNX voltage failure](#), the option *Up* or *Down* is selected, then travel range limits are not taken into account.

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <a href="#">Up/down</a> .
<i>Down</i>	Acts like a Down telegram on the Group Object <a href="#">Up/down</a> .
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> <li>• <a href="#">Stop</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.1.18

#### Override active safeties



#### **CAUTION – Damage or injuries if the active safeties are overridden**

If the active safeties are overridden, the reaction on KNX voltage failure is given the highest priority. The connected drive may react unexpectedly. Sudden movements of the peripherals (e.g. blind/shutter, ventilation flap, blind) may crush body parts or cause damage to property.

- ▶ Deactivate override before working on peripherals.

This parameter is used to define whether the active safeties are overridden in the event of KNX voltage failure.

Option	
<i>No</i>	The active safeties are not overridden.
<i>Yes</i>	The active safeties are overridden. The reaction defined in the parameter <a href="#">Reaction on KNX voltage failure</a> is given the highest priority, → <a href="#">Priorities, Page 162</a> .

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.1.19

#### Reaction after KNX voltage recovery

This parameter is used to define how the blind/shutter reacts after KNX voltage recovery.

#### **i** Note

If the function *Logic* or the function *Threshold* is connected to the output, an unexpected blind/shutter direction change may occur after KNX voltage recovery and after ETS download.

- ▶ Select option *Stop*.

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <a href="#">Up/down</a> .
<i>Down</i>	Acts like a Down telegram on the Group Object <a href="#">Up/down</a> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> <li>• <a href="#">Stop</a></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height position x</a></li> <li>• <a href="#">Slat position x</a></li> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Scene assignment x height (%)</a></li> <li>• <a href="#">Scene assignment x slat (%)</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

#### 7.2.8.1.20

#### Reaction after ETS download

This parameter is used to define the Blind/Shutter reaction after an ETS download.

#### Note

If the function *Logic* or the function *Threshold* is connected to the output, an unexpected blind/shutter direction change may occur after KNX voltage recovery and after ETS download.

- ▶ Select option *Stop*.

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <a href="#">Up/down</a> .
<i>Down</i>	Acts like a Down telegram on the Group Object <a href="#">Up/down</a> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> <li>• <a href="#">Stop</a></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height position x</a></li> <li>• <a href="#">Slat position x</a></li> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Scene assignment x height (%)</a></li> <li>• <a href="#">Scene assignment x slat (%)</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.1.21 Height position x**

This parameter is used to define the height for the predefined position x.

More information: → [Predefined positions, Page 171](#).

**Option**

*Unchanged*

*0 ... 100 %*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

**7.2.8.1.22 Slat position x**

This parameter is used to define the slat position for the predefined position x.

More information: → [Predefined positions, Page 171](#).

**Option**

*Unchanged*

*0 ... 100 %*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

**7.2.8.1.23 Height working position**

This parameter is used to define the first lower end position.

** Note**

If, in the parameter *Slat moves down in working position*, the option *No* is selected, the value is treated as a predefined position.

For more information, see:

→ [Predefined positions, Page 171](#)

→ [Function Working position \(shading position\), Page 28](#)

**Option**

*Unchanged*

*0 ... 100 %*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.1.24 Slat working position

This parameter defines the slat position in the working position.

For more information, see:

→ [Predefined positions, Page 171](#)

→ [Function Working position \(shading position\), Page 28](#)

#### Note

If, in the parameter *Slat moves down in working position*, the option *No* is selected, the value is treated as a predefined position.

If, in the parameter *Slat moves down in working position*, the option *Yes* is selected, the value is ignored.

#### Option

*Unchanged*

*0 ... 100 %*

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.1.25 Move to position 1 ... 4 via 1-bit Group Objects

This parameter is used to define whether the predefined positions x (x = 1 ... 4) can be adopted via separate Group Objects.

More information: → [Predefined positions, Page 171](#).

#### Option

*No*

The predefined positions cannot be adopted via separate Group Objects.

*1 Group Object for 1 position*

Each predefined position can be adopted via a separate Group Object.

The following dependent Group Objects are displayed:

- *Move to position x*

*1 Group Object for 2 positions*

Two predefined positions can be adopted via a combined Group Object.

The following dependent Group Objects are displayed:

- *Move to position x/y*

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Basic settings [blind, shutter]* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.2 Parameter window Basic settings [ventilation flap]

The following settings can be made in this parameter window:

- Parameterizing the output for activating a ventilation flap with spring return or parameterizing it as a switching output
- Define reaction during fault

**Note**

If the output is used for activating a ventilation flap with spring return or as a switching output, the second connection terminal of the output has no function (see device labeling).

More information: → [Ventilation flap with spring return, Page 172.](#)

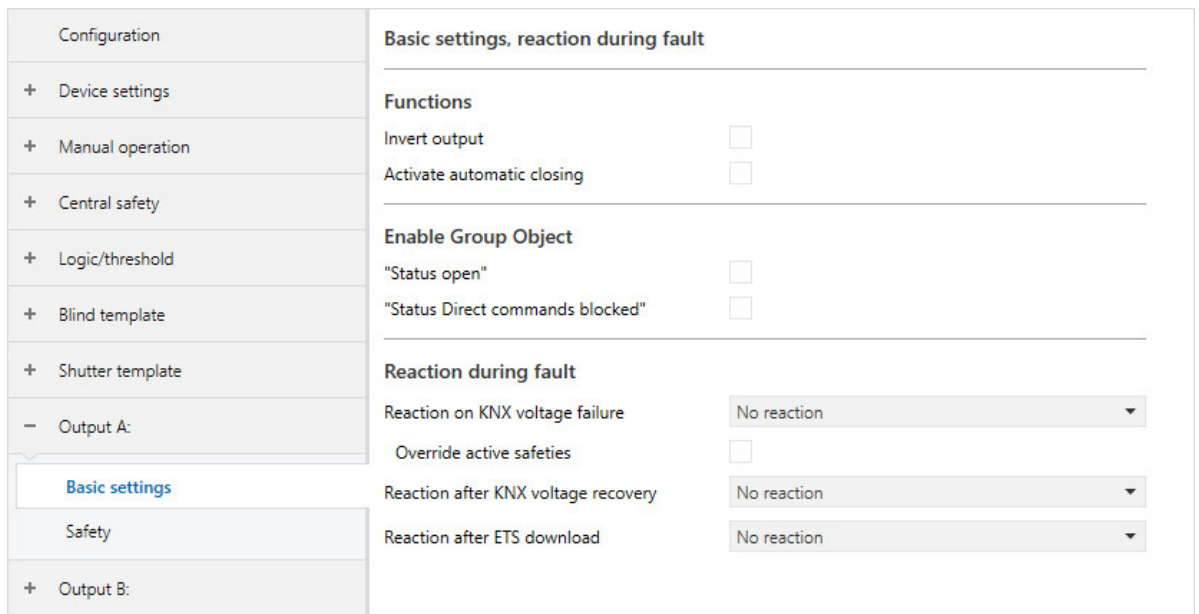


Fig. 15: Parameter window Basic settings [ventilation flap]

**This parameter window includes the following parameters:**

- [Invert output, Page 80](#)
- [Activate automatic closing, Page 81](#)
  - [Close automatically after, Page 81](#)
- [Enable Group Object "Status Open/Closed", Page 81](#)
- [Enable Group Object "Status Direct commands blocked", Page 81](#)
- [Reaction on KNX voltage failure, Page 82](#)
- [Override active safeties, Page 82](#)
- [Reaction after KNX voltage recovery, Page 82](#)
- [Reaction after ETS download, Page 83](#)

**Prerequisites for visibility**

- Parameter window *Configuration* \ Parameter *Output X application* \ Option *Ventilation flap*

#### 7.2.8.2.1 Invert output

This parameter is used to invert the reaction of the output.

More information: → [Ventilation flap with spring return, Page 172.](#)

Option	
No	Closing the relay contact closes the ventilation flap. Opening the relay contact opens the ventilation flap.
Yes	Closing the relay contact opens the ventilation flap. Opening the relay contact closes the ventilation flap.

### 7.2.8.2.2 Activate automatic closing

This parameter activates automatic closing of the ventilation flap. When automatic closing of the ventilation flap is active, the ventilation flap will close after a configurable time has elapsed, regardless of the value of the Group Object *Open/close*.

More information: → [Ventilation flap with spring return, Page 172](#).

Option	
<i>No</i>	The function is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <i>Close automatically after</i></li> </ul>

### 7.2.8.2.3 Close automatically after

This parameter is used to define the time after which the ventilation flap is automatically closed.

Option	
<i>1 ... 60 ... 30000 s</i>	

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Basic settings [ventilation flap]* \ Parameter *Activate automatic closing* \ Option *Yes*

### 7.2.8.2.4 Enable Group Object "Status Open/Closed"

This parameter enables the following Group Object:

- *Status open*

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Status open</i></li> </ul>

### 7.2.8.2.5 Enable Group Object "Status Direct commands blocked"

This parameter enables the following Group Object:

- *Status Direct commands blocked*

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Status Direct commands blocked</i></li> </ul>

### 7.2.8.2.6 Reaction on KNX voltage failure

This parameter is used to define how the output reacts on KNX voltage failure.

**i Note**

The safety functions have priority over all other functions and priorities.  
More information: → [Priorities, Page 162](#).

**i Note**

The parameter *Invert output* can be used to invert the reaction of the output. More information:  
→ [Ventilation flap with spring return, Page 172](#).

Option	
<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

### 7.2.8.2.7 Override active safeties



**CAUTION – Damage or injuries if the active safeties are overridden**

If the active safeties are overridden, the reaction on KNX voltage failure is given the highest priority. The connected drive may react unexpectedly. Sudden movements of the peripherals (e.g. blind/shutter, ventilation flap, blind) may crush body parts or cause damage to property.

- ▶ Deactivate override before working on peripherals.

This parameter is used to define whether the active safeties are overridden in the event of KNX voltage failure.

Option	
<i>No</i>	The active safeties are not overridden.
<i>Yes</i>	The active safeties are overridden. The reaction defined in the parameter <i>Reaction on KNX voltage failure</i> is given the highest priority, → <a href="#">Priorities, Page 162</a> .

### 7.2.8.2.8 Reaction after KNX voltage recovery

This parameter is used to define how the output reacts after KNX voltage recovery.

**i Note**

The parameter *Invert output* can be used to invert the reaction of the output. More information:  
→ [Ventilation flap with spring return, Page 172](#).

Option	
<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

### 7.2.8.2.9 Reaction after ETS download

This parameter is used to define how the output reacts after an ETS download.

**i Note**

The parameter *Invert output* can be used to invert the reaction of the output. More information:  
→ [Ventilation flap with spring return, Page 172](#).

---

**Option**

---

<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

---

### 7.2.8.3 Parameter window Drive / blind/shutter

**Note**

If several outputs are to be set to the same values, parameterization can be performed in the template.

The following settings can be made in this parameter window:

- Set travel times for drive
- Set adjustment times and slat adjustment (*Blind* application only)
- Set blind/shutter type (*Shutter* application only)
- Define how the function *Working position* is used

Configuration	<b>Drive / blind/shutter</b>
+ Device settings	Parameter setting <input type="radio"/> Apply from template <input checked="" type="radio"/> Individual
+ Manual operation	
+ Central safety	<b>Drive</b>
+ Logic/threshold	Automatic travel detection <input checked="" type="checkbox"/>
+ Blind template	Minimum current for travel detection <input type="text" value="100"/> mA
+ Shutter template	Reversing time <input type="text" value="1000"/> ms
- Output A:	If the reversing time is too short, this can destroy the drive. Pay attention to technical data for the drive.
Basic settings	Swap direction of rotation up/down <input type="checkbox"/>
<b>Drive / blind/shutter</b>	Enable Group Object "Trigger calibration movement" <input type="checkbox"/>
Safety	<b>Slat</b>
Automatic sun protection	Total adjustment time <input type="text" value="1400"/> ms
Scenes	Number of slat adjustments/steps <input type="text" value="7"/>
+ Output B:	Limit step commands to number of slat adjustments <input checked="" type="checkbox"/>
+ Output C:	Position of slat after reaching lower end position <input type="text" value="100"/> %
+ Output D:	Total turning of slats after down movement <input type="checkbox"/>
+ Output E:	<b>Working position</b>
+ Output F:	Only for blinds that move with half-open slats and close in the lower end position.
+ Output G:	Slat moves down in working position <input type="checkbox"/>
+ Output H:	<b>Extended parameters for special requirements</b>
	Show parameter window Drive / blind/shutter extended <input type="checkbox"/>

Fig. 16: Parameter window Drive / blind/shutter

**This parameter window includes the following parameters:**

- [Parameter setting, Page 85](#)
  - [Automatic travel detection, Page 86](#)
    - [Minimum current for travel detection, Page 86](#)
    - [Enable Group Object "Trigger calibration movement", Page 88](#)
    - [Travel time up, Page 86](#)
    - [Travel time down, Page 87](#)
    - [Disconnect output from power after, Page 87](#)
    - [Enable Group Object "Trigger reference movement up/down", Page 89](#)
      - [Position after reference movement, Page 89](#)
  - [Reversing time, Page 87](#)
  - [Swap direction of rotation up/down, Page 88](#)
  - [Total adjustment time, Page 89](#)
  - [Number of slat adjustments/steps, Page 90](#)
  - [Limit step commands to number of slat adjustments, Page 90](#)
  - [Position of slat after reaching lower end position, Page 90](#)
  - [Total turning of slats after down movement, Page 91](#)
  - [Slat moves down in working position, Page 91](#)
    - [Adjustment time from 0% to working position, Page 91](#)
  - [Type, Page 92](#)
    - [Allow step commands, Page 92](#)
      - [Step time, Page 92](#)
    - [Additional overrun time for up/down, Page 92](#)
    - [Additional overrun time with safeties, Page 93](#)
    - [Send status messages, Page 93](#)
    - [Fabric tensioning, Page 94](#)
      - [Duration, Page 94](#)
  - [Show parameter window drive / blind/shutter extended, Page 94](#)

**Prerequisites for visibility**

- Parameter window *Configuration* \ Parameter *Output X application* \ Option *Blind / Shutter*

**7.2.8.3.1****Parameter setting**

This parameter is used to define whether the settings for the parameter window are adopted from the template or each parameter is set individually.

Option	
<i>Apply from template</i>	The settings for the parameters are adopted from the template.
<i>Individual</i>	The parameters can be set individually.

### 7.2.8.3.2 Automatic travel detection

This parameter is used to define whether automatic travel detection is used.

#### **Note**

When using electronic drives with a permanently applied power supply, automatic travel detection is not possible because the power is not drawn via the relay contacts of the device. When using electronic drives of this type, travel times must be determined and entered manually. Electronic drives with soft start or soft stop are not suitable for controlling via the device.

More information: → [Automatic travel detection, Page 164](#).

#### Option

<u>No</u>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Travel time up</a></li> <li>• <a href="#">Travel time down</a></li> <li>• <a href="#">Disconnect output from power after</a></li> <li>• <a href="#">Enable Group Object "Trigger reference movement up/down"</a></li> </ul>
<u>Yes</u>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Minimum current for travel detection</a></li> <li>• <a href="#">Enable Group Object "Trigger calibration movement"</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.3.3 Minimum current for travel detection

In this parameter, the minimum current (standby current for electronic drives) is taken from the data sheet of the drive.

More information: → [Automatic travel detection, Page 164](#).

#### Option

50... 100 ... 2000 mA

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Automatic travel detection](#) \ Option *Yes*

### 7.2.8.3.4 Travel time up

This parameter is used to set how long the blind/shutter takes to move from the lower end position (100 %) to the upper end position (0 %). The travel time must be measured manually.

#### **Note**

Physical and weather-related circumstances (frost, UV radiation, long-term use or use of heavy Blind/Shutter types) mean that differing total travel times may result for a complete movement from the lower end position to the upper end position (Up) and from the upper end position to the lower end position (Down). The total travel times can be set separately to permit exact positioning of the Blind/Shutter.

#### Option

1 ... 60 ... 600 s

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Automatic travel detection](#) \ Option *No*

### 7.2.8.3.5 Travel time down

This parameter is used to set how long the blind/shutter takes to move from the upper end position (0 %) to the lower end position (100 %). The travel time must be measured manually.

**Note**

Physical and weather-related circumstances (frost, UV radiation, long-term use or use of heavy Blind/Shutter types) mean that differing total travel times may result for a complete movement from the lower end position to the upper end position (Up) and from the upper end position to the lower end position (Down). The total travel times can be set separately to permit exact positioning of the Blind/Shutter.

**Option**

1 ... 60 ... 600 s

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Automatic travel detection* \ Option *No*

### 7.2.8.3.6 Disconnect output from power after

This parameter is used to define when the output is deenergized after the upper or lower end position is reached.

**Note**

The drive deenergizes by means of the integrated limit switches after reaching a physical end position. An overrun time can be set so that the end position is reliably reached. When the drive is switched off, the voltage remains applied for a short time so as to move the drive to the end position in a defined manner. The position calculated in the device is the basis for determining the end position.

**Option**

*End position, no overrun*

*End position + 2 % overrun*

*End position + 5 % overrun*

*End position + 10 % overrun*

*End position + 20 % overrun*

*Total travel time + 10 % overrun*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Automatic travel detection* \ Option *No*

### 7.2.8.3.7 Reversing time



**CAUTION**

Setting a reversing time that is too short can damage the connected drive.

- ▶ Observe the technical data of the connected drive.

This parameter is used to set the duration of the reversing time.

**Note**

The reversing time is the required pause while the Blind/Shutter changes direction. The device must be deenergized during this period.

**Note**

If KNX voltage failure occurs, a reversing time of 1 second is always used. During operation with KNX voltage present, the value that was set applies.

---

**Option**

50 ... 1,000 ... 5,000 ms

---

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.3.8**

**Swap direction of rotation up/down**

This parameter is used to swap the control of the relays (direction of rotation of the motor up/down).

**Note**

If the blind/shutter moves down when an up telegram is received (or vice versa), the motor is connected incorrectly. The error can be corrected with this parameter, but it is generally recommended to swap the conductors at the terminals.

---

**Option**

No

Yes

---

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.3.9**

**Enable Group Object "Trigger calibration movement"**

This parameter enables the following Group Object:

- [Trigger calibration movement](#)

More information: → [Calibration movement, Page 164](#).

---

**Option**

No

The Group Object is not enabled.

Yes

The following dependent Group Objects are displayed:

- [Trigger calibration movement](#)

---

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Automatic travel detection](#) \ Option *Yes*

### 7.2.8.3.10 Enable Group Object "Trigger reference movement up/down"

This parameter enables the following Group Object:

- [Trigger reference movement up/down](#)

More information: → [reference movement](#), Page 163.

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Position after reference movement</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Trigger reference movement up/down</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Automatic travel detection](#) \ Option *No*

### 7.2.8.3.11 Position after reference movement

This parameter is used to define the blind/shutter position after a reference movement.

Option	
<i>Remain in reference position</i>	The Blind/Shutter remains in the "Upper end position" or "Lower end position" as the reference position.
<i>Move to position before reference movement</i>	The Blind/Shutter is moved to the position it was in before the reference movement.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Enable Group Object "Trigger reference movement up/down"](#) \ Option *Yes*

### 7.2.8.3.12 Total adjustment time

This parameter is used to set the total duration for slat turning.

#### Note

The total duration for slat turning must be determined manually.

#### Note

The device cannot process times shorter than 50 ms.

Option	
<i>50 ... 1,400 ... 60,000 ms</i>	

#### Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.3.13 Number of slat adjustments/steps

This parameter is used to define the number of slat adjustments required to adjust the slats from fully open to fully closed.

---

**Option**


---

1 ... 7 ... 60

---

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

### 7.2.8.3.14 Limit step commands to number of slat adjustments

This parameter is used to define whether the execution of step commands is limited to the number of slat adjustments set in the parameter [Number of slat adjustments/steps](#).

** Note**

By selecting the option *No*, the blind can be lowered with "Unlimited Steps" (continuously repeating the step command). If the function *Working position* is used, the blind can be moved beyond the first lower end position using "Unlimited Steps".

---

**Option**


---

*No*

*Yes*

---

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

### 7.2.8.3.15 Position of slat after reaching lower end position

The slats are closed after the blind/shutter reaches the lower end position (100 %). This parameter is used to define a deviating slat position after reaching the lower end position.

- 100 %: The function is deactivated, the slats are closed
- 1 ... 99 %: The slats will be moved to the corresponding intermediate position
- 0 %: The slats are open

---

**Option**


---

0 ... 100 %

---

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

### 7.2.8.3.16 Total turning of slats after down movement

This parameter is used to define whether the slats are fully adjusted after a down movement of the blind/shutter.

**Note**

This function is required mainly to release jammed slats between the panes of a window.

**Note**

The turning of the slats can be limited by the working position → [Function Working position \(shading position\)](#), Page 28.

**Option**

<i>No</i>	The slats are not adjusted after a down movement.
<i>Yes</i>	The slats are fully adjusted once (closed – open – closed) after a down movement. The slats are not adjusted if a down movement is interrupted by a stop command.

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.3.17 Slat moves down in working position

This parameter is used to define the use of blind types that can be moved with open or half-open slats.

More information: → [Function Working position \(shading position\)](#), Page 28.

**Option**

<i>No</i>	The settings in the following parameters are treated as predefined positions: <ul style="list-style-type: none"> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Adjustment time from 0% to working position</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Up/working position</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.3.18 Adjustment time from 0% to working position

This parameter is used to set how long it takes for the slats to adjust from 0 % to the working position.

More information: → [Function Working position \(shading position\)](#), Page 28.

**Option**

50 ... 800 ... 60000 ms

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Slat moves down in working position](#) \ Option *Yes*

## 7.2.8.3.19

## Type

This parameter is used to define the blind/shutter type used.

Option	
<i>Shutter</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Allow step commands</a></li> </ul>
<i>Zipscreen</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Additional overrun time for up/down</a></li> <li>• <a href="#">Additional overrun time with safeties</a></li> <li>• <a href="#">Send status messages</a></li> </ul>
<i>Fabric awning</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Fabric tensioning</a></li> </ul>

## Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Shutter](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

## 7.2.8.3.20

## Allow step commands

This parameter is used to define whether the shutter can be moved with step commands.

Option	
<i>No</i>	The shutter cannot be moved with step commands.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Stop</a></li> </ul>
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Step time</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> </ul>

## Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Type](#) \ Option [Shutter](#)

## 7.2.8.3.21

## Step time

This parameter is used to define the duration of a step command.

Option	
<i>50 ... <u>1000</u> ... 10000 ms</i>	

## Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Allow step commands](#) \ Option [Yes](#)

## 7.2.8.3.22

## Additional overrun time for up/down

This parameter is used to define an additional overrun time. The additional overrun time only applies to movements to the upper or lower end position and is added to the time specified in the parameter [Disconnect output from power after](#).

## Example

In strong winds, automatic overload tripping may switch off the drive of a zipscreen. An additional overrun time ensures that the zipscreen is moved to the end position in a controlled way when the drive restarts.

**Option***None**0.5 x travel time**1 x travel time**2 x travel time**3 x travel time**4 x travel time**5 x travel time***Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Type* \ Option *Zipscreen*

**7.2.8.3.23****Additional overrun time with safeties**

This parameter is used to define an additional overrun time. The additional overrun time only applies when safeties are active, to movements to the upper or lower end position, and is added to the time defined in the parameter *Disconnect output from power after*.

**Example**

In strong winds, automatic overload tripping may switch off the drive of a zipscreen. An additional overrun time ensures that the zipscreen is moved to the end position in a controlled way when the drive restarts.

**Option***None**0.5 x travel time**1 x travel time**2 x travel time**3 x travel time**4 x travel time**5 x travel time***Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Type* \ Option *Zipscreen*

**7.2.8.3.24****Send status messages**

This parameter is used to define when the status messages of the zipscreen are sent.

**Option***After travel time has expired**After additional overrun time has expired***Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Type* \ Option *Zipscreen*

### 7.2.8.3.25 Fabric tensioning

This parameter is used to define whether to tension the blind/shutter.

More information: → [Fabric tensioning, Page 170](#).

Option	
<i>No</i>	The blind fabric is not tensioned.
<i>After each down movement</i>	The blind fabric is tensioned after each down movement.  The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Duration</a></li> </ul>
<i>After reaching lower end position</i>	The blind fabric is tensioned after reaching the lower end position.  The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Duration</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Type](#) \ Option [Fabric awning](#)

### 7.2.8.3.26 Duration

This parameter is used to set the duration of the tensioning time.

More information: → [Fabric tensioning, Page 170](#).

Option	
<i>50 ... 1000 ... 10000 ms</i>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Fabric tensioning](#) \ Option [After each down movement](#) / [After reaching lower end position](#)

### 7.2.8.3.27 Show parameter window drive / blind/shutter extended

This parameter unhides the parameter window [Drive / blind/shutter extended](#).

Option	
<i>No</i>	The parameter window is not shown.
<i>Yes</i>	The following dependent parameter windows are shown: <ul style="list-style-type: none"> <li>• <a href="#">Drive / blind/shutter extended</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

## 7.2.8.4 Parameter window Drive / blind/shutter extended

### **Note**

If several outputs are to be set to the same values, parameterization can be performed in the template.

The following settings can be made in this parameter window:

- Set drive properties
- Set dead times
- Set slat functions (*Blind* application only)

Configuration	Drive / blind/shutter extended
+ Device settings	<b>Drive properties</b>
+ Manual operation	Start-up delay <input type="text" value="0"/> ms
+ Central safety	Coasting delay <input type="text" value="0"/> ms
+ Logic/threshold	Minimum run time <input type="text" value="50"/> ms
+ Blind template	<b>Blind/shutter dead times</b>
+ Shutter template	Dead time blind/shutter opening from lower end position <input type="text" value="0"/> ms
- Output A:	Dead time blind/shutter adjustment on change of direction <input type="text" value="0"/> ms
Basic settings	Dead time slat opening (from 100 % closed) <input type="text" value="0"/> ms
Drive / blind/shutter	
Drive / blind/shutter extended	

Fig. 17: Parameter window Drive / blind/shutter extended

**This parameter window includes the following parameters:**

- [Start-up delay, Page 95](#)
- [Coasting delay, Page 96](#)
- [Minimum run time, Page 96](#)
- [Dead time blind/shutter opening from lower end position, Page 96](#)
- [Dead time Blind/Shutter adjustment on change of direction, Page 96](#)
- [Dead time slat movement \(from 100 % closed\), Page 97](#)

### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Drive / blind/shutter* \ Parameter *Show parameter window drive / blind/shutter extended* \ Option Yes

### 7.2.8.4.1 Start-up delay

This parameter is used to define the duration of the start-up delay.

More information: → [Start-up and coasting delay and minimum run time, Page 168.](#)

#### Option

0... 999 ms

#### 7.2.8.4.2 Coasting delay

This parameter is used to define the duration of the coasting delay.

More information: → [Start-up and coasting delay and minimum run time, Page 168](#).

---

**Option**


---

*0... 999 ms*

---

#### 7.2.8.4.3 Minimum run time


**CAUTION**

Setting a minimum run time that is too short can damage the connected drive.

- ▶ Observe the technical data of the connected drive.

This parameter is used to set the minimum run time for the drive.

More information: → [Start-up and coasting delay and minimum run time, Page 168](#).

---

**Option**


---

*50... 600 ms*

---

#### 7.2.8.4.4 Dead time blind/shutter opening from lower end position

***i* Note**

If the function *Working position* is used, the position information relates to the second lower end position → [Function Working position \(shading position\), Page 28](#).

This parameter is used to set the dead time compensation for blind/shutter opening. The "Blind/shutter opening" dead time describes the time between the reception of the up command and the start of blind/shutter opening.

More information: → [Dead times, Page 169](#).

**Example**

1. The Blind/Shutter is in the lower end position (= 100 %).
2. The telegram value 50 % is received.
  - ⇒ The motor shaft starts turning. The Blind/Shutter remains unchanged in the lower end position.
3. The visible upward movement of the Blind/Shutter starts after the dead time has elapsed.
  - ⇒ The Blind/Shutter does not reach the required position 50 %.
  - ⇒ Due to the compensation set, the motor shaft turns for longer and the Blind/Shutter moves to the required position 50 %.

---

**Option**


---

*0... 5,000 ms*

---

#### 7.2.8.4.5 Dead time Blind/Shutter adjustment on change of direction

This parameter is used to set the dead time compensation for blind/slat adjustment after a direction change. The "Blind/slat adjustment" dead time describes the time between the reception of a direction changing movement command and the execution of the movement command.

More information: → [Dead times, Page 169](#).

**Example**

1. The blind/shutter is open (= 50 %).
  2. The "Blind/Shutter down" telegram is received.
    - ⇒ The blind/shutter closes to 60 %.
  3. The "Blind/Shutter up" telegram is received (direction change).
    - ⇒ The blind/shutter opens to 55 %.
- ⇒ Due to the compensation set, the motor shaft turns for longer and the blind/shutter moves to the required position.

**Option***0... 5,000 ms***7.2.8.4.6****Dead time slat movement (from 100 % closed)**

This parameter is used to set the dead time compensation for slat opening from the closed position (= 100 %). The "Slat opening" dead time describes the time between the reception of the open command and the start of slat opening.

More information: → [Dead times, Page 169](#).

**Example**

1. The slats are closed (= 100 %).
  2. The "Open slat" telegram is received.
    - ⇒ The motor shaft starts turning. The slats remain closed and unchanged.
  3. The visible slat opening starts after the dead time has elapsed.
    - ⇒ The slat does not reach the required position.
- ⇒ Due to the compensation set, the motor shaft turns for longer and the slat moves to the required position.

**Option***0... 5,000 ms***Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*

### 7.2.8.5 Parameter window Safety

**Note**

If several outputs are to be set to the same values, parameterization can be performed in the template.

The following settings can be made in this parameter window:

- Enable safety Group Objects of the output
- Assign safeties and priorities
- Define reaction on active safety

For more information, see:

→ [Output safety, Page 21](#)

→ [Assignment of safeties and priorities, Page 22](#)

Configuration	<b>Safety and priorities</b>																																				
+ Device settings	Use function Safety <input checked="" type="checkbox"/>																																				
+ Manual operation	Parameter setting <input type="radio"/> Apply from template <input checked="" type="radio"/> Individual																																				
+ Central safety	<b>Enable Group Object</b>																																				
+ Logic/threshold	"Output safety 1" <input type="checkbox"/>																																				
+ Blind template	"Output safety 2" <input type="checkbox"/>																																				
+ Shutter template	"Output forced operation 2 bit" <input type="checkbox"/>																																				
- Output A:	Poll Group Objects after restart <input type="checkbox"/>																																				
Basic settings	<b>Assignment of safeties and priorities</b>																																				
Drive / blind/shutter	Priority 1 has the highest priority.																																				
Safety	Enable central safeties in parameter window "Central safety".																																				
Automatic sun protection	<table border="1"> <thead> <tr> <th>Priority</th> <th>Safety</th> <th>Reference</th> <th>Reaction</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Central safety 1</td> <td>Wind</td> <td>Up</td> </tr> <tr> <td>2</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>Not used</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>Not used</td> <td></td> <td></td> </tr> </tbody> </table>	Priority	Safety	Reference	Reaction	1	Central safety 1	Wind	Up	2	Not used			3	Not used			4	Not used			5	Not used			6	Not used			7	Not used			8	Not used		
Priority	Safety	Reference	Reaction																																		
1	Central safety 1	Wind	Up																																		
2	Not used																																				
3	Not used																																				
4	Not used																																				
5	Not used																																				
6	Not used																																				
7	Not used																																				
8	Not used																																				
+ Output B:	Reaction on withdrawal of safeties <input type="radio"/> Remain in position <input checked="" type="radio"/> Refreshed KNX state																																				
+ Output C:	Position is only approached when automatic sun protection is deactivated.																																				
+ Output D:	Restore active safeties after KNX voltage recovery or ETS reset <input checked="" type="checkbox"/>																																				
+ Output E:	<b>Status messages</b>																																				
+ Output F:	"Status Safety active" <input type="checkbox"/>																																				
+ Output G:	"Status byte all active safeties" <input type="checkbox"/>																																				
+ Output H:																																					
+ Output I:																																					
+ Output J:																																					

Fig. 18: Parameter window Safety

**This parameter window includes the following parameters:**

- [Use function Safety, Page 99](#)
  - [Parameter setting, Page 99](#)
    - [Enable Group Object "Output safety x", Page 100](#)
      - [Description, Page 100](#)
    - [Enable Group Object "Output forced operation 2 bit", Page 100](#)
      - [Description, Page 100](#)
      - [Height \(%\) forced operation "X", Page 101](#)
      - [Slat \(%\) forced operation "X", Page 101](#)
  - [Poll Group Objects after restart, Page 102](#)
  - [Priority x safety, Page 102](#)
    - [Priority x reference, Page 102](#)
    - [Priority x reaction, Page 103](#)
  - [Reaction on withdrawal of safeties, Page 103](#)
  - [Restore active safeties after KNX voltage recovery or ETS reset, Page 104](#)
  - [Status messages "Status Safety active", Page 104](#)
  - [Status messages "Status byte all active safeties", Page 104](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Safety](#) \ Option *Yes*

**7.2.8.5.1**

**Use function Safety**

This parameter is used to activate the use of the function *Safety* for the output.

Option	
<i>No</i>	Use of the function is not activated.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Parameter setting</a></li> </ul>

**7.2.8.5.2**

**Parameter setting**

This parameter is used to define whether the settings for the parameter window are adopted from the template or each parameter is set individually.

Option	
<a href="#">Apply from template</a>	The settings for the parameters are adopted from the template.
<i>Individual</i>	The parameters can be set individually. <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Enable Group Object "Output safety x"</a></li> <li>• <a href="#">Enable Group Object "Output forced operation 2 bit"</a></li> <li>• <a href="#">Poll Group Objects after restart</a></li> <li>• <a href="#">Priority x safety</a></li> <li>• <a href="#">Priority x reference</a></li> <li>• <a href="#">Priority x reaction</a></li> <li>• <a href="#">Reaction on withdrawal of safeties</a></li> <li>• <a href="#">Restore active safeties after KNX voltage recovery or ETS reset</a></li> <li>• <a href="#">Status messages "Status Safety active"</a></li> <li>• <a href="#">Status messages "Status byte all active safeties"</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Use function Safety](#) \ Option *Yes*

### 7.2.8.5.3 Enable Group Object "Output safety x"

This parameter enables the following Group Object:

- [Output safety x](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Description</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Output safety x</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.5.4 Description

This parameter is used to specify an individual description for the following Group Objects:

- [Output safety x](#)

The description is displayed at the following points:

- In the name of the corresponding Group Object
- As a fixed option in the parameter [Priority x reference](#)

Option	
<i>Free text entry</i>	Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Enable Group Object "Output safety x"](#) \ Option *Yes*

### 7.2.8.5.5 Enable Group Object "Output forced operation 2 bit"

This parameter enables the following Group Object:

- [Output forced operation 2 bit](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Description</a></li> <li>• <a href="#">Height (%) forced operation "X"</a></li> <li>• <a href="#">Slat (%) forced operation "X"</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Output forced operation 2 bit</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.5.6 Description

This parameter is used to specify an individual description for the following Group Object:

- [Output forced operation 2 bit](#)

The description is displayed at the following points:

- In the name of the corresponding Group Object
- As a fixed option in the parameter *Priority x reference*

---

**Option**


---

*Free text entry*

Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

---

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Safety* \ Parameter *Enable Group Object "Output forced operation 2 bit"* \ Option *Yes*

### 7.2.8.5.7

#### Height (%) forced operation "X"

This parameter is used to define the position to which the blind/shutter is moved when forced operation "X" is active.

**Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

---

**Option**


---

*0 ... 100 %*

---

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Safety* \ Parameter *Enable Group Object "Output forced operation 2 bit"* \ Option *Yes*

### 7.2.8.5.8

#### Slat (%) forced operation "X"

This parameter is used to define the position to which the slats are moved when forced operation "X" is active.

**Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

---

**Option**


---

*0 ... 100 %*

---

**Prerequisites for visibility**

- Parameter window *Configuration* \ Parameter *Output X application* \ Option *Blind*
- Parameter window *Output X* \ Parameter window *Safety* \ Parameter *Enable Group Object "Output forced operation 2 bit"* \ Option *Yes*

### 7.2.8.5.9 Poll Group Objects after restart

This parameter is used to define whether the values for the safety Group Objects are polled and updated after KNX voltage recovery, download or ETS reset.

More information: → [Value Read, Page 175](#).

#### Note

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

#### Option

<i>No</i>	The safety Group Objects are not polled after KNX voltage recovery or download.
<i>Yes</i>	The safety Group Objects send a Value Read to the sending Group Objects after KNX voltage recovery or download. If alarms are present, the parameterized results are run, → <a href="#">Value Read, Page 175</a> .

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.5.10 Priority x safety

This parameter is used to define the order of priority of the enabled safety Group Objects.

#### Note

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

More information: → [Assignment of safeties and priorities, Page 22](#).

#### Option

<i>Not used</i>
<i>Central safety x</i>
<i>Output safety x</i>
<i>Output forced operation 2 bit</i>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.5.11 Priority x reference

The options are set and fixed to the descriptions that were defined in the following parameters:

- ["Safety x" description](#)
- [Description](#)

#### Option

<i>Fixed</i>	The setting is taken from the specifications in other parameters and cannot be changed here.
--------------	--

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Priority x safety](#) \ all options except *Not used*

### 7.2.8.5.12 Priority x reaction

This parameter is used to define how the blind/shutter reacts when a safety is active.

#### **Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

Option	
<i>Up</i>	Acts like an Up telegram on the Group Object <i>Up/down</i> .
<i>Down</i>	Acts like a Down telegram on the Group Object <i>Up/down</i> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <i>Step/stop</i></li> <li>• <i>Stop</i></li> </ul>
<i>Complete movement</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height position x</i></li> <li>• <i>Slat position x</i></li> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Scene assignment x height (%)</i></li> <li>• <i>Scene assignment x slat (%)</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Safety* \ Parameter *Priority x safety* \ all options except *Not used*

### 7.2.8.5.13 Reaction on withdrawal of safeties

This parameter is used to define how the blind/shutter reacts when safeties are withdrawn.

More information: → [Function Safety, Page 20](#).

#### **Note**

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

Option	
<i>Remain in position</i>	If the blind/shutter is moving, it will continue until reaching the target position. If the blind/shutter is at rest, its position will remain unchanged.
<i>Refreshed KNX state</i>	The blind/shutter is moved to the position defined by the refreshed KNX state, → <a href="#">Refreshed KNX state, Page 175</a> . Telegrams received on the following Group Objects while a safety is active are not taken into consideration: <ul style="list-style-type: none"> <li>• <i>Up/down</i> (Central)</li> <li>• <i>Up/down</i></li> <li>• <i>Step/stop</i> (Central)</li> <li>• <i>Step/stop</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Safety* \ Parameter *Parameter setting* \ Option *Individual*

**7.2.8.5.14 Restore active safeties after KNX voltage recovery or ETS reset**

This parameter is used to define whether the safeties that were active before KNX voltage failure or ETS reset are reactivated after KNX voltage recovery.

**Option**NoYes**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.5.15 Status messages "Status Safety active"**

This parameter enables the following Group Object:

- [Status Safety active](#)

**Option**No

The Group Object is not enabled.

Yes

The following dependent Group Objects are displayed:

- [Status Safety active](#)

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.5.16 Status messages "Status byte all active safeties"**

This parameter enables the following Group Object:

- [Status byte all active safeties](#)

**Option**No

The Group Object is not enabled.

Yes

The following dependent Group Objects are displayed:

- [Status byte all active safeties](#)

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.6 Parameter window Safety [ventilation flap]

The following settings can be made in this parameter window:

- Enable safety Group Objects of the output
- Assign safeties and priorities
- Define reaction on active safety

For more information, see:

→ [Output safety, Page 21](#)

→ [Assignment of safeties and priorities, Page 22](#)

Configuration	<b>Safety and priorities</b>		
+ Device settings	Use function Safety <input checked="" type="checkbox"/>		
+ Manual operation	<b>Enable Group Object</b>		
+ Central safety	"Output safety 1"	<input type="checkbox"/>	
+ Logic/threshold	"Output safety 2"	<input type="checkbox"/>	
+ Blind template	"Output forced operation 2 bit"	<input type="checkbox"/>	
+ Shutter template	Poll Group Objects after restart	<input type="checkbox"/>	
- Output A:	<b>Assignment of safeties and priorities</b>		
Basic settings	Priority 1 has the highest priority.		
Safety	Enable central safeties in parameter window "Central safety".		
+ Output B:	<b>Priority</b>	<b>Safety</b>	<b>Reference</b>
+ Output C:	1	Central safety 1	Wind
+ Output D:	2	Not used	
+ Output E:	3	Not used	
+ Output F:	4	Not used	
+ Output G:	5	Not used	
+ Output H:	6	Not used	
+ Output I:	7	Not used	
+ Output J:	8	Not used	
+ Output K:	Reaction on withdrawal of safeties <input type="radio"/> Remain in position <input checked="" type="radio"/> Refreshed KNX state		
	Restore active safeties after KNX voltage recovery or ETS reset <input checked="" type="checkbox"/>		
	<b>Status messages</b>		
	"Status Safety active"	<input type="checkbox"/>	
	"Status byte all active safeties"	<input type="checkbox"/>	

Fig. 19: Parameter window Safety [ventilation flap]

**This parameter window includes the following parameters:**

- [Use function Safety, Page 106](#)
  - [Enable Group Object "Output safety x", Page 106](#)
    - [Description, Page 106](#)
  - [Enable Group Object "Output forced operation 2 bit", Page 107](#)
    - [Description, Page 107](#)
    - [Reaction on active ON, Page 108](#)
    - [Reaction on active OFF, Page 108](#)
  - [Poll Group Objects after restart, Page 108](#)
  - [Priority x safety, Page 109](#)
    - [Priority x reference, Page 109](#)
    - [Priority x reaction, Page 109](#)
  - [Reaction on withdrawal of safeties, Page 110](#)
  - [Restore active safeties after KNX voltage recovery, Page 110](#)
  - [Status messages "Status Safety active", Page 110](#)
  - [Status messages "Status byte all active safeties", Page 111](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option [Ventilation flap](#)
  - Parameter [Enable function: Safety](#) \ Option [Yes](#)

**7.2.8.6.1 Use function Safety**

This parameter is used to activate the use of the function *Safety* for the output.

Option	
<i>No</i>	Use of the function is not activated.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Enable Group Object "Output safety x"</a></li> <li>• <a href="#">Enable Group Object "Output forced operation 2 bit"</a></li> <li>• <a href="#">Poll Group Objects after restart</a></li> <li>• <a href="#">Priority x safety</a></li> <li>• <a href="#">Reaction on withdrawal of safeties</a></li> <li>• <a href="#">Restore active safeties after KNX voltage recovery</a></li> <li>• <a href="#">Status messages "Status Safety active"</a></li> <li>• <a href="#">Status messages "Status byte all active safeties"</a></li> </ul>

**7.2.8.6.2 Enable Group Object "Output safety x"**

This parameter enables the following Group Object:

- [Output safety x](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Description</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Output safety x</a></li> </ul>

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option [Yes](#)

**7.2.8.6.3 Description**

This parameter is used to specify an individual description for the following Group Object:

- [Output safety x](#)

The description is displayed at the following points:

- In the name of the corresponding Group Object
- As a fixed option in the parameter *Priority x reference*

Option	
<i>Free text entry</i>	Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Safety [ventilation flap]* \ Parameter *Enable Group Object "Output safety x"* \ Option *Yes*

### 7.2.8.6.4

#### Enable Group Object "Output forced operation 2 bit"

This parameter enables the following Group Object:

- *Output forced operation 2 bit*

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <i>Description</i></li> <li>• <i>Reaction on active ON</i></li> <li>• <i>Reaction on active OFF</i></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Output forced operation 2 bit</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Safety [ventilation flap]* \ Parameter *Use function Safety* \ Option *Yes*

### 7.2.8.6.5

#### Description

This parameter is used to specify an individual description for the following Group Object:

- *Output forced operation 2 bit*

The description is displayed at the following points:

- In the name of the corresponding Group Object
- As a fixed option in the parameter *Priority x reference*

Option	
<i>Free text entry</i>	Maximum 24 ASCII characters; the maximum number of characters may vary for other character formats.

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Safety [ventilation flap]* \ Parameter *Enable Group Object "Output forced operation 2 bit"* \ Option *Yes*

### 7.2.8.6.6 Reaction on active ON

This parameter is used to define how the ventilation flap and the relay contacts react on active 2-bit forced operation, state "ON".

#### Note

The parameter *Invert output* can be used to invert the reaction of the output. More information: → [Ventilation flap with spring return, Page 172](#).

Option	
<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Enable Group Object "Output forced operation 2 bit"](#) \ Option Yes

### 7.2.8.6.7 Reaction on active OFF

This parameter is used to define how the ventilation flap and the relay contacts react on active 2-bit forced operation, state "OFF".

#### Note

The parameter *Invert output* can be used to invert the reaction of the output. More information: → [Ventilation flap with spring return, Page 172](#).

Option	
<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Enable Group Object "Output forced operation 2 bit"](#) \ Option Yes

### 7.2.8.6.8 Poll Group Objects after restart

This parameter is used to define whether the values for the safety Group Objects are polled after KNX voltage recovery or download.

#### Note

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

Option	
<i>No</i>	The safety Group Objects are not polled after KNX voltage recovery or download.
<i>Yes</i>	The safety Group Objects send a Value Read to the sending Group Objects after KNX voltage recovery or download. If alarms are present, the parameterized results are run, → <a href="#">Value Read, Page 175</a> .

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option Yes

### 7.2.8.6.9 Priority x safety

This parameter is used to define the order of priority of the enabled safety Group Objects.

#### **Note**

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

More information: → [Assignment of safeties and priorities, Page 22](#).

Option
<i>Not used</i>
<i>Central safety x</i>
<i>Output safety x</i>
<i>Output forced operation 2 bit</i>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option Yes

### 7.2.8.6.10 Priority x reference

The options are set and fixed to the descriptions that were defined in the following parameters:

- ["Safety x" description](#)
- [Description](#)

Option	
<i>Fixed</i>	The setting is taken from the specifications in other parameters and cannot be changed here.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Priority x safety](#) \ all options except *Not used*

### 7.2.8.6.11 Priority x reaction

This parameter is used to define how the ventilation flap and the relay contact react when a safety is active.

#### **Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

#### **Note**

The parameter [Invert output](#) can be used to invert the reaction of the output. More information: → [Ventilation flap with spring return, Page 172](#).

Option	
<i>No reaction</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Open</i>	The ventilation flap opens; the relay contact closes.
<i>Close</i>	The ventilation flap closes; the relay contact opens.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Priority x safety](#) \ all options except *Not used*

### 7.2.8.6.12 Reaction on withdrawal of safeties

This parameter is used to define how the ventilation flap and the relay contact react when safeties are withdrawn.

More information: → [Function Safety, Page 20](#).

#### Note

The safety with the highest priority always takes precedence. If a safety with a higher priority is active, then reactions or revocations of lower priorities are ignored. Operation of the corresponding output is blocked until all active safeties are reset.

#### Option

<i>Remain in position</i>	The position of the ventilation flap and the relay contact remains unchanged.
<i>Refreshed KNX state</i>	The refreshed KNX state is used, → <a href="#">Refreshed KNX state, Page 175</a> .

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option Yes

### 7.2.8.6.13 Restore active safeties after KNX voltage recovery

This parameter is used to define whether the safeties that were active before KNX voltage failure are re-activated after KNX voltage recovery.

#### Option

<i>No</i>
<u><i>Yes</i></u>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option Yes

### 7.2.8.6.14 Status messages "Status Safety active"

This parameter enables the following Group Object:

- [Status Safety active](#)

#### Option

<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li><a href="#">Status Safety active</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option Yes

### 7.2.8.6.15 Status messages "Status byte all active safeties"

This parameter enables the following Group Object:

- [Status byte all active safeties](#)

---

#### Option

<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status byte all active safeties</a></li> </ul>

---

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#) \ Parameter [Use function Safety](#) \ Option *Yes*



**This parameter window includes the following parameters:**

- [Use function Automatic sun protection, Page 113](#)
  - [Parameter setting, Page 114](#)
    - [Reacts to central Group Objects, Page 114](#)
    - [Deactivate when safety is active, Page 114](#)
    - [Reaction to direct commands when automatic sun protection is active, Page 115](#)
      - [Reactivation after, Page 115](#)
      - [Change time via Group Object, Page 115](#)
    - [Poll Group Objects after restart, Page 116](#)
    - [Enable Group Object "Block automatic sun protection", Page 116](#)
    - [Enable Group Object "Block direct commands", Page 116](#)
    - [Enable Group Object "Status Automatic sun protection active", Page 117](#)
    - [Enable Group Object "Status byte automatic sun protection", Page 117](#)
    - [Enable Group Object "Status Automatic sun protection blocked", Page 117](#)
    - [Sun = x reaction to anti-glare protection, Page 117](#)
    - [Sun = x delay, Page 118](#)
    - [Enable function: Heating/Cooling, Page 119](#)
      - [Control via Group Objects, Page 119](#)
      - [Delay if room occupied = x, Page 119](#)
      - [Sun = x reaction on heating, Page 120](#)
      - [Sun = x reaction on cooling, Page 120](#)
      - [Sun = x delay, Page 121](#)
      - [Enable overheating protection on heating, Page 122](#)
        - [Overheating protection active when sun = 1 and room temperature is greater than, Page 122](#)
        - [Hysteresis, Page 122](#)
        - [Reaction on overheating protection, Page 123](#)
        - [Enable Group Object "Status Overheating protection active", Page 123](#)

**Prerequisites for visibility**

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*

**7.2.8.7.1****Use function Automatic sun protection**

This parameter is used to activate the use of the function *Automatic sun protection* for the output.

More information: → [Function Automatic sun protection, Page 22](#).

Option	
<i>No</i>	Use of the function is not activated.
<i>Yes</i>	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Parameter setting</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Activate automatic sun protection</a></li> <li>• <a href="#">Sun</a></li> </ul>

### 7.2.8.7.2 Parameter setting

This parameter is used to define whether the settings for the parameter window are adopted from the template or each parameter is set individually.

Option	
<u>Apply from template</u>	The settings for the parameters are adopted from the template.
<u>Individual</u>	<p>The parameters can be set individually.</p> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> <li>• <a href="#">Deactivate when safety is active</a></li> <li>• <a href="#">Reaction to direct commands when automatic sun protection is active</a></li> <li>• <a href="#">Poll Group Objects after restart</a></li> <li>• <a href="#">Enable Group Object "Block automatic sun protection"</a></li> <li>• <a href="#">Enable Group Object "Block direct commands"</a></li> <li>• <a href="#">Enable Group Object "Status Automatic sun protection active"</a></li> <li>• <a href="#">Enable Group Object "Status byte automatic sun protection"</a></li> <li>• <a href="#">Enable Group Object "Status Automatic sun protection blocked"</a></li> <li>• <a href="#">Sun = x reaction to anti-glare protection</a></li> <li>• <a href="#">Sun = x delay</a></li> <li>• <a href="#">Enable function: Heating/Cooling</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Safety](#) \ Parameter [Use function Automatic sun protection](#) \ Option Yes

### 7.2.8.7.3 Reacts to central Group Objects

This parameter is used to define whether the function *Automatic sun protection* reacts to telegrams from central Group Objects, → parameter [Enable central Group Objects for automatic sun protection](#).

More information: → [Function Automatic sun protection, Page 22](#).

Option	
<u>No</u>	
<u>Yes</u>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.4 Deactivate when safety is active

This parameter is used to define whether the function *Automatic sun protection* is deactivated when a safety is active.

More information: → [Function Automatic sun protection, Page 22](#).

Option	
<u>No</u>	The function <i>Automatic sun protection</i> remains active in the background. After all active safeties are withdrawn, the current position from the function <i>Automatic sun protection</i> applies.
<u>Yes</u>	When a safety is activated, the function <i>Automatic sun protection</i> is deactivated. The function <i>Automatic sun protection</i> can be reactivated via the bus (ABB i-bus® KNX) when all active safeties have been withdrawn.

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.5 Reaction to direct commands when automatic sun protection is active

This parameter is used to define how the function *Automatic sun protection* reacts to direct commands when the function is active.

For more information, see:

→ [Automatic operation, Page 170](#)

→ [Direct operation, Page 171](#)

Option	
<i>Ignore direct commands</i>	Direct commands are not executed.
<i>Deactivate automatic sun protection</i>	<p>When a direct command is received, the function <i>Automatic sun protection</i> is deactivated. The function is reactivated via the Group Object <a href="#">Activate automatic sun protection</a>.</p> <p>If, in the parameter <a href="#">Sun = x reaction to anti-glare protection</a>, the option <i>Only slat via Group Object</i> is selected, the function <i>Automatic sun protection</i> is not deactivated when the following direct commands are received, and the status of the automatic sun protection remains active:</p> <ul style="list-style-type: none"> <li>• Up</li> <li>• Down</li> <li>• Position height</li> </ul>
<i>Switch automatic sun protection to standby</i>	<p>When a direct command is received, the function <i>Automatic sun protection</i> switches to Standby. The function <i>Automatic sun protection</i> is reactivated via the bus (ABB i-bus® KNX) or automatically after a specified time has elapsed, → parameter <a href="#">Reactivation after</a>.</p> <p>If, in the parameter <a href="#">Sun = x reaction to anti-glare protection</a>, the option <i>Only slat via Group Object</i> is selected, the function <i>Automatic sun protection</i> does not switch to Standby when the following direct commands are received, and the status of the automatic sun protection remains active:</p> <ul style="list-style-type: none"> <li>• Up</li> <li>• Down</li> <li>• Position height</li> </ul> <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reactivation after</a></li> <li>• <a href="#">Change time via Group Object</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.6 Reactivation after

This parameter is used to define the time after which the function *Automatic sun protection* is reactivated out of Standby.

Option	
<i>00:10:00 ... 05:00:00 ... 18:12:15 hh:mm:ss</i>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Reaction to direct commands when automatic sun protection is active](#) \ Option *Switch automatic sun protection to standby*

### 7.2.8.7.7 Change time via Group Object

This parameter is used to define whether the reactivation time set in the function *Automatic sun protection* (→ parameter [Reactivation after](#)) can be changed via a Group Object.

Option	
<i>No</i>	The set reactivation time cannot be changed.
<i>Yes</i>	<p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reactivation time</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Reaction to direct commands when automatic sun protection is active](#) \ Option *Switch automatic sun protection to standby*

### 7.2.8.7.8 Poll Group Objects after restart

This parameter is used to define whether the values for the enabled automatic sun protection Group Objects are polled and updated after KNX voltage recovery, download or ETS reset.

More information: → [Value Read, Page 175](#).

**Note**

To update the Group Objects after KNX voltage recovery, download or ETS reset, the read flags must be set for the corresponding Group Objects of the sending device.

**Option**

*No*

*Yes*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.7.9 Enable Group Object "Block automatic sun protection"

This parameter enables the following Group Object:

- *Block automatic sun protection*

**Option**

*No*

The Group Object is not enabled.

*Yes*

The following dependent Group Objects are displayed:

- *Block automatic sun protection*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.7.10 Enable Group Object "Block direct commands"

This parameter enables the following Group Object:

- *Block direct commands*

**Option**

*No*

The Group Object is not enabled.

*Yes*

The following dependent Group Objects are displayed:

- *Block direct commands*

**Prerequisites for visibility**

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.7.11 Enable Group Object "Status Automatic sun protection active"

This parameter enables the following Group Object:

- [Status Automatic sun protection active](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status Automatic sun protection active</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.12 Enable Group Object "Status byte automatic sun protection"

This parameter enables the following Group Object:

- [Status byte automatic sun protection](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status byte automatic sun protection</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.13 Enable Group Object "Status Automatic sun protection blocked"

This parameter enables the following Group Object:

- [Status Automatic sun protection blocked](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status Automatic sun protection blocked</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.7.14 Sun = x reaction to anti-glare protection

This parameter is used to define how the blind/shutter reacts if sun = x when the function *Automatic sun protection* is active.

#### **i** Note

- Sun = 0: no sunshine
- Sun = 1: sunshine

#### **i** Note

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

More information: → [Function Anti-glare protection, Page 23](#).

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <i>Up/down</i> .
<i>Down</i>	Acts like a Down telegram on the Group Object <i>Up/down</i> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <i>Step/stop</i></li> <li>• <i>Stop</i></li> </ul>
<i>Height and slat via Group Object</i>	The required blind/shutter and slat positions are received via separate Group Objects.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Sun: Move to height</i></li> <li>• <i>Sun: Move slat</i></li> </ul>
<i>Only slat via Group Object</i>	The required slat position is received via a separate Group Object. The blind/shutter can be moved with direct commands.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Sun: Move slat</i></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height position x</i></li> <li>• <i>Slat position x</i></li> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Scene assignment x height (%)</i></li> <li>• <i>Scene assignment x slat (%)</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Parameter setting* \ Option *Individual*

#### 7.2.8.7.15

#### Sun = x delay

This parameter is used to define the delay time after which the blind/shutter is moved into position if sun = x.

#### Example

The delay when sun = 0 can serve to avoid unnecessary position changes due to brief periods of sunshine on cloudy days.

The delay when sun = 1 can serve to avoid unnecessary position changes due to brief periods of shadow on cloudy days.

#### Note

- Sun = 0: no sunshine
- Sun = 1: sunshine

More information: → [Function Anti-glare protection, Page 23](#).

#### Option

*00:00:00 ... 12:00:00 hh:mm:ss*

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Parameter setting* \ Option *Individual*

### 7.2.8.7.16 Enable function: Heating/Cooling

This parameter enables the function *Heating/Cooling*.

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<u>No</u>	The function is not enabled.
Yes	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Control via Group Objects</a></li> <li>• <a href="#">Delay if room occupied = x</a></li> <li>• <a href="#">Sun = x reaction on heating</a></li> <li>• <a href="#">Sun = x reaction on cooling</a></li> <li>• <a href="#">Enable overheating protection on heating</a></li> </ul> The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Room occupied</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Parameter setting](#) \ Option [Individual](#)

### 7.2.8.7.17 Control via Group Objects

This parameter is used to define which Group Object receives the room operating mode (*Heating* or *Cooling*).

These Group Objects are used for changing over between heating and cooling in the function *Heating/Cooling*.

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<u>"Heating" and "Cooling"</u>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Heating</a></li> <li>• <a href="#">Cooling</a></li> </ul>
<u>"Heating/cooling" and "Block heating/cooling"</u>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Heating/Cooling</a></li> <li>• <a href="#">Block heating/cooling</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable function: Heating/Cooling](#) \ Option [Yes](#)

### 7.2.8.7.18 Delay if room occupied = x

This parameter is used to define the delay time after which the function *Heating/Cooling* reacts to a room being occupied or vacant.

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<u>00:00:00 ... 01:40:00 hh:mm:ss</u>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable function: Heating/Cooling](#) \ Option [Yes](#)

### 7.2.8.7.19 Sun = x reaction on heating

This parameter is used to define how the blind/shutter reacts if sun = x when the function *Heating* is active.

#### **Note**

- Sun = 0: no sunshine
- Sun = 1: sunshine

#### **Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <a href="#">Up/down</a> .
<i>Down</i>	Acts like a Down telegram on the Group Object <a href="#">Up/down</a> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> <li>• <a href="#">Stop</a></li> </ul>
<i>Height and slat via Group Object</i>	The required blind/shutter and slat positions are received via separate Group Objects.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Sun: Move to height</a></li> <li>• <a href="#">Sun: Move slat</a></li> </ul>
<i>Only slat via Group Object</i>	The required slat position is received via a separate Group Object. The blind/shutter can be moved with direct commands.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Sun: Move slat</a></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height position x</a></li> <li>• <a href="#">Slat position x</a></li> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Scene assignment x height (%)</a></li> <li>• <a href="#">Scene assignment x slat (%)</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable function: Heating/Cooling](#) \ Option Yes

### 7.2.8.7.20 Sun = x reaction on cooling

This parameter is used to define how the blind/shutter reacts if sun = x when the function *Cooling* is active.

#### **Note**

- Sun = 0: no sunshine
- Sun = 1: sunshine

#### **Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <i>Up/down</i> .
<i>Down</i>	Acts like a Down telegram on the Group Object <i>Up/down</i> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <i>Step/stop</i></li> <li>• <i>Stop</i></li> </ul>
<i>Height and slat via Group Object</i>	The required blind/shutter and slat positions are received via separate Group Objects.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Sun: Move to height</i></li> <li>• <i>Sun: Move slat</i></li> </ul>
<i>Only slat via Group Object</i>	The required slat position is received via a separate Group Object. The blind/shutter can be moved with direct commands.  The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <i>Sun: Move slat</i></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Height position x</i></li> <li>• <i>Slat position x</i></li> <li>• <i>Height working position</i></li> <li>• <i>Slat working position</i></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <i>Scene assignment x height (%)</i></li> <li>• <i>Scene assignment x slat (%)</i></li> </ul>

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Enable function: Heating/Cooling* \ Option Yes

#### 7.2.8.7.21

#### Sun = x delay

This parameter is used to define the delay time after which the blind/shutter is moved into position if sun = x.

#### Example

The delay when sun = 0 can serve to avoid unnecessary position changes due to brief periods of sunshine on cloudy days.

The delay when sun = 1 can serve to avoid unnecessary position changes due to brief periods of shadow on cloudy days.

#### Note

- Sun = 0: no sunshine
- Sun = 1: sunshine

More information: → [Function Heating/Cooling, Page 23](#).

#### Option

*00:00:00 ... 12:00:00 hh:mm:ss*

#### Prerequisites for visibility

- Parameter window *Output X* \ Parameter window *Automatic sun protection* \ Parameter *Enable function: Heating/Cooling* \ Option Yes

### 7.2.8.7.22 Enable overheating protection on heating

This parameter enables overheating protection.

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<u>No</u>	The function is not enabled.
Yes	<p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Overheating protection active when sun = 1 and room temperature is greater than</a></li> <li>• <a href="#">Hysteresis</a></li> <li>• <a href="#">Reaction on overheating protection</a></li> <li>• <a href="#">Enable Group Object "Status Overheating protection active"</a></li> </ul> <p>The following dependent Group Objects are displayed:</p> <ul style="list-style-type: none"> <li>• <a href="#">Room temperature received</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable function: Heating/Cooling](#) \ Option Yes

### 7.2.8.7.23 Overheating protection active when sun = 1 and room temperature is greater than

This parameter is used to define the maximum room temperature. If this temperature is exceeded under the following conditions, overheating protection is activated:

- Overheating protection enabled
- Function [Heating/Cooling](#) active
- Room operating mode = [Heating](#)
- Sun = 1

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<u>21 ... 25 ... 50 °C</u>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable overheating protection on heating](#) \ Option Yes

### 7.2.8.7.24 Hysteresis

This parameter is used to define the single-sided hysteresis for the room temperature, → parameter [Overheating protection active when sun = 1 and room temperature is greater than](#).

#### Example

- Overheating protection active from room temperature > 25 °C
- Hysteresis = 3 K

The overheating protection is activated if the room temperature exceeds 22 °C.

More information: → [Hysteresis, Page 172](#).

Option	
<u>1 ... 3 ... 5 K</u>	

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable overheating protection on heating](#) \ Option Yes

### 7.2.8.7.25 Reaction on overheating protection

This parameter is used to define how the blind/shutter reacts when overheating protection is active.

#### **Note**

Whether an action is actually performed depends on the active priorities, → [Priorities, Page 162](#).

More information: → [Function Heating/Cooling, Page 23](#).

Option	
<i>No reaction</i>	If the Blind/Shutter is moving, it will continue until reaching the target position. If the Blind/Shutter is at rest, its position will remain unchanged.
<i>Up</i>	Acts like an Up telegram on the Group Object <a href="#">Up/down</a> .
<i>Down</i>	Acts like a Down telegram on the Group Object <a href="#">Up/down</a> .
<i>Working position</i>	The positions defined in the working position are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Stop</i>	Acts like a Stop telegram on one of the following Group Objects: <ul style="list-style-type: none"> <li>• <a href="#">Step/stop</a></li> <li>• <a href="#">Stop</a></li> </ul>
<i>Position x</i>	The predefined position x (x = 1 ... 4) is adopted. The predefined positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Height position x</a></li> <li>• <a href="#">Slat position x</a></li> <li>• <a href="#">Height working position</a></li> <li>• <a href="#">Slat working position</a></li> </ul>
<i>Scene assignment x</i>	The positions defined in scene assignment x (x = 1 ... 16) are adopted. The positions are specified with the following parameters: <ul style="list-style-type: none"> <li>• <a href="#">Scene assignment x height (%)</a></li> <li>• <a href="#">Scene assignment x slat (%)</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable overheating protection on heating](#) \ Option Yes

### 7.2.8.7.26

#### Enable Group Object "Status Overheating protection active"

This parameter enables the following Group Object:

- [Status Overheating protection active](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Status Overheating protection active</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#) \ Parameter [Enable overheating protection on heating](#) \ Option Yes

## 7.2.8.8 Parameter window Scenes

### **Note**

If several outputs are to be set to the same values, parameterization can be performed in the template.

The following settings can be made in this parameter window:

- Enable scene assignments
- Create and assign KNX scenes

More information: → [Function Scenes, Page 25](#).

Configuration	Scenes																																																																																																																																								
+ Device settings	Use function Scenes <input checked="" type="checkbox"/>																																																																																																																																								
+ Manual operation	Parameter setting <input type="radio"/> Apply from template <input checked="" type="radio"/> Individual																																																																																																																																								
+ Central safety	Enable Group Object "KNX scene 1 ... 64" <input checked="" type="checkbox"/>																																																																																																																																								
+ Logic/threshold	Enable Group Objects "Recall scene assignment 1 ... 4" <input type="checkbox"/>																																																																																																																																								
+ Blind template	Overwrite scenes on download <input checked="" type="checkbox"/>																																																																																																																																								
+ Shutter template	Assignment of the 16 internal scene memories to one KNX scene.																																																																																																																																								
- Output A:	<table border="1"> <thead> <tr> <th>Scene assignment</th> <th>Enable</th> <th>KNX scene</th> <th>Can be saved</th> <th>Height (%)</th> <th>Slat (%)</th> <th>Delay</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><input checked="" type="checkbox"/></td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td>50</td> <td>50</td> <td>00:00:00</td> <td>hh:mm:ss</td> </tr> <tr> <td>2</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>11</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>13</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>14</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>15</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>16</td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Scene assignment	Enable	KNX scene	Can be saved	Height (%)	Slat (%)	Delay	Description	1	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	50	50	00:00:00	hh:mm:ss	2	<input type="checkbox"/>							3	<input type="checkbox"/>							4	<input type="checkbox"/>							5	<input type="checkbox"/>							6	<input type="checkbox"/>							7	<input type="checkbox"/>							8	<input type="checkbox"/>							9	<input type="checkbox"/>							10	<input type="checkbox"/>							11	<input type="checkbox"/>							12	<input type="checkbox"/>							13	<input type="checkbox"/>							14	<input type="checkbox"/>							15	<input type="checkbox"/>							16	<input type="checkbox"/>						
Scene assignment	Enable	KNX scene	Can be saved	Height (%)	Slat (%)	Delay	Description																																																																																																																																		
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Fig. 21: Parameter window Scenes

**This parameter window includes the following parameters:**

- [Use function Scenes, Page 125](#)
- [Parameter setting, Page 125](#)
  - [Enable Group Object "KNX scene 1 ... 64", Page 125](#)
  - [Enable Group Objects "Recall scene assignment 1 ... 4", Page 125](#)
  - [Overwrite Scenes on download, Page 126](#)
  - [Enable scene assignment x, Page 126](#)
    - [Scene assignment x KNX scene, Page 126](#)
    - [Scene assignment x can be saved, Page 126](#)
    - [Scene assignment x height \(%\), Page 127](#)
    - [Scene assignment x slat \(%\), Page 127](#)
    - [Scene assignment x delay, Page 127](#)

### Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Scenes](#) \ Option *Yes*

### 7.2.8.8.1 Use function Scenes

This parameter is used to activate the use of the function *Scenes* for the output.

Option	
<i>No</i>	Use of the function is not activated.
<i>Yes</i>	The following dependent parameters are shown: <ul style="list-style-type: none"> <li>• <a href="#">Parameter setting</a></li> </ul>

### 7.2.8.8.2 Parameter setting

This parameter is used to define whether the settings for the parameter window are adopted from the template or each parameter is set individually.

Option	
<a href="#">Apply from template</a>	The settings for the parameters are adopted from the template.
<i>Individual</i>	The parameters can be set individually. <p>The following dependent parameters are shown:</p> <ul style="list-style-type: none"> <li>• <a href="#">Enable Group Object "KNX scene 1 ... 64"</a></li> <li>• <a href="#">Enable Group Objects "Recall scene assignment 1 ... 4"</a></li> <li>• <a href="#">Overwrite Scenes on download</a></li> <li>• <a href="#">Enable scene assignment x</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Use function Scenes](#) \ Option *Yes*

### 7.2.8.8.3 Enable Group Object "KNX scene 1 ... 64"

This parameter enables the following Group Object:

- [KNX scenes 1 ... 64](#)

Option	
<i>No</i>	The Group Object is not enabled.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">KNX scenes 1 ... 64</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Parameter setting](#) \ Option *Individual*

### 7.2.8.8.4 Enable Group Objects "Recall scene assignment 1 ... 4"

This parameter is used to define whether it is possible to recall the scene assignment 1 ... 4 also via the following Group Objects:

- [Recall scene assignment x](#)

Option	
<i>No</i>	It is not possible to recall Scene assignment 1 ... 4 via additional Group Objects.
<i>Yes</i>	The following dependent Group Objects are displayed: <ul style="list-style-type: none"> <li>• <a href="#">Recall scene assignment x</a></li> </ul>

#### Prerequisites for visibility

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.8.5 Overwrite Scenes on download**

This parameter is used to define whether the Scenes saved in the device are overwritten during a download.

**Option***No**Yes***Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.8.6 Enable scene assignment x**

This parameter enables scene assignment x (x = 1 ... 16).

More information: → [Function Scenes, Page 25](#).

**Option***No*

Scene assignment x is not enabled.

*Yes*

The following dependent parameters are shown:

- [Scene assignment x KNX scene](#)
- [Scene assignment x can be saved](#)
- [Scene assignment x height \(%\)](#)
- [Scene assignment x slat \(%\)](#)
- [Scene assignment x delay](#)

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Parameter setting](#) \ Option *Individual*

**7.2.8.8.7 Scene assignment x KNX scene**

This parameter assigns KNX scene x to scene assignment x.

More information: → [Function Scenes, Page 25](#).

**Option***1... 64***Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Enable scene assignment x](#) \ Option *Yes*

**7.2.8.8.8 Scene assignment x can be saved**

This parameter is used to define whether the current values of all incorporated KNX devices can be saved in the assigned KNX scene.

More information: → [Structure of 1-byte Scene telegram, Page 25](#).

**Option***No**Yes***Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Enable scene assignment x](#) \ Option *Yes*

**7.2.8.8.9 Scene assignment x height (%)**

This parameter is used to define the blind/shutter position when scene assignment x is recalled.

More information: → [Function Scenes, Page 25](#).

**i Note**

The positions can be limited by the working position → [Function Working position \(shading position\), Page 28](#).

**Option**

0 ... 50 ... 100 %

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Enable scene assignment x](#) \ Option *Yes*

**7.2.8.8.10 Scene assignment x slat (%)**

This parameter is used to define the slat position when scene assignment x is recalled.

More information: → [Function Scenes, Page 25](#).

**i Note**

The positions can be limited by the working position → [Function Working position \(shading position\), Page 28](#).

**Option**

0 ... 50 ... 100 %

**Prerequisites for visibility**

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*
- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Enable scene assignment x](#) \ Option *Yes*

**7.2.8.8.11 Scene assignment x delay**

This parameter is used to define a delay time. When the scene assignment x is recalled, the assignment is executed after the delay time has elapsed.

More information: → [Function Scenes, Page 25](#).

**Option**

00:00:00 ... 12:00:00 hh:mm:ss

**Prerequisites for visibility**

- Parameter window [Output X](#) \ Parameter window [Scenes](#) \ Parameter [Enable scene assignment x](#) \ Option *Yes*

## 8 Group Objects

### 8.1 Overview of Group Objects

Function	Group Object name	Data point type	Length	Flags
Enable/Block Manual operation	Central – Manual operation:	DPT 1.003	1 bit	C W
Activate automatic sun protection	Central – Automatic	DPT 1.003	1 bit	C W T U
Activate automatic sun protection	Output X – Automatic:	DPT 1.003	1 bit	C W T U
Block automatic sun protection	Central – Automatic:	DPT 1.002	1 bit	C W T U
Block automatic sun protection	Output X – Automatic:	DPT 1.002	1 bit	C W T U
Block direct commands	Central – Automatic:	DPT 1.002	1 bit	C W T U
Block direct commands	Output X – Automatic:	DPT 1.002	1 bit	C W T U
Block heating/cooling	Central – Automatic:	DPT 1.002	1 bit	C W T U
Block heating/cooling	Output X – Automatic:	DPT 1.002	1 bit	C W T U
Change lower threshold	Logic/threshold x – Threshold:	DPT 13.010	4 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 13.013	4 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 14.019	4 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 14.056	4 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 5.001	1 byte	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 5.010	1 byte	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 7.001	2 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 9.001	2 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 9.004	2 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 9.005	2 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 9.021	2 bytes	C W
Change lower threshold	Logic/threshold x – Threshold:	DPT 9.024	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 13.010	4 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 13.013	4 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 14.019	4 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 14.056	4 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 5.001	1 byte	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 5.010	1 byte	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 7.001	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 9.001	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 9.004	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 9.005	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 9.021	2 bytes	C W
Change upper threshold	Logic/threshold x – Threshold:	DPT 9.024	2 bytes	C W
Connection A	Logic/threshold x – Logic:	DPT 1.002	1 bit	C W
Connection B	Logic/threshold x – Logic:	DPT 1.002	1 bit	C W
Cooling	Central – Automatic:	DPT 1.003	1 bit	C W T U
Cooling	Output X – Automatic:	DPT 1.003	1 bit	C W T U
Deactivate Manual operation	Central – Manual operation:	DPT 1.017	1 bit	C W
Heating	Central – Automatic:	DPT 1.003	1 bit	C W T U
Heating	Output X – Automatic:	DPT 1.003	1 bit	C W T U
Heating/cooling	Central – Automatic:	DPT 1.100	1 bit	C W T U
Heating/Cooling	Output X – Automatic:	DPT 1.100	1 bit	C W T U
In operation	Central – General:	DPT 1.002	1 bit	C R T
KNX scenes 1 ... 64	Central – Direct:	DPT 18.001	1 byte	C W
KNX scenes 1 ... 64	Output X – Direct:	DPT 18.001	1 byte	C W
Limit travel range	Output X – Restriction:	DPT 1.003	1 bit	C W
Move slat	Central – Direct:	DPT 5.001	1 byte	C W
Move slat	Output X – Direct:	DPT 5.001	1 byte	C W
Move to height	Central – Direct:	DPT 5.001	1 byte	C W
Move to height	Output X – Direct:	DPT 5.001	1 byte	C W
Move to position x	Output X – Direct:	DPT 1.017	1 bit	C W
Move to position x/y	Output X – Direct:	DPT 1.022	1 bit	C W
Open/close	Output X – Direct:	DPT 1.019	1 bit	C W
Output forced operation 2 bit	Output X – Safety:	DPT 2.001	2 bit	C W
Output forced operation 2 bit	Output X – Safety:	DPT 2.001	2 bit	C W
Output safety x	Output X – Safety:	DPT 1.005	1 bit	C W
Output safety x	Output X – Safety:	DPT 1.005	1 bit	C W
Reactivation time	Output X – Automatic:	DPT 7.005	2 bytes	C W
Recall scene assignment x	Output X – Direct:	DPT 1.017	1 bit	C W
Request status values	Central – General:	DPT 1.017	1 bit	C W
Room occupied	Central – Automatic:	DPT 1.018	1 bit	C W T U
Room occupied	Output X – Automatic:	DPT 1.018	1 bit	C W

Function	Group Object name	Data point type	Length	Flags
Room temperature received	Central – Automatic:	DPT 9.001	2 bytes	C W T U
Room temperature received	Output X – Automatic:	DPT 9.001	2 bytes	C W T U
Safety x	Central – Safety:	DPT 1.005	1 bit	C W T U
Sector control	Central – General:	nonDPT	6 bytes	C W
Status Automatic sun protection active	Output X – Automatic:	DPT 1.011	1 bit	C R T
Status Automatic sun protection blocked	Output X – Automatic:	DPT 1.011	1 bit	C R T
Status byte all active safeties	Output X – Safety:	nonDPT	1 byte	C R T
Status byte all active safeties	Output X – Safety:	nonDPT	1 byte	C R T
Status byte automatic sun protection	Output X – Automatic:	nonDPT	1 byte	C R T
Status combined (4 bytes)	Output X – Direct	241.800	4 bytes	C R T
Status Direct commands blocked	Output X – Direct:	DPT 1.011	1 bit	C R T
Status Direct commands blocked	Output X – Direct:	DPT 1.011	1 bit	C R T
Status Height	Output X – Direct:	DPT 5.001	1 byte	C R T
Status Input value between thresholds	Logic/threshold x – Threshold:	DPT 1.002	1 bit	C R T
Status Lower end position	Output X – Direct:	DPT 1.011	1 bit	C R T
Status Manual operation	Central – Manual operation:	DPT 1.011	1 bit	C R T
Status Move	Output X – Direct:	DPT 1.011	1 bit	C R T
Status open	Output X – Direct:	DPT 1.019	1 bit	C R T
Status Overheating protection active	Output X – Automatic:	DPT 1.011	1 bit	C R T
Status Result [Logic]	Logic/threshold x – Logic:	DPT 1.002	1 bit	C R T
Status Result [threshold]	Logic/threshold x – Threshold:	DPT 1.002	1 bit	C R T
Status Safety active	Output X – Safety:	DPT 1.011	1 bit	C R T I
Status Safety active	Output X – Safety:	DPT 1.011	1 bit	C R T I
Status Slat	Output X – Direct:	DPT 5.001	1 byte	C R T
Status Upper end position	Output X – Direct:	DPT 1.011	1 bit	C R T
Step/stop	Central – Direct:	DPT 1.007	1 bit	C W
Step/stop	Output X – Direct:	DPT 1.007	1 bit	C W
Step/stop	Output X – Direct:	DPT 1.007	1 bit	C W
Stop	Output X – Direct:	DPT 1.007	1 bit	C W
Sun	Central – Automatic:	DPT 1.002	1 bit	C W T U
Sun	Output X – Automatic:	DPT 1.002	1 bit	C W T U
Sun: Move slat	Central – Automatic:	DPT 5.001	1 byte	C W T U
Sun: Move slat	Output X – Automatic:	DPT 5.001	1 byte	C W T U
Sun: Move to height	Central – Automatic:	DPT 5.001	1 byte	C W T U
Sun: Move to height	Output X – Automatic:	DPT 5.001	1 byte	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 13.010	4 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 13.013	4 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 14.019	4 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 14.056	4 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 5.001	1 byte	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 5.010	1 byte	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 7.001	2 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 9.001	2 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 9.004	2 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 9.005	2 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 9.021	2 bytes	C W T U
Threshold input	Logic/threshold x – Threshold:	DPT 9.024	2 bytes	C W T U
Trigger calibration movement	Output X – Direct:	DPT 1.017	1 bit	C W
Trigger reference movement up/down	Output X – Direct:	DPT 1.008	1 bit	C W
Up/down	Central – Direct:	DPT 1.008	1 bit	C W
Up/down	Output X – Direct:	DPT 1.008	1 bit	C W
Up/working position	Central – Direct:	DPT 1.008	1 bit	C W
Up/working position	Output X – Direct:	DPT 1.008	1 bit	C W

## 8.2 Group Objects Central – General

Function	Group Object name	Data point type	Length	Flags
<b>In operation</b>	<b>Central – General:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C R T</b>
<p>This Group Object cyclically sends an In operation telegram on the bus (ABB i-bus® KNX). The sending cycle is set in the parameter <i>Sending cycle</i>. The telegram value depends on the setting in the parameter <i>Enable Group Object "In operation"</i>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>1 = Device in operation</li> <li>0 = Device in operation</li> </ul>				
<p><b>Note</b> Readiness can be monitored by another KNX device using this Group Object. If a telegram is not received, the sending device could be faulty or the bus cable to the transmitting device could be interrupted.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Device settings</i> \ Parameter <i>Enable Group Object "In operation"</i> \ Option <i>Yes, send value 0 cyclically / Yes, send value 1 cyclically</i></li> </ul>				
<b>Request status values</b>	<b>Central – General:</b>	<b>DPT 1.017</b>	<b>1 bit</b>	<b>C W</b>
<p>If a telegram is received on this Group Object, the values of the Status Group Objects are sent on the bus (ABB i-bus® KNX).</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>1 = Send status values</li> <li>0 = Send status values</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Device settings</i> \ Parameter <i>Enable Group Object "Request status values"</i> \ Option <i>Yes</i></li> </ul>				
<b>Sector control</b>	<b>Central – General:</b>	<b>nonDPT</b>	<b>6 bytes</b>	<b>C W</b>
<p>This Group Object is used to receive a sector call via the bus (ABB i-bus® KNX). The sector telegram contains sector information, the address of the called sector, a command, and command-dependent optional parameters.</p>				
<p><b>Note</b> With the functions <i>Safety</i> or <i>Automatic sun protection</i>, a telegram does not necessarily result in a reaction.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> <ul style="list-style-type: none"> <li>Parameter <i>Output X application</i> \ Option <i>Blind / Shutter</i></li> <li>Parameter <i>Enable function: Sector control</i> \ Option <i>Yes</i></li> </ul> </li> </ul>				

## 8.3 Group Objects Central – Direct

Function	Group Object name	Data point type	Length	Flags
<b>KNX scenes 1 ... 64</b>	<b>Central – Direct:</b>	<b>DPT 18.001</b>	<b>1 byte</b>	<b>C W</b>
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central scene commands:</p> <ul style="list-style-type: none"> <li><i>Scene assignment x KNX scene</i></li> </ul> <p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), a central scene telegram. More information: → <a href="#">Function Scenes, Page 25</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 ... 63 = Recall scene x (x = 1 ... 64)</li> <li>128 ... 191 = Save scene x (x = 1 ... 64)</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Device settings</i> \ Parameter <i>Enable Group Object "KNX scene 1... 64" [Central]</i> \ Option <i>Yes</i></li> </ul>				
<b>Up/down</b>	<b>Central – Direct:</b>	<b>DPT 1.008</b>	<b>1 bit</b>	<b>C W</b>
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central direct commands:</p> <ul style="list-style-type: none"> <li><i>Output reacts to central direct commands</i></li> </ul> <p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the central direct command for moving the blind/shutter. If no further move commands (e.g. stop) are received, the blind/shutter will move to the following positions:</p> <ul style="list-style-type: none"> <li>Upper or lower end position (if the function <i>Working position</i> is used: second lower end position → <a href="#">Function Working position (shading position), Page 28</a>)</li> <li>Upper or lower limit if a travel range limit is active</li> </ul> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>1 = Down</li> <li>0 = Up</li> </ul>				
<p><b>Note</b> With the functions <i>Safety</i> or <i>Automatic sun protection</i>, a telegram does not necessarily result in a reaction.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Device settings</i> \ Parameter <i>Enable central Group Objects for direct commands</i> \ Option <i>Yes</i></li> </ul>				

Function	Group Object name	Data point type	Length	Flags
<b>Up/working position</b>	<b>Central – Direct:</b>	<b>DPT 1.008</b>	<b>1 bit</b>	<b>C W</b>
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central direct commands:</p> <ul style="list-style-type: none"> <li><a href="#">Output reacts to central direct commands</a></li> </ul> <p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the central direct command for moving the blind/shutter. If no further move commands (e.g. stop) are received, the blind/shutter will move to the following positions:</p> <ul style="list-style-type: none"> <li>Upper or first lower end position</li> <li>Upper or lower limit if a travel range limit is active</li> </ul> <p><b>Note</b> If the lower limit of the travel range limit is below the first lower end position, the blind/shutter moves to the first lower end position.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>1 = Down</li> <li>0 = Up</li> </ul> <p><b>Note</b> With the functions <i>Safety</i> or <i>Automatic sun protection</i>, a telegram does not necessarily result in a reaction.</p> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <a href="#">Device settings</a> \ Parameter <a href="#">Enable central Group Objects for direct commands</a> \ Option <i>Yes</i></li> </ul>				
<b>Step/stop</b>	<b>Central – Direct:</b>	<b>DPT 1.007</b>	<b>1 bit</b>	<b>C W</b>
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central direct commands:</p> <ul style="list-style-type: none"> <li><a href="#">Output reacts to central direct commands</a></li> </ul> <p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the central direct command to stop the movement or to change the slat position.</p> <p><b>Note</b> If the function <i>Working position</i> is used, this Group Object can only close the slats as far as the position "Working position", → <a href="#">Function Working position (shading position), Page 28</a>. The blind can be moved beyond the first lower end position using unlimited steps.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>1 = Stop / close slats</li> <li>0 = Stop / open slats</li> </ul> <p><b>Note</b> With the functions <i>Safety</i> or <i>Automatic sun protection</i>, a telegram does not necessarily result in a reaction.</p> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <a href="#">Device settings</a> \ Parameter <a href="#">Enable central Group Objects for direct commands</a> \ Option <i>Yes</i></li> </ul>				
<b>Move to height</b>	<b>Central – Direct:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W</b>
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central direct commands:</p> <ul style="list-style-type: none"> <li><a href="#">Output reacts to central direct commands</a></li> </ul> <p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the central direct command for moving the blind/shutter to a defined position. More information: → <a href="#">Specifics when moving to 100 % position via 1-byte Group Objects, Page 167</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 % = Upper end position</li> <li>1 ... 99 % = Intermediate position</li> <li>100 % = Lower end position</li> </ul> <p><b>Note</b> If the function <i>Working position</i> is used, this Group Object can only move the blind as far as the first lower end position, → <a href="#">Function Working position (shading position), Page 28</a>. In this case, the telegram value 100 % corresponds to the first lower end position.</p> <p><b>Note</b> With the functions <i>Safety</i> or <i>Automatic sun protection</i>, a telegram does not necessarily result in a reaction.</p> <p><b>Note</b> The slat position after moving the blind/shutter corresponds to the slat position before moving the blind/shutter. If a telegram is received on the following Group Objects during the movement, after the blind/shutter is moved the slats are set according to the value received:</p> <ul style="list-style-type: none"> <li><a href="#">Move slat</a> (Central)</li> <li><a href="#">Move slat</a></li> </ul> <p><b>Note</b> If the slat position was set manually via one of the following Group Objects, this setting will be discarded after the blind/shutter is moved:</p> <ul style="list-style-type: none"> <li><a href="#">Step/stop</a> (Central)</li> <li><a href="#">Step/stop</a></li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <a href="#">Device settings</a> \ Parameter <a href="#">Enable central Group Objects for direct commands</a> \ Option <i>Yes</i></li> </ul>				

Function	Group Object name	Data point type	Length	Flags
Move slat	Central – Direct:	DPT 5.001	1 byte	C W

**Note**

All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central direct commands:

- [Output reacts to central direct commands](#)

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the central direct command for adjusting the slats to a defined position. The slats are positioned after the movement is ended.

**Note**

If the function *Working position* is used, this Group Object can only close the slats as far as the position "Working position", → [Function Working position \(shading position\)](#), Page 28.

Telegram value:

- 0 % = Fully open
- 1 ... 99 % = Intermediate position/working position
- 100 % = Fully closed

**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for direct commands](#) \ Option Yes

## 8.4 Group Objects Central – Automatic

Function	Group Object name	Data point type	Length	Flags
Activate automatic sun protection	Central – Automatic	DPT 1.003	1 bit	C W T U

**Note**

All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to activate or deactivate the function *Automatic sun protection* via the bus (ABB i-bus® KNX).

More information: → [Function Automatic sun protection](#), Page 22.

Telegram value:

- 1 = Activate automatic sun protection, deactivate direct operation
- 0 = Deactivate automatic sun protection, activate direct operation

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Sun	Central – Automatic:	DPT 1.002	1 bit	C W T U
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**Note**

All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the sunshine information (Sun = 1 or Sun = 0) for activating the function *Automatic sun protection*.

More information: → [Function Anti-glare protection](#), Page 23.

Telegram value:

- 1 = Sunshine (Sun = 1)
- 0 = No sunshine (Sun = 0)

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Sun: Move to height	Central – Automatic:	DPT 5.001	1 byte	C W T U
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**Note**

All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct activation of the blind/shutter position.

More information: → [Function Anti-glare protection](#), Page 23.

Telegram value:

- 0 % = Upper end position
- 1 % ... 99 % = Intermediate position
- 100 % = Lower end position

**Note**

If the function *Working position* is used, this Group Object can only move the blind as far as the first lower end position, → [Function Working position \(shading position\)](#), Page 28. In this case, the telegram value 100 % corresponds to the first lower end position.

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Function	Group Object name	Data point type	Length	Flags
Sun: Move slat	Central – Automatic:	DPT 5.001	1 byte	C W T U

**Note**  
 All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct activation of the slat position.  
 More information: → [Function Anti-glare protection, Page 23](#).

**Note**  
 If the function *Working position* is used, this Group Object can only close the slats as far as the position "Working position", → [Function Working position \(shading position\), Page 28](#).

Telegram value:

- 0 % = Open slats
- 1 % ... 99 % = Intermediate position/working position
- 100 % = Close slats

**Note**  
 The slats are positioned only after the blind/shutter reaches the target position.

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Block automatic sun protection	Central – Automatic:	DPT 1.002	1 bit	C W T U
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**Note**  
 All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to block or unblock, via the bus (ABB i-bus® KNX), the function *Automatic sun protection*.  
 More information: → [Function Automatic sun protection, Page 22](#).

Telegram value:

- 1 = Block function *Automatic sun protection*
- 0 = Unblock function *Automatic sun protection*

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Block direct commands	Central – Automatic:	DPT 1.002	1 bit	C W T U
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**Note**  
 All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to block or unblock direct commands via the bus (ABB i-bus® KNX).  
 More information: → [Direct operation, Page 171](#).

**Note**  
 Blocking or unblocking via this Group Object is only possible if the function *Automatic sun protection* is active.

Telegram value:

- 1 = Block direct commands
- 0 = Unblock direct commands

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Room occupied	Central – Automatic:	DPT 1.018	1 bit	C W T U
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**Note**  
 All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:

- [Reacts to central Group Objects](#)

This Group Object is used to receive the occupancy status (person in the room) via the bus (ABB i-bus® KNX).  
 More information: → [Function Heating/Cooling, Page 23](#).

Telegram value:

- 1 = Room occupied
- 0 = Room vacant

Prerequisites for visibility

- Parameter window [Device settings](#) \ Parameter [Enable central Group Objects for automatic sun protection](#) \ Option Yes

Function	Group Object name	Data point type	Length	Flags
Room temperature received	Central – Automatic:	DPT 9.001	2 bytes	C W T U
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> </ul> <p>This Group Object is used to receive the room temperature via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• -273 ... 670760 °C</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Device settings</a> \ Parameter <a href="#">Enable central Group Objects for automatic sun protection</a> \ Option <i>Yes</i></li> </ul>				
Heating	Central – Automatic:	DPT 1.003	1 bit	C W T U
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> </ul> <p>This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Heating</li> <li>• 0 = No heating</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Device settings</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Enable central Group Objects for automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating" and "Cooling"</i></li> </ul> </li> </ul>				
Cooling	Central – Automatic:	DPT 1.003	1 bit	C W T U
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> </ul> <p>This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Cooling</li> <li>• 0 = No cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Device settings</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Enable central Group Objects for automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating" and "Cooling"</i></li> </ul> </li> </ul>				
Heating/cooling	Central – Automatic:	DPT 1.100	1 bit	C W T U
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> </ul> <p>This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Heating</li> <li>• 0 = Cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Device settings</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Enable central Group Objects for automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating/cooling" and "Block heating/cooling"</i></li> </ul> </li> </ul>				
Block heating/cooling	Central – Automatic:	DPT 1.002	1 bit	C W T U
<p><b>Note</b> All assigned outputs can be activated together with the central Group Objects. For each output, the following parameter can be used to specify whether the output reacts to central automatic commands:</p> <ul style="list-style-type: none"> <li>• <a href="#">Reacts to central Group Objects</a></li> </ul> <p>This Group Object is used to block or unblock, via the bus (ABB i-bus® KNX), the function Heating/cooling. More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Block heating/cooling</li> <li>• 0 = Unblock heating/cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Device settings</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Enable central Group Objects for automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating/cooling" and "Block heating/cooling"</i></li> </ul> </li> </ul>				

## 8.5 Group Objects Central – Safety

### Note

An individual description can be added to the names of the Group Objects, → parameter "*Safety x*" *description*.

Function	Group Object name	Data point type	Length	Flags
<b>Safety x</b>	<b>Central – Safety:</b>	<b>DPT 1.005</b>	<b>1 bit</b>	<b>C W T U</b>

These Group Objects are used to receive central safety alarms via the bus (ABB i-bus® KNX).

More information: → [Central safety, Page 21](#).

Telegram value:

- 1 = Alarm (safety active)
- 0 = No alarm (safety inactive)

### Note

Prerequisites for automatically updating Group Objects:

- Parameter [Poll Group Objects after restart](#) \ Option Yes
- The read flag is set for the sending Group Object

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Enable function: Safety](#) \ Option Yes
- Parameter window [Central safety](#) \ Parameter [Enable "Safety x"](#) \ Option Yes

## 8.6 Group Objects Manual operation

Function	Group Object name	Data point type	Length	Flags
<b>Status Manual operation</b>	<b>Central – Manual operation:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>

This Group Object sends the status of the *Manual operation* mode on the bus (ABB i-bus® KNX).

Telegram value:

- 1 = Manual operation active
- 0 = Manual operation inactive

Prerequisites for visibility

- Parameter window [Manual operation](#) \ Parameter [Enable manual operation](#) \ Option Yes

<b>Enable/Block Manual operation</b>	<b>Central – Manual operation:</b>	<b>DPT 1.003</b>	<b>1 bit</b>	<b>C W</b>
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This Group Object is used to enable or block *Manual operation* mode.

If *Manual operation* mode is active, it will be deactivated and blocked with telegram value 0. If *Manual operation* mode was deactivated and blocked via this Group Object, the only way to reactivate it is via this Group Object.

Telegram value:

- 1 = Enable Manual operation
- 0 = Deactivate and block Manual operation

Prerequisites for visibility

- Parameter window [Manual operation](#) \ Parameter [Enable manual operation](#) \ Option Yes

<b>Deactivate Manual operation</b>	<b>Central – Manual operation:</b>	<b>DPT 1.017</b>	<b>1 bit</b>	<b>C W</b>
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This Group Object receives, via the bus (ABB i-bus® KNX), the command to deactivate Manual operation.

Telegram value:

- 1 = Deactivate Manual operation
- 0 = Deactivate Manual operation

Prerequisites for visibility

- Parameter window [Manual operation](#) \ Parameter [Enable manual operation](#) \ Option Yes

## 8.7 Group Objects Logic/threshold

Function	Group Object name	Data point type	Length	Flags
<b>Connection A</b>	<b>Logic/threshold x – Logic:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), an input value for the function <i>Logic</i> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Logically true</li> <li>• 0 = Logically false</li> </ul>				
<p><b>Note</b></p> <p>Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>• Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>• The read flag is set for the sending Group Object</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> \ Parameter <i>Logic function</i> \ Option AND / OR / Exclusive OR / GATE / 1 bit Inverter</li> </ul>				
<b>Connection B</b>	<b>Logic/threshold x – Logic:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), an input value for the function <i>Logic</i> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Logically true</li> <li>• 0 = Logically false</li> </ul>				
<p><b>Note</b></p> <p>Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>• Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>• The read flag is set for the sending Group Object</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> \ Parameter <i>Logic function</i> \ Option AND / OR / Exclusive OR / GATE</li> </ul>				
<b>Status Result [Logic]</b>	<b>Logic/threshold x – Logic:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C R T</b>
This Group Object sends the result of the function <i>Logic</i> on the bus (ABB i-bus® KNX).				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Logically true</li> <li>• 0 = Logically false</li> </ul>				
<p><b>Note</b></p> <p>The result can be inverted, → parameter <i>Invert result</i>.</p>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>– Parameter <i>Logic function</i> \ Option AND / OR / Exclusive OR / GATE / 1 bit Inverter</li> <li>– Parameter <i>Enable Group Object "Status Result"</i> \ Option Yes</li> </ul> </li> </ul>				
<b>Status Input value between thresholds</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C R T</b>
This Group Object sends the value 1 on the bus (ABB i-bus® KNX) if the input value for the function <i>Threshold</i> is between the thresholds.				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Input value is between the thresholds (logically true)</li> <li>• 0 = Input value is not between the thresholds (logically false)</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>• Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>– Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>– Parameter <i>Monitor range between thresholds</i> \ Option Yes</li> <li>– Parameter <i>Enable Group Objects "Status Result", "Status Input value between thresholds"</i> \ Option Yes</li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
Threshold input	Logic/threshold x – Threshold:	DPT 13.010	4 bytes	C W T U

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function *Threshold*.  
 The data point type for the Group Object depends on the option selected in the parameter *Data point type of Group Object "Threshold input"*.

Telegram value:  
 • 0 ... 2147483647 Wh

**Note**  
 Prerequisites for automatically updating the Group Object:

- Parameter *Read input Group Objects after KNX voltage recovery and download* \ Option Yes
- The read flag is set for the Group Object

Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Enable function: Logic/threshold* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Enable groups: Logic/threshold x-y* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x*
  - Parameter *Logic function* \ Option *Threshold*
  - Parameter *Data point type of Group Object "Threshold input"* \ Option *Wh (DPT 13.010)*

Function	Group Object name	Data point type	Length	Flags
Threshold input	Logic/threshold x – Threshold:	DPT 13.013	4 bytes	C W T U

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function *Threshold*.  
 The data point type for the Group Object depends on the option selected in the parameter *Data point type of Group Object "Threshold input"*.

Telegram value:  
 • 0 ... 2147483647 kWh

**Note**  
 Prerequisites for automatically updating the Group Object:

- Parameter *Read input Group Objects after KNX voltage recovery and download* \ Option Yes
- The read flag is set for the Group Object

Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Enable function: Logic/threshold* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Enable groups: Logic/threshold x-y* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x*
  - Parameter *Logic function* \ Option *Threshold*
  - Parameter *Data point type of Group Object "Threshold input"* \ Option *kWh (DPT 13.013)*

Function	Group Object name	Data point type	Length	Flags
Threshold input	Logic/threshold x – Threshold:	DPT 14.019	4 bytes	C W T U

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function *Threshold*.  
 The data point type for the Group Object depends on the option selected in the parameter *Data point type of Group Object "Threshold input"*.

Telegram value:  
 • 0 ... 24 A

**Note**  
 Prerequisites for automatically updating the Group Object:

- Parameter *Read input Group Objects after KNX voltage recovery and download* \ Option Yes
- The read flag is set for the Group Object

Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Enable function: Logic/threshold* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Enable groups: Logic/threshold x-y* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x*
  - Parameter *Logic function* \ Option *Threshold*
  - Parameter *Data point type of Group Object "Threshold input"* \ Option *A (DPT 14.019)*

Function	Group Object name	Data point type	Length	Flags
Threshold input	Logic/threshold x – Threshold:	DPT 14.056	4 bytes	C W T U

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function *Threshold*.  
 The data point type for the Group Object depends on the option selected in the parameter *Data point type of Group Object "Threshold input"*.

Telegram value:  
 • 0 ... 10000 W

**Note**  
 Prerequisites for automatically updating the Group Object:

- Parameter *Read input Group Objects after KNX voltage recovery and download* \ Option Yes
- The read flag is set for the Group Object

Prerequisites for visibility

- Parameter window *Configuration* \ Parameter *Enable function: Logic/threshold* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/threshold configuration* \ Parameter *Enable groups: Logic/threshold x-y* \ Option Yes
- Parameter window *Logic/Threshold* \ Parameter window *Logic/Threshold x*
  - Parameter *Logic function* \ Option *Threshold*
  - Parameter *Data point type of Group Object "Threshold input"* \ Option *W (DPT 14.056)*

Function	Group Object name	Data point type	Length	Flags
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:                      0 ... 100 %</p>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Percent (DPT 5.001)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.010</b>	<b>1 byte</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:                      0 ... 255</p>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Meter pulses (DPT 5.010)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 7.001</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:                      0 ... 65535</p>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Meter pulses (DPT 7.001)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.001</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:                      -273 ... 670760 °C</p>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Temperature (DPT 9.001)</i></li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.004</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 ... 670760 lux</li> </ul>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Lux (DPT 9.004)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.005</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 ... 100 m/s</li> </ul>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>Wind (DPT 9.005)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.021</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 ... 240000 mA</li> </ul>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>mA (DPT 9.021)</i></li> </ul> </li> </ul>				
<b>Threshold input</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.024</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive, via the bus (ABB i-bus® KNX), the input value for the function <i>Threshold</i>.                      The data point type for the Group Object depends on the option selected in the parameter <i>Data point type of Group Object "Threshold input"</i>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>0 ... 10 kW</li> </ul>				
<p><b>Note</b>                      Prerequisites for automatically updating the Group Object:</p> <ul style="list-style-type: none"> <li>Parameter <i>Read input Group Objects after KNX voltage recovery and download</i> \ Option Yes</li> <li>The read flag is set for the Group Object</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>Parameter window <i>Configuration</i> \ Parameter <i>Enable function: Logic/threshold</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/threshold configuration</i> \ Parameter <i>Enable groups: Logic/threshold x-y</i> \ Option Yes</li> <li>Parameter window <i>Logic/Threshold</i> \ Parameter window <i>Logic/Threshold x</i> <ul style="list-style-type: none"> <li>Parameter <i>Logic function</i> \ Option <i>Threshold</i></li> <li>Parameter <i>Data point type of Group Object "Threshold input"</i> \ Option <i>kW (DPT 9.024)</i></li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 13.010</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 2147483647 Wh				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Wh (DPT 13.010)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 13.013</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 2147483647 kWh				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">kWh (DPT 13.013)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 14.019</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 24 A				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">A (DPT 14.019)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 14.056</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 10000 W				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">W (DPT 14.056)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 100 %				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Percent (DPT 5.001)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.010</b>	<b>1 byte</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 255				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Meter pulses (DPT 5.010)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				

Function	Group Object name	Data point type	Length	Flags
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 7.001</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 65535				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Meter pulses (DPT 7.001)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.001</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• -273 ... 670760 °C				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Temperature (DPT 9.001)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.004</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 670760 lux				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Lux (DPT 9.004)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.005</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 100 m/s				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Wind (DPT 9.005)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.021</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 240000 mA				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">mA (DPT 9.021)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change upper threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.024</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the upper threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 10 kW				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">kW (DPT 9.024)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				

Function	Group Object name	Data point type	Length	Flags
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 13.010</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 2147483647 Wh</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Wh (DPT 13.010)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 13.013</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 2147483647 kWh</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">kWh (DPT 13.013)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 14.019</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 24 A</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">A (DPT 14.019)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 14.056</b>	<b>4 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 10000 W</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">W (DPT 14.056)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 100 %</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Percent (DPT 5.001)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 5.010</b>	<b>1 byte</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>0 ... 255</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a></li> <li>Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a> <ul style="list-style-type: none"> <li>Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a></li> <li>Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Meter pulses (DPT 5.010)</a></li> <li>Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a></li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 7.001</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 65535				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Meter pulses (DPT 7.001)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.001</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• -273 ... 670760 °C				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Temperature (DPT 9.001)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.004</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 670760 lux				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Lux (DPT 9.004)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.005</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 100 m/s				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">Wind (DPT 9.005)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.021</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 240000 mA				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">mA (DPT 9.021)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				
<b>Change lower threshold</b>	<b>Logic/threshold x – Threshold:</b>	<b>DPT 9.024</b>	<b>2 bytes</b>	<b>C W</b>
This Group Object is used to receive, via the bus (ABB i-bus® KNX), a new value for the lower threshold. The data point type for the Group Object depends on the option selected in the parameter <a href="#">Data point type of Group Object "Threshold input"</a> .				
Telegram value:				
• 0 ... 10 kW				
Prerequisites for visibility				
• Parameter window <a href="#">Configuration</a> \ Parameter <a href="#">Enable function: Logic/threshold</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/threshold configuration</a> \ Parameter <a href="#">Enable groups: Logic/threshold x-y</a> \ Option <a href="#">Yes</a>				
• Parameter window <a href="#">Logic/Threshold</a> \ Parameter window <a href="#">Logic/Threshold x</a>				
– Parameter <a href="#">Logic function</a> \ Option <a href="#">Threshold</a>				
– Parameter <a href="#">Data point type of Group Object "Threshold input"</a> \ Option <a href="#">kW (DPT 9.024)</a>				
– Parameter <a href="#">Change thresholds via Group Objects</a> \ Option <a href="#">Yes</a>				

Function	Group Object name	Data point type	Length	Flags
Status Result [threshold]	Logic/threshold x – Threshold:	DPT 1.002	1 bit	C R T

This Group Object sends the result of the function *Threshold* on the bus (ABB i-bus® KNX).

Telegram value:

- Dependent on the settings in the following parameters:
  - [Result if upper threshold is exceeded](#)
  - [Result if lower threshold is dropped below](#)

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Enable function: Logic/threshold](#) \ Option *Yes*
- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/threshold configuration](#) \ Parameter [Enable groups: Logic/threshold x-y](#) \ Option *Yes*
- Parameter window [Logic/Threshold](#) \ Parameter window [Logic/Threshold x](#)
  - Parameter [Logic function](#) \ Option *Threshold*
  - Parameter [Enable Group Objects "Status Result", "Status Input value between thresholds"](#) \ Option *Yes*

## 8.8 Group Objects Output X – Direct

### Note

An individual description can be added to the names of the Group Objects, → parameter [Output X description](#).


Function	Group Object name	Data point type	Length	Flags
Up/down	Output X – Direct:	DPT 1.008	1 bit	C W

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct command for moving the blind/shutter. If no further move commands (e.g. stop) are received, the blind/shutter will move to the following positions:

- Upper or lower end position (if the function *Working position* is used: second lower end position → [Function Working position \(shading position\), Page 28](#))
- Upper or lower limit if a travel range limit is active

Telegram value:

- 1 = Down
- 0 = Up

 **Note**  
With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.


Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*

Function	Group Object name	Data point type	Length	Flags
Up/working position	Output X – Direct:	DPT 1.008	1 bit	C W


This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct command for moving the blind/shutter. If no further move commands (e.g. stop) are received, the blind/shutter will move to the following positions:

- Upper or first lower end position
- Upper or lower limit if a travel range limit is active

 **Note**  
If the lower limit of the travel range limit is below the first lower end position, the blind/shutter moves to the first lower end position.

Telegram value:

- 1 = Down
- 0 = Up


 **Note**  
With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Slat moves down in working position](#) \ Option *Yes*


Function	Group Object name	Data point type	Length	Flags
Step/stop	Output X – Direct:	DPT 1.007	1 bit	C W

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the command to stop the movement or to change the slat position.

 **Note**  
If the function *Working position* is used, this Group Object can only close the slats as far as the position "Working position", → [Function Working position \(shading position\), Page 28](#). The blind can be moved beyond the first lower end position using unlimited steps.

Telegram value:

- 1 = Stop / close slats
- 0 = Stop / open slats

 **Note**  
With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind*

Function	Group Object name	Data point type	Length	Flags
<b>Stop</b>	<b>Output X – Direct:</b>	<b>DPT 1.007</b>	<b>1 bit</b>	<b>C W</b>

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the command to stop the movement.

Telegram value:

- 1 = Stop
- 0 = Stop



**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Shutter](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#) \ Parameter [Allow step commands](#) \ Option [No](#)

Step/stop	Output X – Direct:	DPT 1.007	1 bit	C W
<b>Step/stop</b>	<b>Output X – Direct:</b>	<b>DPT 1.007</b>	<b>1 bit</b>	<b>C W</b>

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the command to stop the movement or to move the blind/shutter using step commands.

Telegram value:

- 1 = Stop/step
- 0 = Stop/step



**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Shutter](#)
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#)
  - Parameter [Type](#) \ Option [Shutter](#)
  - Parameter [Allow step commands](#) \ Option [Yes](#)

Move to height	Output X – Direct:	DPT 5.001	1 byte	C W
<b>Move to height</b>	<b>Output X – Direct:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W</b>

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct command for moving the blind/shutter to a defined position.

More information: → [Specifics when moving to 100 % position via 1-byte Group Objects, Page 167.](#)

Telegram value:

- 0 % = Upper end position
- 1 ... 99 % = Intermediate position
- 100 % = Lower end position



**Note**

If the function *Working position* is used, this Group Object can only move the blind as far as the first lower end position, → [Function Working position \(shading position\), Page 28.](#) In this case, the telegram value 100 % corresponds to the first lower end position.



**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.



**Note**

The slat position after moving the blind/shutter corresponds to the slat position before moving the blind/shutter. If a telegram is received on the following Group Objects during the movement, after the blind/shutter is moved the slats are set according to the value received:

- [Move slat](#) (Central)
- [Move slat](#)



**Note**

If the slat position was set manually via one of the following Group Objects, this setting will be discarded after the blind/shutter is moved:

- [Step/stop](#) (Central)
- [Step/stop](#)

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind / Shutter](#)
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option [Individual](#)
  - Parameter [Enable Group Objects "Move to height", "Move slat"](#) \ Option [Yes](#)

Move slat	Output X – Direct:	DPT 5.001	1 byte	C W
<b>Move slat</b>	<b>Output X – Direct:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C W</b>

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct command for adjusting the slats to a defined position.

The slats are positioned after the movement is ended.



**Note**

If the function *Working position* is used, this Group Object can only close the slats as far as the position "Working position", → [Function Working position \(shading position\), Page 28.](#)

Telegram value:

- 0 % = Fully open
- 1 ... 99 % = Intermediate position/working position
- 100 % = Fully closed



**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option [Blind](#)
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option [Individual](#)
- Parameter [Enable Group Objects "Move to height", "Move slat"](#) \ Option [Yes](#)

Function	Group Object name	Data point type	Length	Flags
<b>Trigger reference movement up/down</b>	<b>Output X – Direct:</b>	<b>DPT 1.008</b>	<b>1 bit</b>	<b>C W</b>

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the command to perform a reference movement.  
 More information: → [reference movement, Page 163](#).

Telegram value:

- 1 = Reference movement to lower end position
- 0 = Reference movement to upper end position

**Note**

The reference movement cannot be performed while a safety is active.  
 The following actions will interrupt an active reference movement:

- Activation of a safety
- Receipt of a direct command
- Activation of manual operation

A reference movement can be performed even if direct operation is blocked. Travel range limits are ignored during the reference movement.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Automatic travel detection](#) \ Option *No*
  - Parameter [Enable Group Object "Trigger reference movement up/down"](#) \ Option *Yes*

<b>Trigger calibration movement</b>	<b>Output X – Direct:</b>	<b>DPT 1.017</b>	<b>1 bit</b>	<b>C W</b>
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This Group Object is used to receive, via the bus (ABB i-bus® KNX), the command to perform a calibration movement.  
 More information: → [Calibration movement, Page 164](#).

Telegram value:

- 1 = Trigger calibration movement
- 0 = Trigger calibration movement

**Note**

The calibration movement cannot be performed while a safety is active.  
 The following actions will interrupt an active calibration movement:

- Activation of a safety
- Receipt of a direct command
- Activation of manual operation

A calibration movement can be performed even if direct operation is blocked. Travel range limits are ignored during the calibration movement.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Drive / blind/shutter](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Automatic travel detection](#) \ Option *Yes*
  - Parameter [Enable Group Object "Trigger calibration movement"](#) \ Option *Yes*

<b>Move to position x</b>	<b>Output X – Direct:</b>	<b>DPT 1.017</b>	<b>1 bit</b>	<b>C W</b>
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These Group Objects are used to receive, via the bus (ABB i-bus® KNX), the direct command for moving the blind/shutter and slats to a predefined position.  
 More information: → [Predefined positions, Page 171](#).

Telegram value:

- 1 = Move to position x
- 0 = Move to position x

**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Move to position 1 ... 4 via 1-bit Group Objects](#) \ Option *1 Group Object for 1 position*

<b>Move to position x/y</b>	<b>Output X – Direct:</b>	<b>DPT 1.022</b>	<b>1 bit</b>	<b>C W</b>
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These Group Objects are used to receive, via the bus (ABB i-bus® KNX), the direct command for moving the blind/shutter and slats to a predefined position.  
 More information: → [Predefined positions, Page 171](#).

Telegram value:

- 1 = Move to position y
- 0 = Move to position x

**Note**

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Move to position 1 ... 4 via 1-bit Group Objects](#) \ Option *1 Group Object for 2 positions*

Function	Group Object name	Data point type	Length	Flags
<b>Open/close</b>	<b>Output X – Direct:</b>	<b>DPT 1.019</b>	<b>1 bit</b>	<b>C W</b>
<p>This Group Object is used to receive the direct command for opening or closing the ventilation flap via the bus (ABB i-bus® KNX).</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Open</li> <li>• 0 = Close</li> </ul>				
<p><b>Note</b></p> <p>With the function <i>Safety</i>, a telegram does not necessarily result in a reaction.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Output X application</i> \ Option <i>Ventilation flap</i></li> </ul>				
<b>Status Upper end position</b>	<b>Output X – Direct:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>
<p>This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the blind/shutter is at the upper end position → <a href="#">Send behavior of the status Group Objects, Page 174</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Blind/shutter in upper end position</li> <li>• 0 = Blind/shutter not in upper end position</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Output X application</i> \ Option <i>Blind / Shutter</i></li> <li>• Parameter window <i>Output X</i> \ Parameter window <i>Basic settings [blind, shutter]</i> <ul style="list-style-type: none"> <li>– Parameter <i>Parameter setting</i> \ Option <i>Individual</i></li> <li>– Parameter <i>Enable Group Object "Status Upper end position", "Status Lower end position"</i> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status Lower end position</b>	<b>Output X – Direct:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>
<p>This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the blind/shutter is at the lower end position → <a href="#">Send behavior of the status Group Objects, Page 174</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Blind/shutter in lower end position</li> <li>• 0 = Blind/shutter not in lower end position</li> </ul>				
<p><b>Note</b></p> <p>If the function <i>Working position</i> is used, the status is not clearly defined. The status may correspond to the first lower end position or the second lower end position, → <a href="#">Function Working position (shading position), Page 28</a>.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Output X application</i> \ Option <i>Blind / Shutter</i></li> <li>• Parameter window <i>Output X</i> \ Parameter window <i>Basic settings [blind, shutter]</i> <ul style="list-style-type: none"> <li>– Parameter <i>Parameter setting</i> \ Option <i>Individual</i></li> <li>– Parameter <i>Enable Group Object "Status Upper end position", "Status Lower end position"</i> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status Height</b>	<b>Output X – Direct:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C R T</b>
<p>This Group Object sends the height of the blind/shutter on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 0 % = Upper end position</li> <li>• 1 % ... 99 % = Intermediate position</li> <li>• 100 % = Lower end position</li> </ul>				
<p><b>Note</b></p> <p>If the function <i>Working position</i> is used, the status Height 100 % is not defined. 100 % may correspond to the first lower end position or the second lower end position, → <a href="#">Function Working position (shading position), Page 28</a>.</p>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Output X application</i> \ Option <i>Blind / Shutter</i></li> <li>• Parameter window <i>Output X</i> \ Parameter window <i>Basic settings [blind, shutter]</i> <ul style="list-style-type: none"> <li>– Parameter <i>Parameter setting</i> \ Option <i>Individual</i></li> <li>– Parameter <i>Enable Group Object "Status Height", "Status Slat"</i> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status Slat</b>	<b>Output X – Direct:</b>	<b>DPT 5.001</b>	<b>1 byte</b>	<b>C R T</b>
<p>This Group Object sends the position of the slats on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 0 % = Slats open</li> <li>• 1 % ... 99 % = Intermediate position/working position</li> <li>• 100 % = Slats closed</li> </ul>				
<p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <i>Configuration</i> \ Parameter <i>Output X application</i> \ Option <i>Blind</i></li> <li>• Parameter window <i>Output X</i> \ Parameter window <i>Basic settings [blind, shutter]</i> <ul style="list-style-type: none"> <li>– Parameter <i>Parameter setting</i> \ Option <i>Individual</i></li> <li>– Parameter <i>Enable Group Object "Status Height", "Status Slat"</i> \ Option <i>Yes</i></li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
Status Move	Output X – Direct:	DPT 1.011	1 bit	C R T

This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the blind/shutter is in motion → [Send behavior of the status Group Objects, Page 174.](#)

Telegram value:

- 1 = Blind/shutter in motion
- 0 = Blind/shutter not in motion

**Note**  
This Group Object can be used to synchronize animations in visualization applications with the actual blind/shutter motion.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Status Move"](#) \ Option *Yes*

Status open	Output X – Direct:	DPT 1.019	1 bit	C R T
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This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the ventilation flap is open or closed → [Send behavior of the status Group Objects, Page 174.](#)

Telegram value:

- 1 = Ventilation flap open
- 0 = Ventilation flap closed

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Ventilation flap*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[ventilation flap\]](#) \ Parameter [Enable Group Object "Status Open/Closed"](#) \ Option *Yes*

Status Direct commands blocked	Output X – Direct:	DPT 1.011	1 bit	C R T
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This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the blind/shutter can be operated with direct commands → [Send behavior of the status Group Objects, Page 174.](#)

More information: → [Direct operation, Page 171.](#)

Telegram value:

- 1 = Operation with direct commands enabled
- 0 = Operation with direct commands blocked

**Note**  
This Group Object can be used to display on an external control unit that operability via direct commands is not possible.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Status Direct commands blocked"](#) \ Option *Yes*

Status Direct commands blocked	Output X – Direct:	DPT 1.011	1 bit	C R T
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This Group Object sends the information, via the bus (ABB i-bus® KNX), as to whether the ventilation flap can be operated with direct commands → [Send behavior of the status Group Objects, Page 174.](#)

More information: → [Direct operation, Page 171.](#)

Telegram value:

- 1 = Operation with direct commands enabled
- 0 = Operation with direct commands blocked

**Note**  
This Group Object can be used to display on an external control unit that operability via direct commands is not possible.

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Ventilation flap*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[ventilation flap\]](#) \ Parameter [Enable Group Object "Status Direct commands blocked"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
<b>Status combined (4 bytes)</b>	<b>Output X – Direct</b>	<b>241.800</b>	<b>4 bytes</b>	<b>C R T</b>

This Group Object sends detailed information about the device status on the bus (ABB i-bus® KNX).

Telegram value:

Byte 1:

- Blind/shutter position
  - 0 ... 100 %

Byte 2:

- Slat position
  - 0 ... 100 %

Bytes 3 and 4:

- Bit 0: Upper end position reached
  - 1 = Logically true
  - 0 = Logically false
- Bit 1: Lower end position reached
  - 1 = Logically true
  - 0 = Logically false
- Bit 2: Position working position reached
  - 1 = Logically true
  - 0 = Logically false
- Bit 3: Status Blind/shutter
  - 1 = Target position reached
  - 0 = Target position not reached
- Bit 4: Blind/shutter target position cannot be reached
  - 1 = Logically true
  - 0 = Logically false
- Bit 5: Slat target position cannot be reached (e.g. slat range restricted by active working position)
  - 1 = Logically true
  - 0 = Logically false
- Bit 6: At least one central Safety is active
  - 1 = Logically true
  - 0 = Logically false
- Bit 7: Forced operation active
  - 1 = Logically true
  - 0 = Logically false
- Bit 8: At least one local output Safety is active
  - 1 = Logically true
  - 0 = Logically false
- Bit 9: Manual operation active
  - 1 = Logically true
  - 0 = Logically false
- Bits 10 - 13: Not used
  - Telegram value is always 0
- Bit 14: Blind/shutter position valid
  - 1 = Logically true
  - 0 = Logically false
- Bit 15: Slat position valid
  - 1 = Logically true
  - 0 = Logically false

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Status combined \(4 bytes\)"](#) \ Option *Yes*

<b>KNX scenes 1 ... 64</b>	<b>Output X – Direct:</b>	<b>DPT 18.001</b>	<b>1 byte</b>	<b>C W</b>
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This Group Object is used to receive, via the bus (ABB i-bus® KNX), a Scene telegram.

More information: → [Function Scenes, Page 25](#).

Telegram value:

- 0 ... 63 = Recall scene x (x = 1 ... 64)
- 128 ... 191 = Save scene x (x = 1 ... 64)

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Scenes](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Scenes](#)
  - Parameter [Use function Scenes](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "KNX scene 1 ... 64"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
Recall scene assignment x	Output X – Direct:	DPT 1.017	1 bit	C W

This Group Object is used to receive, via the bus (ABB i-bus® KNX), a Scene assignment.

More information: → [Function Scenes, Page 25](#).

Telegram value:

- 1 = Recall scene assignment x (x = 1 ... 4)
- 0 = Recall scene assignment x (x = 1 ... 4)



#### Note

With the functions *Safety* or *Automatic sun protection*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Scenes](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Scenes](#)
  - Parameter [Use function Scenes](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Objects "Recall scene assignment 1 ... 4"](#) \ Option *Yes*
  - Parameter [Enable scene assignment x](#) \ Option *Yes*

## 8.9 Group Objects Output X – Restriction

Function	Group Object name	Data point type	Length	Flags
Limit travel range	Output X – Restriction:	DPT 1.003	1 bit	C W

This Group Object is used to activate or deactivate the travel range limit via the bus (ABB i-bus® KNX).

More information: → [Travel range limit, Page 167](#).

Telegram value:

- 1 = Activate limitation
- 0 = Deactivate limitation

Prerequisites for visibility

- Parameter window [Configuration](#) \ Parameter [Output X application](#) \ Option *Blind / Shutter*
- Parameter window [Output X](#) \ Parameter window [Basic settings \[blind, shutter\]](#)
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Limit travel range"](#) \ Option *Yes*

## 8.10 Group Objects Output X – Safety

#### Note

An individual description can be added to the names of the Group Objects, → parameter [Description](#).

Function	Group Object name	Data point type	Length	Flags
Output safety x	Output X – Safety:	DPT 1.005	1 bit	C W

These Group Objects are used to receive output-specific safety alarms via the bus (ABB i-bus® KNX).

More information: → [Output safety, Page 21](#).

Telegram value:

- 1 = Alarm (safety active)
- 0 = No alarm (safety inactive)



#### Note

Prerequisite for automatically updating Group Objects:

- Parameter [Poll Group Objects after restart](#) \ Option *Yes*
- The read flag is set for the sending Group Object

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Output safety x"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
Output safety x	Output X – Safety:	DPT 1.005	1 bit	C W

These Group Objects are used to receive output-specific safety alarms via the bus (ABB i-bus® KNX).

More information: → [Output safety, Page 21](#).

Telegram value:

- 1 = Alarm (safety active)
- 0 = No alarm (safety inactive)

### Note

Prerequisite for automatically updating Group Objects:

- Parameter [Poll Group Objects after restart](#) \ Option *Yes*
- The read flag is set for the sending Group Object

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Ventilation flap*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Enable Group Object "Output safety x"](#) \ Option *Yes*

Output forced operation 2 bit	Output X – Safety:	DPT 2.001	2 bit	C W
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This Group Object is used to activate or deactivate 2-bit forced operation via the bus (ABB i-bus® KNX).

More information: → [Output safety, Page 21](#).

Telegram value (bit 1 | bit 0):

- 0 | 0 = Forced operation inactive
- 0 | 1 = Forced operation inactive
- 1 | 0 = Forced operation active "UP"
- 1 | 1 = Forced operation active "DOWN"

### Note

Prerequisite for automatically updating the Group Object:

- Parameter [Poll Group Objects after restart](#) \ Option → [Yes, Page 000](#)
- The read flag is set for the sending Group Object

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Output forced operation 2 bit"](#) \ Option *Yes*

Output forced operation 2 bit	Output X – Safety:	DPT 2.001	2 bit	C W
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This Group Object is used to activate or deactivate 2-bit forced operation via the bus (ABB i-bus® KNX).

More information: → [Output safety, Page 21](#).

Telegram value (bit 1 | bit 0):

- 0 | 0 = Forced operation inactive
- 0 | 1 = Forced operation inactive
- 1 | 0 = Forced operation active "OPEN"
- 1 | 1 = Forced operation active "CLOSE"

### Note

Prerequisite for automatically updating the Group Object:

- Parameter [Poll Group Objects after restart](#) \ Option → [Yes, Page 000](#)
- The read flag is set for the sending Group Object

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Ventilation flap*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Enable Group Object "Output forced operation 2 bit"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
Status Safety active	Output X – Safety:	DPT 1.011	1 bit	C R T I

This Group Object sends the Safety status of the output on the bus (ABB i-bus® KNX), → [Send behavior of the status Group Objects, Page 174](#).  
 More information: → [Function Safety, Page 20](#).

**Note**  
 This Group Object contains no information about the type or priority of the Safety. If the output is blocked by an active Safety, this Group Object sends the value 1.

Telegram value:

- 1 = Safety active
- 0 = Safety inactive

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Status messages "Status Safety active"](#) \ Option *Yes*

Status Safety active	Output X – Safety:	DPT 1.011	1 bit	C R T I
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This Group Object sends the Safety status of the output on the bus (ABB i-bus® KNX), → [Send behavior of the status Group Objects, Page 174](#).  
 More information: → [Function Safety, Page 20](#).

**Note**  
 This Group Object contains no information about the type or priority of the Safety. If the output is blocked by an active Safety, this Group Object sends the value 1.

Telegram value:

- 1 = Safety active
- 0 = Safety inactive

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Ventilation flap*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Status messages "Status Safety active"](#) \ Option *Yes*

Status byte all active safeties	Output X – Safety:	nonDPT	1 byte	C R T
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This Group Object sends the status of all priorities on the bus (ABB i-bus® KNX), → [Send behavior of the status Group Objects, Page 174](#).  
 More information: → [Function Safety, Page 20](#).

Telegram value:

- Bit 0: Priority 1
  - 1 = Active
  - 0 = Inactive
- Bit 1: Priority 2
  - 1 = Active
  - 0 = Inactive
- Bit 2: Priority 3
  - 1 = Active
  - 0 = Inactive
- Bit 3: Priority 4
  - 1 = Active
  - 0 = Inactive
- Bit 4: Priority 5
  - 1 = Active
  - 0 = Inactive
- Bit 5: Priority 6
  - 1 = Active
  - 0 = Inactive
- Bit 6: Priority 7
  - 1 = Active
  - 0 = Inactive
- Bit 7: Priority 8
  - 1 = Active
  - 0 = Inactive

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Status messages "Status byte all active safeties"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
Status byte all active safeties	Output X – Safety:	nonDPT	1 byte	C R T

This Group Object sends the status of all priorities on the bus (ABB i-bus® KNX), → [Send behavior of the status Group Objects, Page 174](#).

More information: → [Function Safety, Page 20](#).

Telegram value:

- Bit 0: Priority 1
  - 1 = Active
  - 0 = Inactive
- Bit 1: Priority 2
  - 1 = Active
  - 0 = Inactive
- Bit 2: Priority 3
  - 1 = Active
  - 0 = Inactive
- Bit 3: Priority 4
  - 1 = Active
  - 0 = Inactive
- Bit 4: Priority 5
  - 1 = Active
  - 0 = Inactive
- Bit 5: Priority 6
  - 1 = Active
  - 0 = Inactive
- Bit 6: Priority 7
  - 1 = Active
  - 0 = Inactive
- Bit 7: Priority 8
  - 1 = Active
  - 0 = Inactive

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Ventilation flap*
  - Parameter [Enable function: Safety](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Safety \[ventilation flap\]](#)
  - Parameter [Use function Safety](#) \ Option *Yes*
  - Parameter [Status messages "Status byte all active safeties"](#) \ Option *Yes*

## 8.11 Group Objects Output X – Automatic

### Note

An individual description can be added to the names of the Group Objects, → parameter [Output X description](#).

Function	Group Object name	Data point type	Length	Flags
Activate automatic sun protection	Output X – Automatic:	DPT 1.003	1 bit	C W T U

This Group Object is used to activate or deactivate the function *Automatic sun protection* via the bus (ABB i-bus® KNX).

More information: → [Function Automatic sun protection, Page 22](#).

Telegram value:

- 1 = Activate automatic sun protection, deactivate direct operation
- 0 = Deactivate automatic sun protection, activate direct operation

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#)
  - Parameter [Use function Automatic sun protection](#) \ Option *Yes*

Sun	Output X – Automatic:	DPT 1.002	1 bit	C W T U
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This Group Object is used to receive, via the bus (ABB i-bus® KNX), the sunshine information (sun = 1 or sun = 0) for activating the function *Automatic sun protection*.

More information: → [Function Anti-glare protection, Page 23](#).

Telegram value:

- 1 = Sunshine (sun = 1)
- 0 = No sunshine (sun = 0)

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#)
  - Parameter [Use function Automatic sun protection](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags
Sun: Move to height	Output X – Automatic:	DPT 5.001	1 byte	C W T U

This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct activation of the blind/shutter position.  
 More information: → [Function Anti-glare protection, Page 23](#).

Telegram value:

- 0 % = Upper end position
- 1 % ... 99 % = Intermediate position
- 100 % = Lower end position

**Note**  
 If the function *Working position* is used, this Group Object can only move the blind as far as the first lower end position, → [Function Working position \(shading position\), Page 28](#). In this case, the telegram value 100 % corresponds to the first lower end position.

**Note**  
 With the function *Safety*, a telegram does not necessarily result in a reaction.

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#)
  - Parameter [Use function Automatic sun protection](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Sun = x reaction to anti-glare protection](#) \ Option *Height and slat via Group Object*

Sun: Move slat	Output X – Automatic:	DPT 5.001	1 byte	C W T U
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This Group Object is used to receive, via the bus (ABB i-bus® KNX), the direct activation of the slat position.  
 More information: → [Function Anti-glare protection, Page 23](#).

**Note**  
 If the function *Working position* is used, this Group Object can only close the slats as far as the "working position" position, → [Function Working position \(shading position\), Page 28](#).

Telegram value:

- 0 % = Open slats
- 1 % ... 99 % = Intermediate position/working position
- 100 % = Close slats

**Note**  
 With the function *Safety*, a telegram does not necessarily result in a reaction.

**Note**  
 The slats are positioned after the blind/shutter reaches the target position.

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#)
  - Parameter [Use function Automatic sun protection](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Sun = x reaction to anti-glare protection](#) \ Option *Height and slat via Group Object / Only slat via Group Object*

Block automatic sun protection	Output X – Automatic:	DPT 1.002	1 bit	C W T U
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This Group Object is used to block or unblock, via the bus (ABB i-bus® KNX), the function *Automatic sun protection*.  
 More information: → [Function Automatic sun protection, Page 22](#).

Telegram value:

- 1 = Block function *Automatic sun protection*
- 0 = Unblock function *Automatic sun protection*

Prerequisites for visibility

- Parameter window [Configuration](#)
  - Parameter [Output X application](#) \ Option *Blind / Shutter*
  - Parameter [Enable function: Automatic sun protection](#) \ Option *Yes*
- Parameter window [Output X](#) \ Parameter window [Automatic sun protection](#)
  - Parameter [Use function Automatic sun protection](#) \ Option *Yes*
  - Parameter [Parameter setting](#) \ Option *Individual*
  - Parameter [Enable Group Object "Block automatic sun protection"](#) \ Option *Yes*

Function	Group Object name	Data point type	Length	Flags		
<b>Block direct commands</b>	<b>Output X – Automatic:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C</b>	<b>W T U</b>	
This Group Object is used to block or unblock direct commands via the bus (ABB i-bus® KNX). More information: → <a href="#">Direct operation, Page 171</a> .						
<b>Note</b> Blocking or unblocking via this Group Object is only possible if the function <i>Automatic sun protection</i> is active.						
Telegram value: <ul style="list-style-type: none"> <li>• 1 = Block direct commands</li> <li>• 0 = Unblock direct commands</li> </ul> Prerequisites for visibility <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ all options except <i>Deactivated</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable Group Object "Block direct commands"</a> \ Option <i>Yes</i></li> </ul> </li> </ul>						
<b>Reactivation time</b>	<b>Output X – Automatic:</b>	<b>DPT 7.005</b>	<b>2 bytes</b>	<b>C</b>	<b>W</b>	
This Group Object is used to receive, via the bus (ABB i-bus® KNX), the changed reactivation time for the function <i>Automatic sun protection</i> , → parameter <a href="#">Reactivation after</a> .						
Telegram value: <ul style="list-style-type: none"> <li>• 0 ... 65535 s</li> </ul> Prerequisites for visibility <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Reaction to direct commands when automatic sun protection is active</a> \ Option <i>Switch automatic sun protection to standby</i></li> <li>– Parameter <a href="#">Change time via Group Object</a> \ Option <i>Yes</i></li> </ul> </li> </ul>						
<b>Room occupied</b>	<b>Output X – Automatic:</b>	<b>DPT 1.018</b>	<b>1 bit</b>	<b>C</b>	<b>W</b>	
This Group Object is used to receive the occupancy status (person in the room) via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a> .						
Telegram value: <ul style="list-style-type: none"> <li>• 1 = Room occupied/person in room</li> <li>• 0 = Room vacant</li> </ul> Prerequisites for visibility <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> </ul> </li> </ul>						
<b>Heating</b>	<b>Output X – Automatic:</b>	<b>DPT 1.003</b>	<b>1 bit</b>	<b>C</b>	<b>W T U</b>	
This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX). More information: → <a href="#">Function Heating/Cooling, Page 23</a> .						
Telegram value: <ul style="list-style-type: none"> <li>• 1 = Heating</li> <li>• 0 = No heating</li> </ul> Prerequisites for visibility <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating" and "Cooling"</i></li> </ul> </li> </ul>						

Function	Group Object name	Data point type	Length	Flags
<b>Cooling</b>	<b>Output X – Automatic:</b>	<b>DPT 1.003</b>	<b>1 bit</b>	<b>C W T U</b>
<p>This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX).  More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Cooling</li> <li>• 0 = No cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating" and "Cooling"</i></li> </ul> </li> </ul>				
<b>Heating/Cooling</b>	<b>Output X – Automatic:</b>	<b>DPT 1.100</b>	<b>1 bit</b>	<b>C W T U</b>
<p>This Group Object is used to receive the room operating mode via the bus (ABB i-bus® KNX).  More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1 = Heating</li> <li>• 0 = Cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating/cooling" and "Block heating/cooling"</i></li> </ul> </li> </ul>				
<b>Block heating/cooling</b>	<b>Output X – Automatic:</b>	<b>DPT 1.002</b>	<b>1 bit</b>	<b>C W T U</b>
<p>This Group Object is used to block or unblock, via the bus (ABB i-bus® KNX), the function Heating/Cooling.  More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• 1= Block heating/cooling</li> <li>• 0= Unblock heating/cooling</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Control via Group Objects</a> \ Option <i>"Heating/cooling" and "Block heating/cooling"</i></li> </ul> </li> </ul>				
<b>Room temperature received</b>	<b>Output X – Automatic:</b>	<b>DPT 9.001</b>	<b>2 bytes</b>	<b>C W T U</b>
<p>This Group Object is used to receive the room temperature via the bus (ABB i-bus® KNX).  More information: → <a href="#">Function Heating/Cooling, Page 23</a>.</p> <p>Telegram value:</p> <ul style="list-style-type: none"> <li>• -273 ... 670760 °C</li> </ul> <p>Prerequisites for visibility</p> <ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Enable overheating protection on heating</a> \ Option <i>Yes</i></li> </ul> </li> </ul>				

Function	Group Object name	Data point type	Length	Flags
<b>Status Automatic sun protection active</b>	<b>Output X – Automatic:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>
This Group Object sends the status of the automatic sun protection (active or inactive) on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a> .				
More information: → <a href="#">Function Automatic sun protection, Page 22</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Automatic sun protection active</li> <li>• 0 = Automatic sun protection inactive</li> </ul>				
<p><b>i Note</b> This Group Object can be used to display the status of the Automatic sun protection on an external control unit.</p>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable Group Object "Status Automatic sun protection active"</a> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status byte automatic sun protection</b>	<b>Output X – Automatic:</b>	<b>nonDPT</b>	<b>1 byte</b>	<b>C R T</b>
This Group Object sends the status of the automatic sun protection components as an 8-bit value on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a> .				
More information: → <a href="#">Function Automatic sun protection, Page 22</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• → <a href="#">Status byte automatic sun protection, Page 179</a></li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable Group Object "Status byte automatic sun protection"</a> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status Automatic sun protection blocked</b>	<b>Output X – Automatic:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>
This Group Object sends the status of the automatic sun protection (unblocked or blocked) on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a> .				
More information: → <a href="#">Function Automatic sun protection, Page 22</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Automatic sun protection blocked</li> <li>• 0 = Automatic sun protection unblocked</li> </ul>				
<p><b>i Note</b> This Group Object can be used to display the status of the Automatic sun protection on an external control unit.</p>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable Group Object "Status Automatic sun protection blocked"</a> \ Option <i>Yes</i></li> </ul> </li> </ul>				
<b>Status Overheating protection active</b>	<b>Output X – Automatic:</b>	<b>DPT 1.011</b>	<b>1 bit</b>	<b>C R T</b>
This Group Object sends the status of the overheating protection (active or inactive) on the bus (ABB i-bus® KNX), → <a href="#">Send behavior of the status Group Objects, Page 174</a> .				
More information: → <a href="#">Function Heating/Cooling, Page 23</a> .				
Telegram value:				
<ul style="list-style-type: none"> <li>• 1 = Overheating protection active</li> <li>• 0 = Overheating protection inactive</li> </ul>				
Prerequisites for visibility				
<ul style="list-style-type: none"> <li>• Parameter window <a href="#">Configuration</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Output X application</a> \ Option <i>Blind / Shutter</i></li> <li>– Parameter <a href="#">Enable function: Automatic sun protection</a> \ Option <i>Yes</i></li> </ul> </li> <li>• Parameter window <a href="#">Output X</a> \ Parameter window <a href="#">Automatic sun protection</a> <ul style="list-style-type: none"> <li>– Parameter <a href="#">Use function Automatic sun protection</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Parameter setting</a> \ Option <i>Individual</i></li> <li>– Parameter <a href="#">Enable function: Heating/Cooling</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Enable overheating protection on heating</a> \ Option <i>Yes</i></li> <li>– Parameter <a href="#">Enable Group Object "Status Overheating protection active"</a> \ Option <i>Yes</i></li> </ul> </li> </ul>				

## 9 Operation

### 9.1 Manual operation

#### **i** Note

The KNX power supply must be established to operate the device in *Manual operation* mode. Manual operation is deactivated in the event of KNX voltage failure.

*Manual operation* mode permits on-site operation of the devices using a membrane keypad.

The relays of the outputs can be switched manually. In addition, the movement position of the blind/shutter or the status of the ventilation flap is displayed. The relay status display is shown in groups of two contiguous outputs.

In the as-delivered state, Manual operation is enabled and can be activated via the *S button* on the membrane keypad.

#### **i** Note

The safety functions as well as operation using the i-bus® Tool have a higher priority than the *Manual operation* mode. An output cannot be operated using the membrane keypad if it is blocked by a safety function or can be operated using the i-bus® Tool. If the safety function is canceled in *Manual operation* operating mode, the output reacts corresponding to its parameterization.

#### **i** Note

When Manual operation is active, the outputs will continue to react to KNX commands until they are switched via Manual operation. If an output has been switched via Manual operation, incoming KNX commands will be processed in the background and no longer executed until Manual operation is deactivated.

More information: → [State after deactivating manual operation, Page 50](#).

The device is in *KNX operation* after connection to the bus (ABB i-bus® KNX), KNX voltage recovery, ETS download or ETS reset. The *Manual operation* LED is off.

#### 9.1.1 Central operation via membrane keypad

All outputs can be jointly operated via the membrane keypad. When all the outputs are selected, all movements can be stopped or all blinds/shutters moved to end positions. Slat adjustment is not possible.

##### **Stop all movements**

1. Press and hold the *S button* (> 5 seconds).
    - ⇒ Outputs selected. Zone LEDs light up.
  2. Short press any *Output* button (< 1 second).
    - ⇒ Movements stopped.
- ⇒ First output group selected. Manual mode is exited; the devices are in KNX operation.

##### **Move all blinds/shutters to upper end position**

1. Press and hold the *S button* (> 5 seconds).
    - ⇒ Outputs selected. Zone LEDs light up.
  2. Press and hold the top button *Output I* or *Output II* (> 1 second).
    - ⇒ Blinds/shutters move to upper end position.
- ⇒ First output group selected. Manual mode is exited; the devices are in KNX operation.

**Move all blinds/shutters to lower end position**

1. Press and hold the *S button* (> 5 seconds).
    - ⇒ Outputs selected. Zone LEDs light up.
  2. Press and hold the bottom button *Output I* or *Output II* (> 1 second).
    - ⇒ Blinds/shutters move to lower end position.
- ⇒ First output group selected. Manual mode is exited; the devices are in KNX operation.

** Note**

The safety functions as well as operation using the i-bus® Tool have a higher priority than the *Manual operation* mode. An output cannot be operated using the membrane keypad if it is blocked by a safety function or can be operated using the i-bus® Tool. If the safety function is canceled in *Manual operation* operating mode, the output reacts corresponding to its parameterization.

**9.1.2 Activating manual operation**

- ▶ Press and hold *S-button* for 2 ... 5 seconds.
- ⇒ *Manual operation* LED lights up. Manual operation is active.

** Note**

If Manual operation is not enabled (→ parameter *Enable manual operation*) or is blocked via the Group Object *Enable/Block Manual operation*, then *Manual operation* mode cannot be activated.

**9.1.3 Blocking manual operation**

*Manual operation* mode can be blocked via the Group Object *Enable/Block Manual operation*. If *Manual operation* mode was blocked via this Group Object, the only way to reactivate it is via this Group Object.

**9.1.4 Deactivate Manual operation**

*Manual operation* mode can be deactivated in various ways:

- Press and hold *S-button* for 2 ... 5 seconds.
- Automatically after a time set in the parameter *Automatic reset from manual operation to KNX operation*.
- By a download. After the download is complete, the devices are in KNX operation.
- Via the Group Object *Deactivate Manual operation*.

## **10 Maintenance and cleaning**

### **10.1 Maintenance**

The devices are maintenance-free if used properly. In the event of damage, e.g. during transport and/or storage, repairs are not allowed to be carried out.

### **10.2 Cleaning**

1. Disconnect devices from the electrical power supply before cleaning.
2. Clean dirty devices using a dry cloth or a slightly damp cloth.

# 11 Removal and disposal

## 11.1 Removal

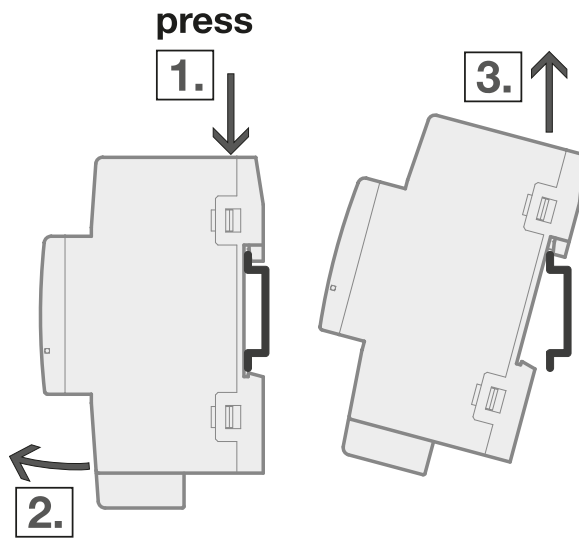


Fig. 22: Removing from the mounting rail

1. Press on the top of the device.
2. Release the bottom of the device from the mounting rail.
3. Lift the device up and off the mounting rail.

## 11.2 Environment

Consider environmental protection.

Electrical and electronic devices must not be disposed of as domestic waste.



The device contains valuable resources that can be recycled. Therefore, please take the device to a suitable recycling center. All packaging materials and devices are provided with markings and test seals for proper disposal. Always dispose of packaging material and electrical devices or their components at collection points or disposal companies authorized for this purpose. The products comply with the statutory requirements, particularly the law on electrical and electronic equipment and the REACH regulation. (EU directive 2012/19/EU WEEE and 2011/65/EU RoHS) (EU REACH regulation and the law implementing the regulation (EC) no.1907/2006)

## 12 Planning and application

### 12.1 Priorities

#### 12.1.1 Priorities for Shutter Actuator

- Safeties → parameter *Priority x safety*
- KNX voltage failure
- i-bus®-Tool
- Operating mode *Manual operation*
- Operating mode *KNX operation* (direct operation or automatic operation)
- KNX voltage recovery

The active safeties can be overridden on a KNX voltage failure, → parameter *Override active safeties*.



#### CAUTION – Damage or injuries if the active safeties are overridden

If the active safeties are overridden, the reaction on KNX voltage failure is given the highest priority. The connected drive may react unexpectedly. Sudden movements of the peripherals (e.g. blind/shutter, ventilation flap, blind) may crush body parts or cause damage to property.

- ▶ Deactivate override before working on peripherals.

## 12.2 Basic knowledge

### 12.2.1 Drive and blind/shutter settings

#### 12.2.1.1 Travel times

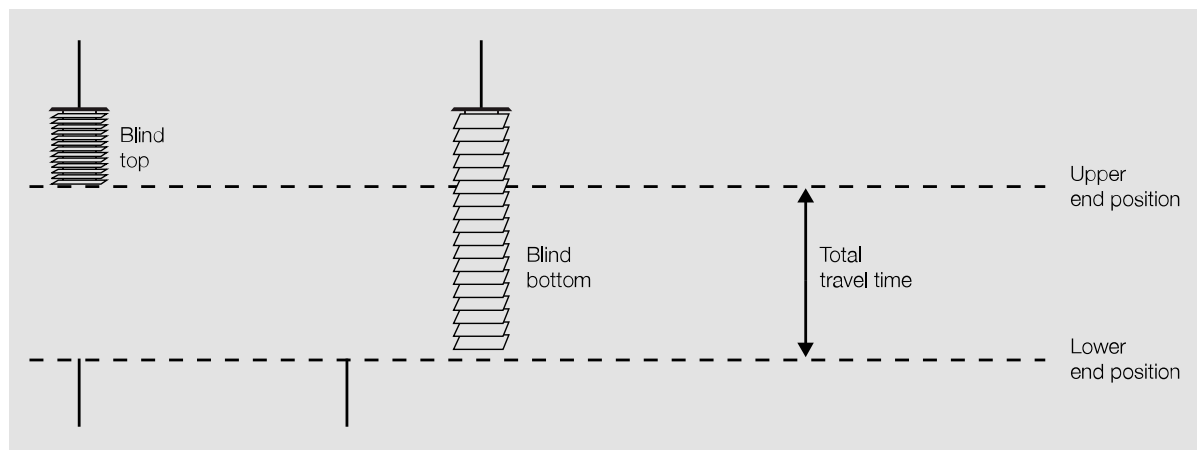


Fig. 23: Function diagram of travel times

The total travel time is the time that the blind/shutter requires to move from the lower to the upper end position (Up) or from the upper to the lower end position (Down). Total travel times for up and down movements can be determined separately and set in ETS.

If the device receives a travel telegram, then the appropriate output is switched and the blind/shutter is moved in the required direction.

The blind/shutter is moved until the output receives a stop telegram or the end position is reached. The limit switch switches the drive off when the upper or lower end position is reached. The corresponding output contact remains closed until the parameterized travel time elapses.

If the travel time is extended by an overrun time, the voltage will be switched off only after this overrun time expires.

If a value not equal to 100 % is set in the parameter *Position of slat after reaching lower end position*, the overrun time is not taken into account. The slats move to the parameterized position after reaching the lower end position.

#### 12.2.1.1.1 Manual determination of travel time

To determine the travel time, the travel times are measured from the lower to the upper end positions and vice-versa, e.g. using a stopwatch or the i-bus® Tool (stopwatch function with up/down telegrams). The measured values are then entered in the parameters *Travel time up* and *Travel time down*.

For position movements, automatic control or status messages, precise travel times are the basis for exact calculation and positioning of the blind/shutter.

The device continuously determines the current position of the blind/shutter and the slats based on the individual movements.

Temperature fluctuations and aging processes can cause slight inaccuracies in determining the position. In order to maintain high position accuracy, the position is updated in the device's memory when an end position is reached.

#### 12.2.1.1.1.1 reference movement

The reference movement moves the blind/shutter to a defined reference position. Starting from the reference position, the movements to position (1 ... 99 %) are calculated based on the entered travel times (→ parameters *Travel time up* and *Travel time down*).

If the end positions are not routinely reached during operation, a reference movement should be carried out occasionally (e.g. according to a fixed schedule).

If a blind/shutter is moved to an end position by manual operation, this movement is evaluated as a reference movement.

The reference movement cannot be performed while a safety is active. After the withdrawal of the safety, the reference movement is not performed automatically.

The following actions will interrupt an active reference movement:

- Activation of a safety
- Receipt of a direct command
- Activation of manual operation

A reference movement can be performed even if direct operation is blocked. Travel range limits are not taken into account during a reference movement.

After a download, KNX voltage recovery or ETS reset, the reference position and the blind/shutter position are unknown. The following methods are available for acquiring the reference position:

#### Reference movement via Group Object *Trigger reference movement up/down*

If the reference movement takes place via the Group Object *Trigger reference movement up/down*, the device executes a reference movement to the upper or lower end position.

After the reference movement, the blind/shutter is moved to the position defined in the parameter *Position after reference movement*.

### Reference movement via move telegrams

If the reference position or the blind/shutter position is unknown, the device reacts to move telegrams as follows:

- Up telegram 1 bit: Reference movement to upper end position. The blind/shutter then stays at the reference position.
- Down telegram 1 bit: Reference movement to lower end position. The blind/shutter then stays at the reference position.
- Position telegram 1 byte (0 ... 99 %): Reference movement to upper end position. The blind/shutter is then moved to the position received in the position telegram.
- Position telegram 1 byte (100 %): The movement to the lower end position is evaluated as a reference movement.

#### **i** Note

For the first reference movement after a download, KNX voltage recovery or ETS reset, the set travel time (→ parameters *Travel time up*, *Travel time down*) + 20 % overrun is used as the travel time. For all other reference movements, a 20 % overrun time is always added to the total travel time, to ensure that the end position is reached.

## 12.2.1.1.2

### Automatic travel detection

When automatic travel detection is used, the blind/shutter can be precisely positioned. This shortens commissioning time as there is no need for manual measurement of travel times. Travel detection is also more accurate than specifying travel times using manually measured values. Changes in the length of the blind/shutter due to external influences (e.g. frost, UV rays or the use of heavy blind/shutter types) are compensated during operation.

Travel times are automatically and continuously measured during operation. For each complete up or down movement from end position to end position, travel times are measured separately via current detection and saved in the device in a fail-safe manner so that they are not lost in the event of KNX voltage failure.

When using electronic drives, the standby current of the drive must be entered in the parameter *Minimum current for travel detection* in order to guarantee precise travel detection.

The first travel time after commissioning is measured via a calibration movement.

#### **i** Note

When using electronic drives with a permanently applied power supply, automatic travel detection is not possible because the power is not drawn via the relay contacts of the device. When using electronic drives of this type, travel times must be determined and entered manually. Electronic drives with soft start or soft stop are not suitable for controlling via the device.

## 12.2.1.1.2.1

### Calibration movement

When commissioning the device, the travel times are unknown. To acquire the travel times, a calibration movement must be performed using travel detection. The travel times are measured separately via current detection and saved in the device in a fail-safe manner so that they are not lost in the event of KNX voltage failure.

**Note**

After a download, KNX voltage recovery or ETS reset, the blind/shutter position is unknown. After receiving the first move telegram, the device performs an automatic reference movement:

- If the first travel telegram is a movement to the lower end position, this is evaluated as a reference movement.
- In all other cases, the device performs a reference movement to the upper end position. The blind/shutter is then moved to the position received in the travel telegram.

If a calibration movement is triggered simultaneously for two outputs with a common infeed, a full calibration movement is first performed for the first output, and then for the second.

If the end positions are not routinely reached during operation, a calibration movement should be carried out occasionally (e.g. according to a fixed schedule).

The calibration movement cannot be performed while a safety is active. After the withdrawal of the safety, the calibration movement is not performed automatically.

The following actions will interrupt an active calibration movement:

- Activation of a safety
- Receipt of a direct command
- Activation of manual operation

A calibration movement can be performed even if direct operation is blocked. Travel range limits are not taken into account during a calibration movement.

The following methods are available for the calibration movement:

#### Calibration via Group Object *Trigger calibration movement*

If the Group Object *Trigger calibration movement* is used for the calibration, the device automatically performs the following movements:

- 1) Move to upper end position (moves to reference position)
- 2) Move to upper end position (measures travel time up)
- 3) Move to upper end position (measures travel time up)

The travel times are saved in the device; the blind/shutter is moved to the last known position before the calibration movement.

**Note**

If the calibration is started from the lower end position, three complete end position movements and in some cases a position movement are performed. Long travel times or heavy blinds/shutters can cause the drive motor to overheat.

**Note**

Calibration can also be done via the i-bus® Tool function *Trigger reference movement*.

#### Calibration via Group Object *Up/down*

If the Group Object *Up/down* is used for the calibration, the following separate individual movements must be manually triggered:

- Move to upper or lower end position (e.g. up, moves to reference position)
- Move to opposite end position (e.g. down, measures travel time down)
- Move to opposite end position (e.g. up, measures travel time up)

The travel times are saved in the device; the blind/shutter remains in the last position adopted.

**Note**

To prevent the motor from overheating, do not trigger individual movements immediately one after the other.

**Note**

When the travel times are unknown and a move command is received on a 1-bit Group Object, the device executes this calibration method automatically.

**Calibration via position telegrams**

When the travel times are unknown and a move command is received on a 1-byte Group Object (Height 0 ... 100 %), the device executes the following movements automatically:

- 1) Move to upper end position (moves to reference position)
- 2) Move to upper end position (measures travel time up)
- 3) Move to upper end position (measures travel time up)

The travel times are saved in the device; the blind/shutter is moved to the position received in the position telegram.

**Note**

If the calibration is started from the lower end position, three complete end position movements and in some cases a position movement are performed. Long travel times or heavy blinds/shutters can cause the drive motor to overheat.

**12.2.1.2****Direct and indirect movement to the position**

The parameter *Move to position* can be used to define how the blind/shutter should move to the target position in response to a move telegram.

- Direct: The blind/shutter is moved directly from its current position to the target position.
- Indirect: The blind/shutter is moved to the target position via an end position. You can define whether the blind/shutter is to move to the target position via the upper, lower or closer end position. On reaching an end position, the reference position is updated in the device memory.

**Note**

If the function *Working position* is used, positions cannot be indirectly approached via the lower end position.

**12.2.1.3****Position 0 % ... 100 %****Note**

Blind/shutter positions or slat positions can be blocked by priorities, travel range limits, active safeties or active functions.

**Blind/shutter positions**

The blind/shutter can be moved to any position from 0 % ... 100 %. The percentages refer to the position of the blind/shutter between the upper and lower end positions.

- 0 % = Upper end position
- 1 % ... 99 % = Intermediate position
- 100 % = Lower end position

The following Group Objects are available for precise positioning of the blind/shutter:

- *Move to height* and *Move to height* (Central)
- If the function *Automatic sun protection* is used: *Sun: Move to height* and *Sun: Move to height* (Central)
- If predefined positions are used: *Move to position x* or *Move to position x/y*
- If the function *Scenes* is used: *KNX scenes 1 ... 64*, *KNX scenes 1 ... 64* (Central) and *Recall scene assignment x*
- If the function *Sector control* is used: *Sector control*

### Slat adjustment

The slats can be adjusted to any position from 0 % ... 100 %. The percentages refer to the opening degree of the slats.

- 0 % = Fully closed
- 1 % ... 99 % = Intermediate position
- 100 % = Fully open

The following Group Objects are available for precise positioning of the slats:

- *Move slat* and *Move slat* (Central)
- If the function *Automatic sun protection* is used: *Sun: Move slat* and *Sun: Move slat* (Central)
- If predefined positions are used: *Move to position x* or *Move to position x/y*
- If the function *Scenes* is used: *KNX scenes 1 ... 64*, *KNX scenes 1 ... 64* (Central) and *Recall scene assignment x*
- If the function *Sector control* is used: *Sector control*

#### 12.2.1.3.1

### Specifics when moving to 100 % position via 1-byte Group Objects

Implementing the function *Working position* makes the 100 % position correspond to the first lower end position.

If the blind/shutter is moved to the 100 % position via a 1-byte Group Object, the set overrun times (→ parameters, *Disconnect output from power after*, *Additional overrun time for up/down* and *Additional overrun time with safeties*) are ignored even if the function *Working position* is not used. When the position reaches 100 %, the output is immediately de-energized; the device does not recognize the movement as an end position movement.

Other factors (e.g. weather conditions or the aging processes of the blind/shutter) can contribute to changes in travel times and to less precise positioning. With longer term operation, to ensure precise movement to the 100 % position, the following movements should be carried out regularly:

- Move to end position via 1-bit Group Objects
- Reference or calibration movement

#### 12.2.1.4

### Travel range limit

#### Note

The positions can be limited by the working position → [Function Working position \(shading position\)](#), [Page 28](#).

The Group Object *Limit travel range* can be used to activate or deactivate travel range limit. When travel range limit is active, the blind/shutter can only be moved within the limits defined in the following parameters:

- *Upper limit*
- *Lower limit*

The limitation applies to direct commands and automatic commands.

The parameter *Move to limitation on activation* is used to define whether the blind/shutter is moved to the upper or lower limit when travel range limit is activated. Selecting the option *Yes* moves the blind/shutter to the limit that is closer when travel range limit is activated.

#### Example

- The blind/shutter is in position 50 %.
- Upper limit = 20 %, lower limit = 95 %.
- Travel range limit is activated.
- The blind/shutter will move to the 20 % position (closest limit)

The parameter *Limitation valid when safety is active* is used to define whether travel range limit also applies when a safety is active. When selecting the option *Yes*, note that due to the travel range limit, the scene assignments or positions defined in the parameter *Priority x reaction* cannot be adopted.

#### Example

The travel range limit can be used to activate windows or skylights as well. The travel range for local operation by the room users is limited to 0 ... 20 %, whereas the complete range is available to the janitor.

#### Note

If, in the parameter *Reaction on KNX voltage failure*, the option *Up* or *Down* is selected, then travel range limits are not taken into account.

#### Note

Travel range limits are not taken into account during reference or calibration movements.

### 12.2.1.5

#### Start-up and coasting delay and minimum run time

Some drives attain their full power only after a start-up delay of a few milliseconds or continue moving for a few milliseconds after switch-off (coasting delay). For some applications, it is necessary to compensate delay times during start-up and coasting of the drive, e.g. to position the blinds/shutters exactly. The delay times can be set in the parameters *Start-up delay* and *Coasting delay*.

The minimum run time for the drive can be set in the parameter *Minimum run time*.



#### CAUTION

Setting a minimum run time that is too short can damage the connected drive.

- ▶ Observe the technical data of the connected drive.

## 12.2.1.6

## Blind/Shutter control with slat adjustment

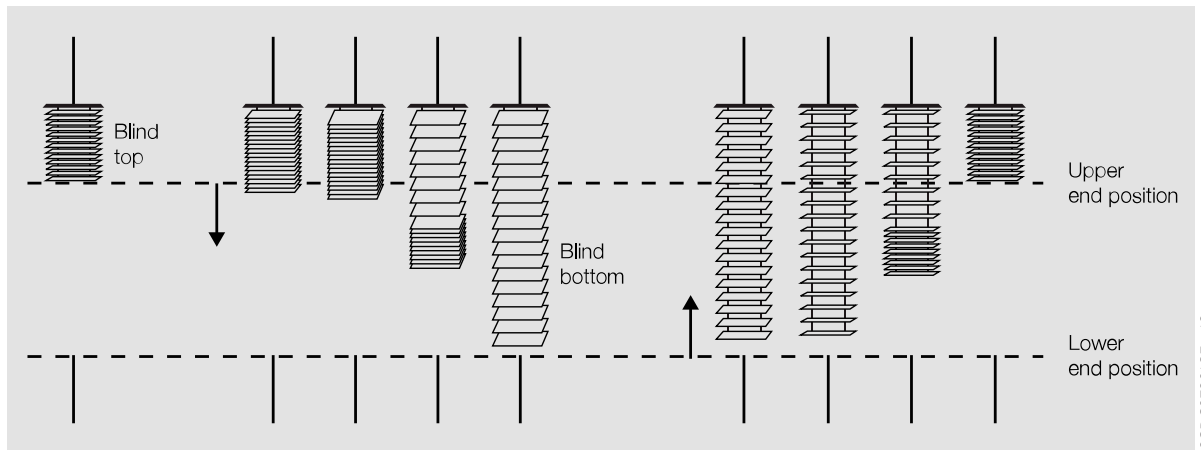


Fig. 24: Blind/shutter control with slat adjustment

With conventional blind types, during a down movement the slats close and the blind/shutter is lowered. The slats are opened and the blind/shutter is raised during an up movement. After the blind/shutter moves up, the slats are usually open. Exception → [Function Working position \(shading position\), Page 28](#).

To adjust the slats to a specific angle, short movements can be executed. The parameter *Total adjustment time* is used to set the time required for the slats to open from 0 % to 100 % or to close from 100 % to 0 %. The duration of the total adjustment time must be determined manually. The parameter *Number of slat adjustments/steps* is used to set the number of step commands required for the slats to open from 0 % to 100 % or to close from 100 % to 0 %. The number of step commands is distributed across the total adjustment time.

If, in the parameter *Limit step commands to number of slat adjustments*, the option *No* is selected, the blind can be lowered with "Unlimited Steps" (continuously repeating the step command). If the function *Working position* is used, the blind can be moved beyond the first lower end position using "Unlimited Steps".

## 12.2.1.7

## Dead times

**CAUTION – Malfunctions**

Incorrect settings in the parameters can cause malfunctions.

- ▶ Observe the technical data of the connected drive.

Dead times can occur in the mechanism for sun protection systems due to the following factors:

- Aging processes, e.g. mechanical load
- Natural dead times during direction change
- Blind/shutter opening from lower end position (100 %)
- Slat opening from the closed position (100 %)

These dead times can prevent the set positions from being reached precisely. The dead times can be compensated in the device parameters.

The "Blind/shutter opening" dead time describes the time between the reception of the up command and the start of blind/shutter opening.

The "Slat opening" dead time describes the time between the reception of the open command and the start of slat opening.

The "Blind/shutter adjustment" dead time describes the time between the reception of a direction changing movement command and the execution of the movement command.

The "Slat adjustment" dead time describes the time between the reception of a direction changing movement command and the execution of the movement command.

### 12.2.1.8 Fabric tensioning

The purpose of fabric tensioning is to tauten or tension textile blinds/shutters (e.g. the sheet of an articulated arm awning). The blind/shutter is stopped at the end of a down movement and then moved in the opposite travel direction for the time set in the parameter *Duration*.

If fabric tensioning is active, it is triggered by the following move telegrams:

- Direct telegrams
- Automatic telegrams
- Manual operation
- Safety telegrams

The following points must be taken into account:

- The move telegrams must be present for longer than the set duration for fabric tensioning.
- The duration of fabric tensioning must be shorter than the total travel time for the down movement.
- If a travel telegram is received during active fabric tensioning, a position value that is reduced by the fabric tensioning duration will be reported back.

The fabric tensioning duration influences the calculation of the blind/shutter position and the status Group Objects. The current blind/shutter position value is reported back to the device after fabric tensioning.

#### Example

Calculation of the position value:

- Total down movement time: 60 s = 100 %
  - Duration of travel telegram: 30 s = 50 %
  - Duration of tensioning/slot positioning: 0.5 s =  $(100 \% \times 0.5 \text{ s} / 60 \text{ s}) = 0.8 \%$
- Position value: 50 % – 0.8 % = 49.2 %

## 12.2.2 Automatic operation

Automatic operation refers to automatic blind control via the function *Automatic sun protection*. In automatic mode, the blind/shutter and slats are moved via automatic commands. Automatic commands can also be received via central Group Objects, → parameter *Reacts to central Group Objects*.

For more information, see:

- [Group Objects Central – Automatic, Page 132](#)
- [Group Objects Output X – Automatic, Page 153](#)

Automatic operation can be activated or deactivated via the following Group Objects:

- [Activate automatic sun protection](#) (Central)
- [Activate automatic sun protection](#)

When automatic operation is active, the blind/shutter is controlled by automatic commands.

When automatic operation is deactivated, the output does not react to automatic commands and can only be controlled by direct commands. Movements initiated by automatic commands are completed when automatic operation is deactivated.

Automatic operation can be blocked or unblocked via the following Group Objects:

- [Block automatic sun protection](#) (Central)
- [Block automatic sun protection](#)

When automatic operation is blocked, the output does not react to automatic commands and automatic sun protection cannot be activated via Group Objects. To activate automatic sun protection, automatic operation must be unblocked.

The parameter *Reaction to direct commands when automatic sun protection is active* is used to define how the function *Automatic sun protection* reacts to direct commands when the function is active.

**Note**

A reference movement interrupts automatic operation. Incoming automatic commands are executed after the reference movement is completed.

## 12.2.3 Direct operation

Direct operation is on-site operation, e.g. via buttons in the room. During direct operation, the blind/shutter and slats are moved via direct commands. Direct commands can also be received via central Group Objects, → parameter *Output reacts to central direct commands*.

For more information, see:

→ [Group Objects Central – Direct, Page 130](#)

→ [Group Objects Output X – Direct, Page 144](#)

Direct operation can be blocked via the following Group Objects:

- *Block direct commands* (Central)
- *Block direct commands*

If direct operation is blocked, the output does not react to direct commands.

The parameter *Reaction to direct commands when automatic sun protection is active* is used to define how the function *Automatic sun protection* reacts to direct commands when the function is active.

**Note**

Operability via direct commands is not possible in the following cases:

- A safety is active, → [Function Safety, Page 20](#)
- Automatic sun protection is active and direct commands are ignored, → parameter *Reaction to direct commands when automatic sun protection is active*
- Direct commands are blocked, → Group Objects *Block direct commands* (Central) or *Block direct commands*
- The device is in the *Manual operation* operating mode
- The sending and switching delay after KNX voltage recovery is active

## 12.2.4 Predefined positions

Each output has four predefined blind/shutter and slat positions plus one predefined working position (→ [Function Working position \(shading position\), Page 28](#)).

The predefined positions can be used as a template for positioning blinds/shutters and slats in specific installation situations, e.g. after KNX voltage recovery → parameter *Reaction after KNX voltage recovery*.

The predefined positions are specified with the following parameters:

- *Height position x*
- *Slat position x*
- *Height working position*
- *Slat working position*

The parameter *Move to position 1 ... 4 via 1-bit Group Objects* is used to define whether the predefined positions 1 ... 4 can also be directly adopted via separate Group Objects. Depending on the selection in the parameter, four Group Objects (one for each position) or two Group Objects (one for positions 1 and 2, and one for positions 3 and 4) are enabled:

- *Move to position x*
- *Move to position x/y*

**i Note**

The positions can be limited by the working position → [Function Working position \(shading position\)](#), [Page 28](#).

## 12.2.5 Ventilation flap with spring return

A ventilation flap with spring return is opened by a drive motor. When the drive motor is de-energized, the return spring closes the ventilation flap.

When the Group Object *Open/close* sends a telegram with the value 1, the ventilation flap opens. The ventilation flap stays open until the Group Object *Open/close* sends a telegram with the value 0.

The parameter *Invert output* can be used to invert the reaction of the output: When the Group Object *Open/close* sends a telegram with the value 0, the ventilation flap opens. When the Group Object *Open/close* sends a telegram with the value 1, the ventilation flap closes.

When automatic closing of the ventilation flap is active (→ parameter *Activate automatic closing*), the ventilation flap will close after a configurable time has elapsed, regardless of the value of the Group Object *Open/close*.

## 12.2.6 Hysteresis

The hysteresis indicates the difference by which a value must change before there is a reaction to the value change (e.g. switch on the heating if temperature drops below setpoint). Hysteresis prevents frequent switching in response to minimal changes. A differentiation is made between single-sided and double-sided hysteresis.

**Example**

Single-sided hysteresis:

- Setpoint temperature = 22 °C
- Hysteresis = 4 K

The heating is switched on if an actual temperature drops below 18 °C and switched off if an actual temperature exceeds 22 °C.

Double-sided hysteresis:

- Setpoint temperature = 22 °C
- Hysteresis = 4 K

The heating is switched on if an actual temperature drops below 20 °C and switched off if an actual temperature exceeds 24 °C.

## 12.2.7 KNX DATA Secure

**i Note**

KNX DATA Secure is supported by ETS version 5.5.0 or later. ETS version 6 or later is recommended when using KNX DATA Secure. Using older ETS versions can cause errors in project planning, problems during commissioning, or problems when diagnosing group addresses and devices.

KNX DATA Secure is an encryption technology that guarantees data protection in a KNX twisted pair network. KNX DATA Secure uses a longer KNX telegram format (long frames) to transmit the authenticated and encrypted data. The longer KNX telegram format has no impact on the reaction time of devices.

KNX DATA Secure is based on end-to-end encryption that ensures all data exchanged between KNX devices are encrypted and can only be read by authorized users. In conventional KNX networks (KNX plain), data are sent unencrypted on the bus. The data can be read by anyone with access to the bus and can be intercepted or manipulated by unauthorized persons.

Using KNX DATA Secure protects transmitted data against unauthorized access, ensures data integrity and minimizes potential security risks. KNX DATA Secure helps to increase security and privacy in KNX-based smart home or building automation systems. Standard KNX devices that only support KNX plain can be used in the same installation and on the same media with the help of a suitable coupler.

To use KNX DATA Secure devices in the KNX system must support KNX DATA Secure encryption technology. Both the KNX devices and the KNX installation must be configured accordingly, → [Secure commissioning with KNX DATA Secure, Page 33](#).

A KNX DATA Secure product is identifiable by the KNX DATA Secure logo on the packaging or the product itself. This logo indicates that the product meets the KNX DATA Secure security standard. The product should also be listed in the KNX product database.

For more information, see:

→ [ABB documentation "KNX DATA Secure"](#)

→ <https://www.knx.org/knx-en/for-professionals/benefits/knx-secure/index.php>

## 12.2.8 Network (cyber) security

The industry is increasingly faced with cyber security risks. To increase the stability, security and robustness of its solutions, ABB has introduced cyber security robustness tests as part of the product development process.

In addition, the sections below include guidelines and mechanisms that you can use to improve the security of KNX systems.

### 12.2.8.1 Preventing unauthorized access

The basis for any protection concept is the careful shielding of the system against unauthorized access. The following points must be taken into consideration when planning and installing a KNX system:

- Only authorized persons (installers, custodians, users) should be allowed to have physical access to the KNX system.
- Sub-distributions with KNX devices should be closed, or in rooms to which only authorized persons have access.
- If available, use the anti-theft features on the KNX devices.
- All components in a KNX system should be permanently installed and protected from unauthorized access.
- The bus cable (ABB i-bus® KNX) should not be visible inside or outside the building. Cables outdoors are an increased risk. Physical access should be made particularly difficult here.
- Devices installed in areas with limited protection (e.g. outdoor areas, underground parking lots, restrooms, etc.) should be designed using a line coupler as a separate line.
- If possible, KNX DATA Secure should be used for data transmission in KNX networks (→ [KNX DATA Secure, Page 172](#)).
- The system should be divided into security segments that are based on the available security functions of the devices used. This is done by using segment couplers.

### 12.2.8.2 IP cabling inside the building

For building automation, use a separate LAN or WiFi network with its own hardware (routers, switches, etc.). Regardless of the KNX system, apply the usual security mechanisms for IP networks:

- MAC filter
- Encryption of wireless networks
- Usage of strong passwords, and password protection against access by unauthorized persons

### 12.2.8.3 Using filter tables

Filter tables in line couplers prevent attackers from gaining access to the KNX system as a whole. It is strongly recommended to maintain filter tables in line couplers and IP routers, and as far as possible, to avoid operating line couplers and IP routers in "forward all" mode.

## 12.2.9 Sending or switching delay

No telegrams are sent on the bus during the sending or switching delay (ABB i-bus® KNX).

Telegrams received (e.g. requests from a visualization system) are sent to the outputs after the sending or switching delay expires. The state of the outputs is set according to the settings in the ETS application or the telegram values of the Group Objects.

Time sequences (e.g. staircase lighting time) are started immediately during the sending or switching delay. If, at the time of reception, the staircase lighting time is shorter than the remaining sending or switching delay, the staircase lighting time elapses during the sending or switching delay. After the sending or switching delay has elapsed, there is no switching command; the staircase lighting is not switched on.

#### Note

The sending or switching delay includes the device initialization time.

## 12.2.10 Send behavior of the status Group Objects

The status Group Objects send telegrams on the bus (ABB i-bus® KNX) on change or on request.

- On change: When the value of the Group Object changes, the Group Object sends a telegram with the new value.
- On request: When status values are requested via the Group Object [Request status values](#), all status Group Objects send telegrams with the current values.

## 12.2.11 Telegram rate limit

The bus load generated by the device can be limited using the telegram rate limit. This limit relates to all telegrams sent by the device.

The device counts the number of telegrams sent within the parameterized period. As soon as the maximum number of sent telegrams is reached, no further telegrams are sent on the bus (ABB i-bus® KNX) until the end of the period. A new period commences automatically at the end of the previous period. The telegram counter is reset to zero. Telegrams can be sent again. The Group Object always sends the current telegram value.

The first period (break time) is not precisely predefined. The break time can be anywhere between 0 seconds and the parameterized period. The subsequent periods correspond to the parameterization.

**Example**

- Number of telegrams = 20
- Maximum number of telegrams per period = 5
- Period = 5 s

The device immediately sends 5 telegrams. The next 5 telegrams are sent after a maximum of 5 seconds. From this point, a further 5 telegrams are sent via the bus (ABB i-bus® KNX) every 5 seconds.

**12.2.12 Refreshed KNX state**

If an input or an output is blocked by device-specific functions (e.g. manual operation, alarms, block, forced operation, switching delay), it will not react to telegrams received via the bus (ABB i-bus® KNX) while the block is active.

While a block is active, the device processes the telegrams received in the background. Active functions (e.g. staircase lighting, logic, position, brightness value) are executed in the background, but the results are not sent. The actual value is sent to the input or output when the block is canceled.

If the input or output has not received any telegrams via the bus (ABB i-bus® KNX) while a block is active, the input or output will assume the state it was in before the block.

**12.2.13 Value Read**

Using the command "Value Read" the value of the state of a group address in a Group Object can be read. A Group Object can only reply if the "Read" flag is set. The group address first in the Group Object (sending group address) is always sent. The reply is only sent once and can only be understood by the Group Object that triggered the "Value Read" command. The value received is written to the reading Group Object.

**12.2.14 Cyclical monitoring**

The reception of a telegram on a Group Object can be monitored using cyclical monitoring. If a telegram is not received on the Group Object within a parameterizable time (monitoring cycle), the sending device may be faulty or the bus cable to the sending device may be interrupted.

Depending on the device, the reaction to the loss of a telegram can be set in the application-specific parameters or the corresponding alarm is triggered.

After the receipt of a telegram, ETS download or KNX voltage recovery (ABB i-bus® KNX), the monitoring cycle is restarted.

** Note**

The monitoring cycle in the device should be at least quadruple the cyclical sending time of the sending device. As a result, the reactions set will not be triggered immediately if a signal is missing, e.g. due to high bus load.

## 13 Appendix

### 13.1 Scope of delivery

The device is supplied together with the following components:

- 1 x blind actuator
- 1 x installation and operating instructions
- 1 x KNX bus connection terminal (red/black)
- 1 x cover cap

## 13.2 Table of values, Group Object "Scene 1 ... 64"

The following table contains the telegram code of the 64 Scenes. Each 8-bit Scene is indicated in hexadecimal and binary codes. The 8-bit value is sent when a Scene is recalled/stored.

x = Value 1

Empty = Value 0

Bit no.	7	6	5	4	3	2	1	0		
8-bit value	Hexadecimal	Recall/store	Not defined	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Scene number	Recall A Store S No reaction -
0	00								1	A
1	01							x	2	A
2	02						x		3	A
3	03						x	x	4	A
4	04					x			5	A
5	05					x		x	6	A
6	06					x	x		7	A
7	07					x	x	x	8	A
8	08				x				9	A
9	09				x			x	10	A
10	0A				x		x		11	A
11	0B				x		x	x	12	A
12	0C				x	x			13	A
13	0D				x	x		x	14	A
14	0E				x	x	x		15	A
15	0F				x	x	x	x	16	A
16	10			x					17	A
17	11			x				x	18	A
18	12			x			x		19	A
19	13			x			x	x	20	A
20	14			x		x			21	A
21	15			x		x		x	22	A
22	16			x		x	x		23	A
23	17			x		x	x	x	24	A
24	18			x	x				25	A
25	19			x	x			x	26	A
26	1A			x	x		x		27	A
27	1B			x	x		x	x	28	A
28	1C			x	x	x			29	A
29	1D			x	x	x		x	30	A
30	1E			x	x	x	x		31	A
31	1F			x	x	x	x	x	32	A
32	20			x					33	A
33	21			x				x	34	A
34	22			x			x		35	A
35	23			x			x	x	36	A
36	24			x		x			37	A
37	25			x		x		x	38	A
38	26			x		x	x		39	A
39	27			x		x	x	x	40	A
40	28			x		x			41	A
41	29			x		x		x	42	A
42	2A			x		x		x	43	A
43	2B			x		x		x	44	A
44	2C			x		x	x		45	A
45	2D			x		x	x	x	46	A
46	2E			x		x	x	x	47	A
47	2F			x		x	x	x	48	A
48	30			x	x				49	A
49	31			x	x			x	50	A
50	32			x	x		x		51	A
51	33			x	x		x	x	52	A
52	34			x	x		x		53	A
53	35			x	x		x	x	54	A
54	36			x	x		x	x	55	A
55	37			x	x		x	x	56	A
56	38			x	x	x			57	A
57	39			x	x	x		x	58	A
58	3A			x	x	x		x	59	A
59	3B			x	x	x		x	60	A
60	3C			x	x	x	x		61	A
61	3D			x	x	x	x	x	62	A
62	3E			x	x	x	x	x	63	A

Bit no.	7	6	5	4	3	2	1	0		
8-bit value	Hexadecimal	Recall/store	Not defined	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Scene number	Recall A Store S No reaction -
63	3F			x	x	x	x	x	64	A
64	40		x						-	-
65	41		x					x	-	-
66	42		x				x		-	-
67	43		x				x	x	-	-
68	44		x			x			-	-
69	45		x			x		x	-	-
70	46		x			x	x		-	-
71	47		x			x	x	x	-	-
72	48		x		x				-	-
73	49		x		x			x	-	-
74	4A		x		x		x		-	-
75	4B		x		x		x	x	-	-
76	4C		x		x	x			-	-
77	4D		x		x	x		x	-	-
78	4E		x		x	x	x		-	-
79	4F		x		x	x	x	x	-	-
80	50		x		x				-	-
81	51		x		x			x	-	-
82	52		x		x		x		-	-
83	53		x		x		x	x	-	-
84	54		x		x		x		-	-
85	55		x		x			x	-	-
86	56		x		x		x	x	-	-
87	57		x		x		x	x	-	-
88	58		x		x	x			-	-
89	59		x		x	x		x	-	-
90	5A		x		x	x		x	-	-
91	5B		x		x	x		x	-	-
92	5C		x		x	x	x		-	-
93	5D		x		x	x	x	x	-	-
94	5E		x		x	x	x	x	-	-
95	5F		x		x	x	x	x	-	-
96	60		x	x					-	-
97	61		x	x				x	-	-
98	62		x	x			x		-	-
99	63		x	x			x	x	-	-
100	64		x	x			x		-	-
101	65		x	x			x	x	-	-
102	66		x	x			x	x	-	-
103	67		x	x			x	x	-	-
104	68		x	x		x			-	-
105	69		x	x		x		x	-	-
106	6A		x	x		x		x	-	-
107	6B		x	x		x		x	-	-
108	6C		x	x		x	x		-	-
109	6D		x	x		x	x	x	-	-
110	6E		x	x		x	x	x	-	-
111	6F		x	x		x	x	x	-	-
112	70		x	x	x				-	-
113	71		x	x	x			x	-	-
114	72		x	x	x			x	-	-
115	73		x	x	x			x	-	-
116	74		x	x	x		x		-	-
117	75		x	x	x		x	x	-	-
118	76		x	x	x		x	x	-	-
119	77		x	x	x		x	x	-	-
120	78		x	x	x	x			-	-
121	79		x	x	x	x		x	-	-
122	7A		x	x	x	x		x	-	-
123	7B		x	x	x	x		x	-	-
124	7C		x	x	x	x	x		-	-
125	7D		x	x	x	x	x	x	-	-

Bit no.	7	6	5	4	3	2	1	0		
8-bit value	Hexadecimal	Recall/store	Not defined	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Scene number	Recall A Store S No reaction –
126	7E		x	x	x	x	x	x	-	-
127	7F		x	x	x	x	x	x	-	-
128	80	x							1	S
129	81	x						x	2	S
130	82	x						x	3	S
131	83	x						x	4	S
132	84	x					x		5	S
133	85	x				x		x	6	S
134	86	x				x	x		7	S
135	87	x				x	x	x	8	S
136	88	x			x				9	S
137	89	x			x			x	10	S
138	8A	x			x		x		11	S
139	8B	x			x		x	x	12	S
140	8C	x			x	x			13	S
141	8D	x			x	x		x	14	S
142	8E	x			x	x	x		15	S
143	8F	x			x	x	x	x	16	S
144	90	x			x				17	S
145	91	x			x			x	18	S
146	92	x			x			x	19	S
147	93	x			x			x	20	S
148	94	x			x		x		21	S
149	95	x			x	x		x	22	S
150	96	x			x		x	x	23	S
151	97	x			x		x	x	24	S
152	98	x			x	x			25	S
153	99	x			x	x		x	26	S
154	9A	x			x	x		x	27	S
155	9B	x			x	x		x	28	S
156	9C	x			x	x	x		29	S
157	9D	x			x	x	x	x	30	S
158	9E	x			x	x	x	x	31	S
159	9F	x			x	x	x	x	32	S
160	A0	x			x				33	S
161	A1	x			x			x	34	S
162	A2	x			x			x	35	S
163	A3	x			x			x	36	S
164	A4	x			x			x	37	S
165	A5	x			x			x	38	S
166	A6	x			x			x	39	S
167	A7	x			x			x	40	S
168	A8	x			x				41	S
169	A9	x			x			x	42	S
170	AA	x			x			x	43	S
171	AB	x			x			x	44	S
172	AC	x			x			x	45	S
173	AD	x			x			x	46	S
174	AE	x			x			x	47	S
175	AF	x			x			x	48	S
176	B0	x			x				49	S
177	B1	x			x			x	50	S
178	B2	x			x			x	51	S
179	B3	x			x			x	52	S
180	B4	x			x			x	53	S
181	B5	x			x			x	54	S
182	B6	x			x			x	55	S
183	B7	x			x			x	56	S
184	B8	x			x			x	57	S
185	B9	x			x			x	58	S
186	BA	x			x			x	59	S
187	BB	x			x			x	60	S
188	BC	x			x			x	61	S
189	BD	x			x			x	62	S
190	BE	x			x			x	63	S

Tab. 18: Code table 8-bit Scene

Bit no.	7	6	5	4	3	2	1	0		
8-bit value	Hexadecimal	Recall/store	Not defined	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Binary number codes	Scene number	Recall A Store S No reaction –
191	BF	x		x	x				64	S
192	C0	x	x						-	-
193	C1	x	x						-	-
194	C2	x	x					x	-	-
195	C3	x	x					x	-	-
196	C4	x	x				x		-	-
197	C5	x	x				x		-	-
198	C6	x	x				x	x	-	-
199	C7	x	x				x	x	-	-
200	C8	x	x				x		-	-
201	C9	x	x				x		-	-
202	CA	x	x				x	x	-	-
203	CB	x	x				x	x	-	-
204	CC	x	x				x	x	-	-
205	CD	x	x				x	x	-	-
206	CE	x	x				x	x	-	-
207	CF	x	x				x	x	-	-
208	D0	x	x			x			-	-
209	D1	x	x			x			-	-
210	D2	x	x			x		x	-	-
211	D3	x	x			x		x	-	-
212	D4	x	x			x		x	-	-
213	D5	x	x			x		x	-	-
214	D6	x	x			x		x	-	-
215	D7	x	x			x		x	-	-
216	D8	x	x			x		x	-	-
217	D9	x	x			x		x	-	-
218	DA	x	x			x		x	-	-
219	DB	x	x			x		x	-	-
220	DC	x	x			x		x	-	-
221	DD	x	x			x		x	-	-
222	DE	x	x			x		x	-	-
223	DF	x	x			x		x	-	-
224	E0	x	x			x			-	-
225	E1	x	x			x			-	-
226	E2	x	x			x			-	-
227	E3	x	x			x			-	-
228	E4	x	x			x			-	-
229	E5	x	x			x			-	-
230	E6	x	x			x			-	-
231	E7	x	x			x			-	-
232	E8	x	x			x			-	-
233	E9	x	x			x			-	-
234	EA	x	x			x			-	-
235	EB	x	x			x			-	-
236	EC	x	x			x			-	-
237	ED	x	x			x			-	-
238	EE	x	x			x			-	-
239	EF	x	x			x			-	-
240	F0	x	x			x			-	-
241	F1	x	x			x			-	-
242	F2	x	x			x			-	-
243	F3	x	x			x			-	-
244	F4	x	x			x			-	-
245	F5	x	x			x			-	-
246	F6	x	x			x			-	-
247	F7	x	x			x			-	-
248	F8	x	x			x			-	-
249	F9	x	x			x			-	-
250	FA	x	x			x			-	-
251	FB	x	x			x			-	-
252	FC	x	x			x			-	-
253	FD	x	x			x			-	-
254	FE	x	x			x			-	-
255	FF	x	x			x			-	-

## 13.3 Status byte automatic sun protection

Bit no.			7	6	5	4	3	2	1	0
Bit no.	8-bit value									
0-2	0	Automatic sun protection inactive	-	-	-	-	-	0	0	0
0-2	1	Automatic sun protection active	-	-	-	-	-	0	0	1
0-2	2	Automatic sun protection in standby	-	-	-	-	-	0	1	0
0-2	3	Automatic sun protection overridden by higher priorities	-	-	-	-	-	0	1	1

Bit no.			7	6	5	4	3	2	1	0
Bit no.	8-bit value									
3-5	0	Automatic sun protection inactive	-	-	0	0	0	-	-	-
3-5	1	Anti-glare protection active	-	-	0	0	1	-	-	-
3-5	2	Cooling active	-	-	0	1	0	-	-	-
3-5	3	Heating active	-	-	0	1	1	-	-	-
3-5	4	Overheating protection active	-	-	1	0	0	-	-	-
6	0	Sun = 0	-	0	-	-	-	-	-	-
6	1	Sun = 1	-	1	-	-	-	-	-	-
7	-	Not used	-	-	-	-	-	-	-	-

Tab. 19: Status byte automatic sun protection



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