KNX secure actuators

Software manual

warema

Der SonnenLichtManager

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General notes

The publication of this document supersedes all previous documentation. We reserve the right to make changes in the interest of technical progress. Particular care was taken in producing the text and graphics in this document. In spite of this, we cannot accept liability for any existing errors or the consequences thereof.

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1 Overview

This manual describes the functions of all KNX secure actuators. Please refer to the relevant information at the beginning of the chapter to find out which functions are available for your device variant.

The designations and the number of objects, as shown in the figures, may vary depending on the device and software version.

CAUTION
The KNX secure actuators position the sun shading drives with a high degree of accuracy. After the devices have been operated for an extended period, however, the positioning may begin to stray. To ensure that the devices continue to function properly, the sun shading drive should be calibrated once a week.

1.1 General information about the KNX secure actuators

The KNX secure actuators are used for directly positioning mutually independent drives for venetian blinds, external venetian blinds, awnings and other sun shading systems. The number of outputs depends on the respective device model.

- up to eight 230 V AC drives

1.2 Device product variants

WAREMA supplies KNX secure actuators in a surface-mounted housing (AP), four device models with a DIN rail-mounted device (REG) and one device model in flush-mounted housing (UP).

All of the devices have the following features:

- Support KNX Data Secure
- Can be updated via the KNX bus and via USB
- Emergency/manual operation and actuation of the KNX programming button via Bluetooth and smartphone app (can be deactivated)
- Test and diagnostic options in the WAREMA KNX actuator smartphone app
- Freely parameterisable binary inputs available (e.g. switching, dimming, venetian blind, scenario push button, free state/edge evaluation)
- Logic and timer

Devices with the addition "pro" include additional features:

- Current measurement to detect faults
- Run time detection

Actuator	Voltage	Channels	Push button inputs	Housing	Housing width	Art. no.
KNX secure 1M230.4I AP pro	230 V AC	1	4	Flush-mounted housing	46×47 mm	2090339
KNX secure 2M230.8I AP pro	230 V AC	2	8	Surface-mounted housing	9 MW	2040737
KNX secure 2M230.8I AP	230 V AC	2	8	Surface-mounted housing	9 MW	2040738
KNX secure 4M230.8I AP pro	230 V AC	4	8	Surface-mounted housing	9 MW	2040739
KNX secure 4M230.8I AP	230 V AC	4	8	Surface-mounted housing	9 MW	2040760
KNX secure 6M230.16I AP pro	230 V AC	6	16	Surface-mounted housing	12 MW	2040761
KNX secure 6M230.16I AP	230 V AC	6	16	Surface-mounted housing	12 MW	2040762
KNX secure 8M230.16I AP pro	230 V AC	8	16	Surface-mounted housing	12 MW	2040763
KNX secure 8M230.16I AP	230 V AC	8	16	Surface-mounted housing	12 MW	2040764
KNX secure 4M230.8I REG pro	230 V AC	4	8	DIN rail-mounted device	9 MW	2040767
KNX secure 4M230.8I REG	230 V AC	4	8	DIN rail-mounted device	9 MW	2040768
KNX secure 8M230.16I REG pro	230 V AC	8	16	DIN rail-mounted device	12 MW	2100891
KNX secure 8M230.16I REG	230 V AC	8	16	DIN rail-mounted device	12 MW	2100890

The dimensions are provided in the respective installation instructions for the devices.

1.3 Additional documentation

Further information on the installation and commissioning of the KNX secure actuators can be found in the associated installation instructions.

Hereinafter, group objects will be abbreviated as ***GO***.

2 Safety instructions

We developed and tested the KNX secure actuators in compliance with the basic safety requirements.
Residual risks nevertheless remain.

- For this reason, please read this manual before commissioning and operating the control.
- **It is very important that you adhere to the safety instructions listed here and the warnings contained in this manual. Failure to do so will void any warranty claims against the manufacturer.**
- Keep this manual for future use.

2.1 Explanation of symbols and pictograms

The safety instructions contained in these instructions are marked with warning symbols. They are classified hierarchically according to their respective risk potential as follows:

DANGER
Warns of an **imminently dangerous situation.**
Possible consequences **may include serious injuries and even death (personal injury), property damage or environmental damage.**

WARNING
Warns of a **potentially dangerous situation.**
Possible consequences **may include mild or serious injuries and even death (personal injury), property damage or environmental damage.**

CAUTION
Reminder to **exercise caution**.
Failure to comply may result in **property damage**.

The following pictograms or symbols may have been affixed to the control itself or to the connected devices alerting you to specific potential dangers:

WARNING
Warns of dangerous electrical voltage.

The i symbol indicates important **information** and helpful **tips**.

Example The term **Example** denotes an **example**.

- The **square** denotes an **instruction** or a **prompt for action**. Perform this action.

- The **triangle** denotes an **event** or the **result** of a previous action.

- The **black triangle** is a **bullet point** for lists or selections.

2.2 Intended use

The KNX secure actuators are used for directly positioning mutually independent drives for venetian blinds, external venetian blinds, awnings and other sun shading systems.

WARNING
Please obtain the approval of the manufacturer if you have questions regarding the connection of devices not listed in these instructions!

All control devices are intended to be installed **indoors** unless specified otherwise.

WARNING
The approval of the manufacturer must be obtained for uses outside of those listed here! The consequences of unintended use may include personal injury to the operator or third parties as well as property damage to the control itself, to connected devices or to movable mechanical parts of the entire unit.

- Therefore, use our product only as intended!

2.3 Target group

These instructions are intended for persons who are commissioning a sun shading system using KNX technology, as well as for qualified technicians. Knowledge of KNX technology is essential.

WARNING
Commissioning and operation by persons who are not sufficiently qualified and informed can cause severe damage to the unit or may even cause personal injury.

- Commissioning may therefore only be performed by properly trained and qualified technicians. These technicians must be able to recognise danger that may be caused by the mechanical, electrical or electronic equipment.
- Persons commissioning the unit must be familiar with and understand the content of these instructions.

2.4 General safety instructions

The control system controls the sun shading system automatically. You must therefore observe the following safety instructions:

WARNING
An automatically controlled mechanism may begin to move unexpectedly.

- Therefore, never place any objects in the area of an automatically controlled mechanism. Make sure that no persons are located in the movement range of automatically controlled sun shading products during commissioning.
- If measuring or test work needs to be carried out on the active unit, make sure that applicable accident prevention regulations are observed under all circumstances.

CAUTION
The entire unit becomes non-functional in the event of a power failure. Therefore, move your sun shading system to a safe position ahead of time if a storm is imminent. Changing individual parameters may impair the safety of the unit or reduce its effectiveness. It is better to consult a qualified specialist if you are not sure about the effects of a change.

3 General information

3.1 Technical data

Technical data, wiring diagrams and specifications for electrical lines and connectable devices can be found in the installation instructions for the respective actuators.

3.2 Outputs

The outputs are grouped into channels in the following. Two electrical outputs are allocated to each channel.

The channels can be controlled independently of one another.

The ▼ symbol stands for the DOWN direction; the ▲ symbol stands for the UP direction.

Different sun shading system operating modes can be set for each output.

3.3 Master reset

The master reset returns the KNX secure actuator to its delivery condition. All group addresses in the device are deleted, all parameters are set to the default values and the physical address is set to 15.15.255.

The key to access the device is reset to the factory default setup key (FDSK, pre-set in the factory).

The actuator **KNX secure 1M230.4I AP pro** is supplied with voltage by the KNX bus. In the following description, the operating voltage for this actuator also refers to the bus voltage. Disconnect the actuator from the bus accordingly (or switch off the bus voltage).

A master reset is performed as follows:

1. Switch off the operating voltage
2. Press and hold the programming button
3. Switch on the operating voltage
4. Wait for the programming LED to start flashing and release the button after approx. 10 seconds
5. Wait for the programming LED to go out
6. Switch off the supply voltage
7. The master reset is finished

After a master reset, the actuator must be recommissioned.

4 Commissioning

The KNX secure actuators are commissioned using the Engineering Tool Software ETS (min. ETS 5).

Before initial operation of the KNX secure actuator, move all connected sun shading products to a safe position, e.g. move external venetian blinds to their upper limit position.

4.1 Electrical connections

Technical data, wiring diagrams and specifications for electrical lines and connectable devices can be found in the installation instructions for the respective actuators.

CAUTION
Only connect sun shading products with correctly adjusted limit switches to prevent damage when commissioning.

4.2 Commissioning (using ETS in standard mode)

Commissioning is performed as follows:

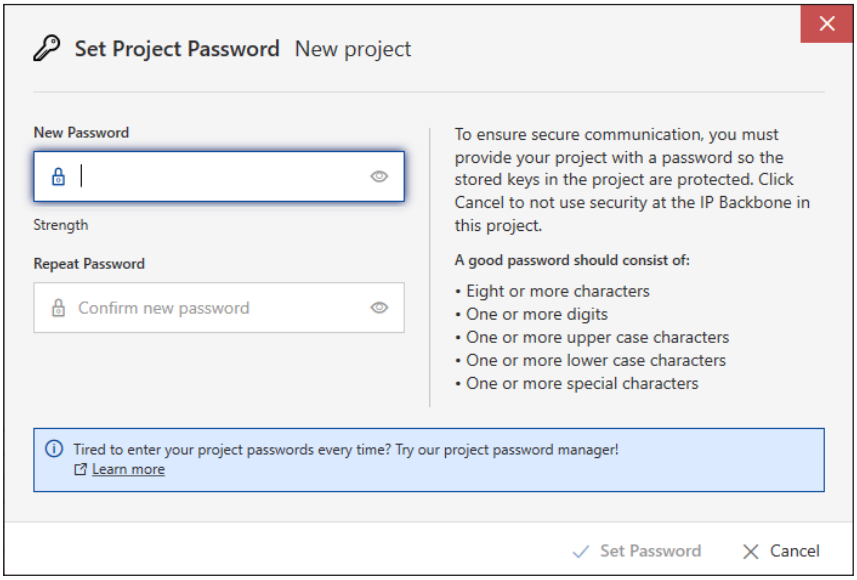
1. Switch on the operating voltage
2. Switch on the bus voltage
3. Press the programming button on the device (programming LED lights up)
4. Load the physical address and application into the device from the ETS
5. Wait for the programming LED to go out
6. Check the function of the device

After commissioning or after voltage recovery, the actuator does not recognise the position of the connected sun shading products. For this reason, when a move command is executed for the first time, the connected sun shading products initially perform a calibration in some circumstances.

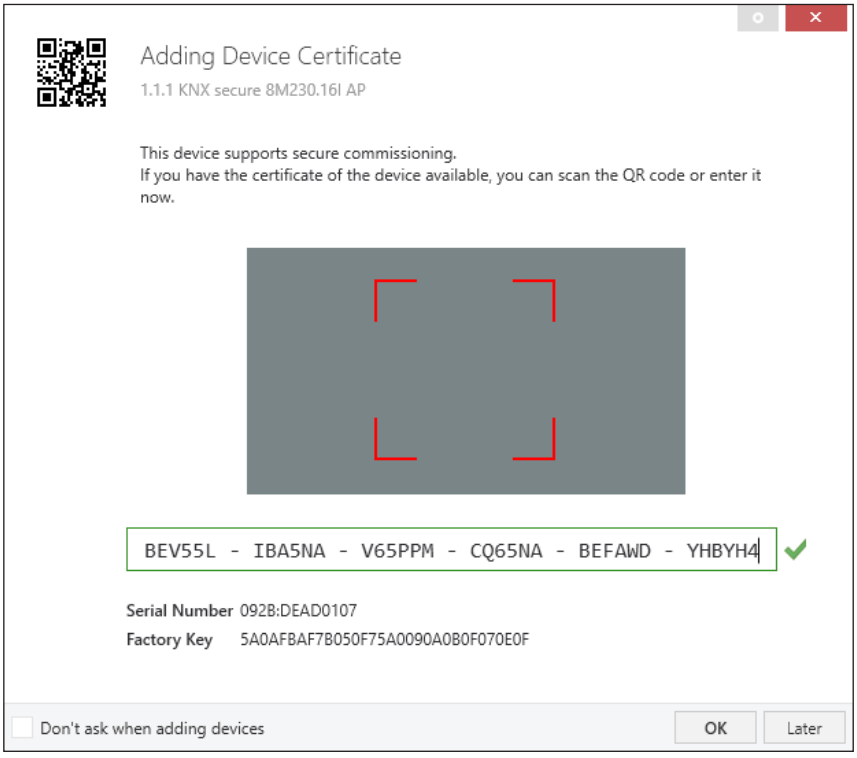
4.3 Secure commissioning (using ETS in secure mode)

Commissioning is performed as described in *section 4.2.* The following additional steps are required when planning in the ETS:

1. Add KNX secure actuator
2. Set project password (this window is only displayed when the first secure device is added to the project.)



3. Add device certificate (Scan QR code on KNX secure actuator or enter the code via the keyboard. If entered correctly, the serial number and factory key (FDSK) of the actuator are displayed in the same window).



4.4 Manual operation via smartphone with the KNX actuator app

The KNX secure actuators are equipped with a Bluetooth module. This allows for the emergency operation via a smartphone in the KNX actuator app. The communication between the smartphone and the KNX devices is established via Bluetooth LE (Low Energy).

The KNX actuator app ensures that the connected devices can be operated during the commissioning phase and in fault situations such as if the bus voltage should fail. It is not intended as a substitute for push buttons.
Only the power supply needs to be switched on to operate the actuator (for **KNX secure 1M230.4I AP pro**, the bus voltage must also be switched on as it is supplied with voltage by the bus).

- ▶ When not programmed, the actuators can only be operated via Bluetooth. Push buttons connected to the actuator inputs only have a function once they have been parameterised via the ETS and uploaded to the device.
- ▶ Operation via the app has the same priority as manual operation via group objects. A safety function which is currently active may prevent operation.

CAUTION
In the delivery condition, the run time is 300 s in the UP/DOWN direction. After a long keystroke, voltage is supplied to the corresponding terminals for the duration of the run time.

To protect against unauthorised use, access via the app is protected by a password (Bluetooth login key). When loading with ETS for the first time, the password for the actuator in the delivery condition is overwritten with the preset password in the ETS (*see Fig. 1*). This is then required to operate the actuator via the app.

If necessary you can change the password to anything in the range from 0 to 9999 in the ETS. Do not forget to document the change, in case operation via the app is needed again at a later date.

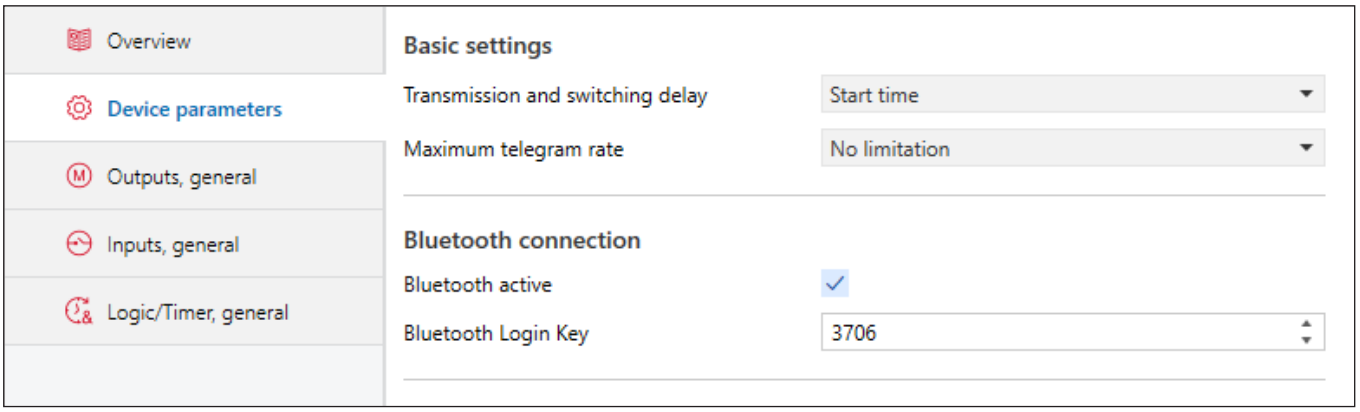


Fig. 1 Parameter dialogue: Device parameters

Alternatively, the Bluetooth function of the actuator can also be completely switched off during the parameterisation via the ETS (the function is always preset at the factory to "On").

4.4.1 Loading and starting the KNX actuator app

- Download the **WAREMA KNX actuator app** for operating the KNX secure actuators from the app store for your smartphone.

Android: Google Play Store http://www.warema.de/KNX-SA-Android	**iOS: App Store** http://www.warema.de/KNX-SA-iOS
Requirements: Android 6 or higher GPS must be activated	Requirement: iOS 9 or higher

- Start the KNX actuator app.
- ▶ The surrounding area is automatically scanned for WAREMA actuators for one minute.
- ▶ All actuators found are shown in the display.

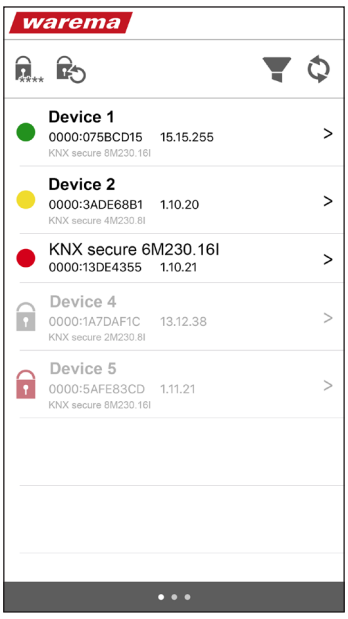
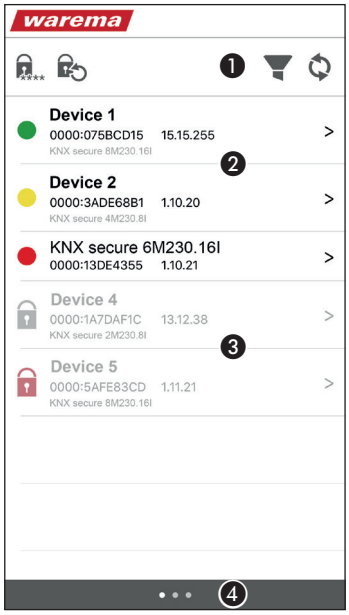
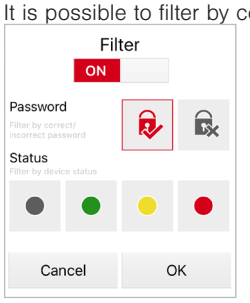


Fig. 2 KNX actuator app

4.4.2 Device list



❶ Menu bar	Change password. Reset password to factory setting. Filter displayed devices in the device list. When the filter is active, this symbol is red. It is possible to filter by correct password or status.  Scan for devices again (scan duration one minute). An ongoing scanning procedure can be cancelled with the symbol then shown at this point. (The scanning procedure can also be started by dragging down the device list.)
❷ Device list Password identical	All devices found are displayed in the device list. All devices for which the password matches the password that has just been set in the app, are shown in black. The colour of the point displays the status of the device. The device type, the KNX serial number and the physical address are displayed. (If equipment labelling has been assigned, this is displayed first. The device type then appears in grey beneath the other information.) Briefly touch a device to switch to the operating window.
❸ Device list Password different	All devices for which the password does not match the password that has just been set in the app, are shown in grey. A lock in the status colour of the device is shown instead of a point. If you briefly touch the device, you must first enter the device's password to be able to switch to the operating window.
❹ Page indicator	Displays the window in which you are currently located. You can switch between the device list, the cache (total list of all scanned devices) and Help by swiping sideways on the screen.

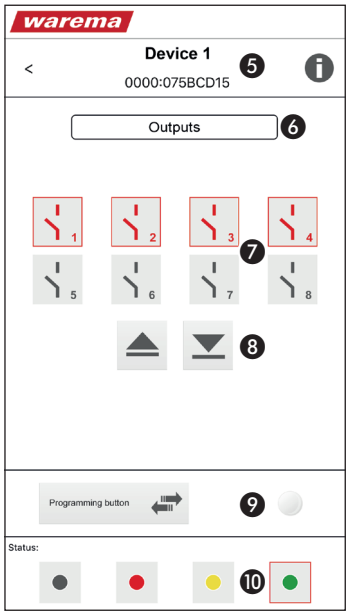
The KNX secure actuator can establish only one Bluetooth connection at a time. As soon as you select an actuator in the device list (operating window opens), it stays connected to the smartphone until you select another actuator. If you scan again or completely exit the app, any existing connection is lost.

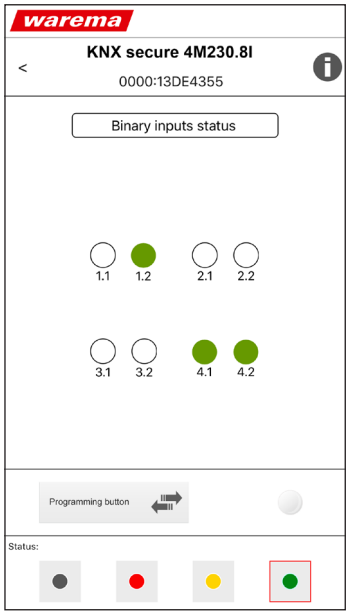
While an actuator is connected to a smartphone, it will not be found in scans by other smartphones operating at the same time.

4.4.3 Operating window

Operation via the app has the same priority as manual operation via group objects. A currently active safety function can prevent operation via the app.

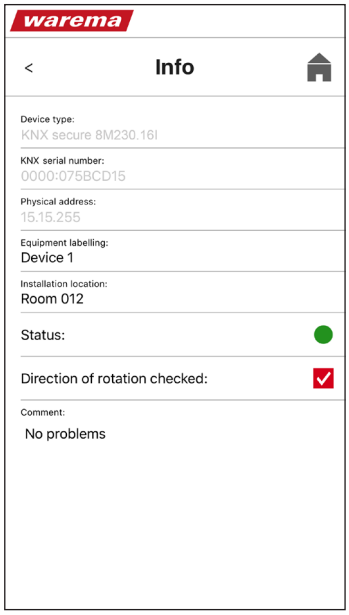
WARNING
Never randomly press the buttons on the app without having a line of sight to the sun shading system!





❺ Header	Equipment labelling (or device type) and KNX serial number are displayed in the header. ⓘ Call up actuator info window
❻ Toggle view	For actuators with inputs, it is possible to switch between the following: Outputs Operate Binary inputs status Display state of inputs (only display, see figure below) The button to toggle the view is displayed dependent on the device. It only appears for actuators with inputs. Older series do not yet support this function.
❼ Device channels	In this area you can choose whichever channels you want to operate. The operating elements affect all selected channels. RED: Channel selected GREY: Channel not selected The number of displayed channels depends on the device type.
❽ UP/DOWN operating elements	All selected (red) channels receive the corresponding Up or Down move command following a keystroke. The actuator then switches the associated outputs on or off. The operating behaviour is as follows: Short keystroke = Step / Stop, Long keystroke = Move.
❾ Programming button and LED	The programming button and LED have the same function as on the device. Programming the physical address, *see Chapter 5.3 on page 19*.
❿ Status	Here you can specify a status for the device. It is displayed in the device list before the device. The status is purely informative and is used to give a better overview if there are lots of devices.

4.4.4 Actuator info window



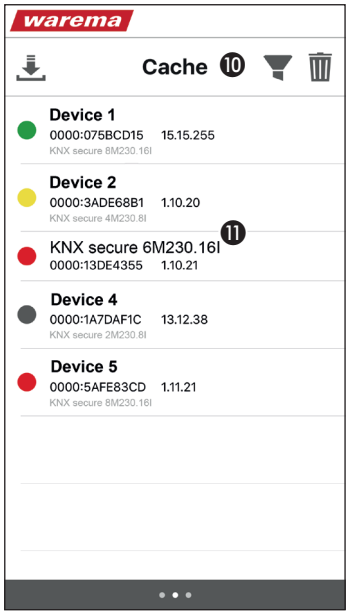
The device information is displayed in the actuator info window.

The device type, KNX serial number and physical address cannot be modified and are therefore shown in grey.

The fields shown in black can be modified. Here you can enter the appropriate information as needed. It is saved in the actuator and is available for continued commissioning or future access via the app.
Equipment labelling: Here you can enter a name, an allocation number or a similar label for the actuator.
Installation location: The location of the actuator is entered here.
Status: The status of the device selected in the operating window is displayed here.
Direction of rotation tested: Here you can set a checkmark if you have checked the direction of rotation of all connected drives.
Comment: Field for additional information (information about actuator, special features, notes for colleagues, etc.)

Back

4.4.5 Cache



10 Menu bar	Export the cache list as a csv file. The list is always exported in full, filter settings are ignored. Android: Select a delivery option in the dialogue. You can send the csv file by e-mail, save it on Google Drive or transfer it via Android Beam. Alternatively, you can access the file through any file manager. iOS: A draft e-mail opens with the csv file attached, which you can send to any e-mail address. Alternatively, you can access the file via iTunes (under "Enable" select the app "KNX secure", the file is then displayed in the documents window). Filter displayed devices in the device list. When the filter is active, this symbol is red. It is possible to filter by status. Delete the entire cache
11 Cache list	All devices previously found while scanning are displayed in the cache list. This also allows you to see the devices that were no longer registered in the repeated scan (e.g. in another part of the building). No operation is possible from this list, as there is no communication with the listed devices.

5 Planning

The KNX secure actuators are commissioned using the Engineering Tool Software ETS (**min. ETS 5**).
The required product database (.knxprod) can be found in the online catalogue of the ETS or on the internet at http://www.warema.de/knx.

Further information on safe commissioning is provided in section *4.3 Secure commissioning (using ETS in secure mode) on page 12*.

5.1 Parameterisation

The actuators are parameterised using the parameter dialogue of the ETS. For the sake of clarity, the parameters there are presented in parameter groups.

Parameterisation should be carried out in the following order:

1. **Device parameters**
   Essential parameters to parameterise the device, time, sun position calculation etc.
2. **Outputs, general**
   Select the operating mode of output channels 1 – n
   (the same for all or separately) and activate the required outputs
3. **On: Output**
   Parameterise the output channels
4. **Inputs, general** (if necessary)
   Select the operating mode of input channels 1 – n
   (in pairs or individually)
5. **In.n: Input** (if necessary)
   Parameterise the input channels
6. **Logic/timer, general** (if necessary)
   Activate functions 1 – 16
7. **Ln: Logic** or **Tn: Timer** (if necessary)
   Parameterise the functions

Detailed explanations of all parameters are provided in *Chapter 7 Parameter dialogue on page 23*.

5.2 Group addresses/linking

Numerous functions are configured in the parameter settings (e.g. as the operating mode for the output channels). Only a specific set of group objects are required for each function in the ETS. Group objects that are not required are automatically hidden by the ETS. This means that any links already planned in the ETS project may be deleted when the functionality is changed.

5.3 Physical address

The physical address is used for the exact identification of a device.

5.3.1 Programming addresses via the programming button or smartphone app

You can perform programming either in the app or directly on the actuator. There is a Prog button for programming and a display LED both in the app and on the actuator.

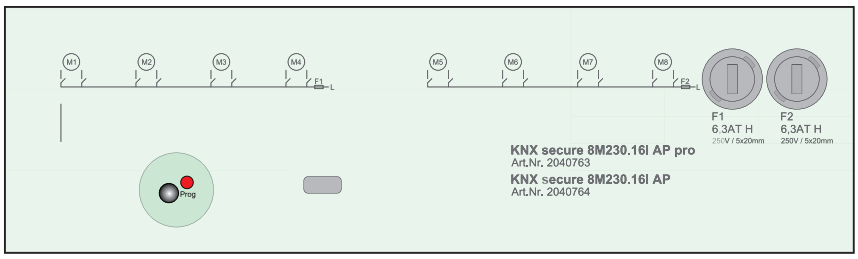


Fig. 3 Programming button on the front of the device

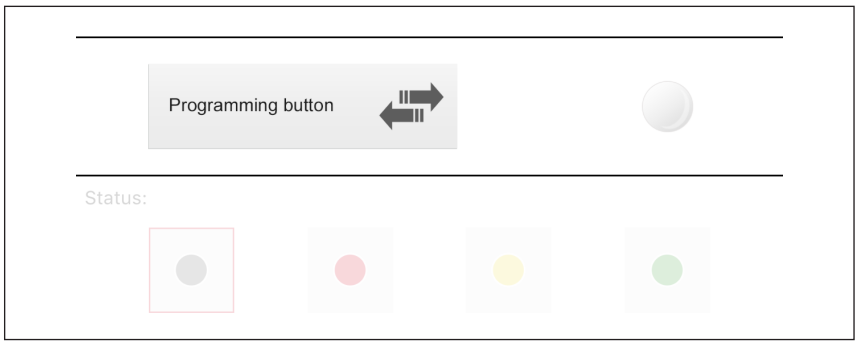


Fig. 4 Programming button in the smartphone app

The procedure is basically the same:

- Start the programming process in the ETS with [program physical address].
- Press the programming button in the app or on the actuator to put the actuator into programming mode.
- ▶ The red LED lights up when the programming mode is active. Programming is started using the ETS. Programming mode is terminated automatically and the red LED goes out.

If the programming mode is ended prematurely, press the programming button again. The red LED goes out.

After the physical address is programmed, the KNX secure remains operable via the keypad or smartphone app.

In the delivery condition, the device is delivered with the physical address 15.15.255.

5.3.2 Programming the address via the ETS App

To enable the commissioning of the devices with the actuator serial number via ETS, a two-part label is applied to the device. The actuator serial number of the device appears on both parts of the label as a barcode and as plain text. One part of the label can be removed by the installer and applied to the floor plan of the building.

Thanks to the free ETS app, **SIEMENS Address by ID,** provided by Siemens, it is then possible to commission the devices without having to press the programming button.

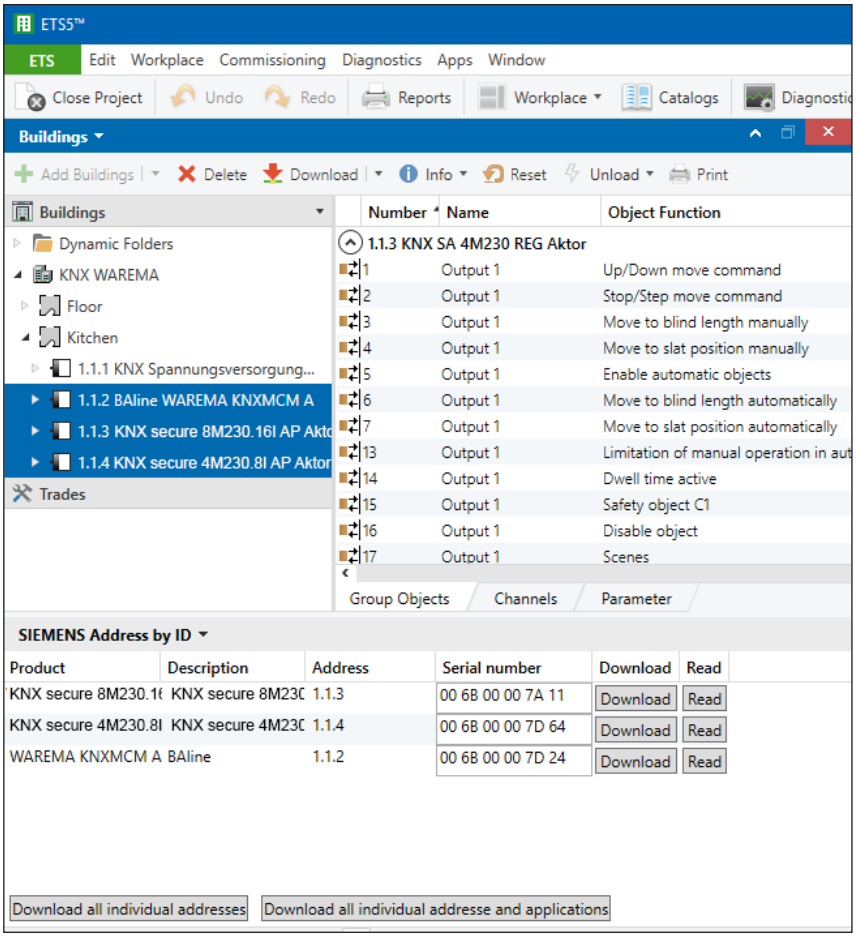


Fig. 5 SIEMENS ETS app for commissioning using the actuator serial number

The "Addressing via serial number" function is also possible without an additional app from ETS version 6.1.1 onwards.

5.4 Application program

During initial operation of the KNX secure actuators, the physical address, group objects, parameters and group addresses must be programmed. If a project is subsequently changed, only the group addresses and parameters need to be programmed.

Group objects are loaded, for example, by selecting [Programming...] > [Application programme] in the ETS.

6 The operating modes of the KNX secure actuators

Three different operating modes can be set for each channel:

- Venetian blind/external venetian blind
- Roller shutters/textile sun shading systems
- Window awning with ZIP guidance

In this way, different types of operating elements and different types of sun shading drives can be connected to the actuators.

WARNING
The KNX secure actuators do not have equipment, algorithms or similar features to switch off connected drives based on load. The risk of pinching and crushing must be prevented using on-site measures.

6.1 Venetian blind/external venetian blind

Venetian blinds and external venetian blinds are sun shading or dim-out elements with slats. They are controlled by raising, lowering or tilting the slats. Venetian blinds and external venetian blinds differ in their purpose and physical dimensions.

In the `Output for venetian blind/external venetian blind` operating mode, the KNX secure executes the **Up, Down and Tilt slats** movements. Each channel can be used to control a venetian blind or external venetian blind.

Each channel is equipped with group objects for move commands and status messages.

When moving to a particular slat position, the product may first move to the minimum or maximum slat position and then to the target slat position.

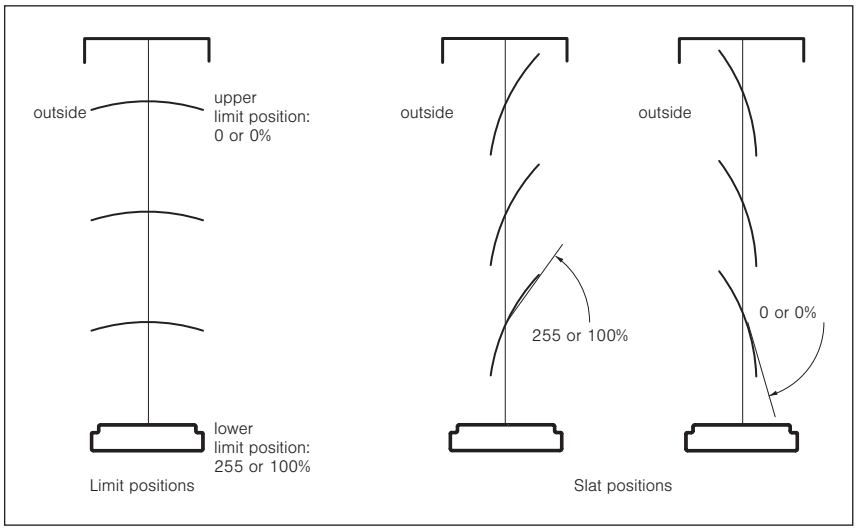


Fig. 6 Motor limit positions, slat positions

6.2 Roller shutter/textile sun shading systems

A roller shutter is a rolling closure for the additional closure of window and door openings, for example. Among other things, it provides visual, sun, intrusion and insect protection.

Fabric sun shading products consist of a movable mechanism with a fabric cover. Depending on the model, they provide visual privacy or sun shading.

In the `Output for roller shutter/textile sun shading` operating mode, the KNX secure actuator executes the **Up and Down** movements.

Each output can be used to control a roller shutter or a textile sun shading system.

Each channel is equipped with group objects for move commands and status messages.

6.3 Window awning with ZIP guidance

Window awnings with ZIP guidance consist of a textile fabric, which is guided on both sides. Depending on the model, they provide visual privacy or sun shading.

Window awnings with ZIP guidance are equipped with responsive obstacle detection. When the obstacle detection is triggered, the run time of the awning is extended depending on the number of additional travel attempts.

In the `Output for awning with ZIP guidance` operating mode, the KNX secure executes the **Up and Down** movements.

WARNING
As long as a safety object is active, an UP command parameterised in the safety object remains active (voltage at UP output), to allow the awning to move safely into the upper limit position even when the run time is extended by the responsive obstacle detection.

Each output can be used to control a window awning with ZIP guidance.

Each channel is equipped with group objects for move commands and status messages.

7 Parameter dialogue

The parameter dialogue for the KNX secure actuators in the ETS is divided into six groups:

Parameter group	Functions	Description
Overview	Here you will find references to further links and help	Section 7.1 on page 24
Device parameters	General actuator settings and Bluetooth functions	Section 7.2 on page 25
Outputs, general	Outputs can be activated and renamed here. The parameters for the time-offset movement of the outputs and the parameters for the combined move commands for the blind length and slat position for all outputs are also set here.	Section 7.3 on page 27
On: Output	The parameters for the relevant output are set here. The *On: Output* menus and sub-menus are displayed as soon as the corresponding outputs have been activated. If a name was assigned to the output, this is displayed instead of the designation "Output".	Section 7.4 on page 28
Inputs, general	The binary inputs on the device are activated here. Depending on the required operating mode, the input terminals can be activated individually or in pairs.	Section 7.5 on page 97
In.n: Input or In.1/In.2: Input	The function of the relevant input is parameterised here. The *In.n: Input* menus are displayed as soon as the corresponding inputs have been activated. If a name was assigned to the input, this is displayed instead of the designation "Input".	Section 7.5 on page 97
Logic/timer, general	The 16 available logical links or timer functions are switched on or off here.	Section 7.6 on page 116

The default values are shown in **bold** in the following parameter tables.

7.1 Overview

The home page of the parameter dialogue in the ETS provides references to further links and help.

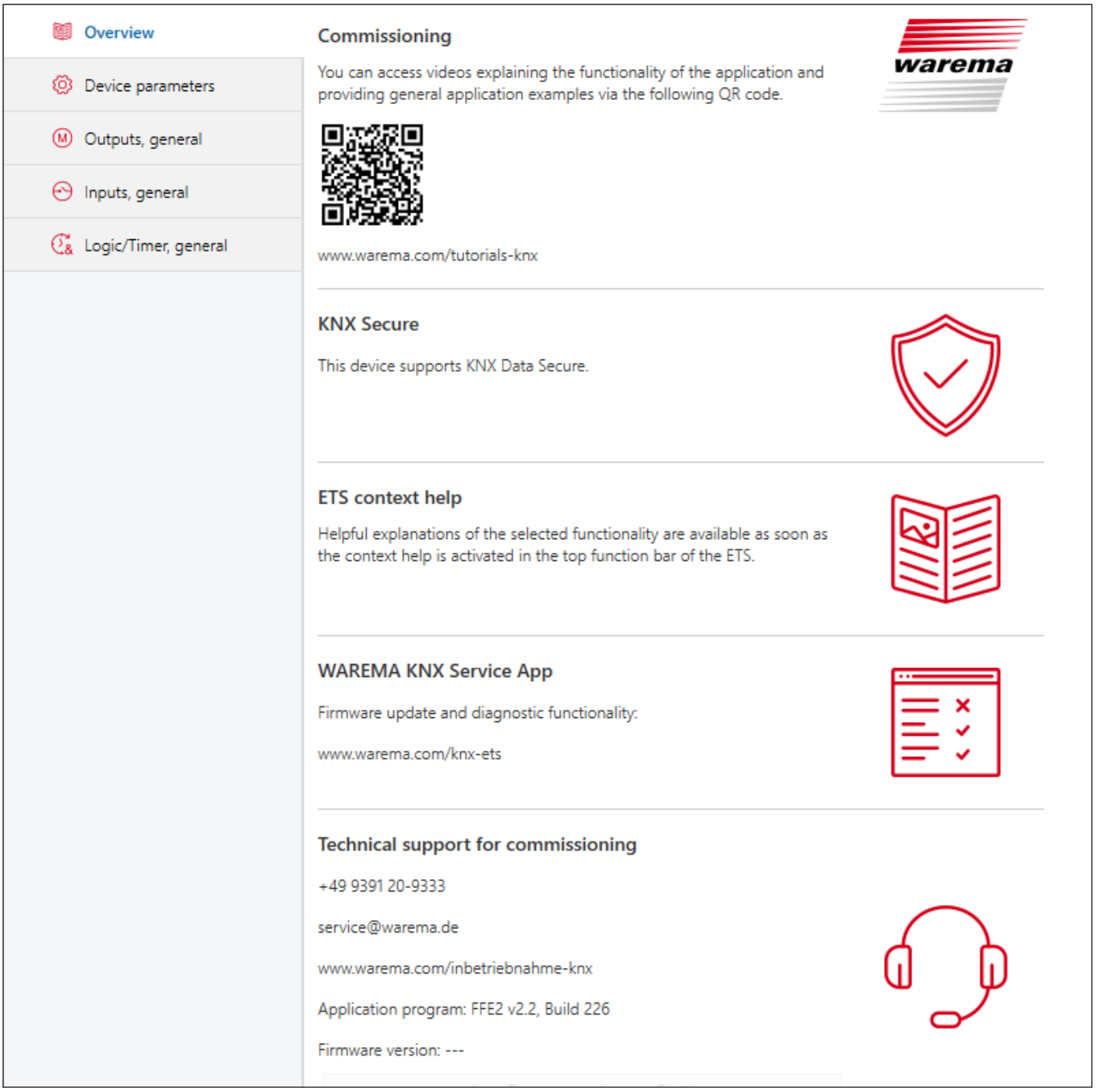


Fig. 7 Parameter dialogue: Overview

The **ETS Context Assistance** is available for all parameter pages at the bottom of the page. It is activated via the question mark in the toolbar and can be enlarged or reduced by moving the grey dividing line.

7.2 Device parameters

This window contains the device-specific settings.

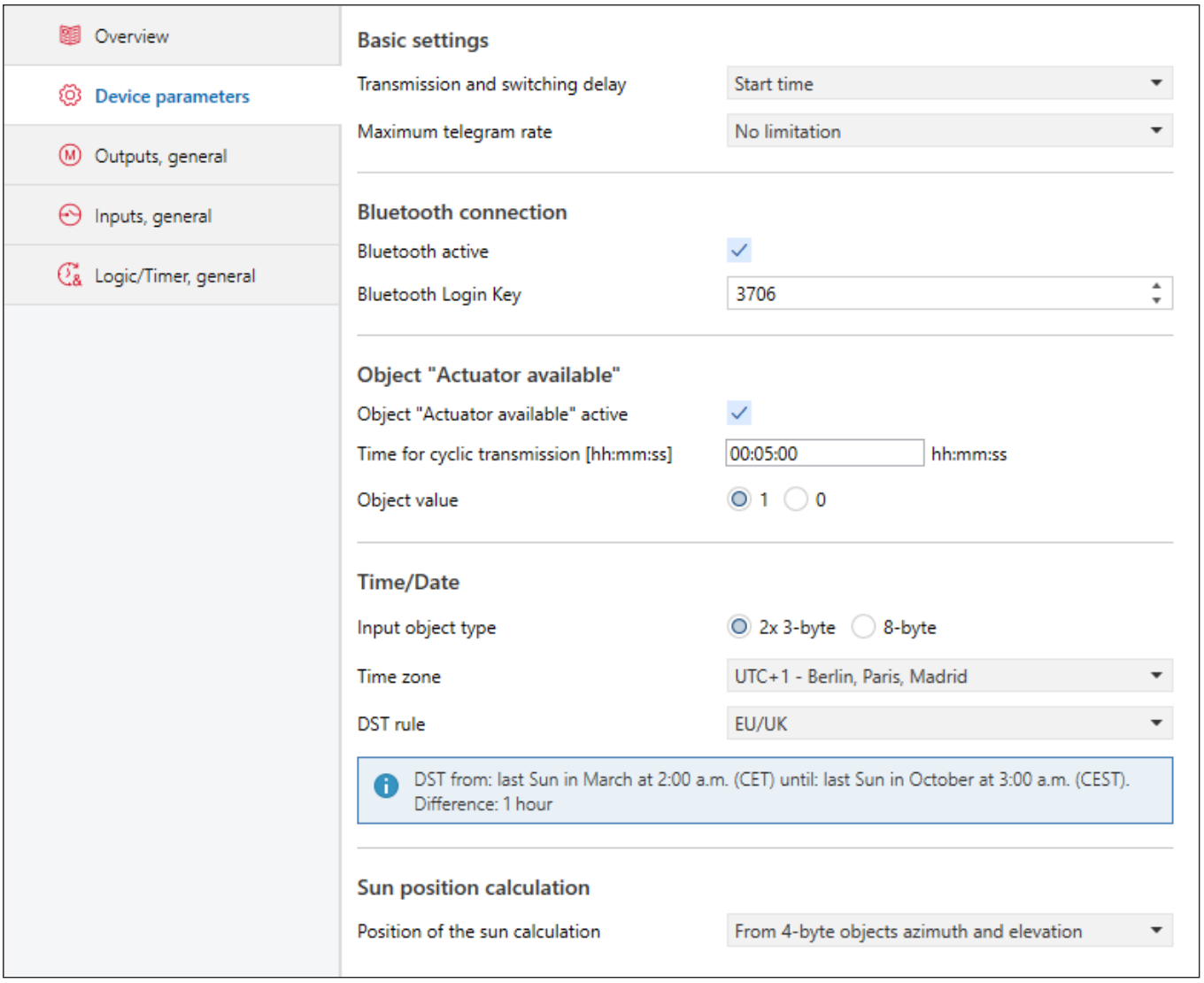


Fig. 8 Parameter dialogue: Device parameters

Parameters	Function	Values
Transmission and switching delay time	Here you can define whether the device starts up with a delay after being switched on	**Boot time**
		Boot time + 1 second
		Boot time + 3 seconds
		Boot time + 10 seconds
Maximum telegram rate	Restriction of the maximum number of telegrams that the device transmits per second. The load of the KNX bus from the device can thus be reduced if necessary.	**No restriction**
		20 telegrams per second
		10 telegrams per second
		3 telegrams per second
		1 telegram per second
Bluetooth active	The Bluetooth module can be switched off here. Operation via Bluetooth is then no longer possible. The ***GO Activate Bluetooth***, which can be used to switch the actuator's Bluetooth function on and off via the bus is also hidden.	**On**
		Off

Bluetooth login key	The login key for the Bluetooth operation can be set here. The key is requested when operating via Bluetooth.	0 : **3706** : 9999
Object "Actuator available" active	The object "Actuator available" indicates whether the actuator is ready for operation. Here you can set whether the object should be used.	**On**
		Off
Time for cyclical transmission [hh:mm:ss]	The object "Actuator available" can be transmitted again. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes the object to just be transmitted once.	00:00:00 : **00:05:00** : 23:59:59
Object value	Specifies whether the object "Actuator available" sends a 0 or a 1 for an actuator that is ready for operation.	0
		1
Input object type	Determines whether two separate 3-byte GOs for date and time or a combined 8-byte GO (which also contains information for daylight saving time) should be used.	**2× 3-byte**
		8-byte
Time zone	Setting the time zone of the location (time difference between UTC and local time)	UTC-11 : **UTC+1 - Berlin, Paris, Madrid** : UTC+14
Daylight saving time rule	Determines the local standard procedure for daylight saving time change (e.g. EU/UK or USA). "No daylight saving time" disables the deactivates saving time change. The "From date/time object" option evaluates the daylight saving time bit contained in the 8-byte GO.	No daylight saving time
		From date/time object
		EU/UK
		USA
		Australia
		Australia, Lord Howe Island
		New Zealand
		Chile
Position of the sun calculation	In order to perform internal sun position calculations, the actuator requires information on azimuth and elevation. The date format of the GOs can be set here (1-byte, 2-byte or 4-byte). Alternatively, the sun position calculation can be performed based on the *time* and *geographical position* parameters. If this option is selected, the additional parameters "degree of latitude" and "degree of longitude" will appear.	**From 4-byte objects azimuth and elevation**
		From 2-byte objects azimuth and elevation
		From 1-byte objects azimuth and elevation
		From time and geographical position
Geographical position Degree of latitude [°]	If the GPS data is not used, the "Degree of latitude [°]" is entered here for the location (accurate to four decimal places).	-90 : 90
Geographical position Degree of longitude [°]	If the GPS data is not used, the "Degree of longitude [°]" is entered here for the location (accurate to four decimal places).	-180 : 180

Emergency operation of the device is possible using Bluetooth. The transmission behaviour via the KNX bus is not affected by this.

7.3 Outputs, general

Outputs can be activated and renamed under **Outputs, general**.
The parameters for the time-offset movement of all outputs are also set here.

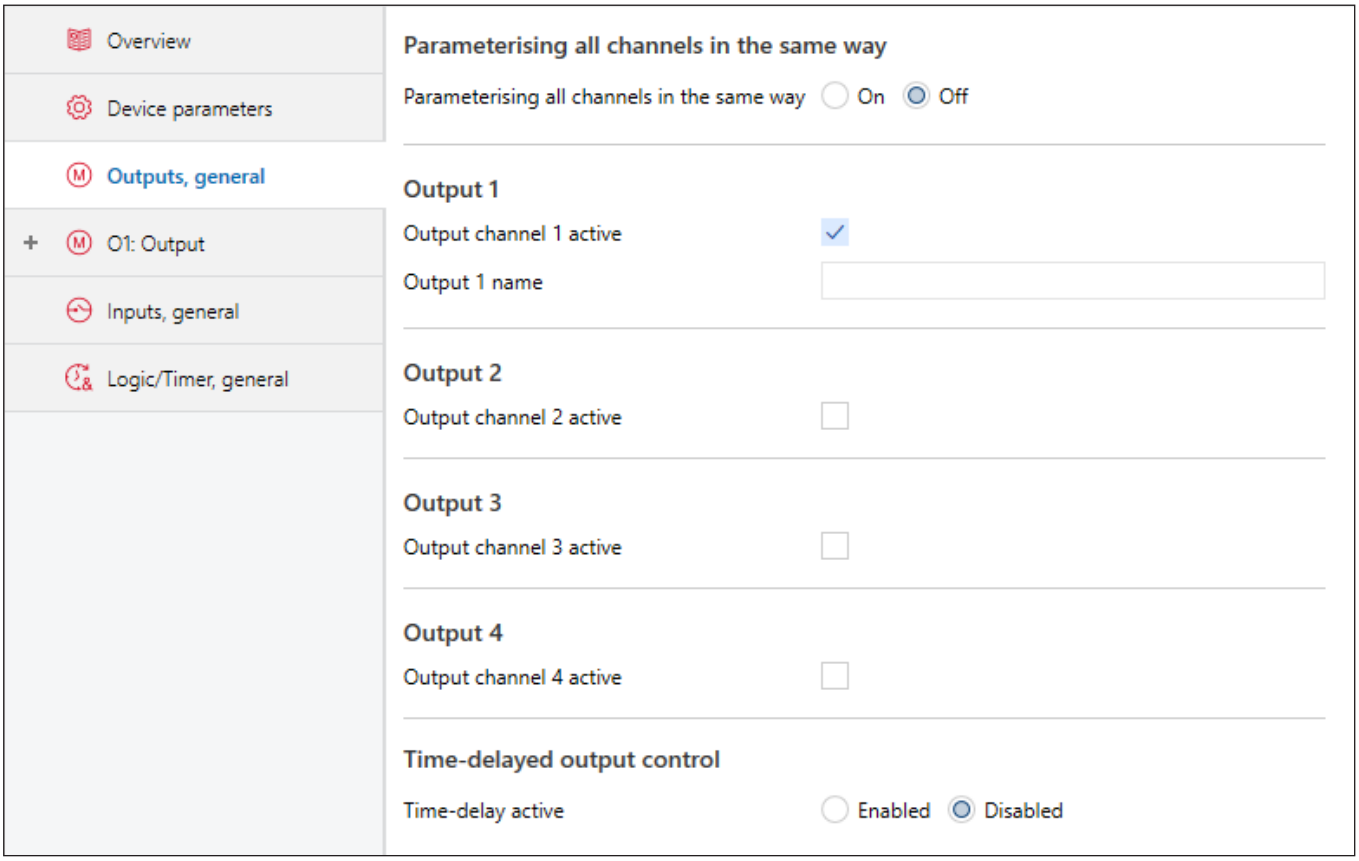


Fig. 9 Parameter dialogue: Outputs → Outputs, general

Parameters	Function	Values
Parameterise all outputs identically	Here, the user can specify whether all outputs should be given identical parameters. The parameters for the individual outputs are then hidden. There is now only one set of parameters for all outputs.	On
		Off
Output n active	Specifies whether the output channel should be used	On
		Off
Output n name	A name for the output can be specified here so that it is easier to assign.	Text (max. 80 characters)
Time-offset output actuation Time-offset active	If set to "activated" here, there will be a minimum switch-on pause of 20 ms between any relays of the actuator.	**Disabled**
		Activated

7.4 On: Output

The **On: Output** menus and sub-menus are displayed as soon as the corresponding outputs have been activated. If a name was assigned to the output, this is displayed instead of the designation "Output".

7.4.1 Blind parameters

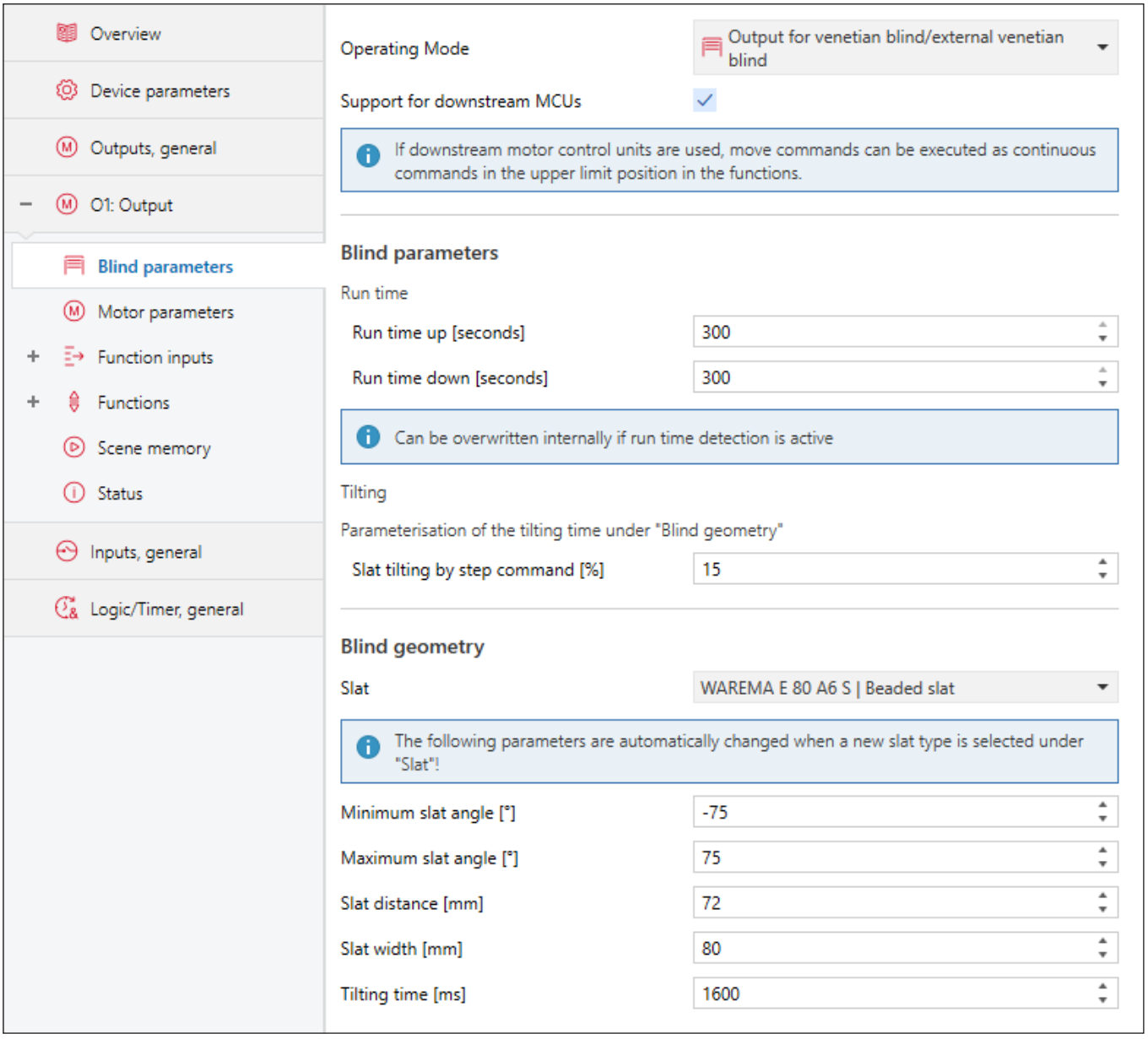


Fig. 10 Parameter dialogue: On: Output → Blind parameters

Parameters	Function	Values
Operating mode	The behaviour of the output is determined here. Depending on the type of product being controlled, different behaviour is required. For each operating mode, there are parameters that are omitted or added, which are displayed or hidden accordingly.	
	In the operating mode venetian blind/external venetian blind, KNX secure performs up/down movements and angle adjustments.	**Output for venetian blind/external venetian blind**
	In the operating mode roller shutters/textile sun shading system, the KNX secure actuator performs up/down movements.	Output for roller shutter/ textile sun shading system
	In the operating mode ZIP awning, KNX secure performs up/down movements. Window awnings with ZIP guidance are equipped with responsive obstacle detection. When the obstacle detection is triggered, the run time of the awning is extended depending on the number of additional travel attempts. In order to ensure that the awning is moved safely to its upper limit position even when the running time is extended due to the responsive obstacle detection, the safety functions "destination top" and the option "execute as continuous command" must be parameterised.	Output for awning ZIP guidance
Support for downstream MSEs	enables the parameter "Execute UP commands as continuous commands" in the functions for move commands. Activating "Execute UP commands as continuous commands" ensures that the upper limit position is reliably reached even with an intermediate motor control unit. Local buttons connected to the MSE also remain disabled as long as the up relay at the output is energised.	**No**
		Yes
Run time UP [seconds]	This parameter defines the amount of time a connected sun shading product requires to move once between the lower and upper limit positions. (Value can be overwritten if run time detection is active)	0 : **300**
Run time DOWN [seconds]	This parameter defines the amount of time a connected sun shading product requires to move once between the upper and lower limit positions. (Value can be overwritten if run time detection is active)	0 : **300**
Slat tilting by step command [%]	Determines how long a sun shading product is raised or lowered after a telegram stop/step command. The parameter value is based on the *tilting time*.	0 : **15** : 100
Slat	WAREMA products can be selected directly from the menu according to type. All following parameters are automatically entered. Select "User-defined" here for third-party products. The parameters must then be adjusted manually. NOTICE: if a parameter is changed for a selected WAREMA product, the entry for slat changes to "User-defined".	Selection list of slat types
Minimum slat angle [°]	Angle by which the slat is turned inwards	-90 : 90
Maximum slat angle [°]	Angle by which the slat is turned outwards	-90 : 90
Slat distance [mm]	Distance between two slats	10 : 250
Slat width [mm]	Width of a slat	10 : 250
Tilting time [ms]	This parameter must be set to the time that a venetian blind or external venetian blind requires for tilting between the 0 and 100% slat positions.	0 : 25000

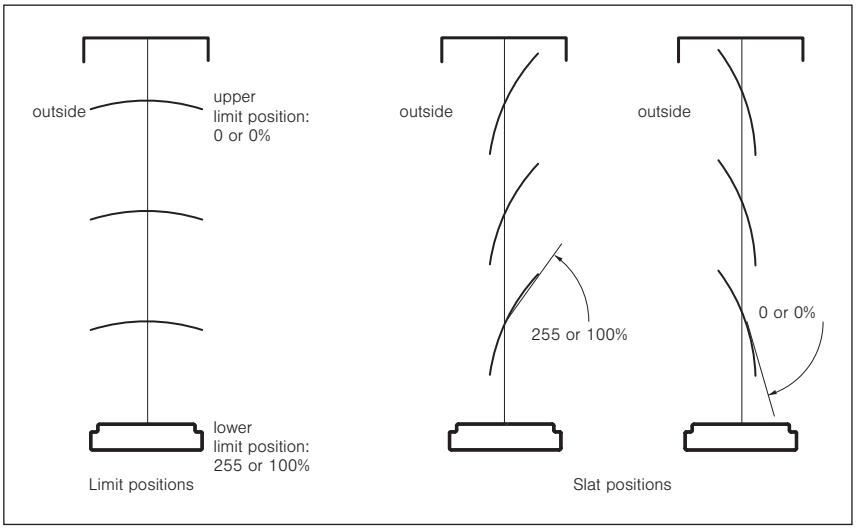


Fig. 11 Motor limit positions, slat positions

7.4.2 Motor parameters (for all actuators)

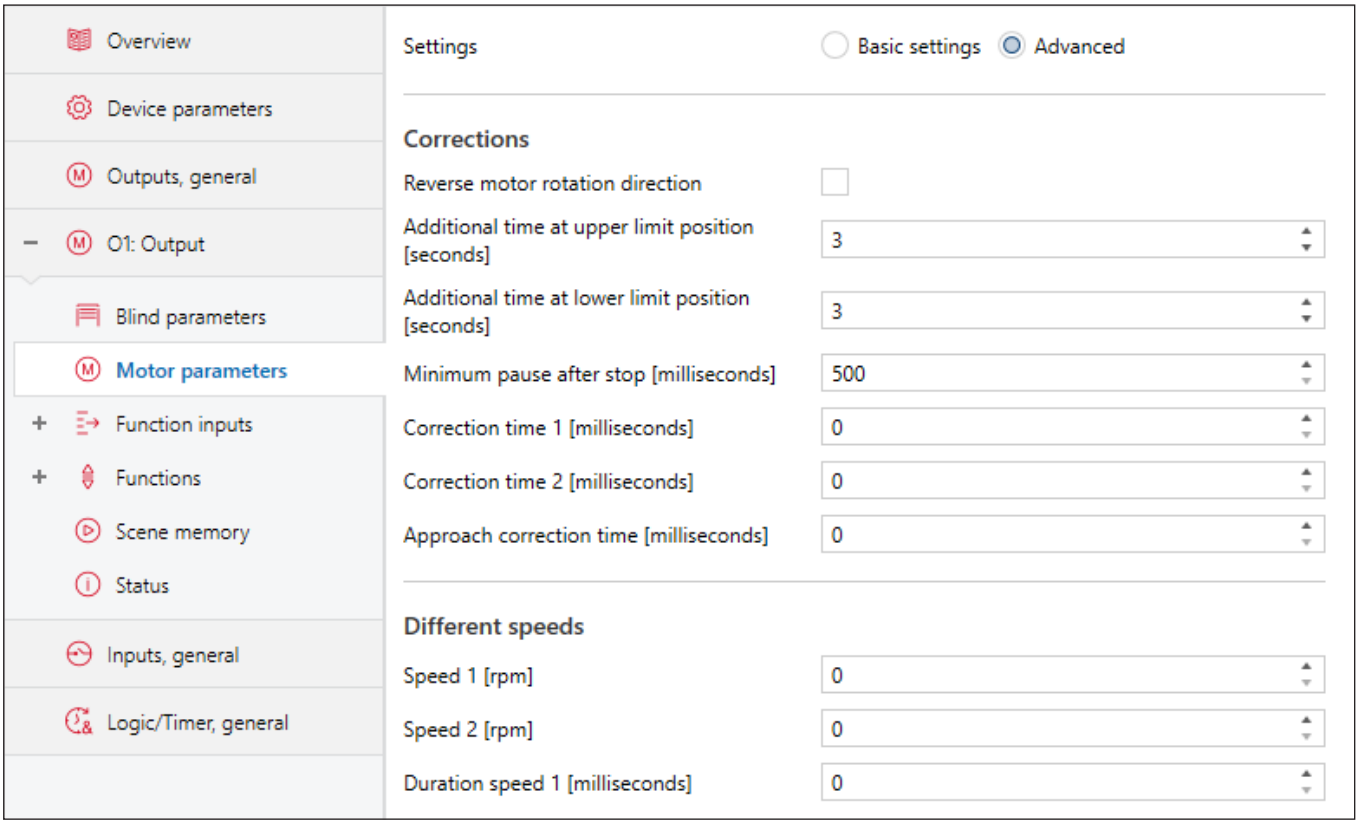


Fig. 12 Parameter dialogue: On: Output → Motor parameters (for all actuators)

Parameters	Function	Values
Display	The All option displays additional parameters that are not necessary during normal operation and are only required in special situations.	**Basic settings** All
Reverse motor rotation direction	When activated, the two relay outputs of the channel are actuated in the reverse direction.	**No** Yes
Additional time at upper limit position [seconds]	During each UP movement, the motor is supplied with power for the time set here beyond the time specified in *Run time UP*.	0 : **3** : 25
Additional time at lower limit position [seconds]	During each DOWN movement, the motor is supplied with power for the time set here beyond the time specified in *Run time DOWN*.	0 : **3** : 25
Minimum pause after stop [milliseconds]	Switch-off and switch-on pause for relays	**500** : 5000
Correction time 1 [milliseconds]	Included in the position calculation as the time during which the motor continues to run in the UP direction after the relay has dropped (deceleration ramp).	**0** : 5000
Correction time 2 [milliseconds]	Included in the position calculation as the time during which the motor continues to run in the DOWN direction after the relay has dropped (braking ramp).	**0** : 5000
Motor start correction time [milliseconds]	Delayed start after tightening the relay.	**0** : 5000
Speed 1 [rpm]	Parameter for motors with slow starting speed (crawling speed). Speed of the motor when movement begins (slow speed). The ratio of speed 1 to speed 2 is decisive.	**0** : 255
Speed 2 [rpm]	Parameter for motors with slow starting speed. Speed of the motor after the slow movement has ended (fast speed). The ratio of speed 1 to speed 2 is decisive.	**0** : 255
Duration speed 1 [milliseconds]	Parameter for motors with slow starting speed. Duration of the slow speed 1.	**0** : 25000

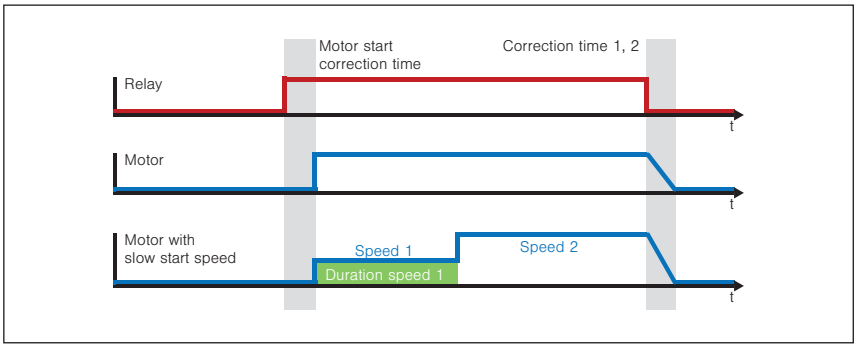


Fig. 13 Function of the correction parameters

7.4.3 Motor parameters (only for pro actuators)

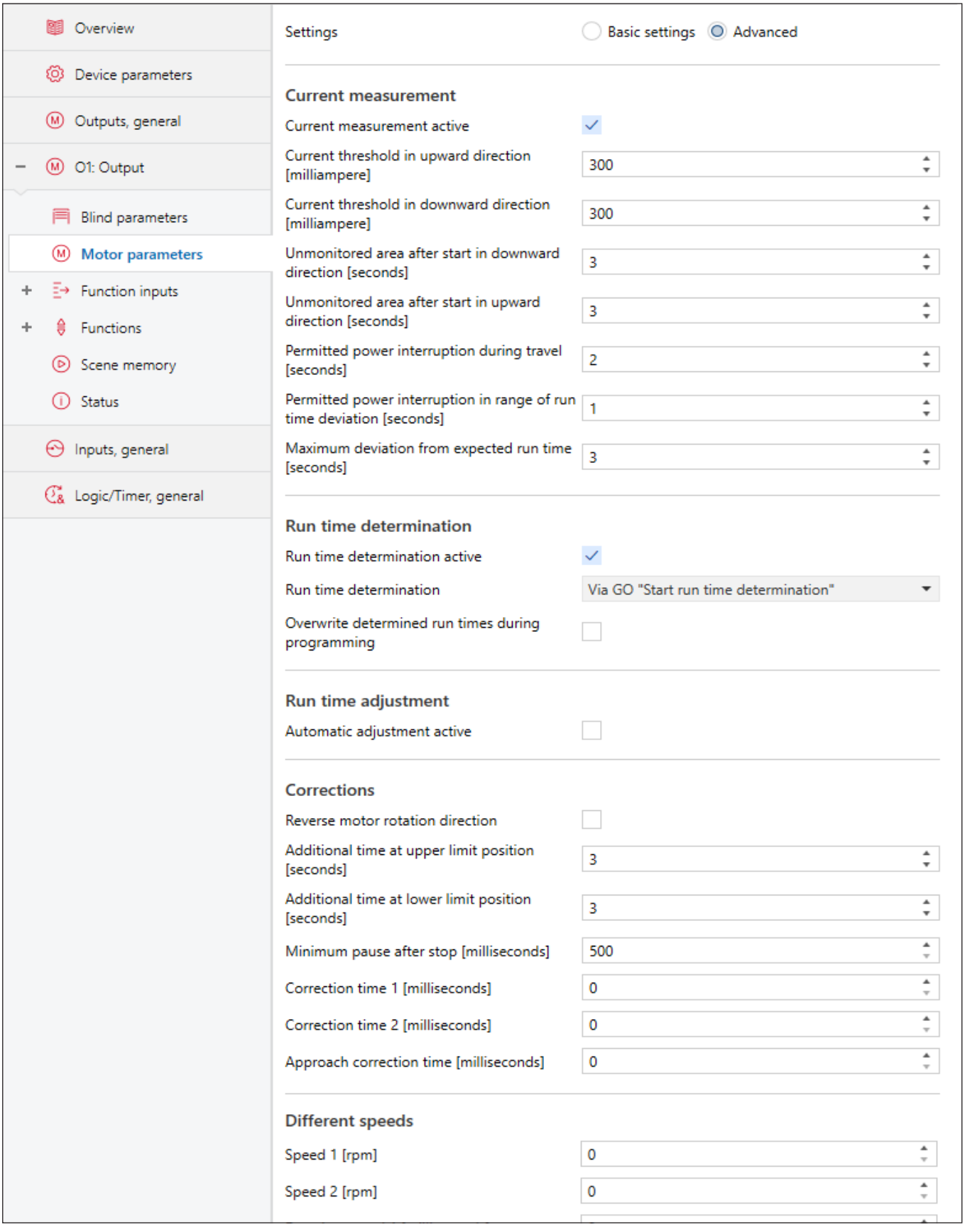


Fig. 14 Parameter dialogue: On: Output → Motor parameters (only for **pro** actuators)

Parameters	Function	Values
Display	The All option displays additional parameters that are not necessary during normal operation and are only required in special situations.	**Basic settings**
		All
Current measurement active	When activated, the current measurement on the relay outputs of the channel is switched on.	**No**
		Yes
Current threshold in UP direction [milliampere]	If the level falls below this threshold during the UP movement, this is classified as "no current flow" and is evaluated based on the following parameterisation.	200 : **300** : 2000
Current threshold in DOWN direction [milliampere]	If the level falls below this threshold during the DOWN movement, this is classified as "no current flow" and is evaluated based on the following parameterisation.	200 : **300** : 2000
Not monitored area after start in DOWN direction [seconds]	Not monitored area after start in DOWN direction (Figure ①). If there is a current interruption during this period, it is ignored.	0 : **3** : 20
Unmonitored area after start in UP direction [seconds]	Unmonitored area after start in UP direction (Figure ①). If there is a current interruption during this period, it is ignored.	0 : **3** : 20
Permitted power interruption during travel [seconds]	Maximum permissible interruption of the current flow while driving (if the sun shading product is no longer in the monitored area after starting to move and has not yet reached the tolerance range around the end of the movement) (Figure ②).	0 : **2** : 20
Accepted current interruption in the range of run time deviation [seconds]	Maximum permissible interruption of the current flow in the tolerance range around the end of the movement (Figure in range of ③ und ④). If this interruption is exceeded, the error object is set and the movement is terminated.	0 : **1** : 20
Maximum deviation from expected run time [seconds]	Permissible deviation around the end of the movement. The run time may deviate from the known value by this value without a 1 being sent to the error object (Figure ③ and ④). If the run time adaptation is used, then the new value (Figure ⑤) is used for the adjustment in this case. Example: If the value is set to 3 s, then the deviation can be between -3 s to +3 s.	1 : **3** : 20
Run time detection active	When activated, the run time detection for the channel is switched on and ***GO start run time detection*** is enabled.	**No**
		Yes
Run time detection	Via GO start run time detection: No automatic time detection. Can only be activated via GO start run time detection.	**Via GO Start run time detection**
	After programming or via GO Start run time detection: Always during the first movement after programming and via GO start run time detection.	After programming or via GO Start run time detection
	After voltage recovery or via GO start run time detection: Always during the first movement after voltage recovery and via GO start run time detection.	After a voltage recovery or via GO start run time detection
Overwrite detected run times by programming	Specifies whether values for the up and down run time, that were determined by the run time determination or run time adjustment, should be overwritten with the values from the ETS.	**No**
		Yes
Run time adaptation Control mode adaptation active	The control mode adaptation always corrects the run time (Figure ⑤) in the background. The value is saved every time a deviation is detected within the tolerance range. The run time is changed to the average of the last three values.	**No**
		Yes

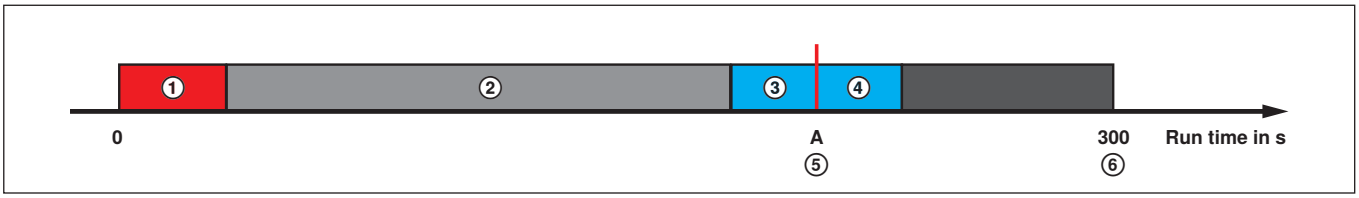


Fig. 15 Ranges of current measurement/run time functions

① Range following start that is not monitored
(parameterised separately for UP and DOWN)

② Error monitoring only (***GO Fault message***)

③ Tolerance range before current run time

④ Tolerance range after current run time

⑤ Current run time
(as parameterised: fixed or determined automatically)

⑥ Maximum adjustable run time (300 s)

For all other motor parameters for pro actuators,
see *section 7.4.2 on page 31*

7.4.4 Function inputs

Objects from KNX Bus and parameters are evaluated in the function inputs. The function inputs are configured separately as a preliminary stage to the functions. This means that each function input only needs to be configured once. However, the results can be used in several functions.

The results of this evaluation of the function inputs are:

- Conditions (e.g. "wind alarm", "sun shining", "too warm") that can be used as trigger conditions in the functions.
- Values for blind length/slat position (e.g. slat angle for slat tracking) that can be used in the functions as targets for movement.

For the evaluation, it is also configured whether and in which format the required objects are available on the bus:

- as bit objects (e.g. wind alarm yes/no)
- as measuring values (e.g. wind speed)

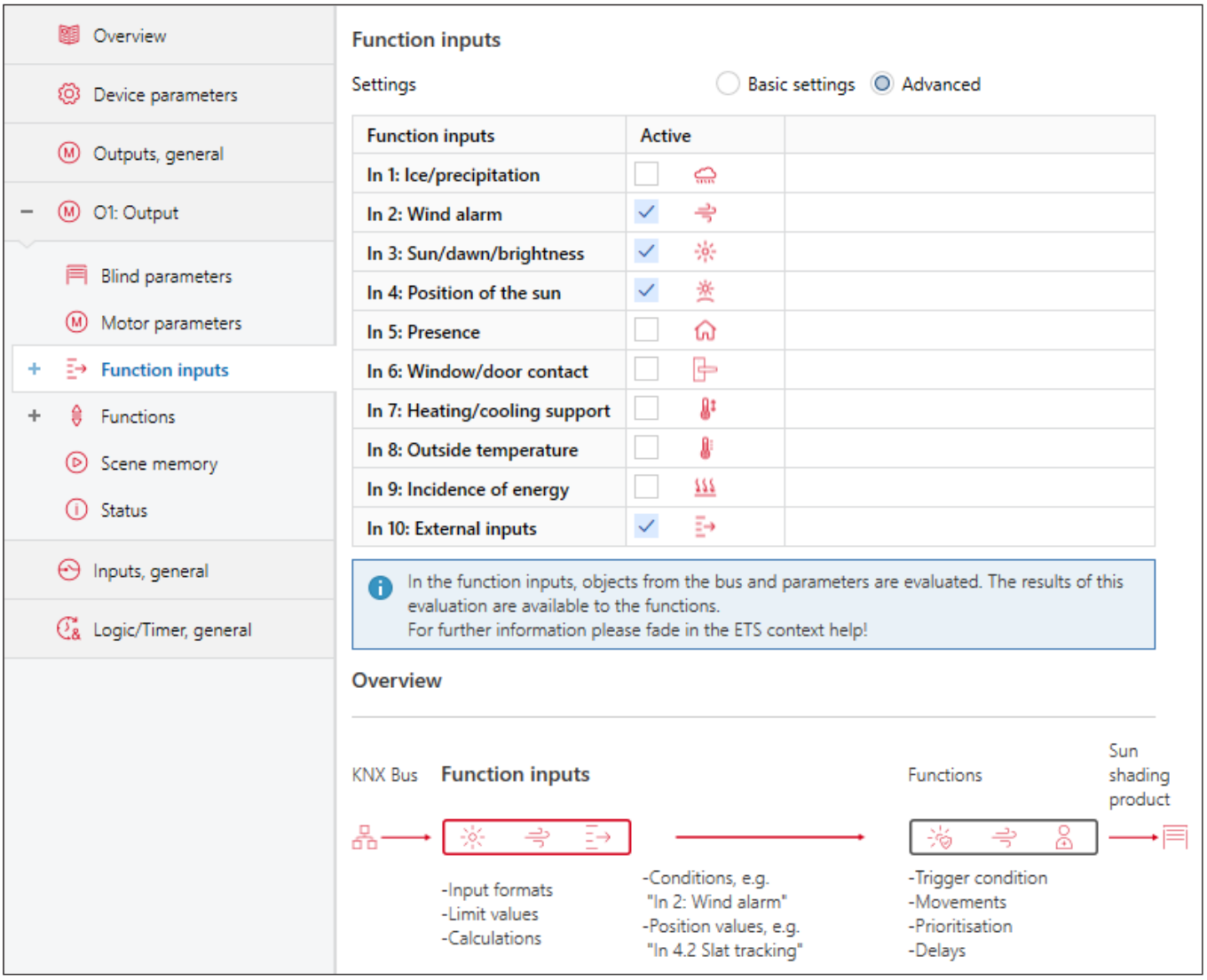


Fig. 16 Parameter dialogue: On: Output → function inputs

Parameters	Function	Values
Display	The All option displays additional parameters that are not necessary during normal operation and are only required in special situations.	**Basic settings**
		All
In 1: Ice/precipitation *(7.4.4.1 on page 38)*	Evaluates the relevant parameters and outputs the result to the internal conditions "In 1.1: Ice alarm" and "In 1.2: Precipitation".	Yes
		No
In 2: Wind alarm *(7.4.4.2 on page 41)*	Evaluates the relevant parameters and outputs the result to the internal condition "In 2: Wind alarm".	**Yes**
		No
In 3: Sun/dawn/brightness *(7.4.4.3 on page 43)*	Evaluates the relevant parameters and outputs the result to various brightness-related internal conditions.	**Yes**
		No
In 4: Position of the sun *(7.4.4.4 on page 47)*	Delivers internal values which depend on the position of the sun. For this purpose, an orientation of the facade must be parameterised.	**Yes**
		No
In 5: Presence *(7.4.4.5 on page 52)*	This function input can receive presence information via up to 3 bit objects "In 5 Presence" from the bus, link them together and make them available internally as the "In 5: Presence" condition.	Yes
		No
In 6: Window/door contact *(7.4.4.6 on page 53)*	Allows contacts to be received via up to 3 bit objects "In 6 window/door contact" from the bus, linked together and made available internally as "In 6: door/window open" condition.	Yes
		No
In 7: Heating/cooling support *(7.4.4.7 on page 54)*	Offers the option of responding to the building's operating mode (heating, cooling, neutral) and taking the room temperature into account.	Yes
		No
In 8: Outside temperature *(7.4.4.8 on page 57)*	Examination whether the outside temperature is below or exceeds a limit.	Yes
		No
In 9: Incidence of energy *(7.4.4.9 on page 59)*	Examination whether the radiation level is below or exceeds a limit.	Yes
		No
In 10: External inputs *(7.4.4.10 on page 61)*	Provides additional inputs that can be used in the functions as conditions or targets.	**Yes**
		No

7.4.4.1 In 1: Ice/precipitation

In 1: Ice/precipitation makes two function inputs available:

- **In 1.1: Ice alarm**
- **In 1.2: Precipitation**

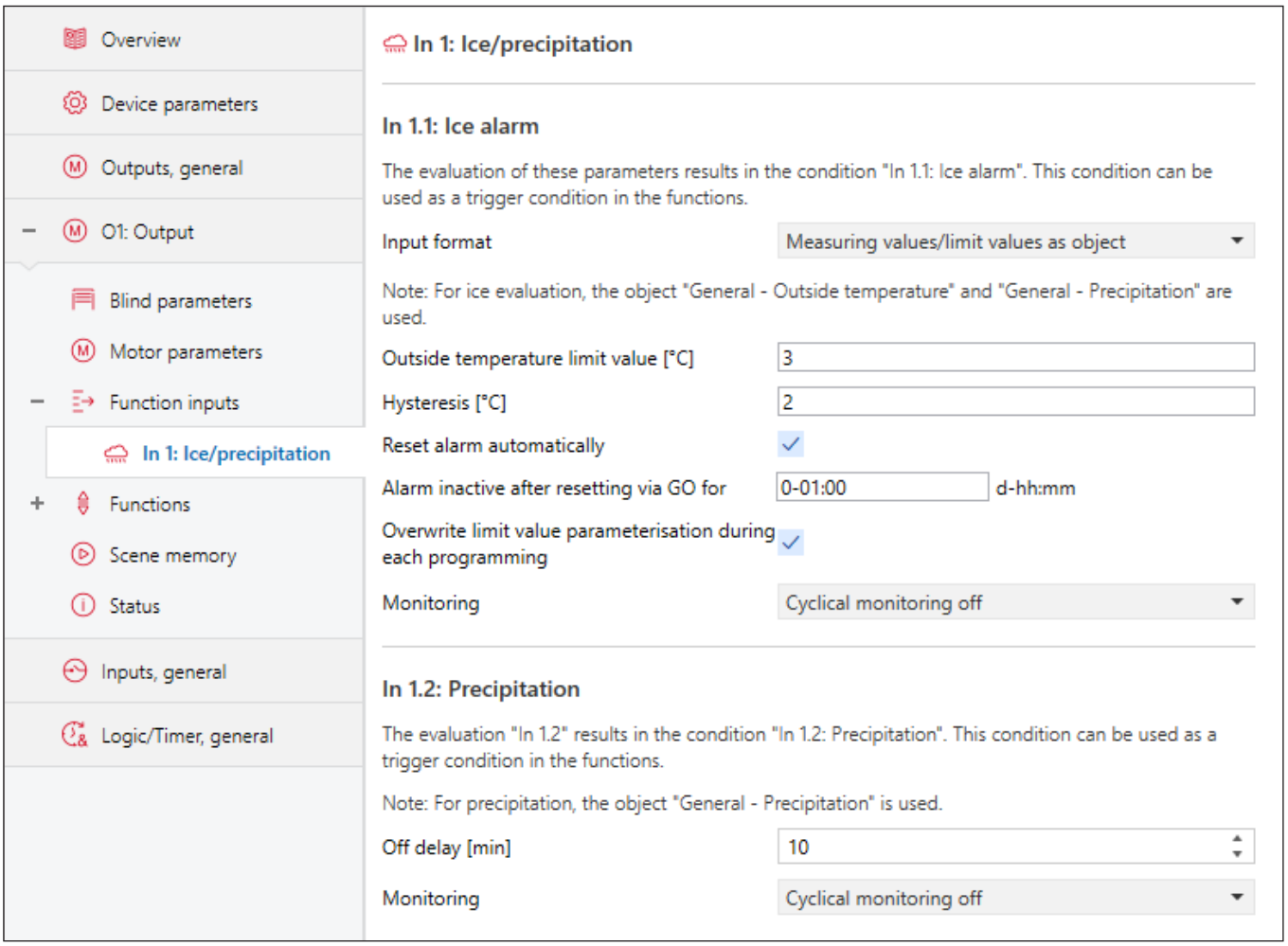


Fig. 17 Parameter dialogue: On: Output → function inputs → In 1: Ice/precipitation

In 1.1: Ice alarm

The evaluation of this parameter results in the condition "In 1.1: Ice alarm". Selectable input formats for ice alarm:

- *Bit object*
  The bit object "In 1 Ice alarm" is forwarded directly by the KNX bus to the internal condition "In 1.1: Ice alarm".
- *Measuring values as object, fixed limit values*
  With this setting, ice monitoring runs in the actuator, the result of which is forwarded to the internal condition "In 1.1: Ice alarm". For this purpose, the values from the GOs "general precipitation measuring value", "general outside temperature measuring value" and the parameterised limit values are evaluated.
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but an additional GO "In 1 Ice - limit value" is displayed and can override the parameterised limit value for outside temperature [°C].

Parameters	Function	Values
Input format	Selectable input formats for ice alarm	**Bit object**
		Measuring values as object, fixed limit values
		Measuring/limit value as object
Polarity	Defines when a received bit object triggers the ice alarm.	**1=Ice alarm**
		0=Ice alarm
Limit value Outside temperature [°C]	Temperature that must be fallen below when precipitation is simultaneously detected in order for an ice alarm to be triggered.	-10 : **3** : 10
Hysteresis [°C]	Value by which the "Outside temperature limit value [°C]" must be exceeded for the off delay (1 hour) to start.	0 : **2** : 5
Reset alarm automatically	Activates an automatic reset of the alarm when the hysteresis is exceeded.	**Yes**
		No
Alarm inactive after resetting via GO for	Time after the ice alarm has been reset by GO before the ice alarm can be triggered again.	0-00:00 : **0-01:00** : 7-00:00
Always overwrite limit value parameters when programming	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No
Monitoring	The input object (measuring value or bit object) can be monitored. If monitoring is active and no telegram has been received for the set period of time, the condition ice alarm is considered to be fulfilled and the condition "In 1: Ice alarm" is set.	Cyclical monitoring off
		10 seconds
		1 minute
		2 minutes
		5 minutes
		10 minutes

In 1.2: Precipitation

The bit object "General measuring value precipitation" is forwarded directly from the KNX bus to the internal condition "In 1.2: Precipitation".

Parameters	Function	Values
Delay when there is no precipitation [min]	Defines the waiting time before the precipitation alarm is reset if no more precipitation is detected.	0 : **10** : 255
Monitoring	The input object (measuring value or bit object) can be monitored. If monitoring is active and no telegram has been received for the set period of time, the condition ice alarm is considered to be fulfilled and the condition "In 1: Ice alarm" is set.	Cyclical monitoring off
		10 seconds
		1 minute
		2 minutes
		5 minutes
		10 minutes

7.4.4.2 In 2: Wind alarm

The evaluation of this parameter results in the condition "In 2: Wind alarm". Selectable input formats for wind alarm:

- *Bit object*
  The bit object "In 2 Wind alarm" is forwarded directly from the KNX bus to the internal condition "In 2: Wind alarm".
- *Measuring values as object, fixed limit values*
  With this setting, wind monitoring runs in the actuator, the result of which is forwarded to the internal condition "In 2: Wind alarm". To do this, the value from the GO "In 2 measuring value wind speed" is compared with the limit value wind speed [m/s].
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but an additional GO "In 2 wind limit value" is displayed and can override the parameterised wind speed limit value [m/s].

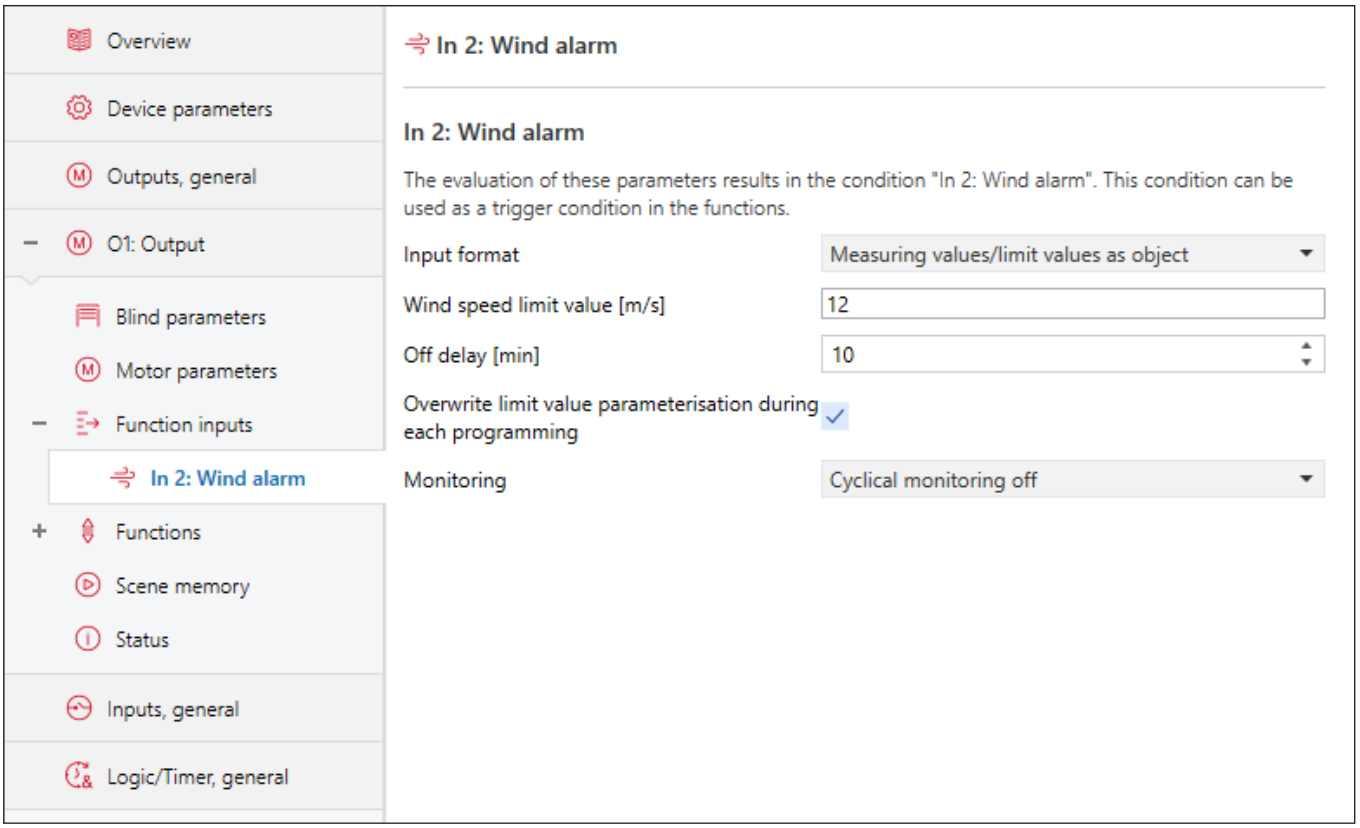


Fig. 18 Parameter dialogue: On: output → function inputs → In 2: Wind alarm

Parameters	Function	Values
Input format	Selectable input formats for wind alarm	**Bit object**
		Measuring values as object, fixed limit values
		Measuring/limit value as object
Polarity	Defines when a received bit object triggers the wind alarm.	**1=Wind alarm**
		0=Wind alarm
Limit value Wind speed [m/s]	Limit value of the wind speed that must be exceeded for the wind alarm to be detected.	1 m/s : **12 m/s** : 25 m/s
Off delay [min]	Delay time during which the wind speed limit must remain fallen below before the wind alarm ends.	0 : **10** : 255
Always overwrite limit value parameters when programming	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No
Monitoring	The input object (measuring value or bit object) can be monitored. If monitoring is active and no telegram has been received for the set period of time, the condition wind alarm is considered to be fulfilled and the status "In 2: Wind alarm" is set.	Cyclical monitoring off
		10 seconds
		1 minute
		2 minutes
		5 minutes
		10 minutes

7.4.4.3 In 3: Sun/dawn/brightness

In 3: Sun/dawn/brightness evaluates brightness-related conditions and makes two function inputs available:

- **In 3.1-3.3: Sun/Fair/Cloud**
- **In 3.4: Night/Dawn**

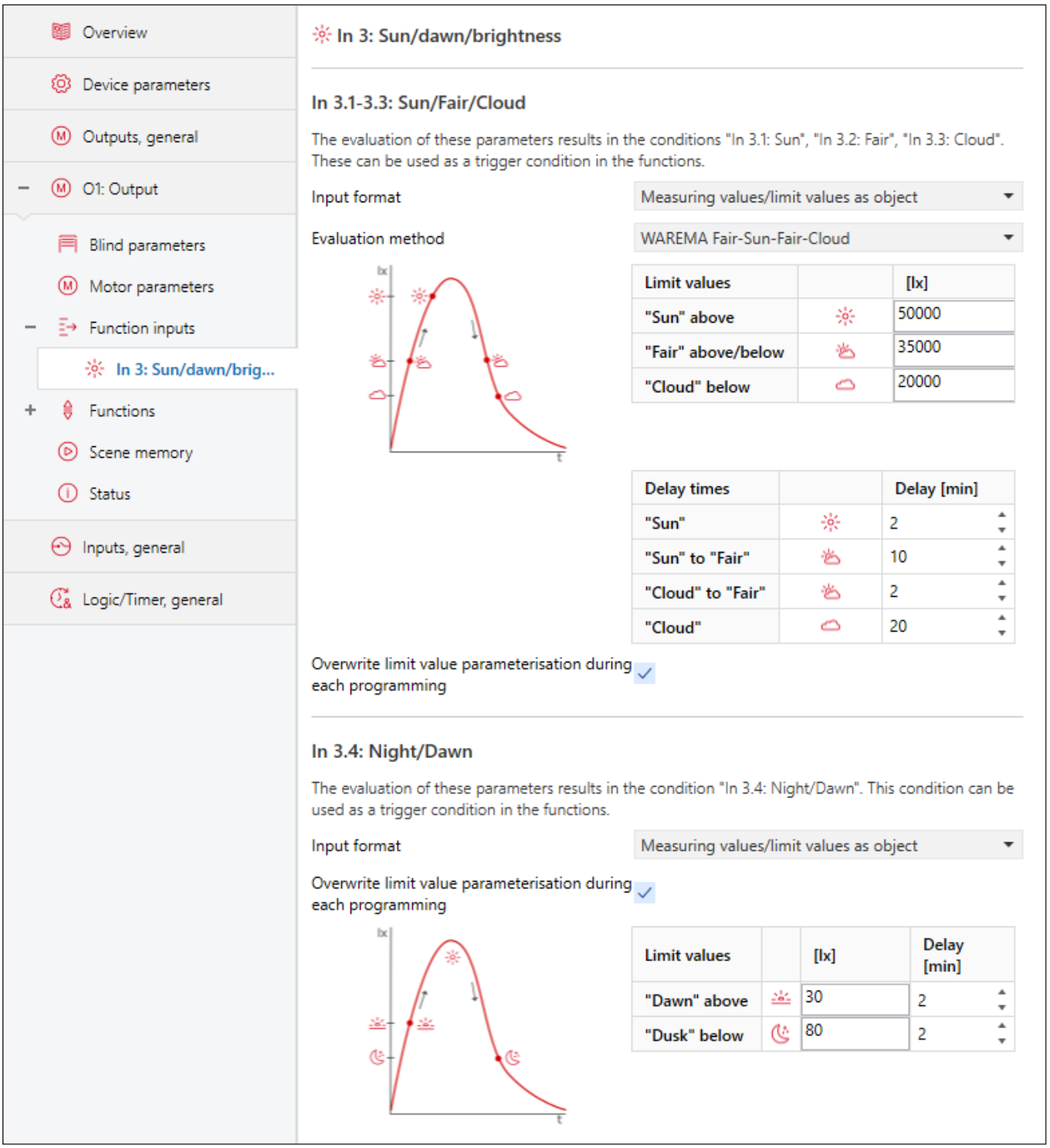
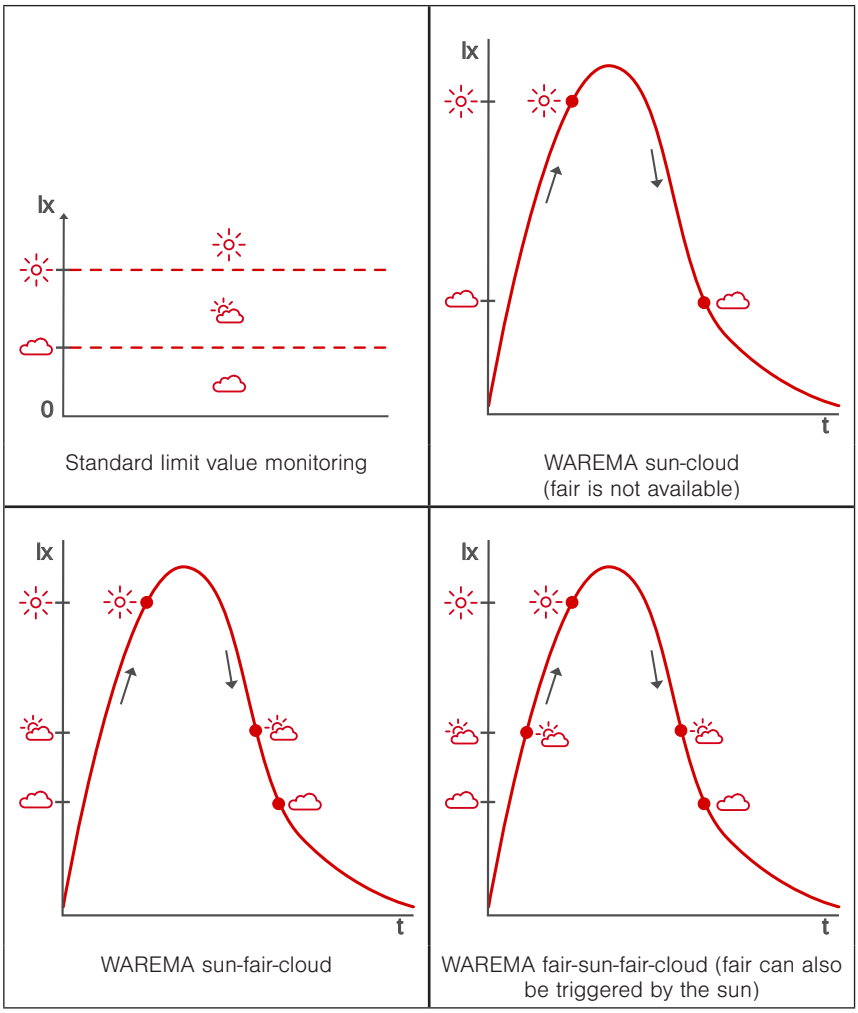


Fig. 19 Parameter dialogue: On: Output → function inputs → In 3: Sun/dawn/brightness

In 3.1-3.3: Sun/Fair/Cloud

The evaluation of this parameter results in the conditions "In 3.1: Sun", "In 3.2: Fair" and "In 3.3: Cloud".

Procedure for evaluating measuring values:



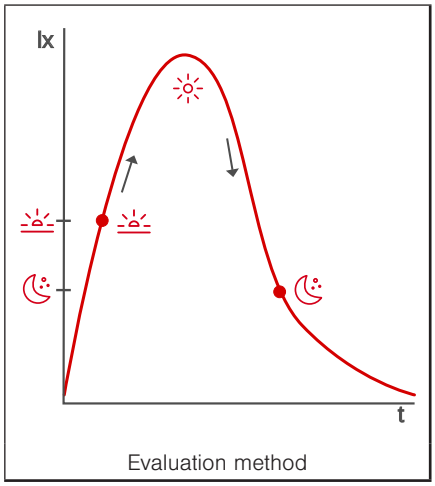
Selectable input formats:

- *1 bit object: Sun*
  When set to *1 bit object*, the object "In 3.1 sun" is forwarded directly from the KNX bus to the internal condition "In 3.1: sunny". The inverse of this is forwarded to "In 3.3: cloudy"*. *"In 3.2 fair" is not available.
- *2 x 1 bit object: Sun and Fair*
  When set to *2x1 bit object*, the object "In 3.1 sun" is passed directly to the internal condition "In 3.1: sunny" and the object "In 3.2 fair" to the internal condition "In 3.2: fair". The internal condition "In 3.3: cloudy" is 1 as soon as In 3.1 and In 3.3 are both 0.
- *Measuring values as objects, fixed limit values*
  With this setting, a sun control with 2 or 3 limit values runs in the actuator, the result of which is passed on to the internal conditions. The brightness from GO "In 3.1-3.3 brightness measuring value" is used for this purpose.
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but additional GOs for the limit values "In 3.1 sun", "In 3.2 fair" and "In 3.3 cloud" are displayed and can override the parameterised limit values.

Parameters	Function	Values
Input format	Selectable input formats:	**1 bit object: Sun**
		2 x 1 bit object: Sun and Fair
		Measuring values as objects, fixed limit values
		Measuring/limit value as object
Evaluation method	Selectable methods for evaluating the conditions sun/fair/cloud	Standard limit value monitoring
		WAREMA Sun-Cloud
		WAREMA Sun-Fair-Cloud
		WAREMA Fair-Sun-Fair-Cloud
Limit values [lx]	Limit values that must be exceeded/fallen below for the respective states to be achieved.	1000 : **n** : 200000
Delay times [min]	Time periods in which the limit values must be permanently exceeded/fallen below in order for a state change to be executed.	0 : **n** : 255
Always overwrite limit value parameters when programming	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No

In 3.4: Night/Dawn

The evaluation of these parameters results in the condition "Night/Dawn".



Evaluation method

Selectable input formats:

- *Bit object*
  Bit object "In 3.4 Night/dawn" is forwarded directly from the KNX bus to the internal condition "In 3.4: Night/dawn".
- *Measuring values as objects, fixed limit values*
  With this setting, an automatic dawn/dusk control with two limit values runs in the actuator, the result of which "night yes/no" is forwarded to the internal condition "In 3.4: night/dawn". The brightness from GO "In 3.4 measuring value brightness dusk" is used for this purpose.
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but additional GOs for the limit values "In 3.4 dusk - dawn limit value" and "In 3.4 dusk - dusk limit value" are displayed and can override the parameterised limits.

Parameters	Function	Values
Input format	Selectable input formats for the condition night/dawn	**Bit objects**
		Measuring values as objects, fixed limit values
		Measuring/limit value as object
Polarity	Defines when a received bit object triggers the status "Night/dawn".	**1=Night/Dawn, 0=Day**
		0=Night/Dawn, 1=Day
Always overwrite limit value parameters when programming	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No
Limit values [lx]	Limit values that must be exceeded/fallen below for the respective states to be achieved.	0 : **n** : 1000
Delay times [min]	Time periods in which the limit values must be permanently exceeded/fallen below in order for a state change to be executed.	0 : **n** : 255

7.4.4.4 In 4: Position of the sun

This function input delivers internal values which depend on the position of the sun. For this purpose, an orientation of the facade (azimuth of the plumb line on the facade) must be parameterised.

The position of the sun is calculated based on the geographical location or is received from the bus via the azimuth and elevation objects. The parameters for this can be found on the "device parameters" page.

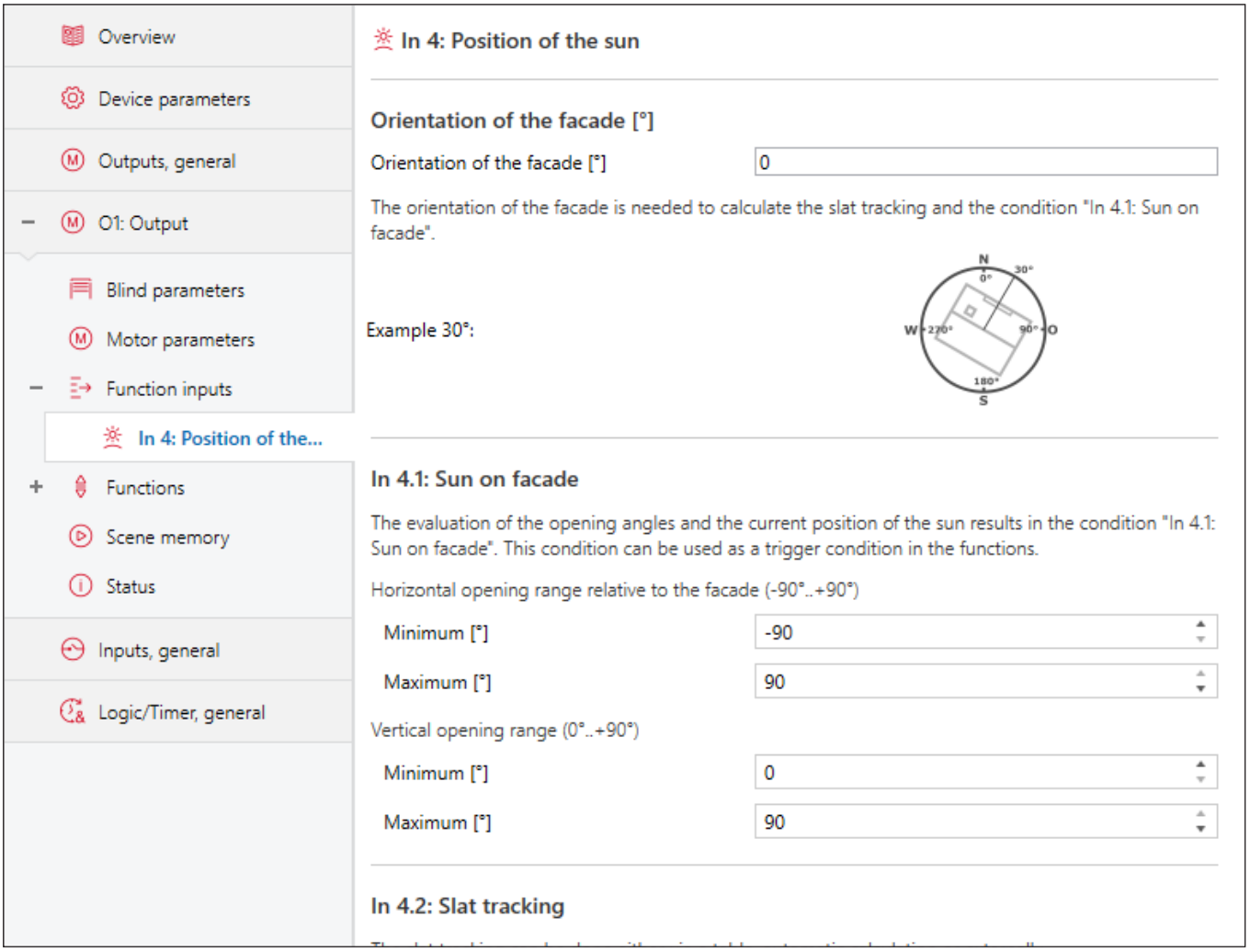
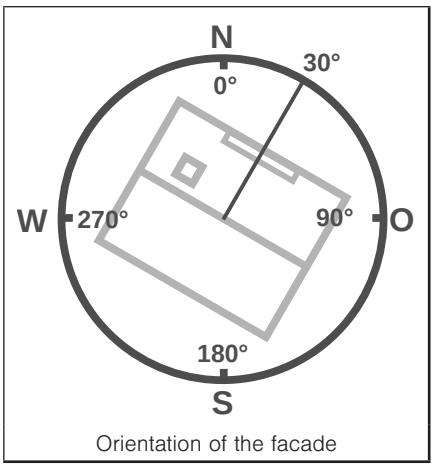


Fig. 20 Parameter dialogue: On: Output → function inputs → In 4: Position of the sun (fig. 1)

In 4.1: Sun on facade

The internal condition "In 4.1: Sun on facade" indicates the position of the sun in front of the facade. For this, the position of the sun must be known and the facade orientation must be parameterised.



Orientation of the facade

In addition, the opening angle relative to the facade can be parameterised (this may be restricted, for example, by deep window reveals).

Parameters	Function	Values
Orientation of facade [°]	0°=north, 90°=east, 180°=south, 270°=west	0 : **180** : 359
Horizontal opening range relative to the facade (-90°...+90°)	The horizontal opening range can be adjusted, e.g. if deep reveals limit sunlight exposure. -90°=to the left, 0°=vertical to the facade, 90°=to the right	**-90** : 90 Minimum [°]
		-90 : **90** Maximum [°]
Vertical opening range (0°...+90°)	The vertical opening range can be adjusted, e.g. if roof overhangs limit sunlight exposure. 0°=vertical to the facade, 90°=upwards	90 : **0** Minimum [°]
		90 : 0 Maximum [°]

In 4.2: Slat tracking

The value "In 4.2: Slat tracking" is a target value that can be selected as the movement target in the functions. It controls the slat position to ensure maximum views out without direct sunlight.

For slat tracking, the correct slat geometry must be set on the "Blind parameters" page.

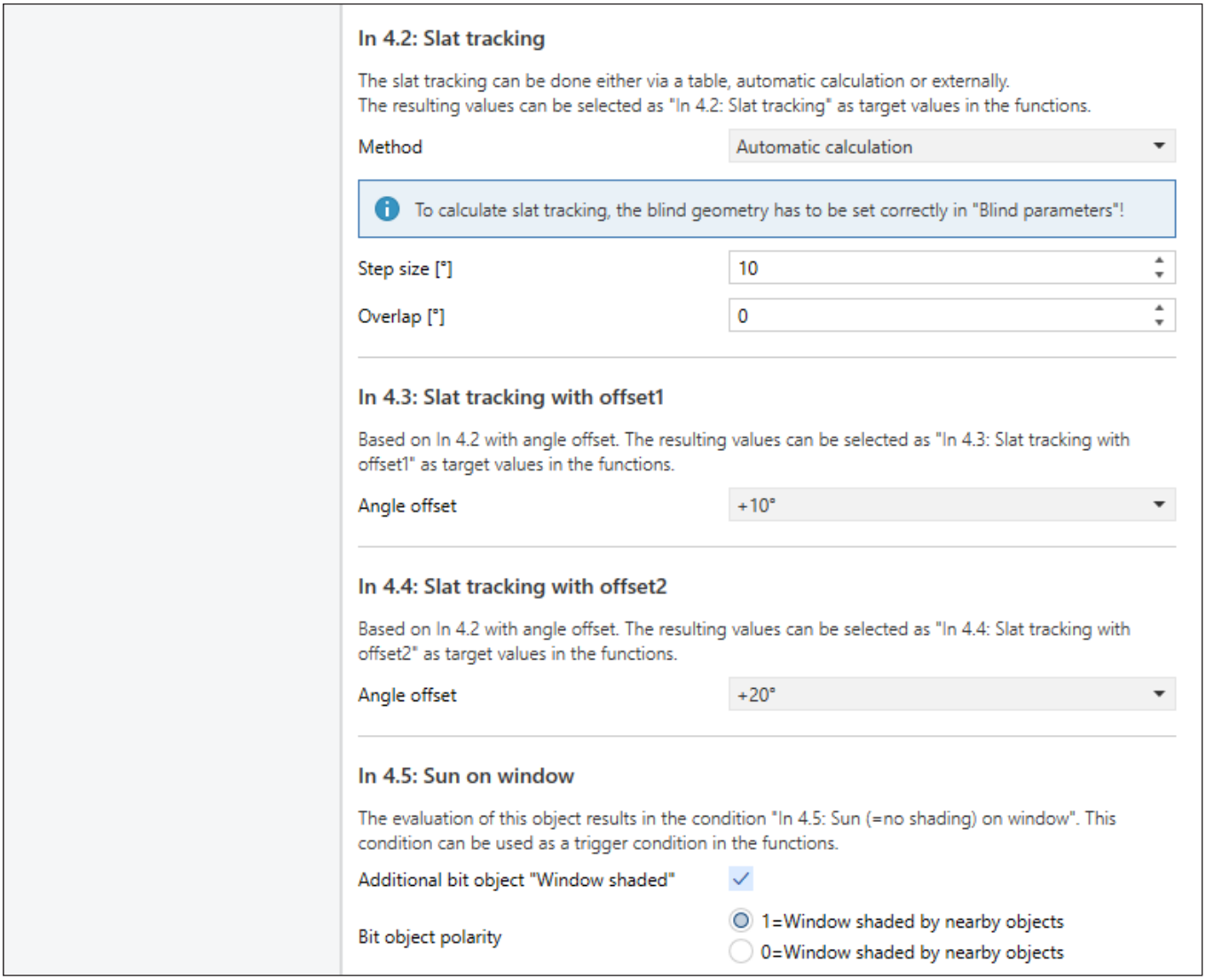


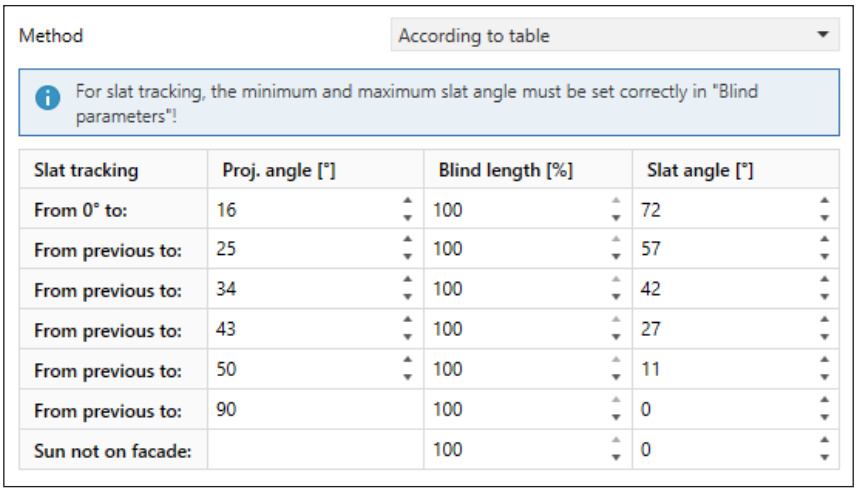
Fig. 21 Parameter dialogue: On: Output → function inputs → In 4: Position of the sun (fig. 2)

Slat tracking can be determined in various ways:

- **Automatic calculation**
  The number of steps and an overlap must be set. The resulting steps of the slat angle are calculated automatically based on the blind geometry. (Overlap is necessary if reliable glare control cannot be achieved due to mechanical tolerances.)

The automatic calculation always starts at 0° (anything greater than 0° is not applied). If anything greater than 0° needs to be applied, slat tracking needs to be parameterised *according to table*.

- **According to table**
  A table for directly entering the projected angle of incidence and positions/ slat angles is displayed.



Slat tracking	Proj. angle [°]	Blind length [%]	Slat angle [°]
From 0° to:	16	100	72
From previous to:	25	100	57
From previous to:	34	100	42
From previous to:	43	100	27
From previous to:	50	100	11
From previous to:	90	100	0
Sun not on facade:		100	0

- **External (1 object slat position)**
  The value of the GO "In 4.2 slat tracking input slat position" is forwarded directly by the KNX bus to the internal condition "In 4.2: slat tracking".

- **External (2 objects blind length/slat position)**
  The values of the GOs "In 4.2 slat tracking input blind length" and "In 4.2 slat tracking input slat position" are combined and passed on to the internal condition "In 4.2: slat tracking".

- **External (DPT 240.800)**
  The value of the combined GO "In 4.2 slat tracking input blind/slat" is forwarded directly by the KNX bus to the internal condition "In 4.2: slat tracking".

Parameters	Function	Values
Method	Method for determining slat tracking	**Automatic calculation**
		According to table
		External (1 object slat position)
		External (2 objects blind length/slat position)
		External (DPT 240,800)
Step size [°]	Tilt angle for one step. In conjunction with the minimum and maximum slat angle, this results in the number of steps over the entire blind application. (only for *automatic calculation* method)	5 : 45
Overlap [°]	Overlap of the shade of the slat with the shade of the next slat to prevent the sun from shining through. (only for *automatic calculation* method)	-90 : 90
Time window for combining blind length and slat position to form a move command	Maximum period of time during which the two separated objects are treated as one move command. (only for method *External (2 objects blind length/slat position)*)	50 milliseconds : **1 Second** : 10 seconds
In 4.3: slat tracking with Offset1 Slat offset	Calculated on the basis of "In 4.2: slat tracking" and also available internally as a movement target "In 4.3: slat tracking + Offset1".	+25% : **+5%** : — : -25%
In 4.4 slat tracking with Offset2 Slat offset	Calculated on the basis of "In 4.2: slat tracking" and also available internally as a movement target "In 4.4: slat tracking + Offset2".	+25% : **+10%** : — : -25%

In 4.5: Sun on window

Determines whether the sun is shining on the windows and outputs the status "In 4.5: Sun (=no shading) on windows". An additional bit object "In 4.5 shading on windows" can be displayed, which receives shadow casting information (shading on windows yes/no) from, for example, an external annual shading module.

Parameters	Function	Values
Additional bit object "Window shaded"	Here you can set whether the object should be used.	Yes
		No
Bit object polarity	Defines when a received bit object triggers the status "Window shaded".	**1=Window shaded by nearby objects**
		0=Window shaded by nearby objects

7.4.4.5 In 5: Presence

This function input can receive presence information (person in room) via up to 3 bit objects "In 5 Presence" from the bus, link them together and make them available internally as the "In 5: Presence" condition.

If more than one object is displayed, the linking method may be selected.

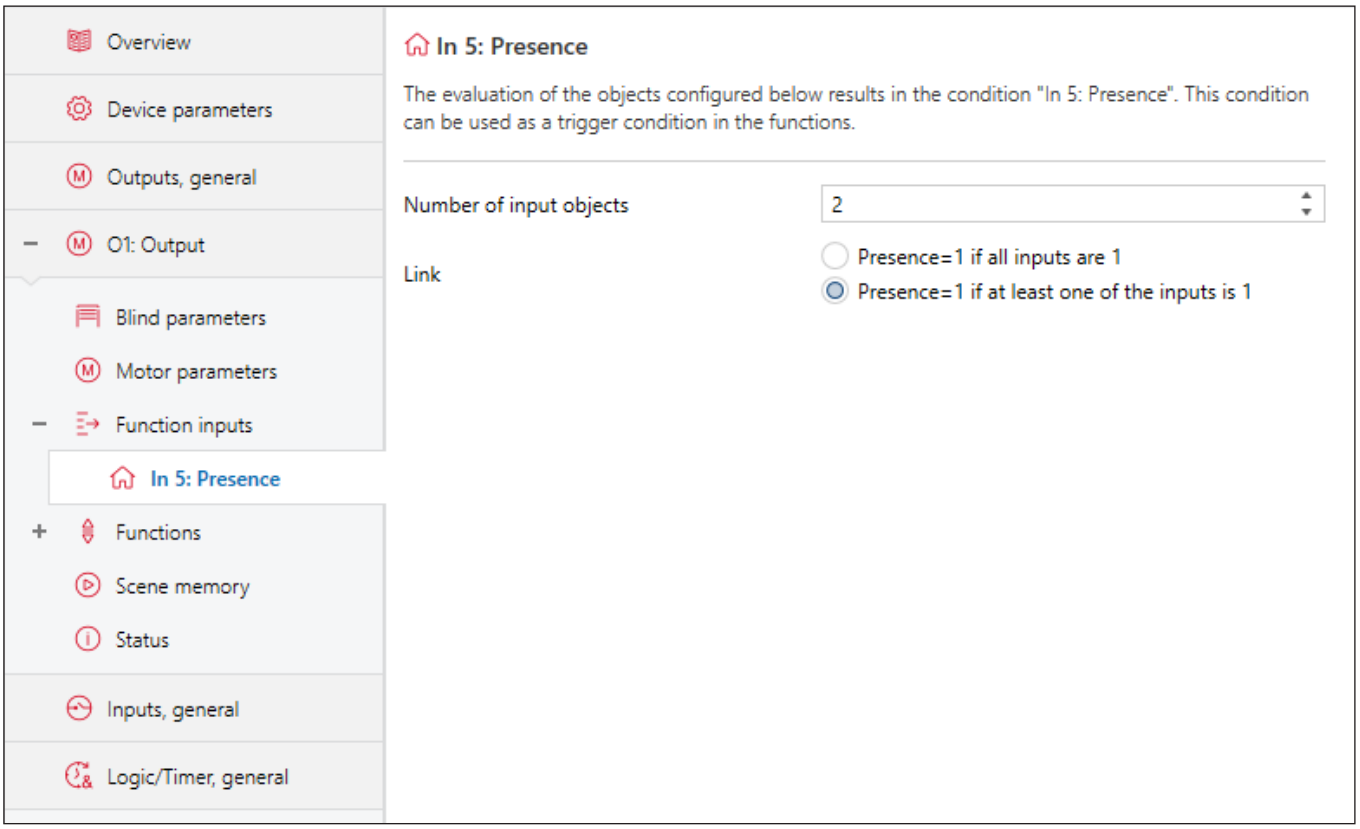


Fig. 22 Parameter dialogue: On: Output → function inputs → In 5: Presence

Parameters	Function	Values
Number of input objects	The number of input objects can be selected here.	**1** : 3
Link	Defines the linking method for the inputs (AND/**OR**)	Presence=1 if all inputs are 1
		Presence=1 if at least one of the inputs is 1

7.4.4.6 In 6: Window/door contact

This function input allows contacts to be received via up to 3 bit objects "In 6 window/door contact" from the bus, linked together and made available internally as "In 6: Door/window open" condition.

If more than one object is displayed, the linking method may be selected. In addition, cyclic monitoring can be parameterised. If no new value is received for a bit object for the set time, the value for "window open" is assumed.

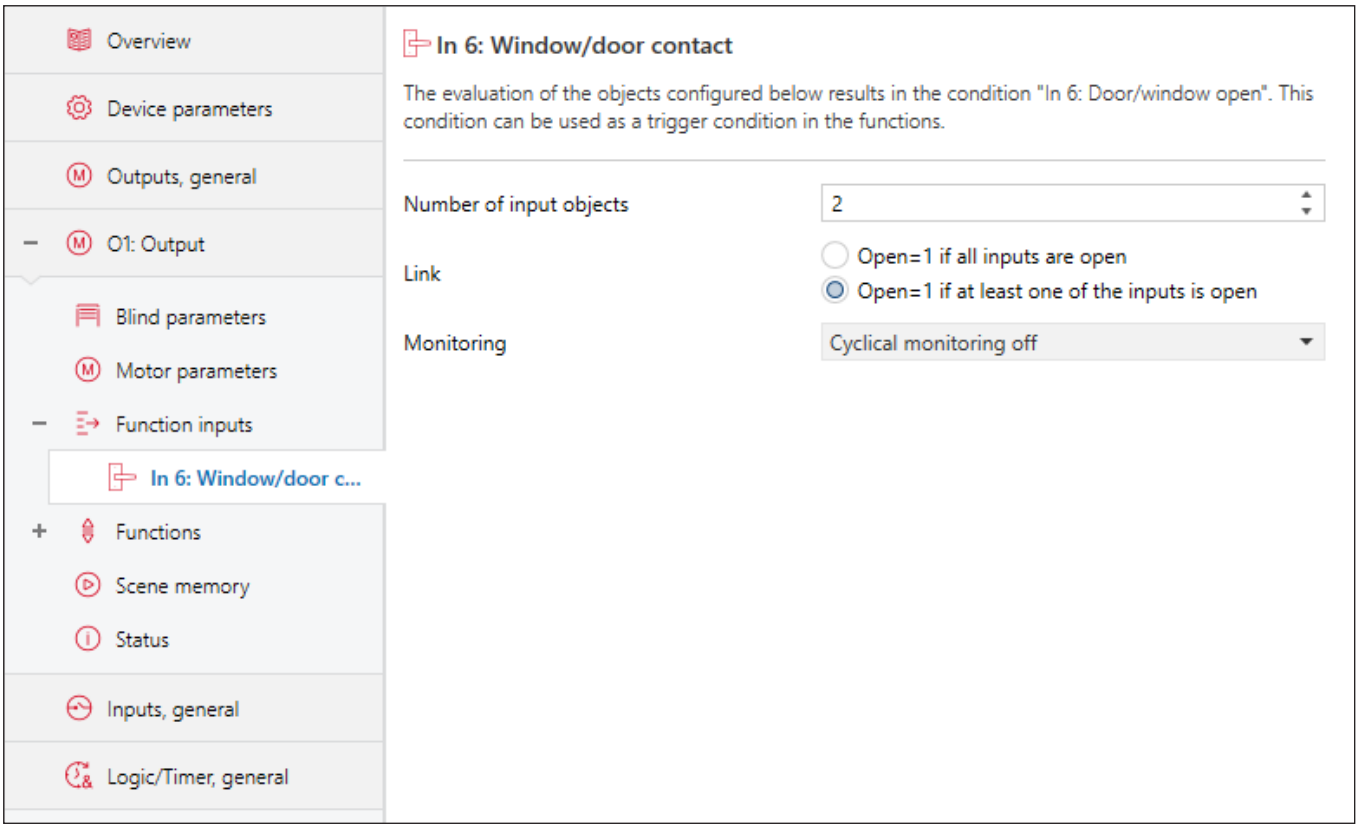


Fig. 23 Parameter dialogue: On: Output → function inputs → In 6: Window/door contact

Parameters	Function	Values
Number of input objects	The number of input objects can be selected here.	**1** : 3
Link	Defines the linking method for the inputs (NOR/**NAND**)	Open=1 if all inputs are open
		Open=1 if at least one of the inputs is open
Monitoring	The input objects can be monitored. If monitoring is active and no telegram has been received for the set period of time, the condition "open" is considered to be fulfilled and the status "In 6: Door/window open" is set.	**Cyclical monitoring off**
		10 seconds
		1 minute
		2 minutes
		5 minutes
		10 minutes

7.4.4.7 In 7: Heating/cooling support

This function input offers the option of responding to the building's operating mode (heating, cooling, neutral) and taking the room temperature into account.

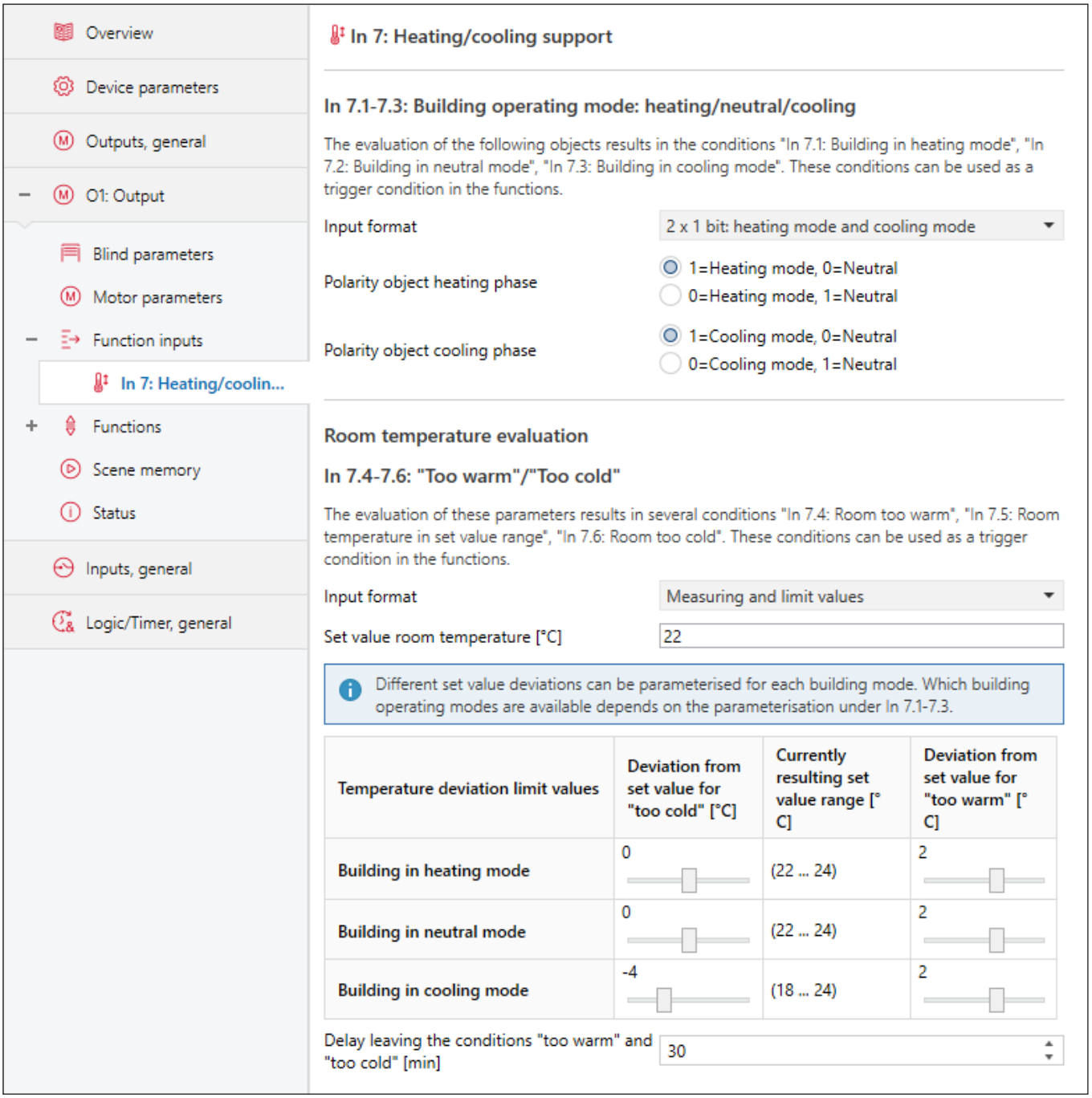


Fig. 24 Parameter dialogue: On: Output → function inputs → In 7: Heating/cooling support

In 7.1-7.3: Building operating mode: Heating/neutral/cooling

Depending on the availability, the current operating mode of the heating/cooling system in the building can be recorded here.

Selectable input formats:

- *1 bit object heating operation/neutral*
  The bit object "In 7: Building operating mode heating" is displayed. Depending on the value, the internal condition "In 7.1: Building in heating mode" is set. The inverse condition is passed on to "In 7.2 building in neutral mode". "In 7.3 building in cooling mode" is not available.
- *1 bit object heating mode/cooling mode*
  The bit object "In 7: Building operating mode heating" is displayed. Depending on the value, the internal condition "In 7.1: Building in heating mode" is set. The inverse condition is passed on to "In 7.3 building in cooling mode". "In 7.2 building in neutral mode" is not available.
- *2x 1 bit: heating mode and cooling mode*
  The bit object "In 7: building operating mode heating" is passed directly to the internal condition "In 7.1: building in heating mode" and the bit object "In 7: building operating mode cooling" is passed to the internal condition "In 7.3: building in cooling mode". The internal state "In 7.2 building in neutral mode" is 1 as soon as In 7.1 and In 7.3 are both 0.

Parameters	Function	Values
Input format	Selectable input formats for the building operating mode	**1 bit object heating operation/ neutral**
		1 bit object heating mode/cooling mode
		2x 1 bit: heating mode and cooling mode
Polarity (1 bit object heating operation/ neutral)	Defines which conditions received bit objects trigger.	**1=Heating mode / 0=Neutral**
		0=Heating mode / 1=Neutral
Polarity (1 bit object heating mode/cooling mode)	Defines which conditions received bit objects trigger.	**1=Heating mode / 0=Cooling mode**
		0=Heating mode / 1=Cooling mode
Polarity object heating phase (2 x 1 bit: heating mode and cooling mode)	Defines which conditions received bit objects trigger.	**1=Heating mode / 0=Neutral**
		0=Heating mode / 1=Neutral
Polarity object cooling phase (2 x 1 bit: heating mode and cooling mode)	Defines which conditions received bit objects trigger.	**1=Cooling mode / 0=Neutral**
		0=Cooling mode / 1=Neutral

In 7.4-In 7.6: "too warm"/"too cold"

Recording of conditions Too warm/Room temperature within target range/ Too cold (relative to room temperature).

Selectable input formats:

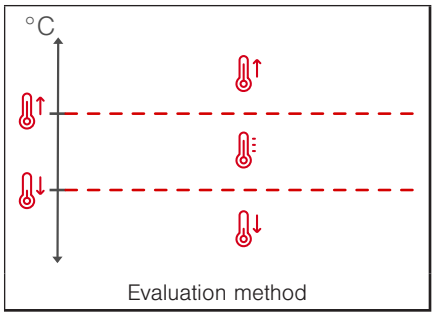
- *Measuring and limit values*
  The measuring value for the room temperature from the GO "In 7 measuring value room temperature" is compared with the current limit value. The limit value that currently applies depends on the type of building operation (In 7.1-7.3). In the table, a deviation from the set value (set value comes from GO "In 7 set value room temperature") can be parameterised for each operating mode for "too warm" and a deviation for "too cold". Depending on the deviation, the operating mode and the delay time, the internal conditions "In 7.4 room too warm", "In 7.5 room temperature within target range" and "In 7.6 room too cold" are set.
- *2 x 1 bit object: "too warm" and "too cold"*
  Depending on the GOs "In 7 room too warm" and "In 7 room too cold", the internal conditions "In 7.4 room too warm", "In 7.5 room temperature within target range" and "In 7.6 room too cold" are set.
- *1 bit object: 1=too warm, 0=too cold*
  Depending on the GO "In 7 room too warm", the internal conditions "In 7.4 room too warm" and "In 7.6 room too cold" are set.
- *1 bit object: 1=too cold, 0=too warm*
  Depending on the GO "In 7 Room too cold", the internal states "In 7.4 room too warm" and "In 7.6 room too cold" are set.

No further parameters are displayed for the bit object input formats.

Parameters	Function	Values
Input format	Selectable input formats for the room temperature evaluation	**Measuring and limit values**
		2 x 1 bit object
		1-bit object, 1=too warm, 0=too cold
		1-bit object, 1=too cold, 0=too warm
Polarity	Defines when a received bit object triggers the status "Night/dawn".	**1=Night/Dawn, 0=Day**
Set value room temperature [°C]	Time periods in which the limit values must be permanently exceeded/fallen below in order for a state change to be executed.	0 : **22** : 50
"Temperature deviation limit values" table	Different set value deviations can be parameterised for the building operating modes selected under *In 7.1-7.3* in the table using the slider.	-
Delay leaving the conditions "too warm" and "too cold" [min]	Time span before a state that has been reached can be left again.	0 : **30** : 255

7.4.4.8 In 8: Outside temperature

Examination whether the outside temperature is below or exceeds a limit.



Selectable input formats:

- *1 bit object: temp high/temp low*
  The bit object "In 8 outside temperature high/low" is forwarded directly by the KNX bus to the internal condition "In 8.1: outside temperature high". The inverse of this is passed on to "In 8.3 outside temperature low". "In 8.2 outside temperature moderate" is not available.
- *2 x 1 bit object: temp high/temp low*
  The bit object "In 8.1: outside temperature high" is passed directly to the internal condition "In 8.1: outside temperature high" and the bit object "In 8.3 outside temperature low" to the internal condition "In 8.3 outside temperature low". The internal condition "In 8.2 outside temperature moderate" is 1 as soon as In 8.1 and In 8.3 are both 0.
- *Measuring value as object, fixed limit value*
  With this setting, a standard limit value assessment with two limit values runs in the actuator, the result of which is passed on to the internal conditions. The outside temperature measuring value from the GO "general measuring value outside temperature" is used for this purpose.
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but additional GOs for the limit values "outside temperature high" and "outside temperature low" are displayed and can override the parameterised limit values.

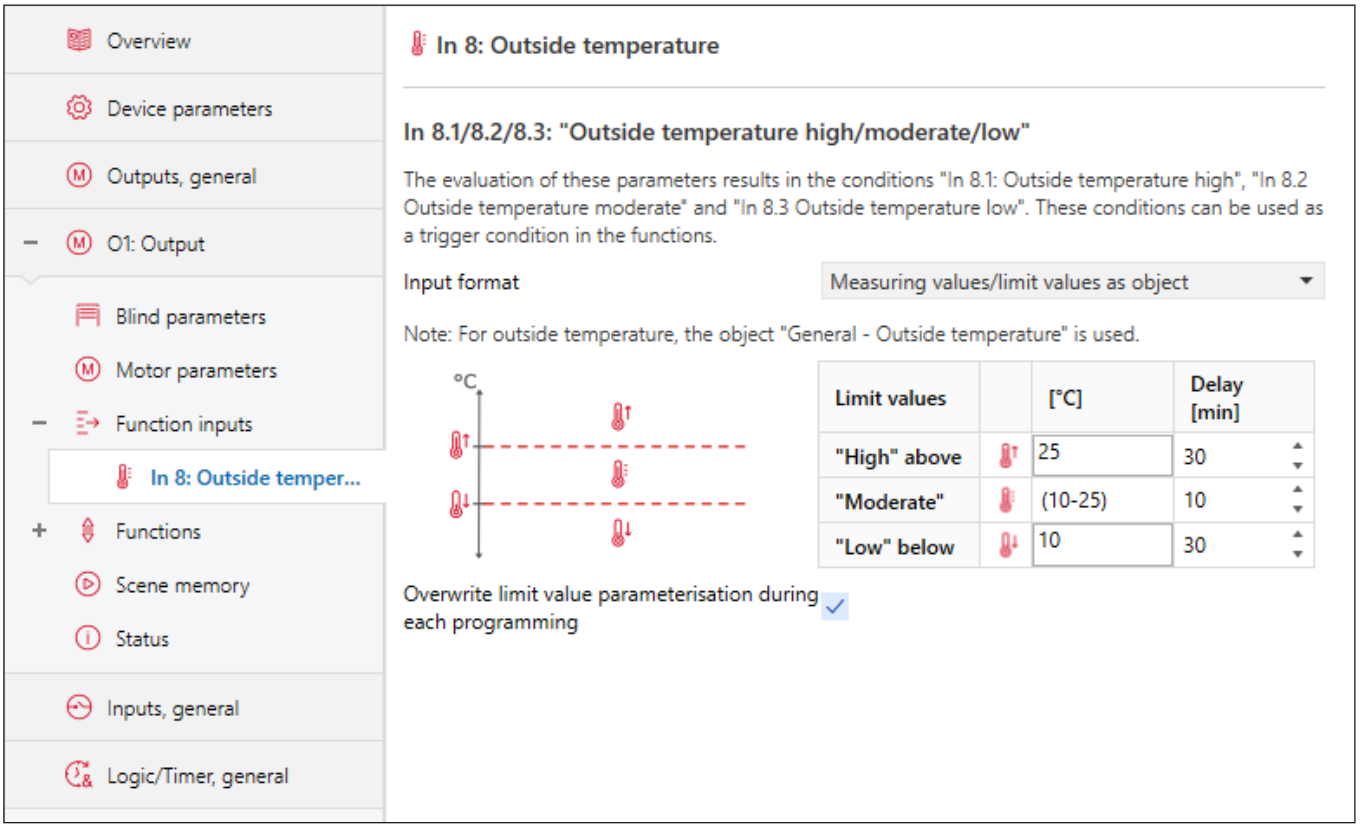
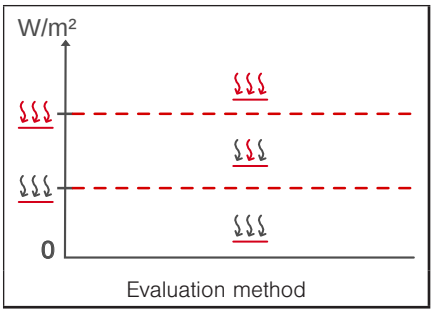


Fig. 25 Parameter dialogue: On: Output → function inputs → In 8: Outside temperature

Parameters	Function	Values
Input format	Selectable input formats for evaluating outside temperature	1 bit object: temp high/temp low
		2 x 1 bit object: temp high/temp low
		Measuring value as object, fixed limit value
		Measuring/limit value as object
Polarity (1 bit object: temp high/temp low)	Defines which conditions received bit objects trigger.	**1: Temperature high, 0: Temperature low**
		0: Temperature high, 1: Temperature low
Polarity temperature high (2 ×1 bit object: temp high/temp low)	Defines which conditions received bit objects trigger.	**1: Temperature high = TRUE**
		0: Temperature high = TRUE
Polarity temperature low (2 ×1 bit object: temp high/temp low)	Defines which conditions received bit objects trigger.	**1: Temperature low = TRUE**
		0: Temperature low = TRUE
"Limit values" table (if measuring value is object)	The desired limit values and delay times can be configured in the table.	-
Always overwrite limit value parameters when programming (if limit value is object)	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No

7.4.4.9 In 9: Incidence of energy

Examination whether the radiation level is below or exceeds a limit.



Selectable input formats:

- *1 bit object: incidence of energy high/low*
  The bit object "In 9 incidence of energy high/low" is forwarded directly by the KNX bus to the internal condition "In 9.1: incidence of energy high". The inverse of this is passed on to "In 9.3 incidence of energy low". "In 9.2 incidence of energy moderate" is not available.
- *2 x 1 bit object: incidence of energy high/low*
  The bit object "In 9.1: incidence of energy high" is passed directly to the internal condition "In 9.1: incidence of energy high" and the bit object "In 9.3 incidence of energy low" to the internal condition "In 9.3 incidence of energy low". The internal condition "In 9.2 incidence of energy moderate" is 1 as soon as In 9.1 and In 9.3 are both 0.
- *Measuring value as object, fixed limit value*
  With this setting, a standard limit value assessment with two limit values runs in the actuator, the result of which is passed on to the internal conditions. The incidence of energy from the GO "In 9 measuring value radiation" is used for this purpose.
- *Measuring/limit value as object*
  Similar to *Measuring values as object, fixed limit values*, but additional GOs for the limit values "incidence of energy high" and "incidence of energy low" are displayed and can override the parameterised limit values.

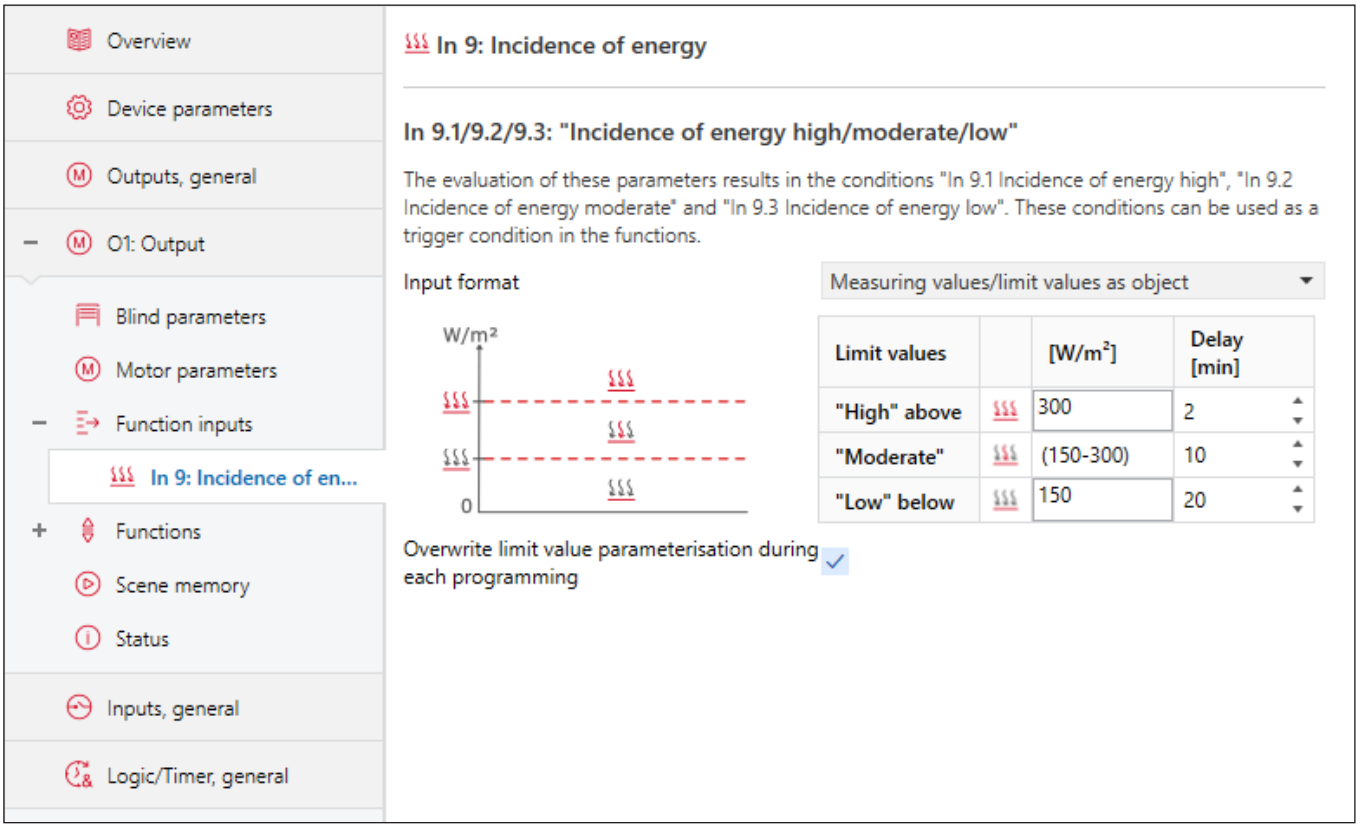


Fig. 26 Parameter dialogue: On: Output → function inputs → In 9: incidence of energy

Parameters	Function	Values
Input format	Selectable input formats for evaluating the incidence of energy	1 bit object: incidence of energy high/low
		2 x 1 bit object: incidence of energy high/low
		Measuring value as object, fixed limit value
		Measuring/limit value as object
Polarity (1 bit object: incidence of energy high/low)	Defines which conditions received bit objects trigger.	**1: Incidence of energy high, 0: Incidence of energy low**
		0: Incidence of energy high, 1: Incidence of energy low
Polarity temperature high (2 x 1 bit object: incidence of energy high/low)	Defines which conditions received bit objects trigger.	**1: Incidence of energy high=TRUE**
		0: Incidence of energy high=TRUE
Polarity temperature low (2 x 1 bit object: incidence of energy high/low)	Defines which conditions received bit objects trigger.	**1: Incidence of energy low = TRUE**
		0: Incidence of energy low = TRUE
"Limit values" table (if measuring value is object)	The desired limit values and delay times can be configured in the table.	-
Always overwrite limit value parameters when programming (if limit value is object)	You can then select whether the current limit values may be overwritten or retained during programming.	**Yes**
		No

7.4.4.10 In 10: External inputs

This function input provides additional inputs that can be used in the functions as conditions or targets.

In 10.1-10.3 bit objects
Up to 3 "In 10 external bit" bit objects can be displayed. Reception monitoring can be activated for these. The condition of the objects is passed directly to the internal conditions "In 10.n external bit".

In 10.4-10.5 position objects
Up to 2 position inputs can be displayed. The GOs "In 10.n external blind length" and, for external venetian blind operating mode, "In 10.n external slat position" are displayed. The position values received via the objects can be used as movement targets in the functions.

In addition, in external venetian blind operating mode, an object of type DPT 240.800 "In 10.n external blind length/slat position" can also be displayed.

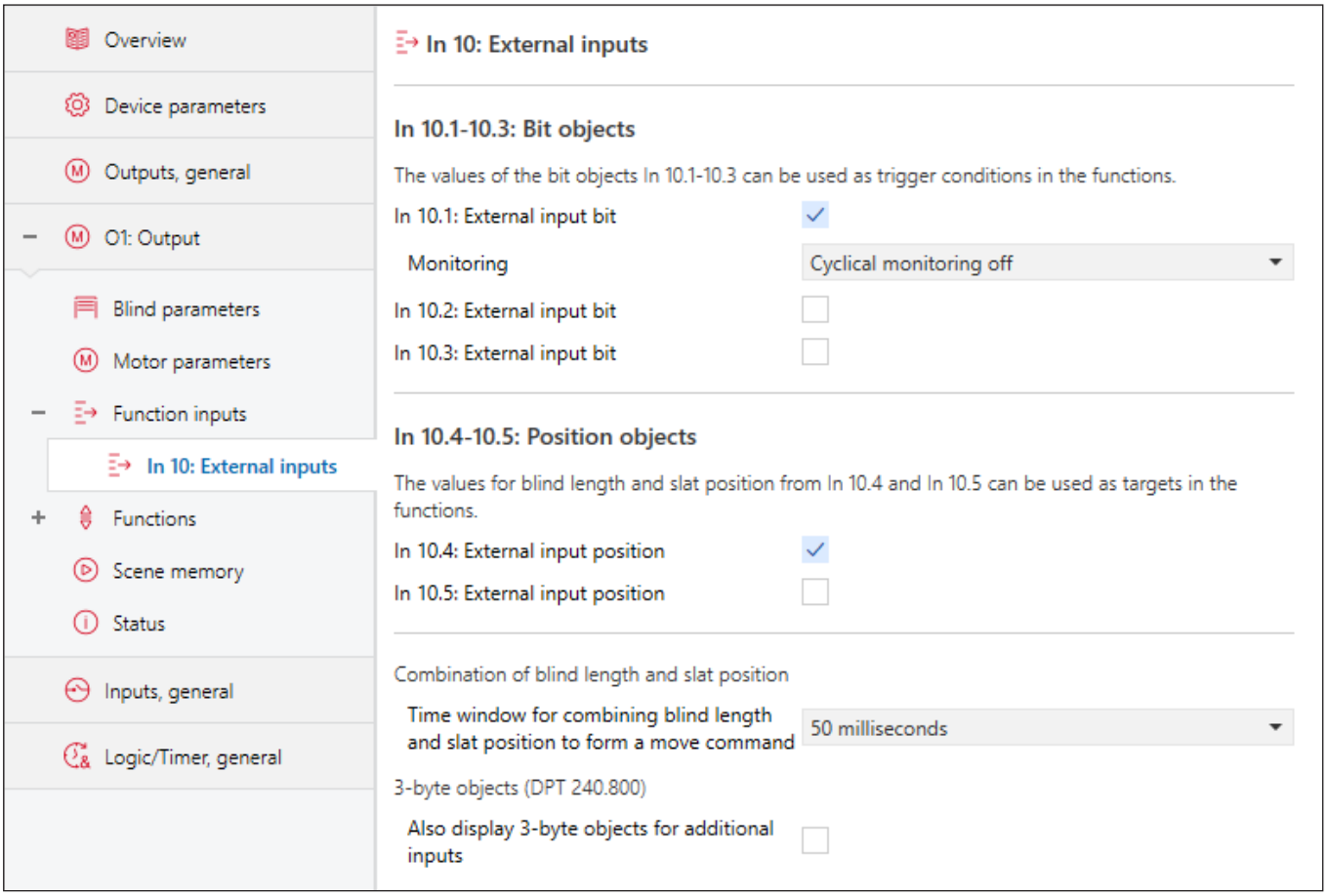


Fig. 27 Parameter dialogue: On: Output → function inputs → In 10: external inputs

Parameters	Function	Values
In 10.n: External input bit	Display external bit objects (10.1 active by default; 10.2 and 10.3 can be displayed as necessary)	**Yes**
		No
Monitoring	Each bit object can be monitored separately. If monitoring is active and no telegram has been received for the set period of time, the value TRUE is assumed.	Cyclical monitoring off
		10 seconds
		1 minute
		2 minutes
		5 minutes
		10 minutes
In 10.n: External input position	Display external position objects	Yes
		No
Time window for combining blind length and slat position to form a move command	Maximum period of time during which the two separated objects are treated as one move command.	**50 milliseconds** : 10 seconds
Also display 3-byte objects for additional inputs (only in venetian blind/external venetian blind operating mode)	Displays an additional object of type DPT 240.800 "In 10.n external blind length/slat position" for activated position inputs.	Yes
		No

7.4.5 Functions

The functions process internal conditions and targets resulting from the function inputs, or they process operating commands received directly via GOs. The functions trigger movements on the respective output as a result.

- ▶ Up to 15 functions are available in each output.
- ▶ Each function can be active or inactive. They become active when their trigger conditions are met.
- ▶ If a function is active, it overrides functions with lower priority.
- ▶ The lowest function is always "sleep mode"
- ▶ Every movement of the output is caused by a function. Only functions can lead to movements.

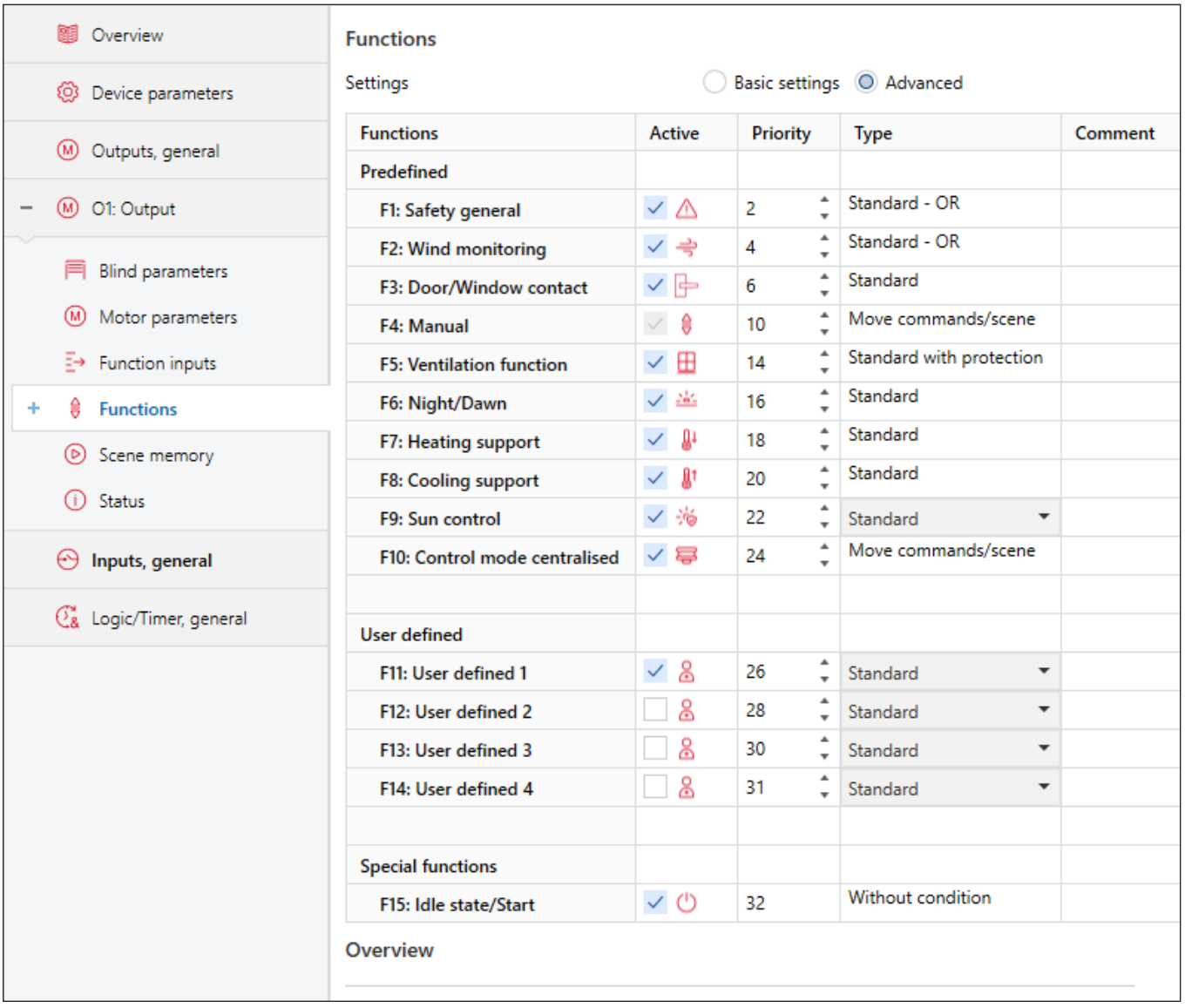


Fig. 28 Parameter dialogue: On: Output → functions

Parameters	Function	Values
Display	The All option displays additional functions that are not necessary during normal operation and are only required in special situations.	**Basic functions**
		All
F1: Safety general *(7.4.5.1 on page 65)*	Function of type "Standard - OR" with preselected *target at the top* and 3 preselected conditions for a standard application case.	Yes
		No
F2: Wind monitoring *(7.4.5.2 on page 67)*	Function of "Standard - OR" type with preselected *target at the top* and preselected condition *In 2: wind alarm* for a standard application case for wind monitoring.	**Yes**
		No
F3: Door/window contact *(7.4.5.3 on page 69)*	Function of type "Standard" with preselected *target at the top* and preselected condition *In 6: door/window open* for a standard application case for monitoring a window contact.	Yes
		No
F4: Manual *(7.4.5.4 on page 71)*	Function of "move command/scenario" type. This function is always active. The function can either disable lower functions or override them once.	Always active
F5: Ventilation function *(7.4.5.5 on page 74)*	Function of "standard with protection" type with preselected condition *In 6: Door/window open* for a ventilation function. An additional protective position (e.g. in case of precipitation) is available.	Yes
		No
F6: Night/dawn *(7.4.5.6 on page 76)*	Function of type "standard" with preselection *In 3.4: Night/dawn* as a condition and a maximum of one additional condition.	Yes
		No
F7: Heating support *(7.4.5.7 on page 78)*	Function of type "standard" with preselection *In 7.6: Room too cold* and *In 7.1: Building in heating mode* as condition and behaviour "limit lower functions" (only allow blind length <50%).	Yes
		No
F8: Cooling support *(7.4.5.8 on page 80)*	Function of type "standard" with preselection *In 3.1: Sunny, In 5: No presence* and *In 7.1: Building not in heating mode* as condition and behaviour "approach target" (bottom, slats closed)	Yes
		No
F9: Sun control *(7.4.5.9 on page 82)*	Function of "Standard" type with preselection *In 3.1: Sunny* as condition and behaviour "approach target" (bottom, slat position 70%).	**Yes**
		No
F10: Control mode centralised *(7.4.5.10 on page 84)*	Function of type "move command/scenario" with limitation: only byte objects and scenario objects possible. The function can either disable lower functions or override them once.	**Yes**
		No
F11-14: User defined *(7.4.5.11 on page 86)*	"Standard" function type. Freely configurable for individual application example.	Yes
		No
F15: Idle state/start *(7.4.5.12 on page 90)*	Special function. This determines which action is performed when no other function is active, or after a reset.	**Yes**
		No

7.4.5.1 F1: Safety general

Function of type "Standard - OR" with preselected *target at the top* and 3 preselected conditions for a standard application case.

- ▶ Influence on lower functions is always "disable"
- ▶ Trigger is an OR link of up to 5 conditions.
- ▶ A delay time can be set to delay the triggering of the function.
- ▶ Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.

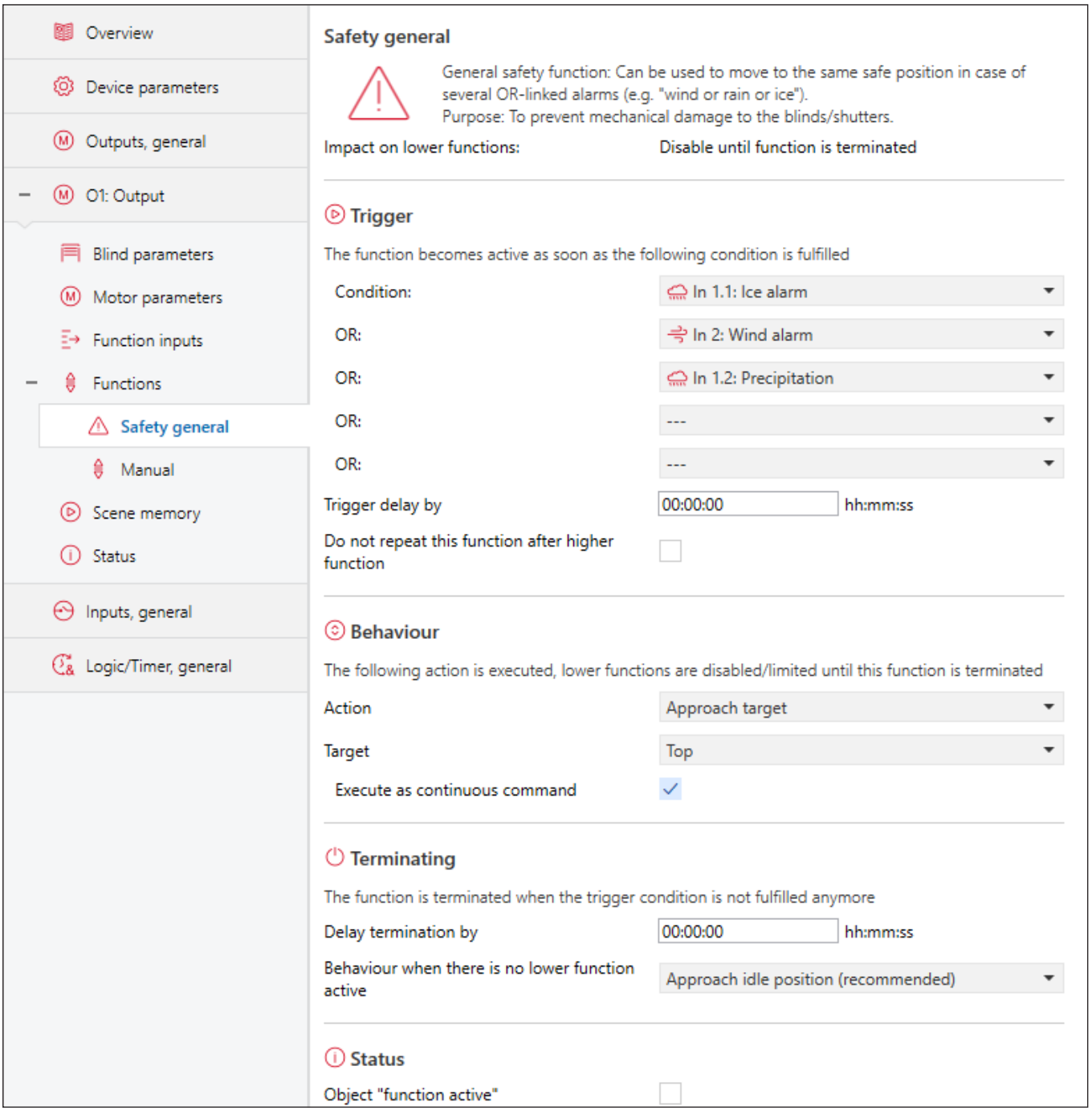


Fig. 29 Parameter dialogue: On: Output → functions → F1: Safety general

Parameters	Function	Values
Triggers Condition	Trigger is an OR link of up to 5 conditions, whereby three conditions are preselected. Any function input can be selected here for each condition.	**In 1.1: Ice alarm**
		In 2: Wind alarm
		In 1.2: Precipitation
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Additionally available when "Approach target" is selected as the action. Predefined values, function inputs or scenarios can be selected as targets. **User-defined**: blind length and slat position can be freely configured. (predefined values and function inputs are also possible)	**Top**
Execute as continuous command	Additionally available when "Top" is selected as the target ("Output for ZIP awning" or "Support for downstream MSEs" must be activated in the *Blind parameters*).	**Yes**
		No
Minimum blind length	Additionally available when "Limit lowest functions" is selected as the action. Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Top (0%)**
Maximum blind length		**Value [%]: 90**
Minimum slat position		**Tilt up (0%)**
Maximum slat position		**Tilt down (100%)**
End Delay termination by	A delay time by which the ending of the function is delayed.	**00:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.2 F2: Wind monitoring

Function of "Standard - OR" type with preselected *target at the top* and pre-selected condition *In 2: wind alarm* for a standard application case for wind monitoring.

- The selectable conditions are limited to a maximum of three and to those that may be useful in this context.
- Influence on lower functions is always "disable"
- Trigger is an OR link of up to 3 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.

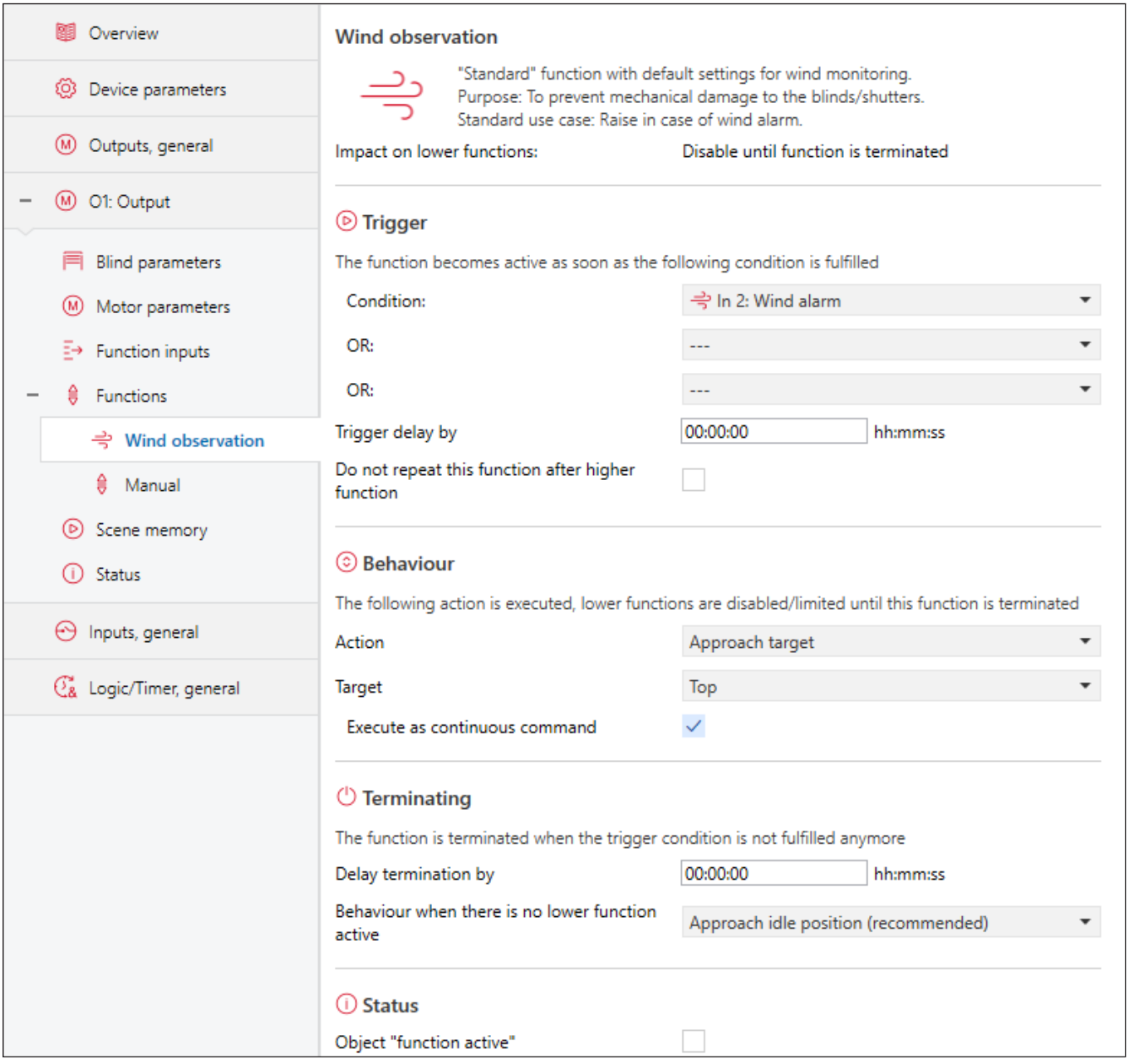


Fig. 30 Parameter dialogue: On: Output → functions → F2: Wind monitoring

Parameters	Function	Values
Triggers Condition	Trigger is an OR link of up to 3 conditions, whereby "In 2: Wind alarm" is preselected. An appropriate function input can be selected here for each condition.	**In 2: Wind alarm**
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Additionally available when "Approach target" is selected as the action. Predefined values, function inputs or scenarios can be selected as targets. **User-defined**: blind length and slat position can be freely configured. (predefined values and function inputs are also possible)	**Top**
Execute as continuous command	Additionally available when "Top" is selected as the target ("Output for ZIP awning" or "Support for downstream MSEs" must be activated in the *Blind parameters*).	**Yes**
		No
Minimum blind length	Additionally available when "Limit lowest functions" is selected as the action. Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Top (0%)**
Maximum blind length		**Value [%]: 90**
Minimum slat position		**Tilt up (0%)**
Maximum slat position		**Tilt down (100%)**
End Delay termination by	A delay time by which the ending of the function is delayed.	**00:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.3 F3: Door/window contact

Function of type "Standard" with preselected *target at the top* and preselected condition *In 6: door/window open* for a standard application case for monitoring a window contact.

- The selectable conditions are limited to those that may be useful in this context.
- Influence on lower functions is always "disable"
- The trigger is an AND link of up to 2 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.

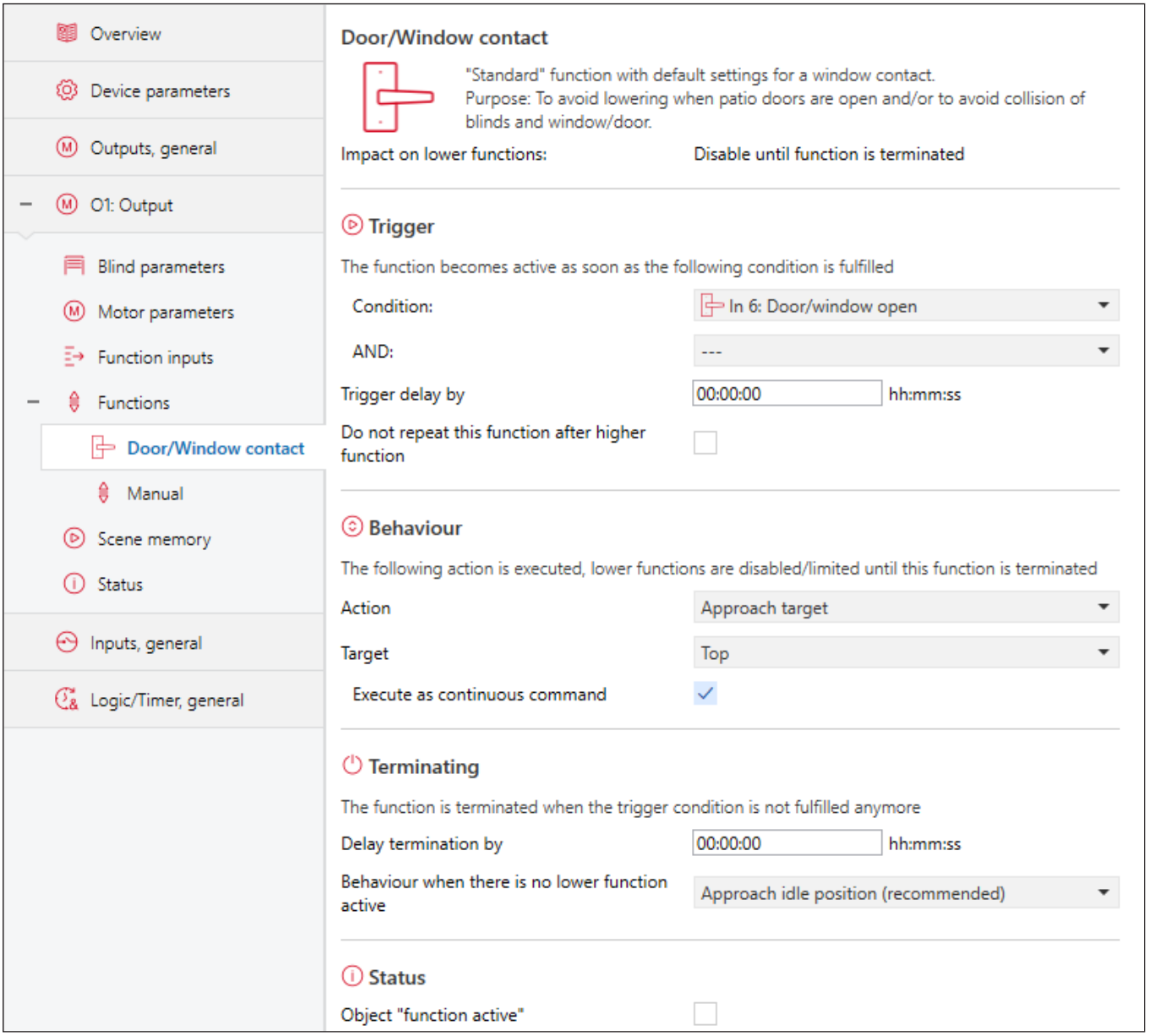


Fig. 31 Parameter dialogue: On: Output → functions → F3: Door/window contact

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 2 conditions, whereby "In 6: Door/window open" is preselected. An appropriate function input can be selected here for each condition.	**In 6: Door/window open**
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Additionally available when "Approach target" is selected as the action. Predefined values, function inputs or scenarios can be selected as targets. **User-defined**: blind length and slat position can be freely configured. (predefined values and function inputs are also possible)	**Top**
Execute as continuous command	Additionally available when "Top" is selected as the target ("Output for ZIP awning" or "Support for downstream MSEs" must be activated in the *Blind parameters*).	**Yes**
		No
Minimum blind length	Additionally available when "Limit lowest functions" is selected as the action. Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Top (0%)**
Maximum blind length		**Value [%]: 90**
Minimum slat position		**Tilt up (0%)**
Maximum slat position		**Tilt down (100%)**
End Delay termination by	A delay time by which the ending of the function is delayed.	**00:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.4 F4: Manual

Function of "move command/scenario" type. This function is always active. The function can either disable lower functions or override them once.

- Various triggers can be displayed/used (even simultaneously):
  - Bit objects (raise/lower and stop/step)
  - Sunblind push button at terminal (terminals are selected in the menu)
  - Byte objects (blind length and slat position)
  - 3-byte object (DPT 240.800) blind length/slat position
  - Scenario object
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive

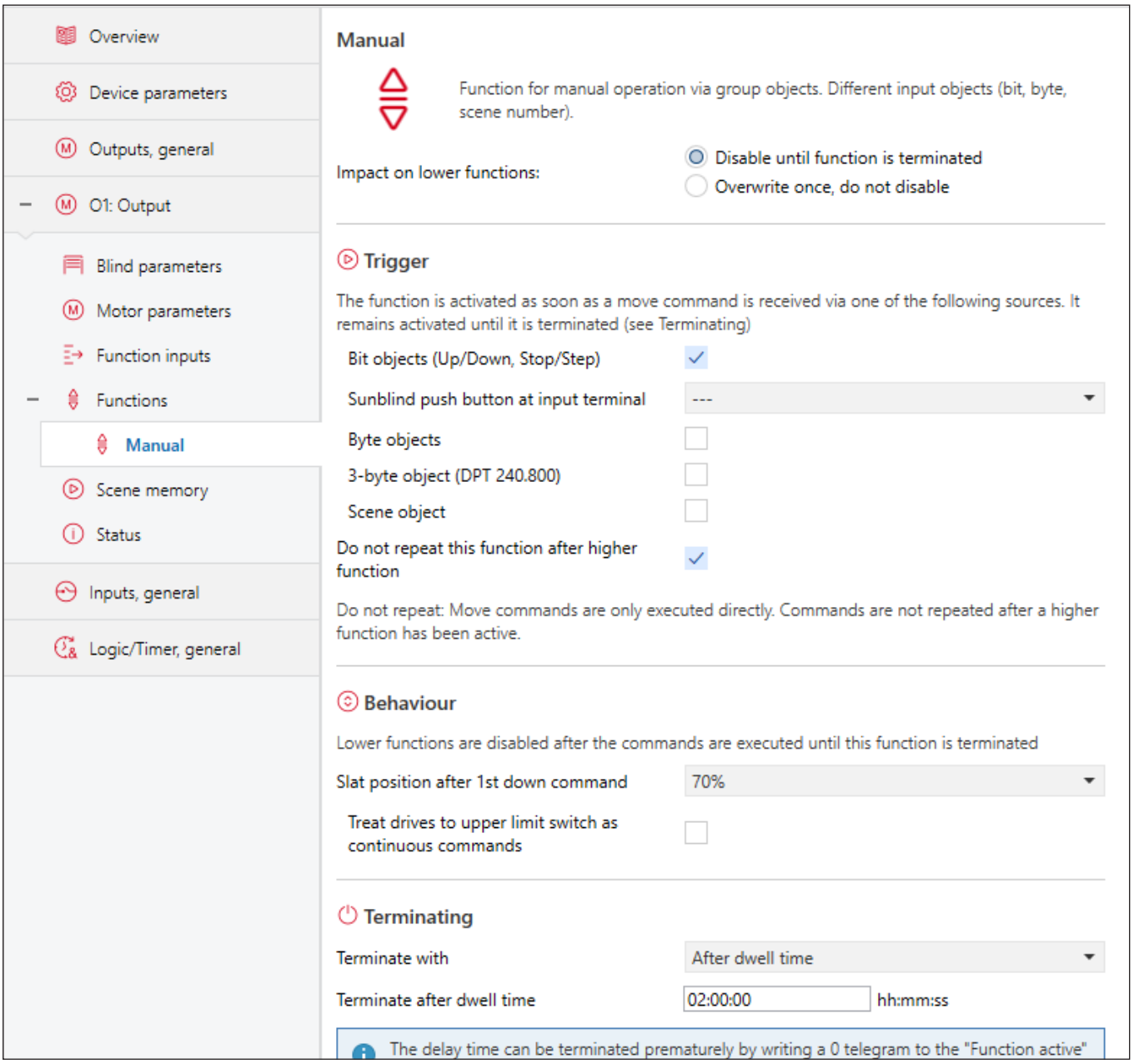


Fig. 32 Parameter dialogue: On: Output → functions → F4: Manual

Parameters	Function	Values
Impact on lower functions	If a function is active, it overrides functions with lower priority. This determines whether it only overrides or completely blocks lower functions.	**Disable until function is terminated**
		Overwrite once, do not disable
Triggers Bit objects (Raise/Lower, Stop/Step)	Evaluates the bit objects "Move command Up/Down" and "Move command Stop/Step".	**Yes**
		No
Sunblind push button at input terminal	Evaluates a pair of input terminals of the actuator with a connected sunblind push button (terminals are selected in the menu).	**- - -**
		1:1 (Input X.1/X.2 –> Output X)
		Input n.1/n.2
Byte objects	Evaluates the byte objects "Move to blind length" and "Move to slat position".	Yes
		No
Time window for combining blind length and slat position to form a move command	Maximum period of time during which the two separated objects are treated as one move command.	**50 milliseconds** : 10 seconds
3-byte object (DPT 240.800)	Displays an additional object of type DPT 240.800 "Manual move command approach blind/slat". (only in venetian blind/external venetian blind operating mode)	Yes
		No
Scenario object	Displays an additional object "Manual scenario". The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled here can be executed or learned for this function.	Yes
		No
Do not repeat this function after higher function	Do not repeat the move command if it was overridden by a higher function, and the higher function becomes inactive.	**Yes**
		No
Behaviour Slat position after 1st DOWN command	With a DOWN command via the raise/lower bit object, it is possible to parameterise whether the blind should be raised to a slat position at the bottom or remain closed. If this slat position has already been reached/exceeded, another down command will close the slats. (only in venetian blind/external venetian blind operating mode)	Closed
		50%
		70%
		Value [%]
Execute the UP commands as continuous commands	Additionally available when "Output for ZIP awning" or "Support for downstream MCUs" is activated in the *Blind parameters*.	Yes
		No
Slat position value [%]	If *Slat position after first down command = value [%]* has been selected, an individual value can be parameterised here.	0 : **70** : 100
Terminate (area only visible when *Block until function is terminated* is selected) Terminate with	If a parameterised scenario number is received on the scenario object, the function is terminated. Until that happens, the function remains active.	Scene number
	Instead of a scenario number, a scenario memory location can be selected.	From scenario memory
	The function is terminated after the specified time. A new trigger command restarts the time. The function can be terminated prematurely if a 0 telegram is received on the "function active" status object.	**After dwell time**
	The function is not terminated automatically. A 0 telegram must be received on the status object "function active".	Never
Terminate with scenario number	Scenario number at which the function is terminated. (only when *Terminate with = scenario number* is selected)	**1** : 64
Terminate with scenario number of the scenario	Number of the scenario memory location at which the function is terminated. (only when *Terminate with = from scenario memory* is selected)	**Sc 1** : Sc 10

Terminate after dwell time	Dwell time after which the function is ended. The dwell time can be terminated prematurely if a 0 telegram is received on the "function active" status object. (only when *Terminate with = after dwell time* is selected)	00:00:00 : **02:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.5 F5: Ventilation function

Function of "standard with protection" type with preselected condition *In 6: Door/window open* for a ventilation function. An additional protective position (e.g. in case of precipitation) is available.

- Influence on lower functions is always "disable"
- The trigger is an AND link of up to 3 conditions.
- If activate protective position is selected, an OR link of up to 3 conditions for the protective position also appears.
- A delay time can be set to delay the triggering of the protective position.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.

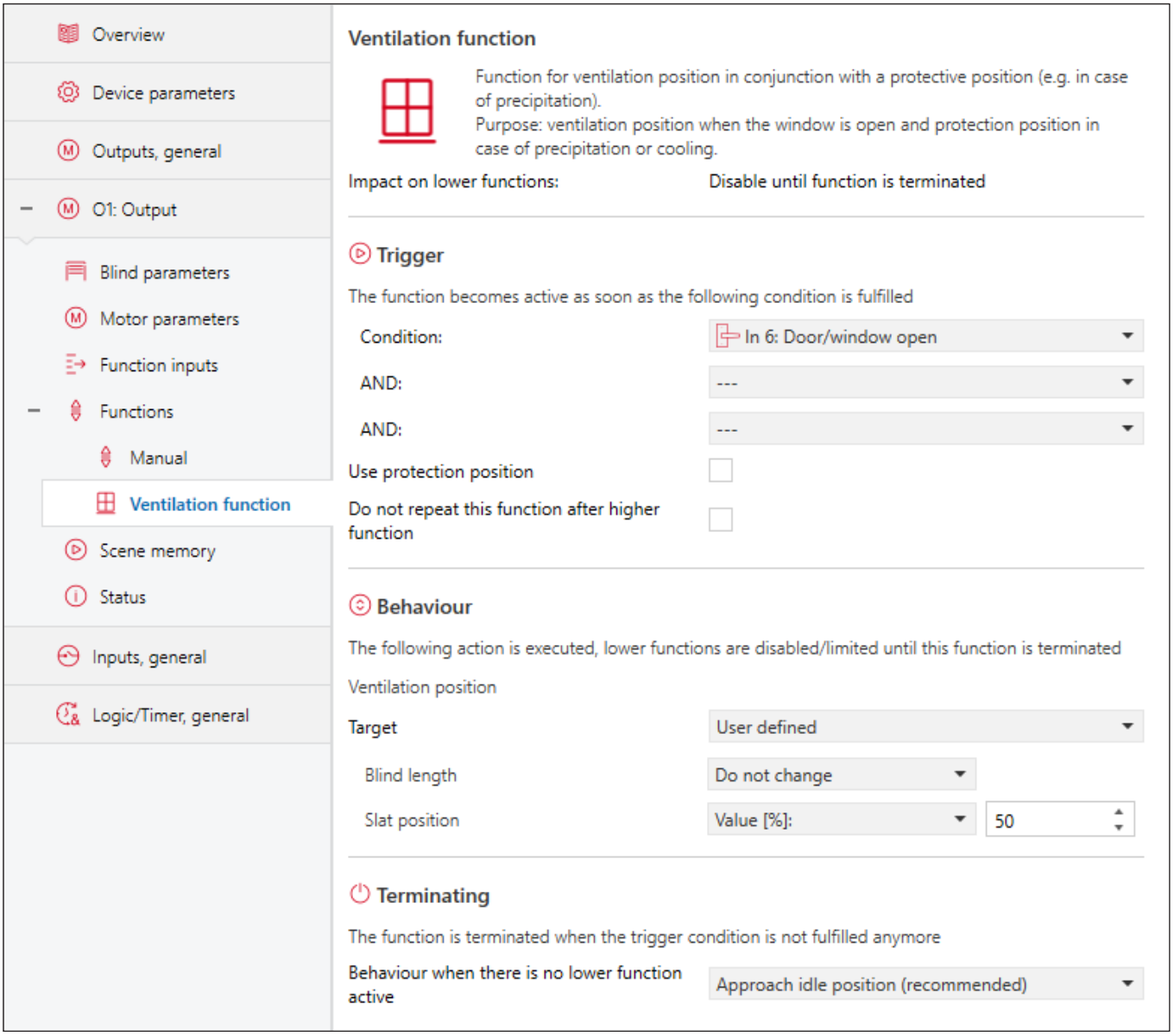


Fig. 33 Parameter dialogue: On: Output → functions → F5: Ventilation function

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 3 conditions, whereby "In 6: Door/window open" is preselected. An appropriate function input can be selected here for each condition.	**In 6: Door/window open**
		- - -
		- - -
Use protection position	A delay time by which the triggering of the function is delayed.	Yes
		No
Condition for protection	Additionally available if "Use protection position" has been activated. Trigger is an OR link of up to 3 conditions, whereby "In 7.5: Room too warm or too cold" and "In 1.2: Precipitation" are preselected. An appropriate function input can be selected here for each condition.	**In 7.5: Room too warm or too cold**
		In 1.2: Precipitation
		- - -
Protection at the earliest after	A delay time by which the triggering of the protection position is delayed.	00:00:00 : **00:05:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Ventilation position target	Blind length and slat position can be freely configured. Predefined values, function inputs or scenarios can be selected as targets.	**User-defined**
Protection position target	Blind length and slat position can be freely configured. Predefined values, function inputs or scenarios can be selected as targets.	**Bottom, slats closed**
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Object "protection active"	"Protection active" status object may be displayed (=1 if the condition for protection is met)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.6 F6: Night/dawn

Function of type "standard" with preselection *In 3.4: Night/dawn* as a condition and a maximum of one additional condition.

- Influence on lower functions is always "disable"
- The trigger is an AND link of up to 2 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.
- Additional enforce object: displays a GO that is linked to the above AND link with an OR link.

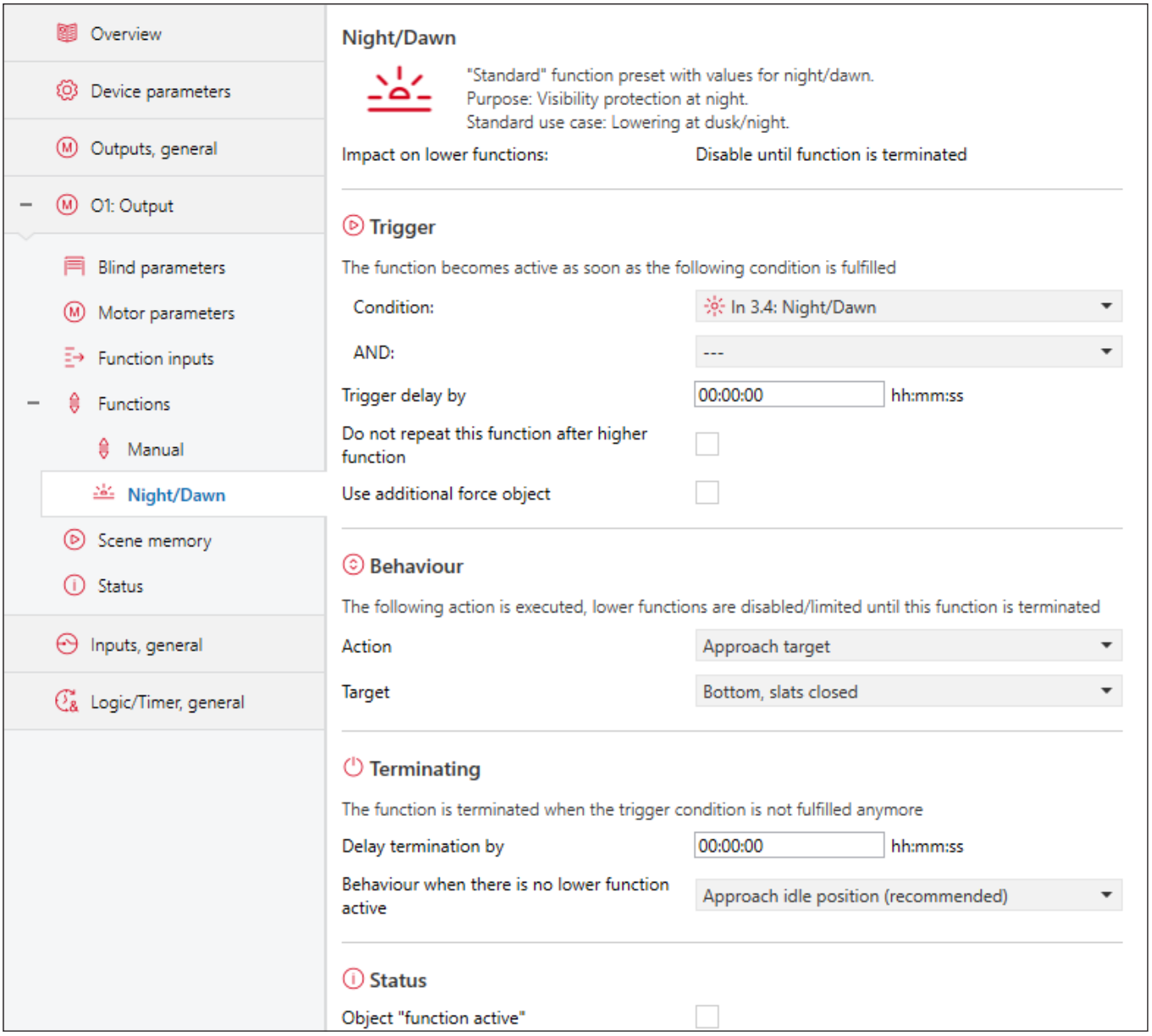


Fig. 34 Parameter dialogue: On: Output → functions → F6: Night/dawn

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 2 conditions, whereby "In 3.4: Night/dawn" is preselected. An appropriate function input can be selected here for each condition.	**In 3.4: Night/Dawn**
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Display additional force object	Displays a GO that is linked to the above AND link with an OR link.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Predefined values, function inputs or scenarios can be selected as targets.	**Bottom, slats closed**
End Delay termination by	A delay time by which the ending of the function is delayed.	**00:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.7 F7: Heating support

Function of type "standard" with preselection *In 7.6: Room too cold* and *In 7.1: Building in heating mode* as condition and behaviour "limit lower functions" (only allow blind length <50%).

- Influence on lower functions is always "disable" or "limit"
- The trigger is an AND link of up to 5 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.
- Additional enforce object: displays a GO that is linked to the above AND link with an OR link.

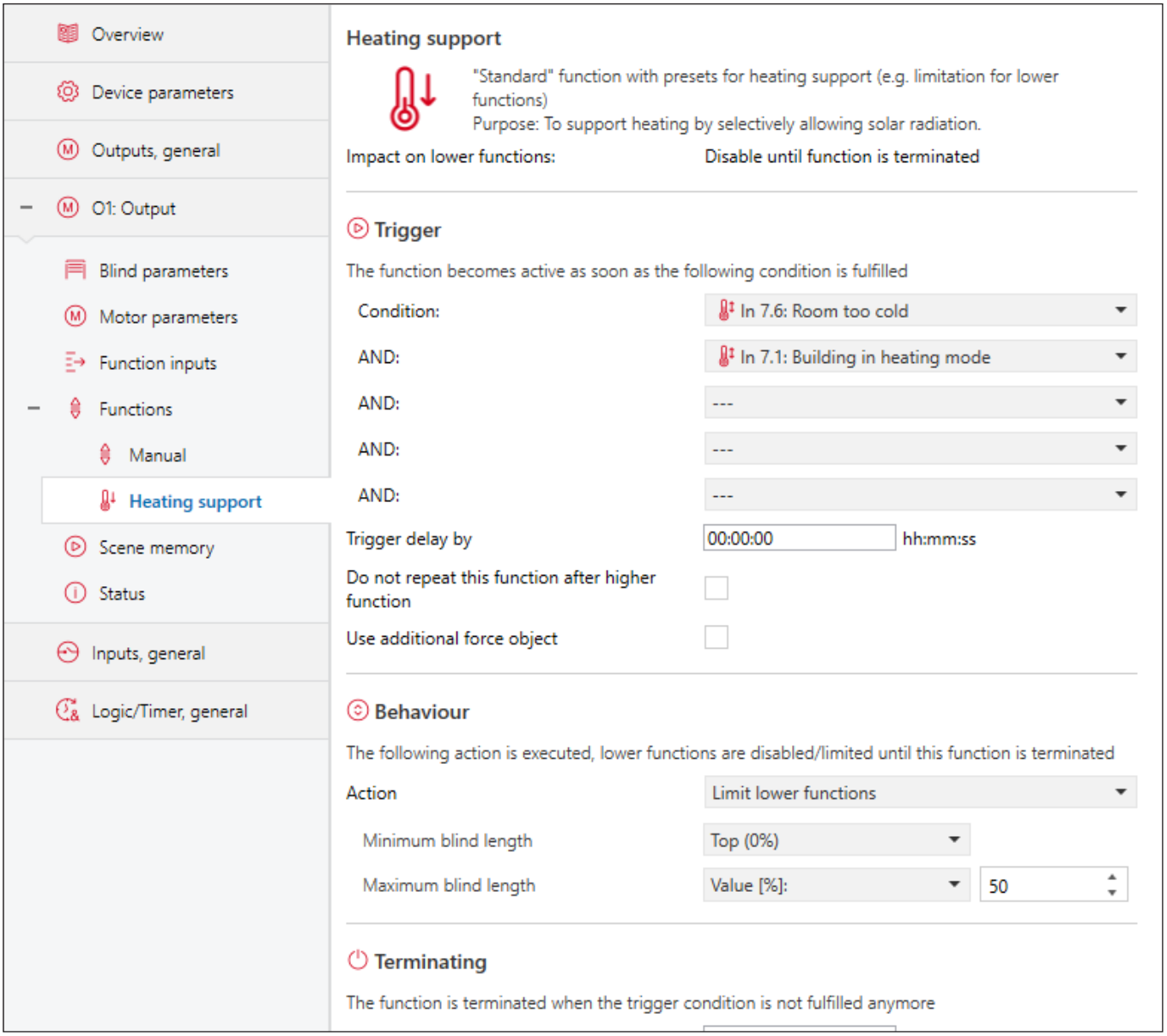


Fig. 35 Parameter dialogue: On: Output → functions → F7: Heating support

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 5 conditions, whereby two conditions are preselected. Any function input can be selected here for each condition.	**In 7.6: Room too cold**
		In 7.1: Building in heating mode
		- - -
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Display additional force object	Displays a GO that is linked to the above AND link with an OR link.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	Approach target
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Limit lowest functions**
Minimum blind length	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Top (0%)**
Maximum blind length		**Value [%]: 50**
Minimum slat position		**Tilt up (0%)**
Maximum slat position		**Tilt down (100%)**
End Delay termination by	A delay time by which the ending of the function is delayed.	**00:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.8 F8: Cooling support

Function of type "standard" with preselection *In 3.1: Sunny, In 5: No presence* and *In 7.1: Building not in heating mode* as condition and behaviour "approach target" (bottom, slats closed)

- Optional extra "deactivate intermediate position".
- Influence on lower functions is always "disable"
- The trigger is an AND link of up to 5 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.
- Additional enforce object: displays a GO that is linked to the above AND link with an OR link.

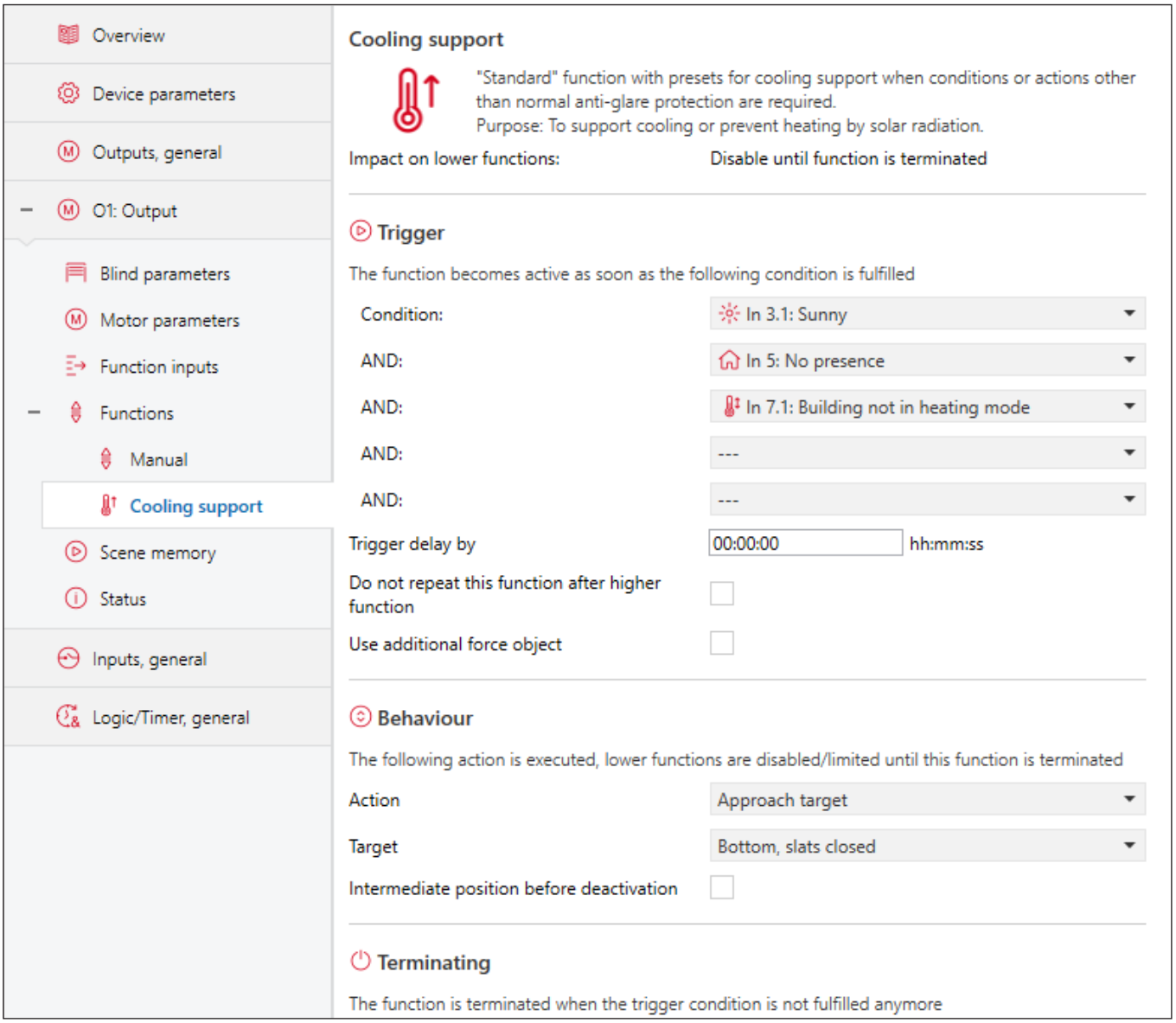


Fig. 36 Parameter dialogue: On: Output → functions → F8: Cooling support

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 5 conditions, whereby three conditions are preselected. Any function input can be selected here for each condition.	**In 3.1: Sunny**
		In 5: No presence
		In 7.1: Building not in heating mode
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Display additional force object	Displays a GO that is linked to the above AND link with an OR link.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Predefined values, function inputs or scenarios can be selected as targets.	**Bottom, slats closed**
Intermediate position before deactivating	If the trigger condition is no longer met, a position can be approached after the set "delay intermediate position" has elapsed. Target selection as per normal target. *	Yes
		No
Delay intermediate position [min]	The "delay intermediate position" must be correspondingly smaller than the delay time for ending the function (see ending).	0 : **10** : 255
Target	Blind length and slat position can be freely configured. Predefined values, function inputs or scenarios can be selected as targets.	**User-defined**
Blind length	Blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	**Do not change**
Slat position		**Value [%]: 100**
End Delay termination by	A delay time by which the ending of the function is delayed.	00:00:00 : **00:10:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.9 F9: Sun control

Function of "Standard" type with preselection *In 3.1: Sunny* as condition and behaviour "approach target" (bottom, slat position 70%).

- Optional extra "intermediate position before deactivation".
- Influence on lower functions is always "disable"
- The trigger is an AND link of up to 5 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.
- Additional enforce object: displays a GO that is linked to the above AND link with an OR link.

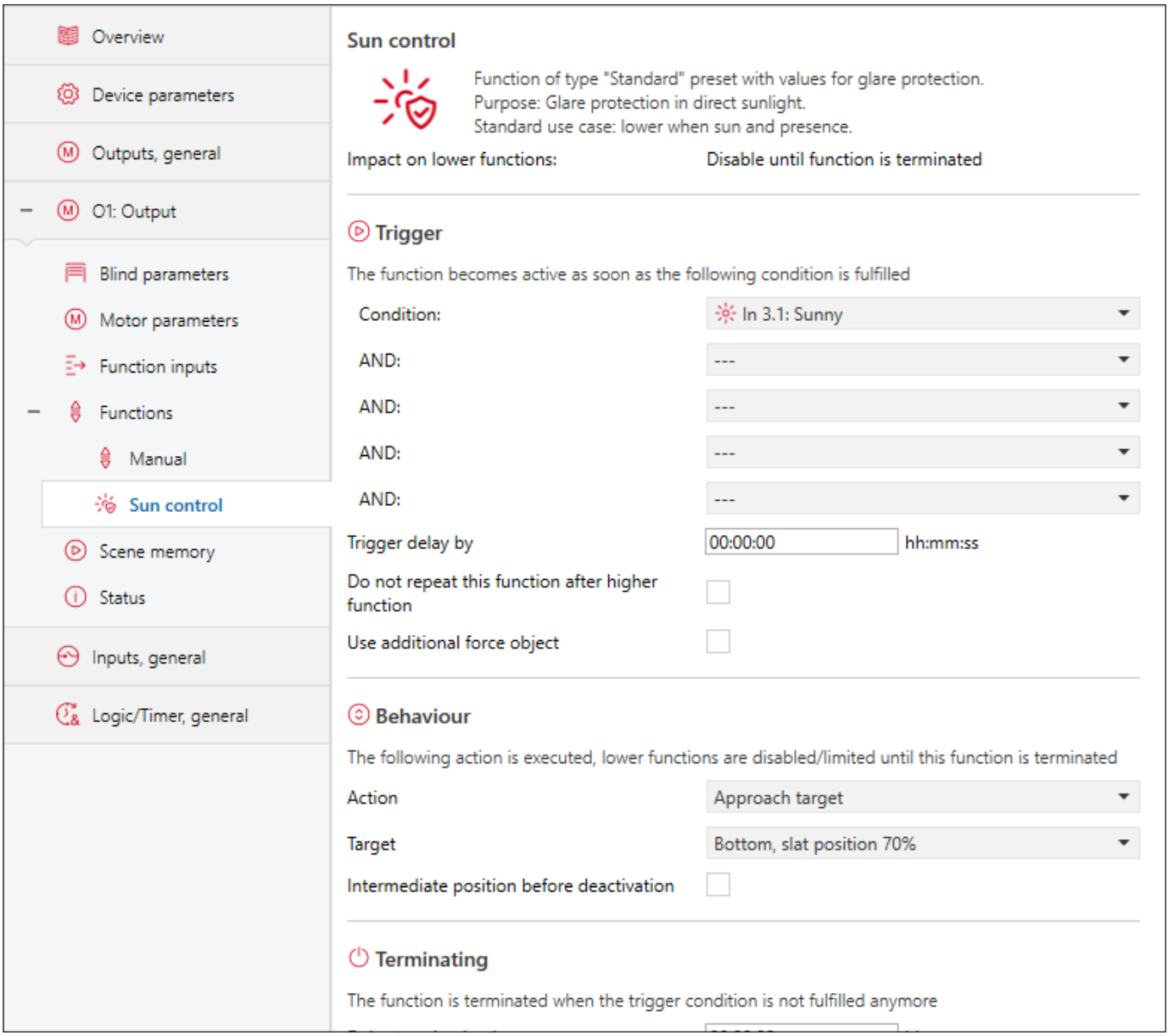


Fig. 37 Parameter dialogue: On: Output → functions → F9: Sun control

Parameters	Function	Values
Triggers Condition	Trigger is an AND link of up to 5 conditions, whereby "In 3.1: Sunny" is preselected. Any function input can be selected here for each condition.	**In 3.1: Sunny**
		- - -
		- - -
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Display additional force object	Displays a GO that is linked to the above AND link with an OR link.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Predefined values, function inputs or scenarios can be selected as targets.	**Bottom, slat position 70%**
Intermediate position before deactivating	If the trigger condition is no longer met, a position can be approached after the set "delay intermediate position" has elapsed. Target selection as per normal target. *	Yes
		No
Delay intermediate position [min]	The "delay intermediate position" must be correspondingly smaller than the delay time for ending the function (see ending).	0 : **10** : 255
Target	Predefined values, function inputs or scenarios can be selected as targets.	**Bottom, slat position 50%**
End Delay termination by	A delay time by which the ending of the function is delayed.	00:00:00 : **00:10:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.10 F10: Control mode centralised

Function of type "move command/scenario" with limitation: only byte objects and scenario objects possible. This function is always active. The function can either disable lower functions or override them once.

- Various triggers can be displayed/used (even simultaneously):
  - Byte objects (blind length and slat position)
  - 3-byte object (DPT 240.800) blind length/slat position
  - Scenario object
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive

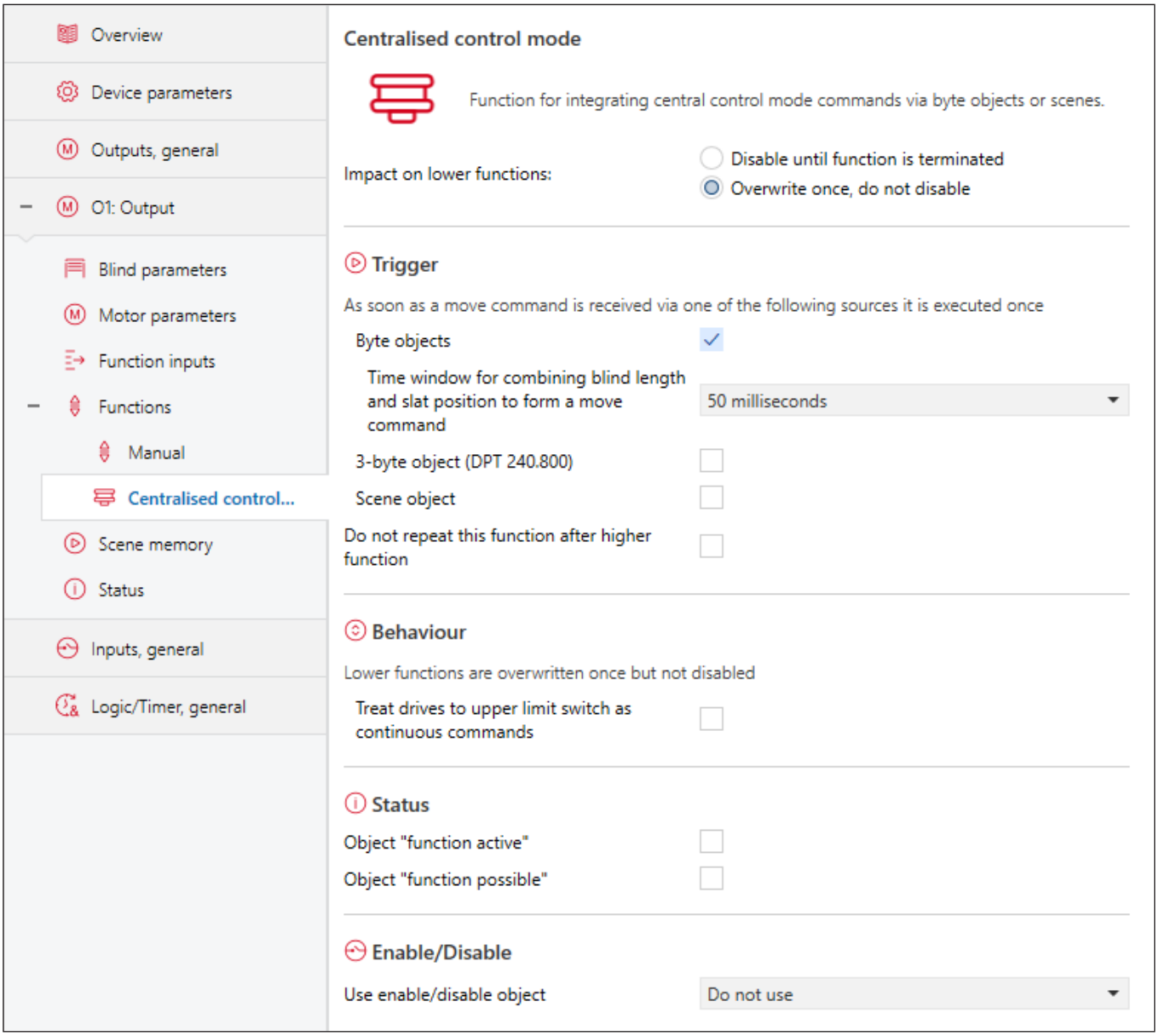


Fig. 38 Parameter dialogue: On: Output → functions → F10: Control mode centralised

Parameters	Function	Values
Impact on lower functions	If a function is active, it overrides functions with lower priority. This determines whether it only overrides or completely blocks lower functions.	Disable until function is terminated
		Overwrite once, do not disable
Triggers Byte objects	Evaluates the byte objects "Move to blind length" and "Move to slat position".	**Yes**
		No
Time window for combining blind length and slat position to form a move command	Maximum period of time during which the two separated objects are treated as one move command.	**50 milliseconds** : 10 seconds
3-byte object (DPT 240.800)	Displays an additional DPT 240.800 object “Control mode centralised/approach slat”. (only in venetian blind/external venetian blind operating mode)	Yes
		No
Scenario object	Displays an additional object "Control mode centralised". The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled here can be executed or learned for this function.	Yes
		No
Do not repeat this function after higher function	Do not repeat the move command if it was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Terminate (area only visible when *Block until function is terminated* is selected) Terminate with	If a parameterised scenario number is received on the scenario object, the function is terminated. Until that happens, the function remains active.	Scenario number
	Instead of a scenario number, a scenario memory location can be selected.	From scenario memory
	The function is terminated after the specified time. A new trigger command restarts the time. The function can be terminated prematurely if a 0 telegram is received on the "function active" status object.	**After dwell time**
	The function is not terminated automatically. A 0 telegram must be received on the status object "function active".	Never
Terminate with scenario number	Scenario number at which the function is terminated. (only when *Terminate with = scenario number* is selected)	**1** : 64
Terminate with scenario number of the scenario	Number of the scenario memory location at which the function is terminated. (only when *Terminate with = from scenario memory* is selected)	**Sc 1** : Sc 10
Terminate after dwell time	Dwell time after which the function is ended. The dwell time can be terminated prematurely if a 0 telegram is received on the "function active" status object. (only when *Terminate with = after dwell time* is selected)	00:01:00 : **02:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.11 F11-14: User defined 1/2/3/4

"Standard" type function (can be switched to "Standard OR" or "Move command/scenario" in the "Functions" tab). Freely configurable for individual application example.

- The trigger is an AND link of up to 5 conditions.
- A delay time can be set to delay the triggering of the function.
- Option to not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.
- Additional enforce object: displays a GO that is linked to the above AND link with an OR link.

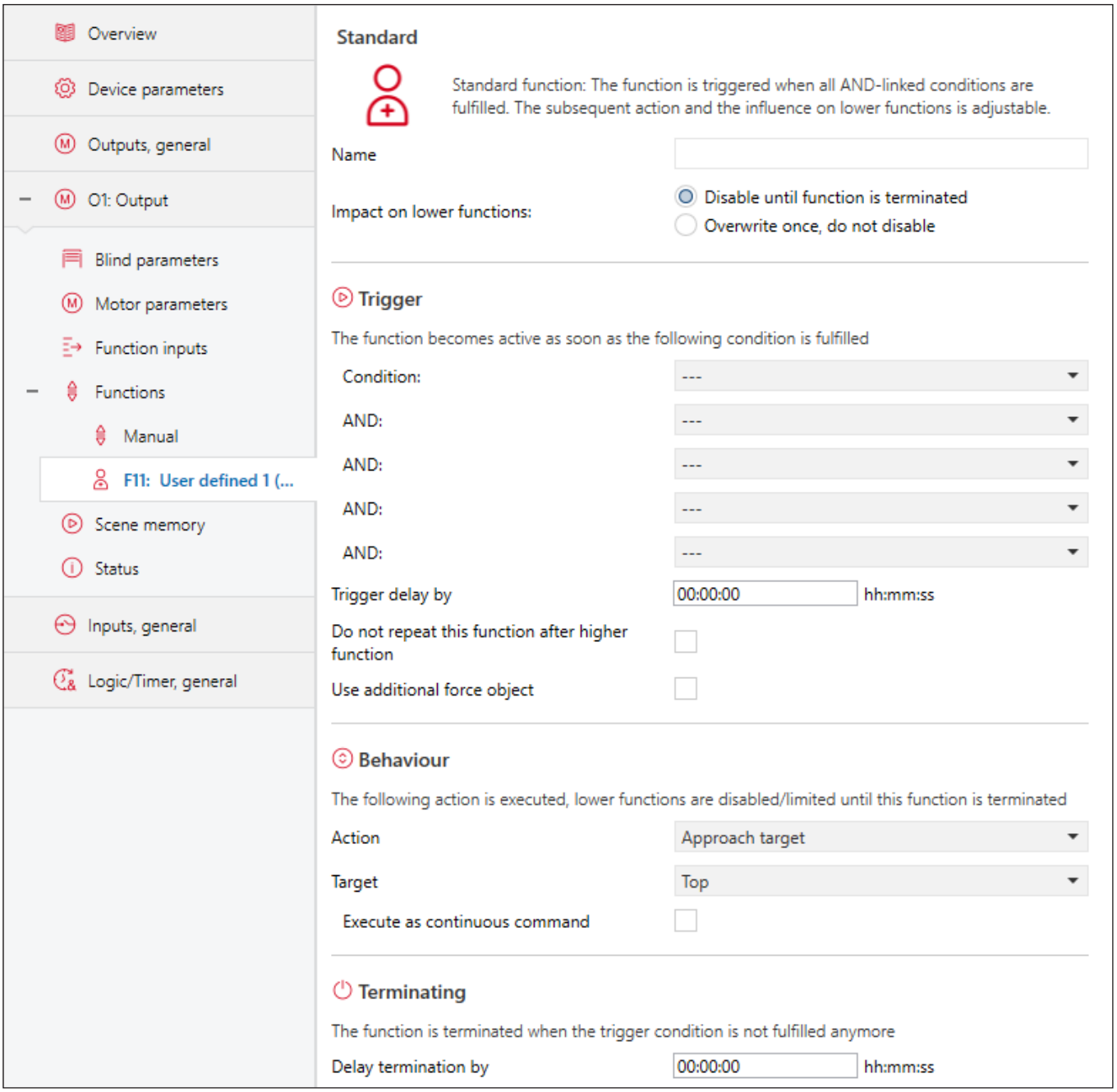


Fig. 39 Parameter dialogue: On: Output → functions → F11-14: User defined 1/2/3/4

Parameters for the standard and standard OR function types

Parameters	Function	Values
Impact on lower functions	If a function is active, it overrides functions with lower priority. This determines whether it only overrides or completely blocks lower functions.	**Disable until function is terminated**
		Overwrite once, do not disable
Triggers Condition	The trigger is an AND link of up to 5 conditions. Any function input or state can be selected here for each condition. (and OR link for the "Standard OR" type)	**- - -**
		- - -
		- - -
		- - -
		- - -
Trigger delay by	A delay time by which the triggering of the function is delayed.	**00:00:00** : 23:59:59
Do not repeat this function after higher function	Do not repeat the function if it was already active, was overridden by a higher function, and the higher function becomes inactive.	Yes
		No
Display additional force object	Displays a GO that is linked to the above AND link with an OR link.	Yes
		No
Behaviour Action	Functions with the lowest priority are stopped or disabled.	Stop (disable)
	Predefined values, function inputs or scenarios can be selected as targets.	**Approach target**
	Minimum and maximum values for blind length and slat position can be configured. Predefined or free values as well as function inputs can be entered.	Limit lowest functions
Target	Predefined values, function inputs or scenarios can be selected as targets.	**Top**
Execute as continuous command	Additionally available when "Top" is selected as the target ("Output for ZIP awning" or "Support for downstream MSEs" must be activated in the *Blind parameters*).	**Yes**
		No
Terminating Delay termination by	A delay time by which the ending of the function is delayed.	00:00:00 : **00:10:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

Parameters for the move command/scenario function type

Parameters	Function	Values
Impact on lower functions	If a function is active, it overrides functions with lower priority. This determines whether it only overrides or completely blocks lower functions.	**Disable until function is terminated**
		Overwrite once, do not disable
Triggers Bit objects (Raise/Lower, Stop/Step)	Evaluates the bit objects "Move command Up/Down" and "Move command Stop/Step".	**Yes**
		No
Sunblind push button at input terminal	Evaluates a pair of input terminals of the actuator with a connected sunblind push button (terminals are selected in the menu).	**- - -**
		1:1 (Input X.1/X.2 –> Output X)
		Input n.1/n.2
Byte objects	Evaluates the byte objects "Move to blind length" and "Move to slat position".	Yes
		No
Time window for combining blind length and slat position to form a move command	Maximum period of time during which the two separated objects are treated as one move command.	**50 milliseconds** : 10 seconds
3-byte object (DPT 240.800)	Displays an additional object of type DPT 240.800 "User defined n approach blind/slat". (only in venetian blind/external venetian blind operating mode)	Yes
		No
Scenario object	Displays an additional object "User defined n scenario". The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled here can be executed or learned for this function.	Yes
		No
Do not repeat this function after higher function	Do not repeat the move command if it was overridden by a higher function, and the higher function becomes inactive.	**Yes**
		No
Behaviour Slat position after 1st DOWN command	With a DOWN command via the raise/lower bit object, it is possible to parameterise whether the blind should be raised to a slat position at the bottom or remain closed. If this slat position has already been reached/exceeded, another down command will close the slats. (only in venetian blind/external venetian blind operating mode)	Closed
		50%
		70%
		Value [%]
Execute the UP commands as continuous commands	Additionally available when "Output for ZIP awning" or "Support for downstream MCUs" is activated in the *Blind parameters*.	Yes
		No
Slat position value [%]	If *Slat position after first down command = value [%]* has been selected, an individual value can be parameterised here.	0 : **70** : 100
Terminate (area only visible when *Block until function is terminated* is selected) Terminate with	If a parameterised scenario number is received on the scenario object, the function is terminated. Until that happens, the function remains active.	Scene number
	Instead of a scenario number, a scenario memory location can be selected.	From scenario memory
	The function is terminated after the specified time. A new trigger command restarts the time. The function can be terminated prematurely if a 0 telegram is received on the "function active" status object.	**After dwell time**
	The function is not terminated automatically. A 0 telegram must be received on the status object "function active".	Never
Terminate with scenario number	Scenario number at which the function is terminated. (only when *Terminate with = scenario number* is selected)	**1** : 64
Terminate with scenario number of the scenario	Number of the scenario memory location at which the function is terminated. (only when *Terminate with = from scenario memory* is selected)	**Sc 1** : Sc 10

Terminate after dwell time	Dwell time after which the function is ended. The dwell time can be terminated prematurely if a 0 telegram is received on the "function active" status object. (only when *Terminate with = after dwell time* is selected)	00:00:00 : **02:00:00** : 23:59:59
Behaviour when there is no lower function active	Defines the behaviour while ending the function when there is no lower function active.	**Approach idle position (recommended)**
		- - -
		Do not change position
Status "Function active" object	"Function active" status object may be displayed (=1 if the condition for the function is met)	Yes
		No
Object "function possible"	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.5.12 F15: Idle state/start

Special function. This determines which action is performed when no other function is active, or after a reset.

- ▶ A target can be set for behaviour during idle mode in operation and behaviour after a start/reset.
  - ▶ Predefined values, function inputs or scenarios can be selected as targets.
  - ▶ User-defined: blind length and slat position can be freely configured. (predefined values and function inputs are also possible)

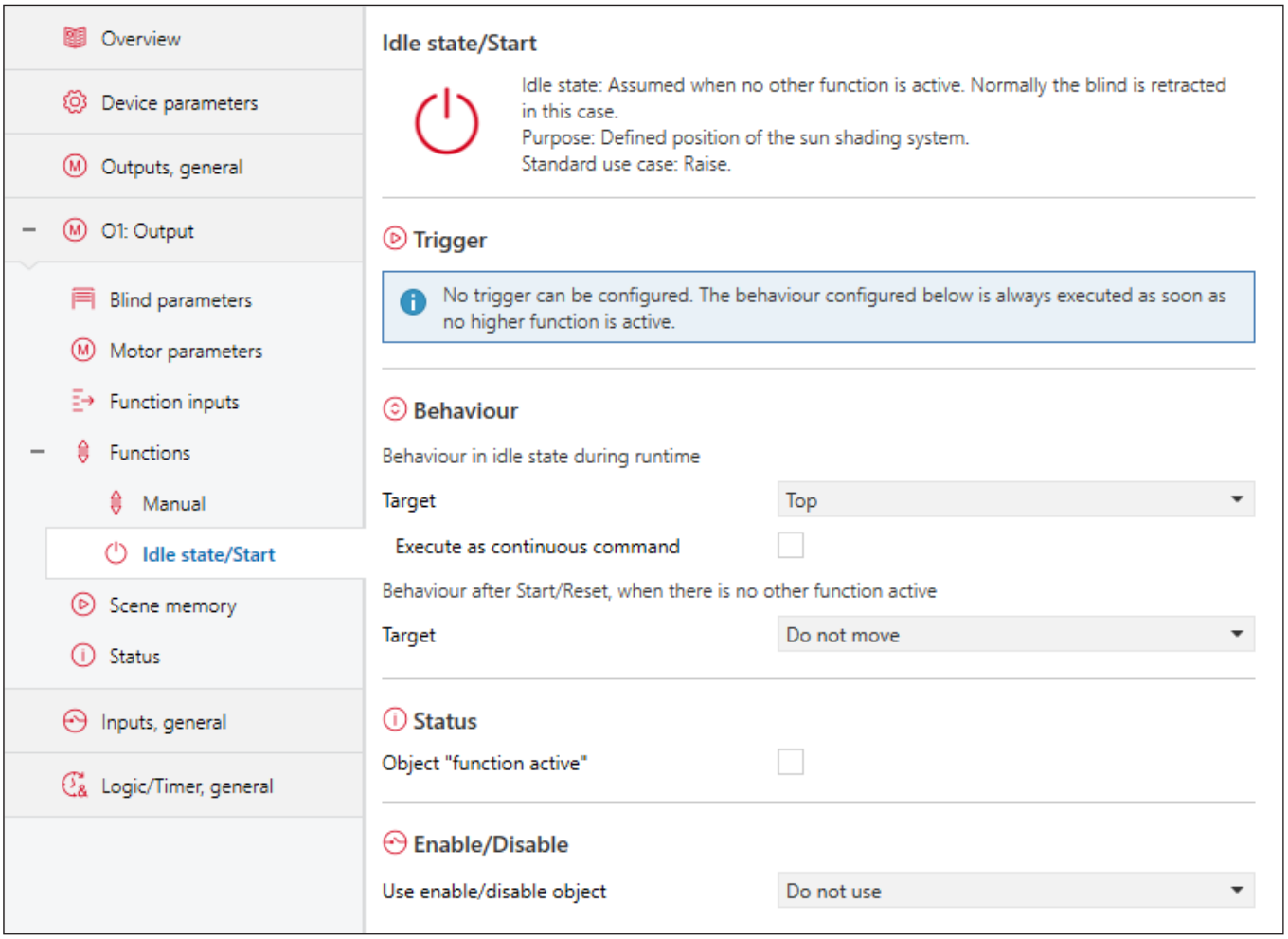


Fig. 40 Parameter dialogue: On: Output → functions → F15: Idle state/start

Parameters	Function	Values
Triggers	No trigger can be configured. The behaviour configured below is always executed as soon as no higher function is active.	-
Behaviour Behaviour in idle state during runtime Target	Predefined values, function inputs or scenarios can be selected as targets.	**Top**
Execute as continuous command	Additionally available when "Top" is selected as the target ("Output for ZIP awning" or "Support for downstream MSEs" must be activated in the *Blind parameters*).	Yes
		No
Behaviour after Start/Reset, when there is no other function active Target	Predefined values, function inputs or scenarios can be selected as targets.	**Do not move**
"Function active" object	"Function possible" status object may be displayed (=1 if no higher function is active)	Yes
		No
Enable/disable Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.4.6 Scenario memory

The scenario memory contains 10 available memory locations.

Scenarios can be loaded from the scenario memory as the *target* in all functions.
One exception is function type *Move command/scenario* ("Manual" or "Control mode centralised"). A scenario object can be displayed here as a *trigger* which can be used to directly address the scenarios from the scenario memory.

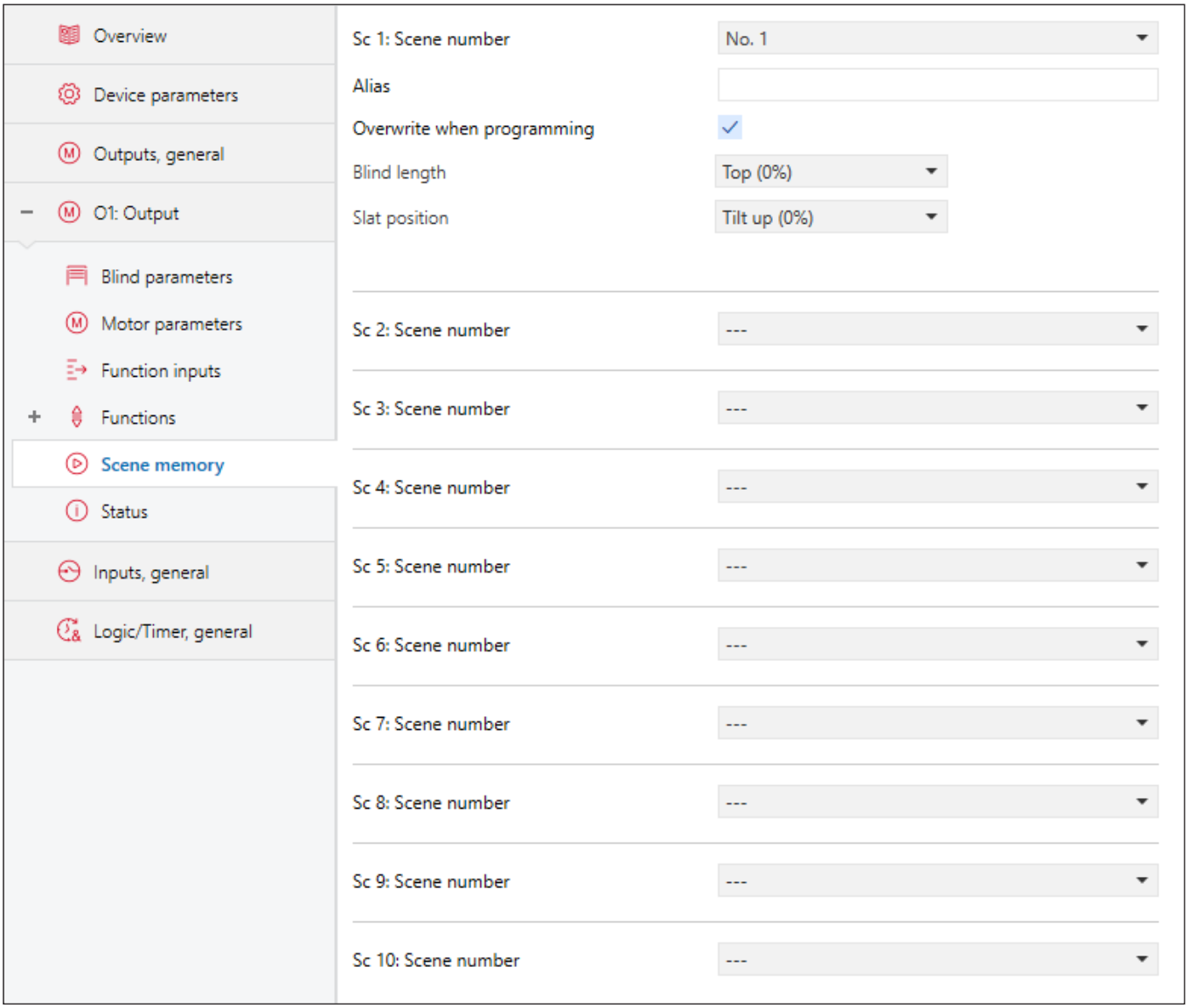


Fig. 41 Parameter dialogue: On: Output → Scenario memory

Parameters	Function	Values
Sc n: Scenario number	Scenario number that was retrieved as the target for a function or that must be received on ***GO scenarios*** of the output for the scenario to be executed. Each scenario number may only be used once.	**- - -** : 1 : 64
Alias	Text as scenario designation (purely for information). The text may be a maximum of 80 characters long.	Text
Overwriting during programming	If *overwrite during programming* is set, the blind length and slat position are always taken from the ETS parameters. If the check box is not selected, the position will not be saved to the scenario memory unless a value has never been saved before.	**Yes**
		No
Blind length	Blind length which the blind approaches when the scenario is activated. If *enter value* is selected, another parameter appears for direct entry of the value.	No restriction
		Top (0%)
		Bottom (100%)
		Input value [%]
Slat position	Slat position which the blind approaches when the scenario is activated. If *enter value* is selected, another parameter appears for direct entry of the value.	No restriction
		Tilt up (0%)
		Tilt down (100%)
		Input value [%]

7.4.7 Status

Numerous status messages can be given for an output.
The following applies to the *transmission behaviour* parameter: With the "do not send, reading possible" option, the value of the object is changed, but it is not transmitted to the bus.

The settings applied for output 1 can be copied using the "Apply all settings from output 1" button for all outputs except for output 1.

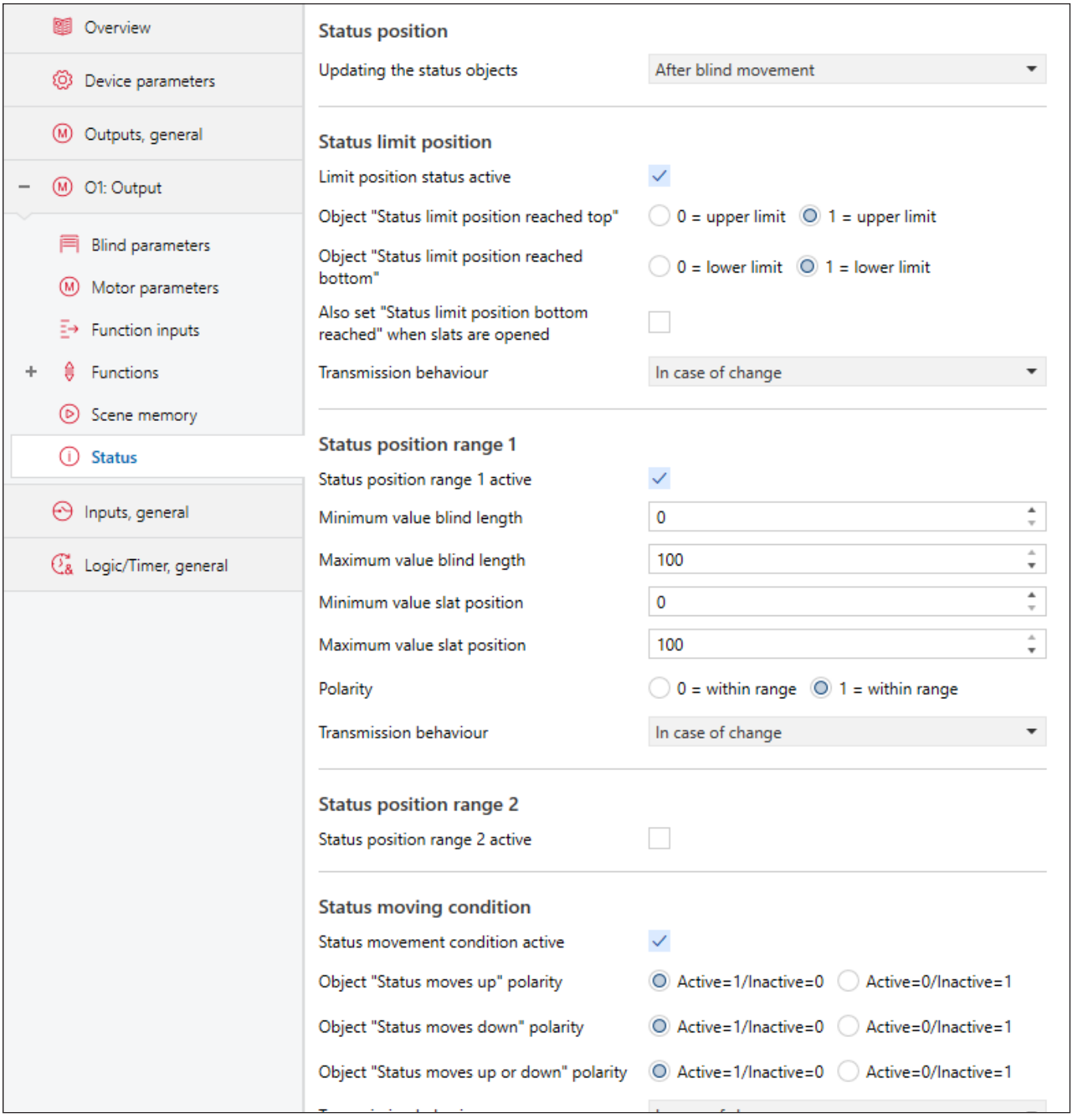


Fig. 42 Parameter dialogue: On: Output → Status

Parameters	Function	Values
Status position Update of the status objects	Transmission behaviour of status objects for blind length and slat position	**After movement**
		During movement: 1 s interval
		During movement: 2 s interval
		During movement: 5 s interval
		During movement: 10 s interval
Status limit position Status limit position active	Activates ***GO Status limit position, upper reached*** and ***GO Status limit position, lower reached*** and the associated following four parameters.	Yes
		No
Object "Status limit position, upper reached"	Polarity of the object	0 = upper limit
		1 = upper limit
Object "Status limit position, lower reached"	Polarity of the object	0 = lower limit
		1 = lower limit
Also set "Status lower limit position reached" when slats are opened	"Status lower limit position reached" is also set when the slats are not fully shut in the lower limit position.	Yes
		No
Transmission behaviour	Transmission behaviour of both objects for the limit position. With the option "Do not transmit, readable", the object value is changed although it is not sent to the bus.	Do not transmit, readable
		In case of change
		In case of change and cyclical, every 30 s to 1/5/10/30/60 minutes
Status position range 1/2 Status position range 1/2 active	Activates ***Status position range 1/2 reached*** and the associated following six parameters.	Yes
		No
Minimum blind length	smallest value for the blind length in the position range	**0** : 100
Maximum blind length	largest value for the blind length in the position range	0 : **100**
Minimum slat position	smallest value for the slat position in the position range	**0** : 100
Maximum slat position	largest value for the slat position in the position range	0 : **100**
Polarity	Defines which value will be transmitted once the position is within range.	0 = within range
		1 = within range
Transmission behaviour	Object transmission behaviour for position. With the option "Do not transmit, readable", the object value is changed although it is not sent to the bus.	Do not transmit, readable
		In case of change
		In case of change and cyclical, every 30 s to 1/5/10/30/60 minutes
Status drive state Status drive state active	Activates ***GO Status drives UP***, ***GO Status drives DOWN*** and ***GO Status drives UP or DOWN*** and the associated following four parameters.	Yes
		No
Object "Status drives UP" polarity	Polarity of the object	**Active=1/Inactive=0**
		Active=0/Inactive=1
Object "Status drives DOWN" polarity	Polarity of the object	**Active=1/Inactive=0**
		Active=0/Inactive=1
Object "Status drives UP or DOWN" polarity	Polarity of the object	**Active=1/Inactive=0**
		Active=0/Inactive=1
Transmission behaviour	Transmission behaviour of the three objects for the drive state. With the option "Do not transmit, readable", the object value is changed although it is not sent to the bus.	Do not transmit, readable
		In case of change
		In case of change and cyclical, every 30 s to 1/5/10/30/60 minutes

Status functions Status functions active	Activates ***GO Status current function, number*** and ***GO Status current function, priority level*** as well as the following two parameters.	**Yes**
		No
Object "Number of current function"	Transmission behaviour of the ***GO Status current function, number.*** With the option "Do not transmit, readable", the object value is changed although it is not sent to the bus.	Do not transmit, readable
		In case of change
		In case of change and cyclical, every 30 s to 1/5/10/30/60 minutes
Object "Priority level of current function"	Transmission behaviour of the ***GO Status current function, priority level.*** With the option "Do not transmit, readable", the object value is changed although it is not sent to the bus.	Do not transmit, readable
		In case of change
		In case of change and cyclical, every 30 s to 1/5/10/30/60 minutes

7.5 Inputs

Depending on the device, the KNX secure devices are equipped with 4 to 16 binary inputs.

- Inputs are activated in **Inputs, general**. Depending on the desired operating mode, the inputs (input terminals) can be parameterised individually or in pairs.
- The **In.n: Input** menus are displayed as soon as the corresponding inputs have been activated. If a name was assigned to the input, this is displayed instead of the operating mode designation.

The inputs support different operating modes:

Inputs, general Operating mode	**In.n: Input** Operating mode	**Description**
Inputs in pairs	Sunblind push button	Section *7.5.2 on page 99*
Inputs in pairs	Two button dimming	Section *7.5.3 on page 101*
Inputs single	Switch (on/off)	Section *7.5.4 on page 103*
Inputs single	Toggle	Section *7.5.5 on page 105*
Inputs single	Edge evaluation	Section *7.5.6 on page 107*
Inputs single	Push button (short/long)	Section *7.5.7 on page 109*
Inputs single	Scenarios push button	Section *7.5.8 on page 112*
Inputs single	One button dimming	Section *7.5.9 on page 114*

7.5.1 Inputs, general

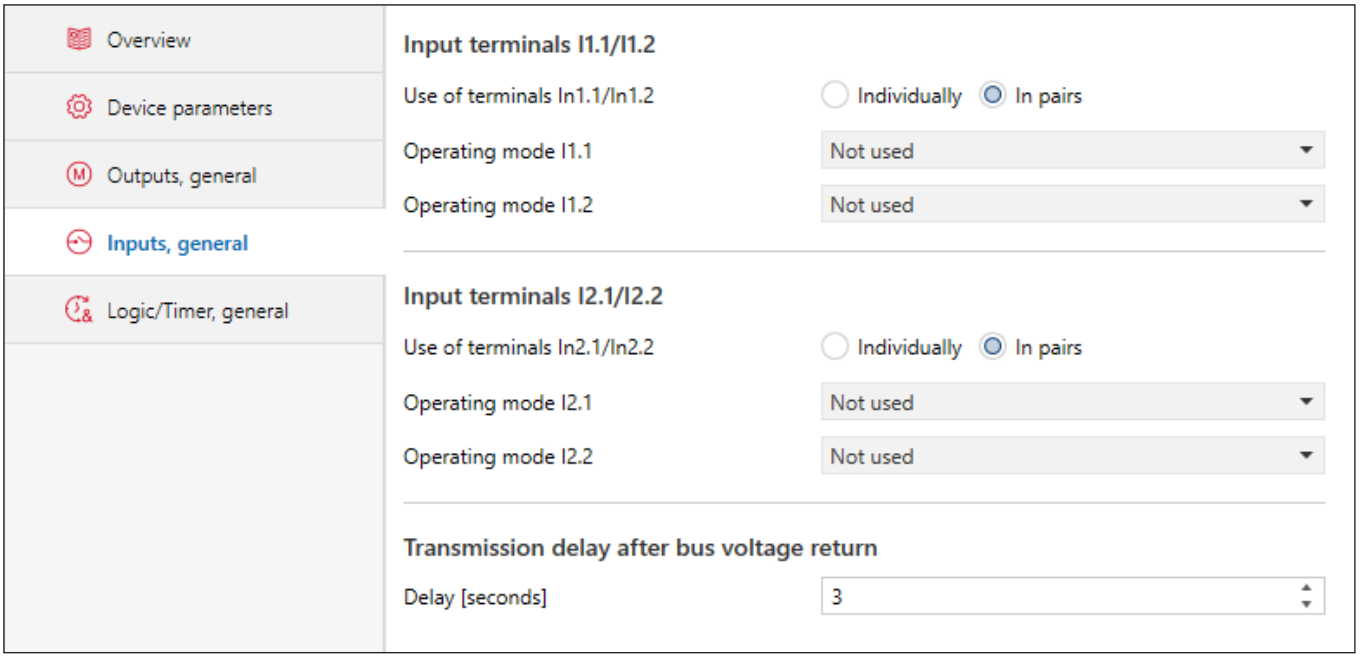


Fig. 43 Parameter dialogue: Inputs → Inputs, general

Parameters	Function	Values
Use of terminals In n.1/In n.2	Defines how a pair of input terminals is used: ► In pairs (for *UP/DOWN*) ► Individually (as two separate inputs)	Individually **In pairs**
Operating mode In. 1/n.2	Defines the operating mode of the inputs. The operating modes *Sunblind push button* and *Two button dimming* require two inputs. The other operating modes require just one input each. If an operating mode is assigned to an input operating in pairs, the second input will automatically receive the opposite operating mode (*UP/DOWN*).	**Not used** Sunblind push button (Up/Down) Two-button dimming (Up/Down) Switch (on/off) Toggle Edge evaluation Push button (short/long) Scenarios push button One button dimming
Delay [seconds]	This parameter determines how much time must pass between the return of the bus voltage and the transmission of the first telegram.	0 : **3** : 60

7.5.2 Sunblind push button input

Behaviour according to KNX standard for a sunblind push button. Depending on the operation and parameterised operating behaviour, transmits commands to a 1-bit GO for raising/lowering movements and a 1-bit GO for step raising/lowering.

Uses two inputs.

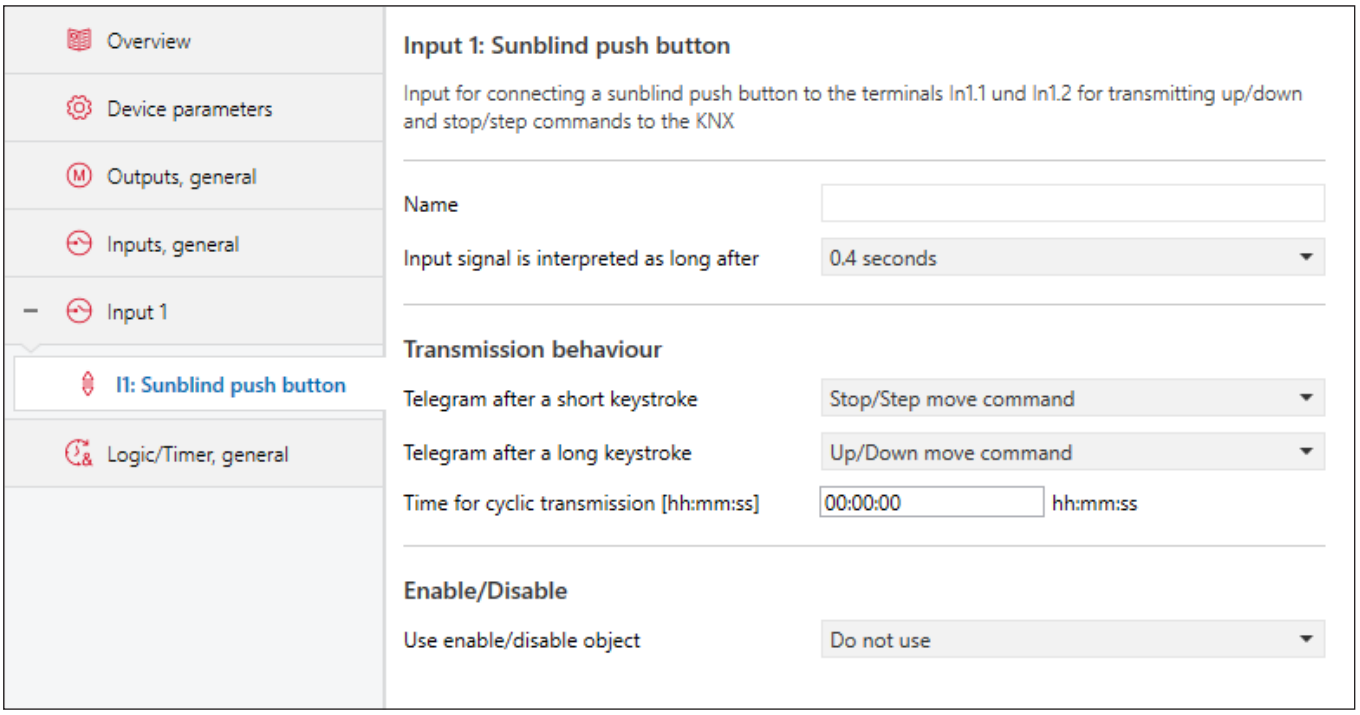


Fig. 44 Parameter dialogue: Inputs → Input n.1/n.2 Sunblind push button

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Input signal is interpreted as long after	If the push button is pressed for at least the set time, the telegram for a long keystroke is transmitted after the set time. If the button is pressed for a shorter time, the telegram for a short keystroke is transmitted after the button is released.	0 seconds
		0.2 seconds
		0.3 seconds
		0.4 seconds
		0.5 seconds
		0.6 seconds
		0.7 seconds
		0.8 seconds
		0.9 seconds
		1.0 seconds
		1.2 seconds
		1.5 seconds
		2 seconds
		3 seconds
		4 seconds
		5 seconds
		10 seconds
Telegram after a short keystroke	If the Up contact was briefly closed, the ***GO Stop/Step move command*** transmits a 0-telegram. If the Down contact was briefly closed, the ***GO Stop/Step move command*** transmits a 1-telegram.	No move command
		Stop/Step move command
		Up/down move command
Telegram after a long keystroke	If the Up contact was closed for a long time, the ***GO Up/Down move command*** transmits a 0-telegram. If the Down contact was closed for a long time, the ***GO Up/Down move command*** transmits a 1-telegram.	No move command
		Stop/Step move command
		Up/down move command
Time for cyclical transmission [hh:mm:ss]	Telegrams after a long keystroke can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes a telegram to be transmitted only once after a long keystroke.	**00:00:00** : 23:59:59
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.5.3 Two button dimming input

Behaviour according to KNX standard for a two-button dimmer. Transmits commands to a 4-bit GO for dimming and a 1-bit GO for switching based on the operation and parameterised operating behaviour.

Uses two inputs.

Start-Stop-Dimming:

- ► After a long keystroke on the input, a dimming command to "increase by 100%" or "reduce by 100%" is transmitted. If the edge is changed from High→Low (button is released), a Stop command is transmitted.
- ► A short keystroke transmits an on or off signal to the on/off GO.

Step dimming:

- ► After a long keystroke on the input, a dimming command to "increase by n%" or "reduce by n%" is transmitted (value n can be parameterised in steps). The command is repeated during the parameterised interval.
- ► A short keystroke transmits an on or off signal to the on/off GO.

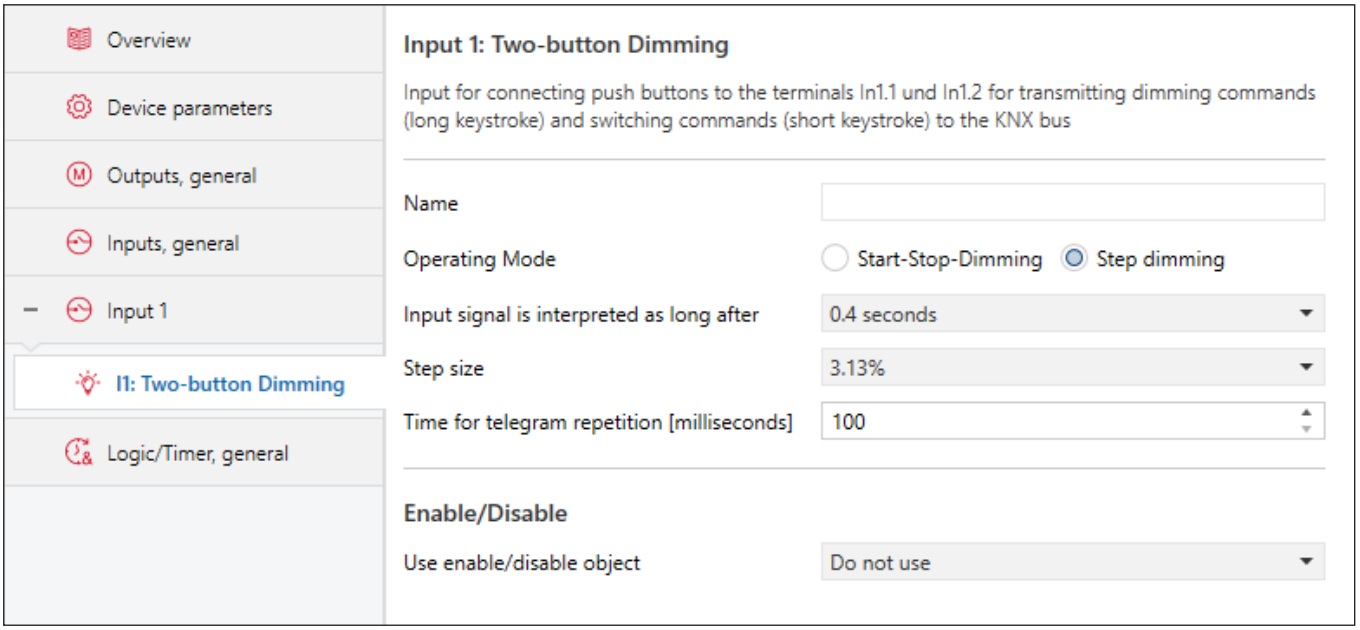


Fig. 45 Parameter dialogue: Inputs → Input n.1/n.2 Two button dimming

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Operating mode	Specifies the operating mode of the dimming function.	**Start-Stop-Dimming**
		Step dimming
Input signal is interpreted as long after	If the push button is pressed for at least the set time, the telegram for a long keystroke is transmitted after the set time. If the button is pressed for a shorter time, the telegram for a short keystroke is transmitted after the button is released.	0 seconds
		0.2 seconds
		0.4 seconds
		0.5 seconds
		0.6 seconds
		0.7 seconds
		0.8 seconds
		1.0 seconds
		1.2 seconds
		1.5 seconds
		2 seconds
		3 seconds
		4 seconds
		5 seconds
		10 seconds
Step size	This parameter is only displayed for Step dimming operating mode. The step width of a dimming step is specified in percent (e.g. 25% step width equates to a total of 4 dimming steps).	100.00%
		50.00%
		25.00%
		12.5%
		6.25%
		3.13%
		1.56%
Time for telegram repetition [Milliseconds]	This parameter is only displayed for Step dimming operating mode. Telegrams can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here.	**100** : 5000
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.5.4 Switching (on/off) input

Outputs the current input level via a 1-bit GO.

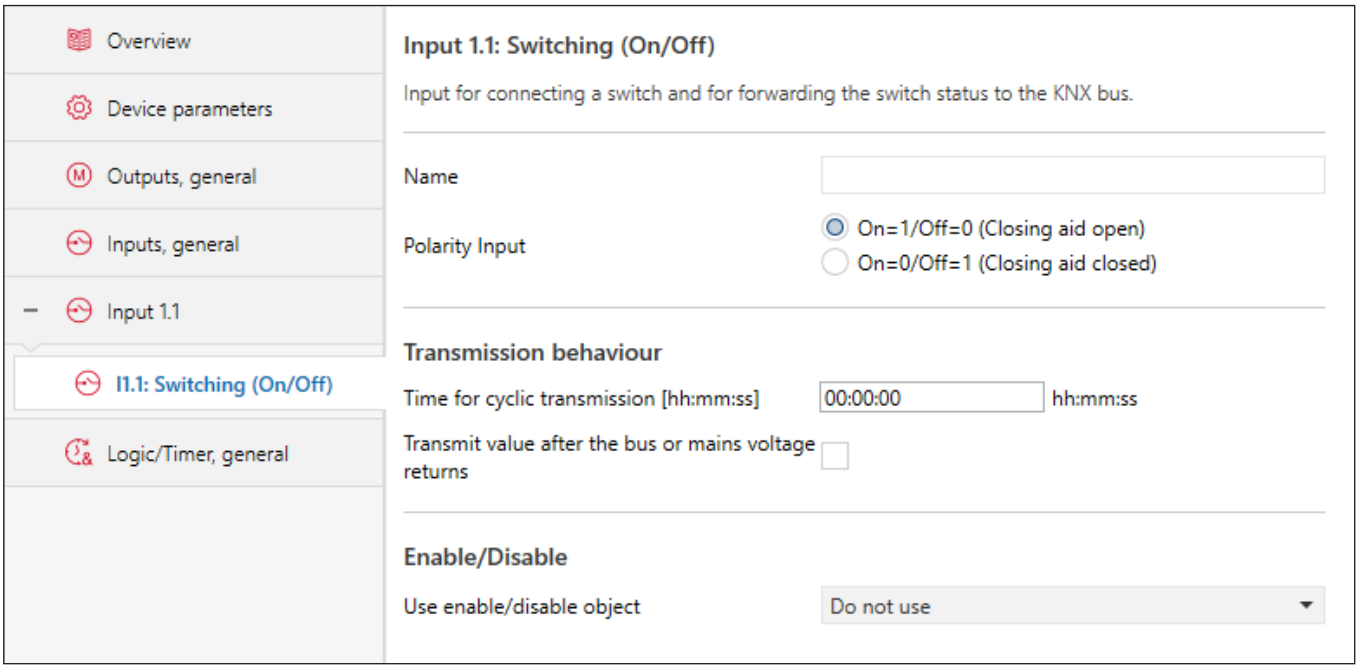


Fig. 46 Parameter dialogue: Inputs → Input In.n Switch (on/off)

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Polarity input	The polarity of the input can be changed here, if necessary, depending on whether a closing aid or opening aid is connected.	**On=1/Off=0 (closing aid connected)**
		On=0/Off=1 (opening aid connected)
Time for cyclical transmission [hh:mm:ss]	Telegrams after a long keystroke can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes a telegram to be transmitted only once after a long keystroke.	**00:00:00** : 23:59:59
Transmit value after the bus or mains voltage returns	Specifies whether a value should be transmitted to the object after a voltage recovery.	Yes
		No
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object
Transmit value after release	Specifies whether a value should be transmitted to the object after an enable.	Yes
		No

7.5.5 Toggle input

Changes the value of the GO at the physical input during an edge change. It is possible to parameterise which edges can be evaluated.

A separate input object can be displayed. Then it is not the GO on which the signal is transmitted that is read and inverted, but the value of the separate GO.

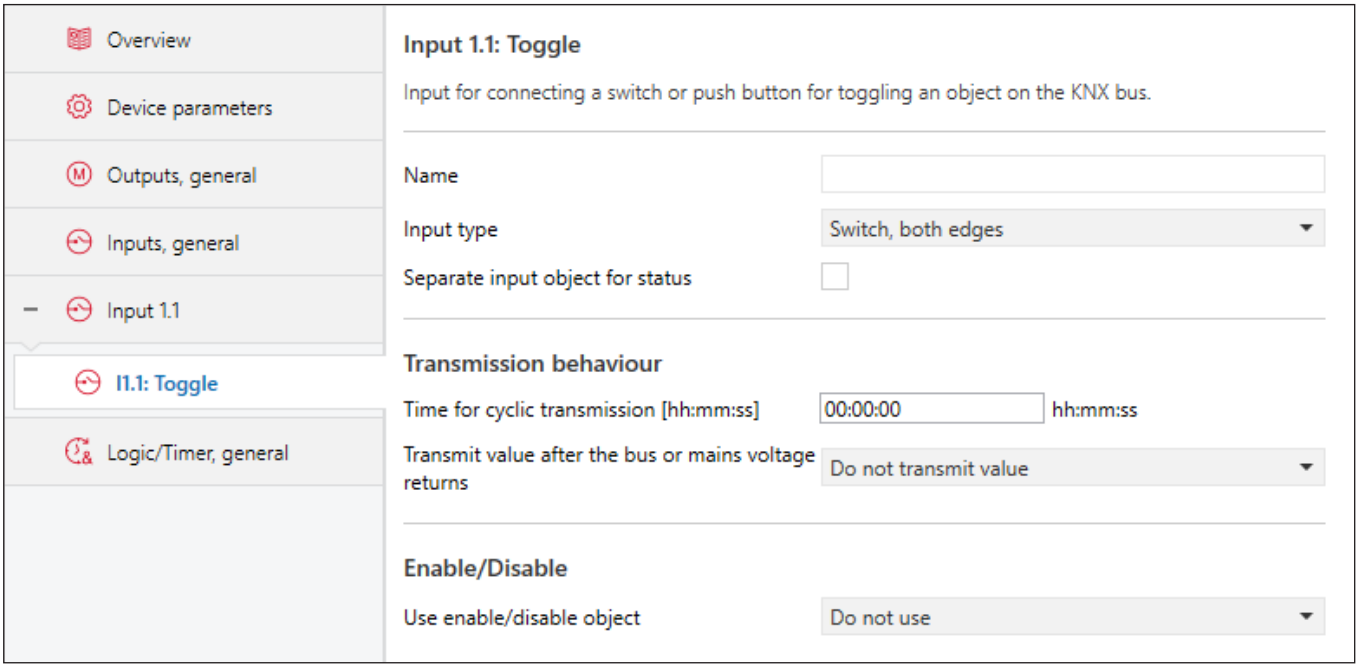


Fig. 47 Parameter dialogue: Inputs → Input In.n Toggle

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Type of input	Here you can specify which switching edges should be evaluated at the input.	**Switch, both edges**
		Push button, falling edge
		Push button, rising edge
Separate input object for status	Specifies whether the status should be evaluated via a separate input object.	Yes
		No
Time for cyclical transmission [hh:mm:ss]	Telegrams after a long keystroke can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes a telegram to be transmitted only once after a long keystroke.	**00:00:00** : 23:59:59
Transmit value after the bus or mains voltage returns	Specifies whether a value should be transmitted to the object after a voltage recovery.	**Do not transmit any value**
		Transmit ON telegram
		Transmit OFF telegram
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object
Transmit value after release	Specifies whether a value should be transmitted to the object after an enable.	**Do not transmit any value**
		Transmit ON telegram
		Transmit OFF telegram

7.5.6 Edge evaluation input

Freely parameterisable input, where the behaviour can be parameterised for each edge change.

Different GO types can be used:
- ▶ Bit
- ▶ Byte value
- ▶ Scenario

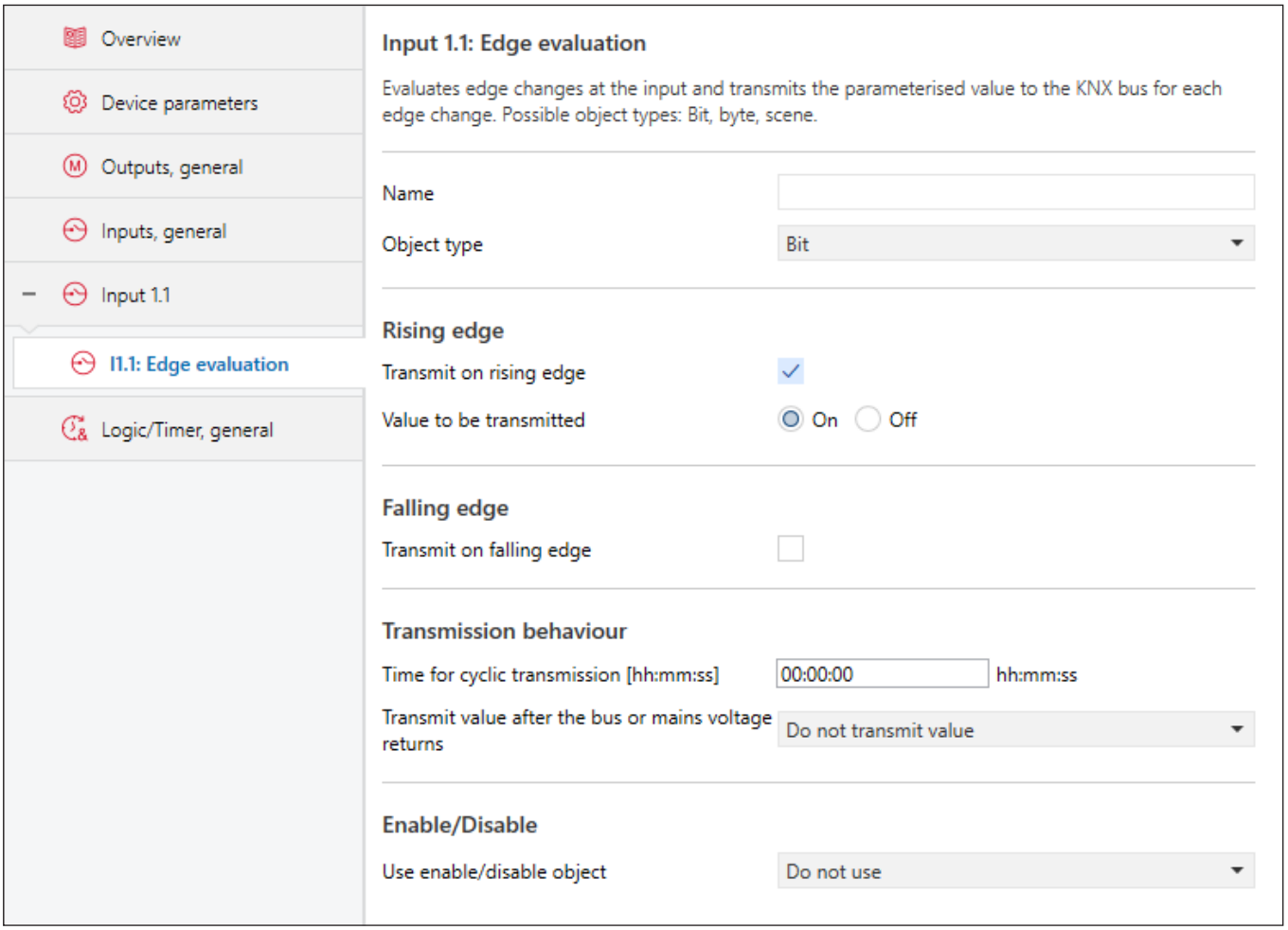


Fig. 48 Parameter dialogue: Inputs → Input In.n Edge evaluation

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Type of object	Specifies the type of object to be transmitted.	**Bit**
		Byte
		Scenario
Transmit if rising edge	Specifies whether an object should be transmitted for a rising edge.	Yes
		No
Rising edge Value to transmit	Value that is transmitted for a rising edge. Options that are suitable for the set type of object are displayed.	Object type Bit: **on**/off
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenarios function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Transmit if falling edge	Specifies whether an object should be transmitted for a falling edge.	Yes
		No
Falling edge Value to transmit	Value that is transmitted for a rising edge. Options that are suitable for the set type of object are displayed.	Object type Bit: **on**/off
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenarios function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Time for cyclical transmission [hh:mm:ss]	Telegrams after a long keystroke can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes a telegram to be transmitted only once after a long keystroke.	**00:00:00** : 23:59:59
Telegram after the bus or mains voltage returns	Specifies whether a value should be transmitted to the object after a voltage recovery.	**Do not transmit any value**
		Value of falling edge
		Value of rising edge
		Value of current input state
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object
Transmit value after release	Specifies whether a value should be transmitted to the object after an enable.	**Do not transmit any value**
		Value of falling edge
		Value of rising edge
		Value of current input state

7.5.7 Push button input (short/long)

Freely parameterisable input that can distinguish between long and short keystrokes. The time for the long keystroke can be parameterised here. Two GOs (output A and output B) can be displayed at the same time for which a value can be set for the long and short keystroke.

Different GO types can be used:
- ▶ Bit
- ▶ Byte value
- ▶ Scenario

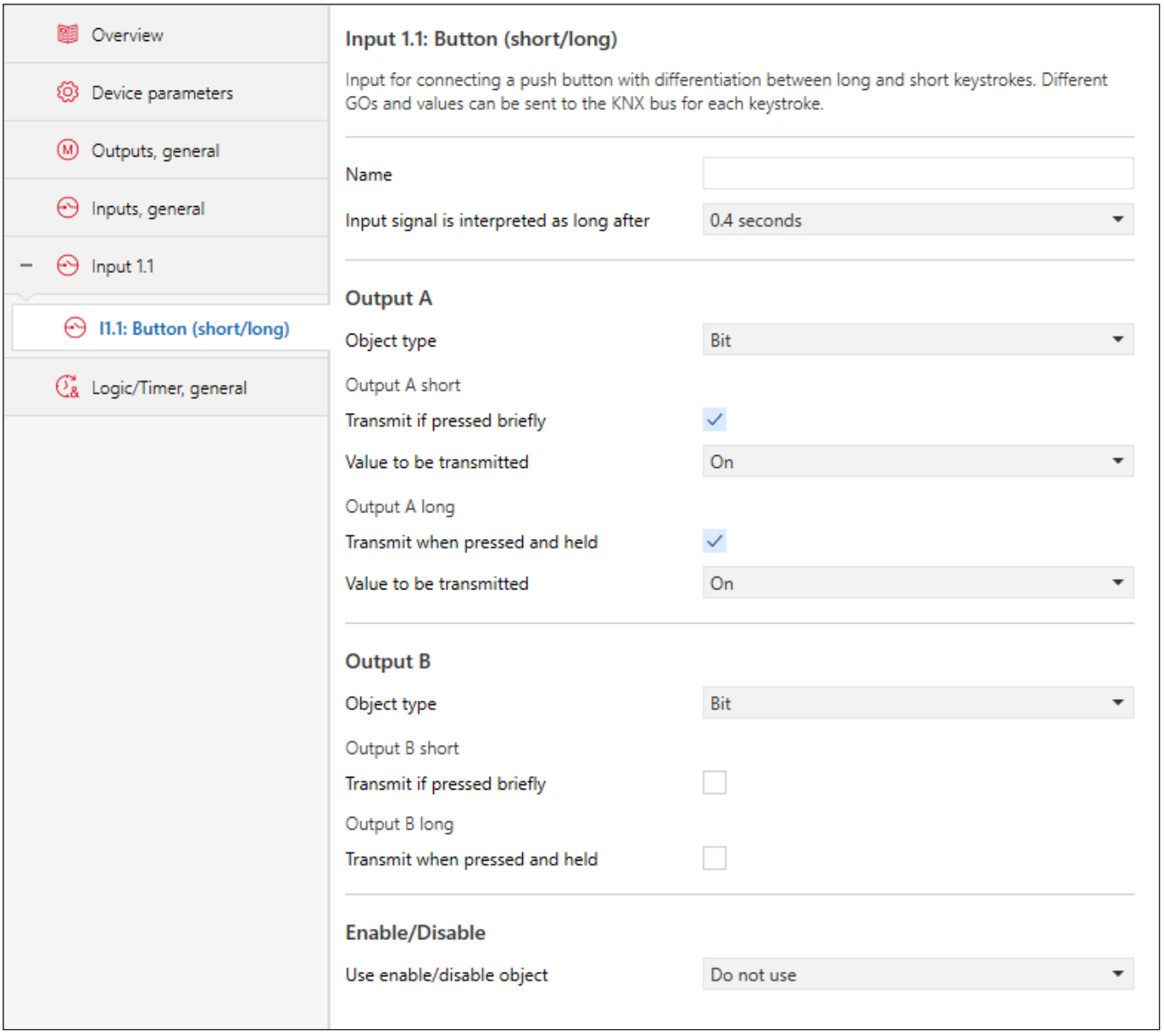


Fig. 49 Parameter dialogue: Inputs → Input In.n Push button (short/long)

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Input signal is interpreted as long after	If the push button is pressed for at least the set time, the telegram for a long keystroke is transmitted after the set time. If the button is pressed for a shorter time, the telegram for a short keystroke is transmitted after the button is released.	0 seconds
		0.2 seconds
		0.4 seconds
		0.5 seconds
		0.6 seconds
		0.7 seconds
		0.8 seconds
		1.0 seconds
		1.2 seconds
		1.5 seconds
		2 seconds
		3 seconds
		4 seconds
		5 seconds
		10 seconds
Output A Type of object	Specifies the type of object to be transmitted for output A.	**Bit**
		Byte
		Scenario
Output A short Transmit for short keystroke	Specifies whether an object should be transmitted for a short keystroke.	**Yes**
		No
Output A short Value to transmit	Value transmitted after a short keystroke. Options that are suitable for the set type of object are displayed.	Object type Bit: **on**/**off**/toggle
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenario function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Output A long Transmit for long keystroke	Specifies whether an object should be transmitted for a long keystroke.	**Yes**
		No
Output A long Value to transmit	Value transmitted after a long keystroke. Options that are suitable for the set type of object are displayed.	Object type Bit: on/**off**/toggle
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenario function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Output B Type of object	Specifies the type of object to be sent for output B.	**Bit**
		Byte
		Scenario
Output B short Transmit for short keystroke	Specifies whether an object should be transmitted for a short keystroke.	Yes
		No
Output B short Value to transmit	Value transmitted after a short keystroke. Options that are suitable for the set type of object are displayed.	Object type Bit: **on**/**off**/toggle
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenario function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn

Output B long Transmit for long keystroke	Specifies whether an object should be transmitted for a long keystroke.	Yes
		No
Output B long Value to transmit	Value transmitted after a long keystroke. Options that are suitable for the set type of object are displayed.	Object type Bit: on/**off**/toggle
		Type of object Byte: 0...**128**...255
		Type of object Scenario: **1**...64
Scenario function	This parameter is only displayed for the scenario type of object. Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object
Transmit value after release	Specifies whether a value should be transmitted to the object after an enable.	Yes
		No

7.5.8 Scenarios push button input

The input can differentiate between a long and short keystroke and transmit the "learn" or "execute" command for a parameterised scenario number following a long or short keystroke.

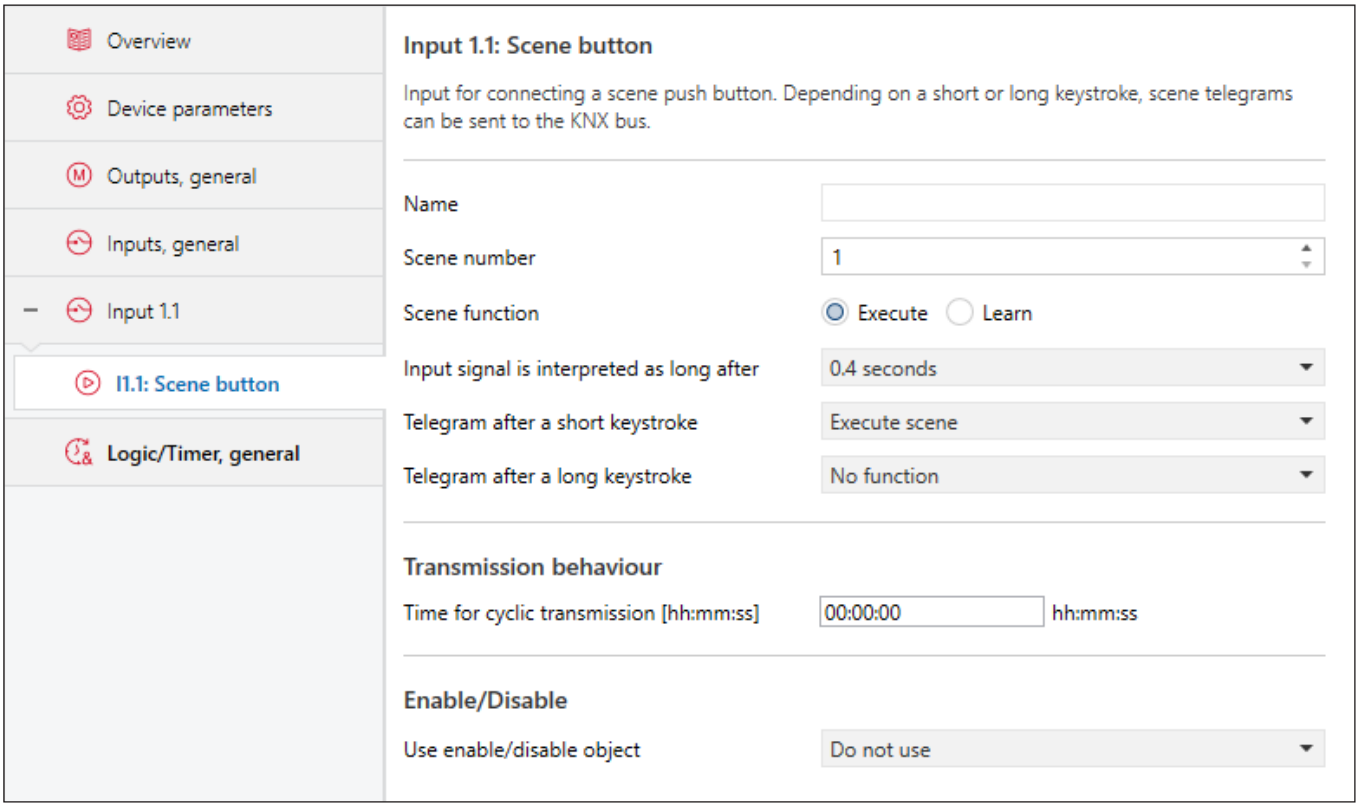


Fig. 50 Parameter dialogue: Inputs → Input In.n Scenario push button

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Scenario number	Specifies the scenario number for the input.	**1** : 64
Scenario function	Specifies whether the scenario should be executed or learned.	**Execute**
		Learn
Input signal is interpreted as long after	If the push button is pressed for at least the set time, the telegram for a long keystroke is transmitted after the set time. If the button is pressed for a shorter time, the telegram for a short keystroke is transmitted after the button is released.	0 seconds
		0.2 seconds
		0.4 seconds
		0.5 seconds
		0.6 seconds
		0.7 seconds
		0.8 seconds
		1.0 seconds
		1.2 seconds
		1.5 seconds
		2 seconds
		3 seconds
		4 seconds
		5 seconds
		10 seconds
Telegram after a short keystroke	Value transmitted after a short keystroke.	No function
		Execute scenario
		Learn scenario
Telegram after a long keystroke	Value transmitted after a long keystroke.	**No function**
		Execute scenario
		Learn scenario
Time for cyclical transmission [hh:mm:ss]	Telegrams after a long keystroke can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here. Setting the value to 0 causes a telegram to be transmitted only once after a long keystroke.	**00:00:00** : 23:59:59
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.5.9 One button dimming input

Behaviour according to KNX standard for a single-button dimmer. Transmits commands to a 4-bit GO for dimming and a 1-bit GO for switching based on the operation and parameterised operating behaviour.

Start-Stop-Dimming:

- After a long keystroke on the input, a dimming command to "increase by 100%" is transmitted. If the edge is changed from High→Low (button is released), a Stop command is transmitted. After the next long keystroke, a dimming command to "reduce by 100%" is transmitted, etc.
- A short keystroke transmits an on or off signal (alternating) to the on/off GO. Instead of transmitting the value alternately, a separate input object can be displayed here, whose value is inverted and transmitted for each short keystroke.

Step dimming:

- After a long keystroke on the input, a dimming command to "increase by n%" is sent (value n can be parameterised in steps). The command is repeated during the parameterised interval. The dimming direction changes if the button is released and then actuated again ("reduce by n%" command).
- A short keystroke transmits an on or off signal (alternating) to the on/off GO. Instead of transmitting the value alternately, a separate input object can be displayed here, whose value is inverted and transmitted for each short keystroke.

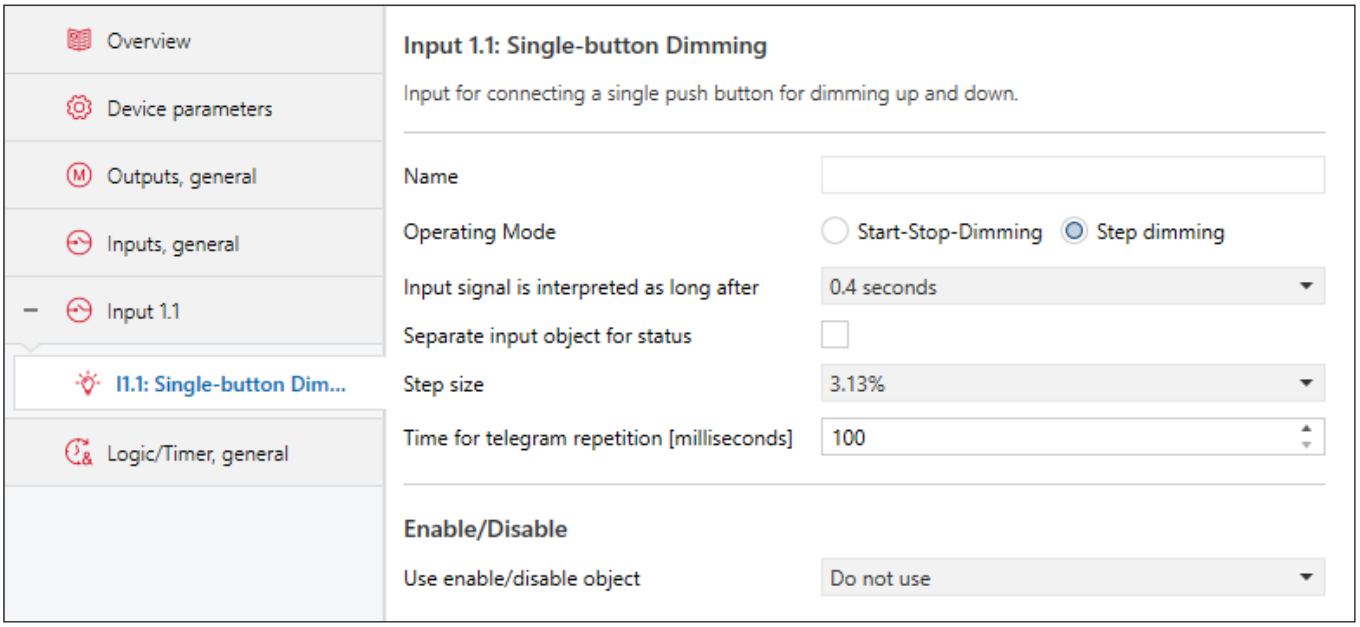


Fig. 51 Parameter dialogue: Input → Input In.n One button dimming

Parameters	Function	Values
Name	A name for the input can be specified here so that it is easier to assign.	Text (max. 80 characters)
Operating mode	Specifies the operating mode of the dimming function.	**Start-Stop-Dimming**
		Step dimming
Input signal is interpreted as long after	If the push button is pressed for at least the set time, the telegram for a long keystroke is transmitted after the set time. If the button is pressed for a shorter time, the telegram for a short keystroke is transmitted after the button is released.	0 seconds
		0.2 seconds
		0.4 seconds
		0.5 seconds
		0.6 seconds
		0.7 seconds
		0.8 seconds
		1.0 seconds
		1.2 seconds
		1.5 seconds
		2 seconds
		3 seconds
		4 seconds
		5 seconds
		10 seconds
Separate input object for status	Specifies whether the dimming status should be evaluated via a separate input object.	Yes
		No
Step size	This parameter is only displayed for Step dimming operating mode. The step width of a dimming step is specified in percent (e.g. 25% step width equates to a total of 4 dimming steps).	100.00%
		50.00%
		25.00%
		12.5%
		6.25%
		3.13%
		1.56%
Time for telegram repetition [Milliseconds]	This parameter is only displayed for Step dimming operating mode. Telegrams can be transmitted repeatedly as long as the connected contact is closed. The interval between two consecutive repetitions can be parameterised here.	**100** : 5000
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

7.6 Logic / Timer

There are 16 functions. For each of these functions, it is possible to select whether they should not be used, whether they should be used as a logical link or whether they should be used as a timer.

Bit objects, byte objects (value pairs consisting of blind length/slat position) or scenario numbers can be used as output objects for a function.

7.6.1 Logic/Timer, general

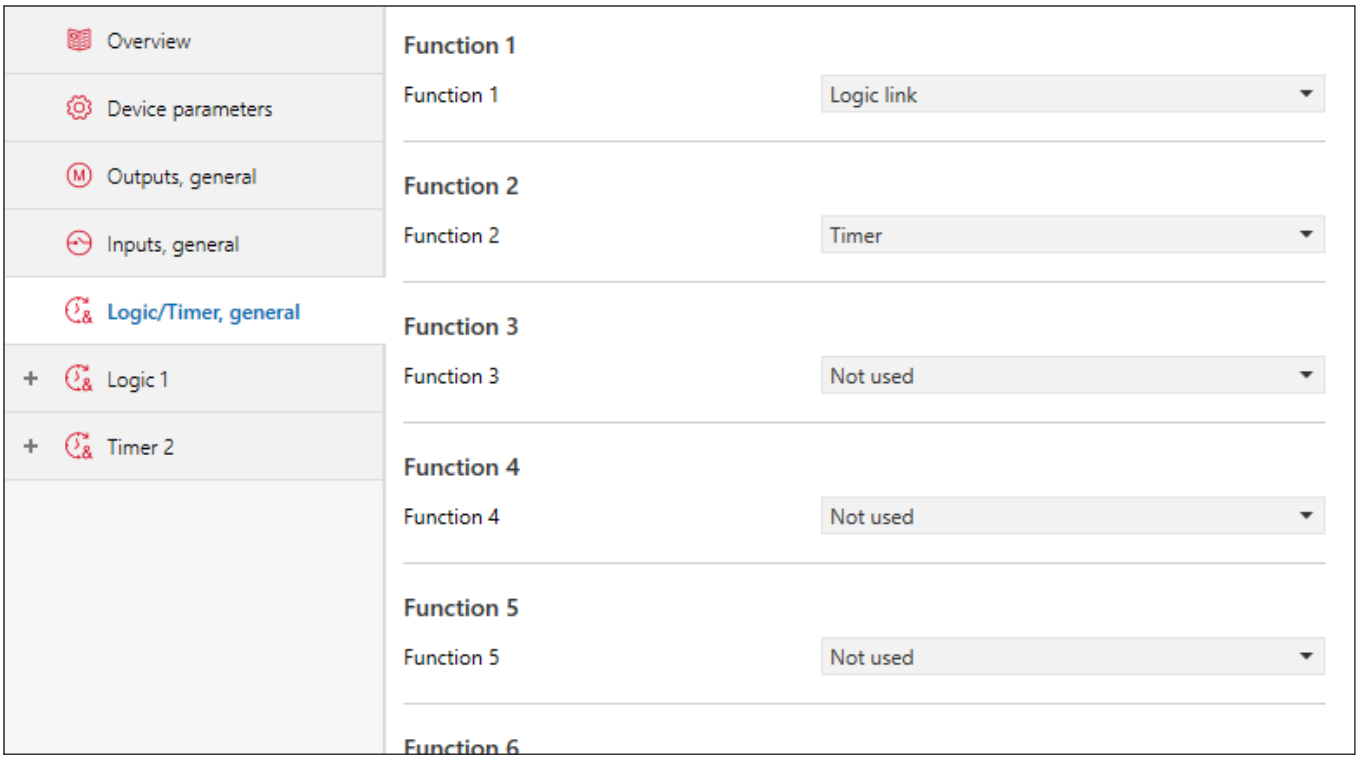


Fig. 52 Parameter dialogue: Logic/Timer, general

Parameters	Function	Values
Function n	Specifies the operating mode of a function.	**Not used**
		Logical link
		Timer

7.6.2 Logical linking

The logical links (AND/OR/XOR) provide up to 4 inputs. Each of these inputs can be inverted (before processing).

The linking result can also be inverted again.

Inputs 1 and 2 are always displayed, inputs 3 and 4 can be displayed in addition.

The output can be transmitted cyclically, only in the event of a change or not at all (value is set in the GO, but is not transmitted and can be read). Transmission can also be limited to an edge change, for example, only when the linking result switches from 0 to 1.

It is also possible to set whether the output GO is only transmitted if all the inputs used have been written to at least once. Otherwise, the preset start value will be used for inputs that have not yet been defined.

As is the case with the inputs, the enable/disable GO can be used.

The type of output can be selected:

Bit object
The GO of the bit type is displayed.
Result of the linking is issued directly as a bit value.

Blind length and slat position
Two GOs for the blind length and slat position are displayed.
A combination of the blind length and slat position can be transmitted for the TRUE and FALSE results.

Scenario
The GO of the scenario type is displayed.
A scenario command consisting of the scenario number and learn/execute can be transmitted for the TRUE and FALSE results.

If more than two inputs are used, the XOR function behaves as illustrated in the following truth table:

In3	In2	In1	In0	Out
0	0	0	0	0
0	0	0	**1**	**1**
0	0	**1**	0	**1**
0	0	1	1	0
0	**1**	0	0	**1**
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	**1**
1	0	0	1	0
1	0	1	0	0
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

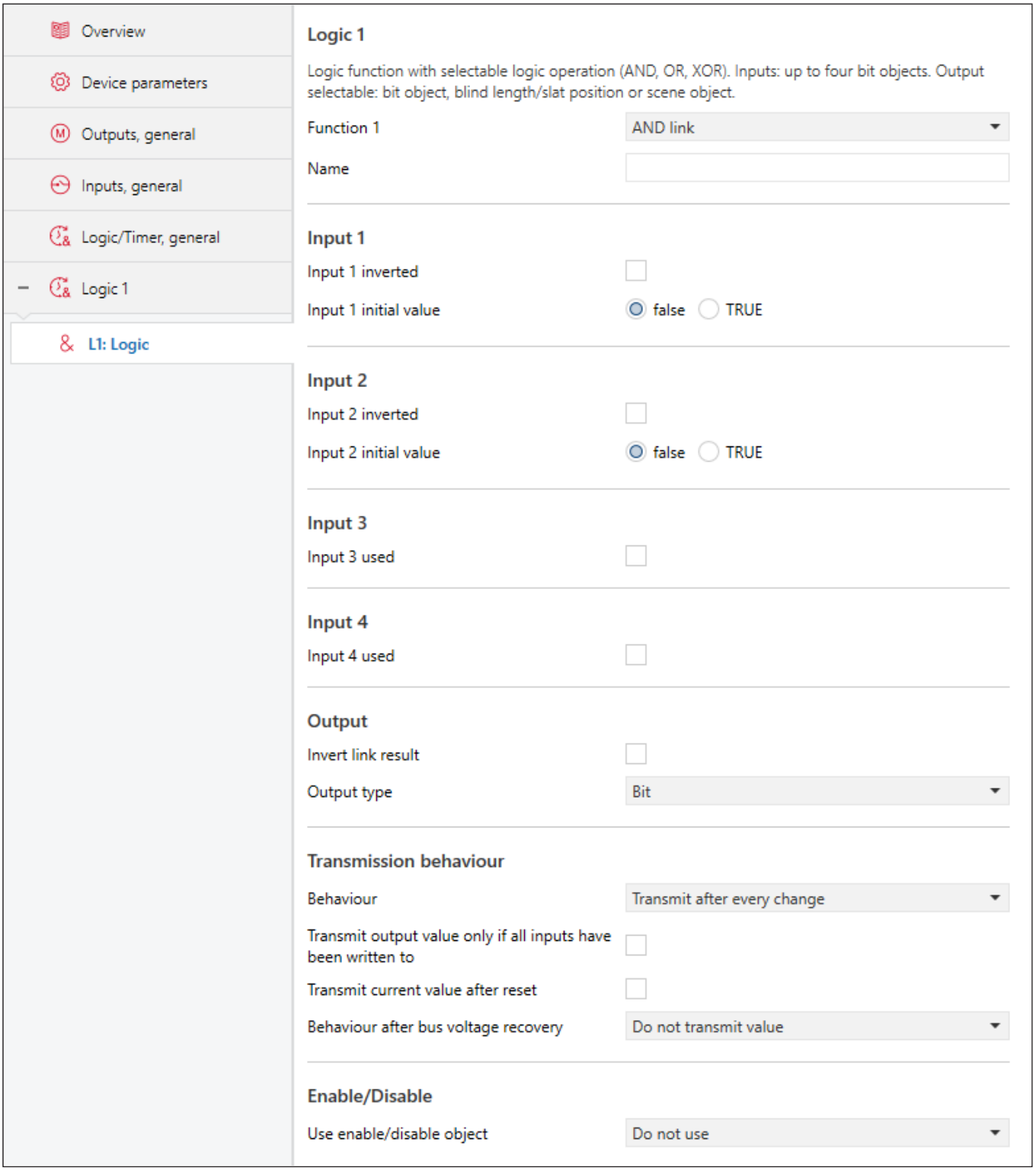


Fig. 53 Parameter dialogue: Logic/Timer → Function n → Logic

Parameters	Function	Values
Function n	Specifies the operating mode of the logic function.	**AND link**
		OR link
		XOR link
Name	A name for the logic function can be specified here so that it is easier to assign.	Text (max. 80 characters)
Input n inverted	Specifies whether the value at the input should be inverted.	Yes
		No
Input n initial value	Specifies with which value the logical link should start at the input.	**false**
		true
Invert result	Specifies whether the result of the link should be inverted.	Yes
		No
Type of output	Type of telegrams issued at the output of the logical link.	**Bit**
		Blind length and slat position
		Scenario
Blind length [%]	This parameter is only displayed for the output type *blind length and slat position*. It can be set separately for the state of the output (true/false). Value for the blind length in percent that is transmitted.	**0** : 100
Slat position [%]	This parameter is only displayed for the output type *blind length and slat position*. It can be set separately for the state of the output (true/false). Value for the slat position in percent that is transmitted.	**0** : 100
Scenario function	This parameter is only displayed for the *Scenario* type of output. It can be set separately for the state of the output (true/false). Specifies whether the scenario should be executed or learned.	**Execute scenario**
		Learn scenario
Scenario number	This parameter is only displayed for the *Scenario* type of output. It can be set separately for the state of the output (true/false). Specifies the scenario number that should be transmitted.	**1** : 64
Behaviour	Specifies when an object should be transmitted at the output.	Do not transmit
		Only transmit after change from 0 to 1
		Only transmit after change from 1 to 0
		Transmit after every change
		Transmit after every update
		Transmit after any update and transmit cyclically
Transmit output value only if all inputs have been written to	Specifies whether the current output value should only be transmitted if a value has been actively written to all inputs of the logical link.	Yes
		No
Transmit current value after reset	Specifies whether the current output value of the logical link should be transmitted after a reset.	Yes
		No
Behaviour after bus voltage recovery	Specifies which value should be transmitted after a bus voltage recovery.	**Do not transmit any value**
		Transmit current value
		Transmit value "Output true"
		Transmit value "Output false"

Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object
Behaviour after enable	Specifies which value should be transmitted to the object after an enable.	**Do not transmit any value**
		Transmit current value
		Set current value in GO but do not transmit

7.6.3 Timer

The timer function is controlled via the GO and transmits values to the output GOs during start/stop/expiry.

The timer offers a setting in seconds from 0 to 23:59:59

- The *retrigger* parameter determines whether the timer should restart at 0 or whether the new start command should be ignored if a start command is issued when the timer is already running.

- It is possible to parameterise how the timer should react to edge changes at the GO start/stop

- The type of output can be selected:

  Bit object
  The GO of the bit type is displayed.

  Blind length and slat position
  Two GOs for the blind length and slat position are displayed.

  Scenario
  The GO of the scenario type is displayed.
  A scenario command consisting of the scenario number and learn/execute can be transmitted.

- There are three timer events:

  Start (can be initiated via GO Start/Stop)

  Stop (can be initiated via GO Start/Stop)

  Expiry of the timer

  For each of the three events, you can specify separately whether the output GO should be written and, if so, with which value.

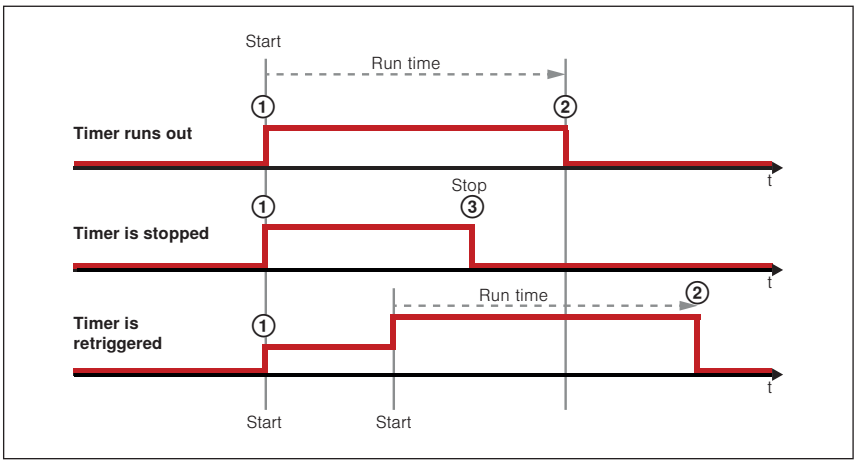


Fig. 54 Function of the timer

① Value at start

② Value at expiry

③ Value at stop

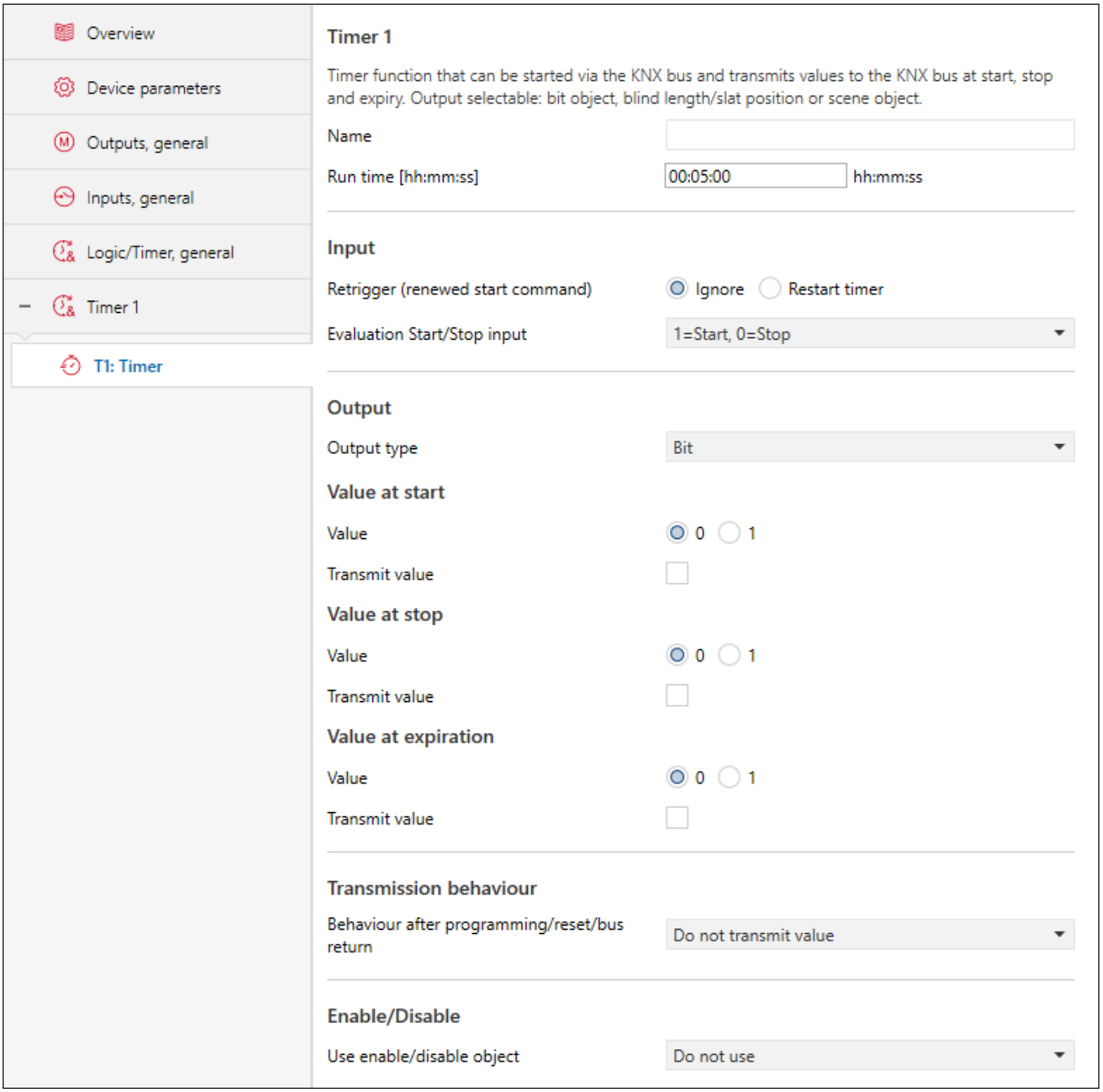


Fig. 55 Parameter dialogue: Logic/Timer → Function n → Timer

Parameters	Function	Values
Name	A name for the timer can be specified here so that it is easier to assign.	Text (max. 80 characters)
Run time [hh:mm:ss]	Run time for the timer function	00:00:00 : **00:05:00** : 23:59:59
Retrigger (renewed start command)	Specifies whether the timer can be restarted at zero if there is a new start command during the run time.	**Ignore**
		Restart timer
Start/Stop input evaluation	The logic of the start/stop input is specified here.	**1=Start, 0=Stop**
		0=Start, 1=Stop
		1=Start, 0 Ignore
		0=Start, 1 Ignore
		1=Start/Stop
		0=Start/Stop
		0 or 1=Start/Stop
Type of output	Type of telegrams issued at the output of the timer	**Bit**
		Blind length and slat position
		Scenario
Value	This parameter is only displayed for the **Bit** type of output. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies which value should be sent for the relevant status of the timer.	**0**
		1
Transmit value	This parameter is only displayed for the **Bit** type of output. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies whether a value should be transmitted for the relevant status of the timer.	Yes
		No
Scenario function	This parameter is only displayed for the **Scenario** type of output. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies whether the scenario should be executed or learned for the relevant status of the timer.	**Execute**
		Learn
Scenario number	This parameter is only displayed for the **Scenario** type of output. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies which scenario number should be sent for the relevant status of the timer.	**1** : 64
Transmit value	This parameter is only displayed for the **Scenario** type of output. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies whether a value should be transmitted for the relevant status of the timer.	Yes
		No
Blind length [%]	This parameter is only displayed for the output type **blind length and slat position**. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Value for the blind length in percent that is transmitted for the relevant status of the timer.	**0** : 100

Slat position [%]	This parameter is only displayed for the output type **blind length and slat position**. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Value for the slat position in percent that is transmitted for the relevant status of the timer.	**0** : 100
Transmit value	This parameter is only displayed for the output type **blind length and slat position**. It can be set separately for the status of the timer (**at start**/**at stop**/**upon expiry**). Specifies whether a value should be transmitted for the relevant status of the timer.	Yes
		No
Behaviour after prog./reset/bus return	Specifies when an object should be transmitted at the output.	**Do not transmit any value**
		Transmit "Start" value
		Transmit "Stop" value
		Transmit "Expired" value
Use enable/disable object	Specifies whether an enable object (1 enable, 0 disable) or a disable object (0 enable, 1 disable) should be used.	**Do not use**
		Enable object
		Disable object

8 Group objects

8.1 Overview

The KNX secure actuators have a number of group objects (GO). Depending on the actuator model and parameter setting (e.g. product type), the group objects available in each case are shown on the ETS interface.

The following tables contains all group objects with the associated specifications.

[1] only in operating mode *Venetian blind/external venetian blind*
[2] only for devices from the *pro* series

8.1.1 General

No.	Name	Object function	Length	Flags	Data type
2	General	Time	3 bytes	C, W	[10.1] DPT_TimeOfDay
3	General	Date	3 bytes	C, W	[11.1] DPT_Date
4	General	Date/time	8 bytes	C, W	[19.1] DPT_DateTime
5	General	Azimuth	4 bytes	C, W	[14.7] DPT_Value_AngleDeg
6	General	Elevation	4 bytes	C, W	[14.7] DPT_Value_AngleDeg
7	General	Azimuth	2 bytes	C, W	[8.11] DPT_Rotation_Angle
8	General	Elevation	2 bytes	C, W	[8.11] DPT_Rotation_Angle
9	General	Azimuth	1 byte	C, W	[5.3] DPT_Angle
10	General	Elevation	1 byte	C, W	[5.3] DPT_Angle
11	General	Measured value, precipitation	1 bit	C, W	[1.5] DPT_Alarm
12	General	Measuring value outside temperature	2 bytes	C, W	[9.1] DPT_Value_Temp

8.1.2 Outputs

No.	Name	Object function	Length	Flags	Data type
13	O1: Output 1	In 1 Ice alarm	1 bit	C, W	[1.5] DPT_Alarm
14	O1: Output 1	In 1 Ice - Limit value	2 bytes	C, W	[9.1] DPT_Value_Temp
15	O1: Output 1	In 1 Ice - Reset	1 bit	C, W	[1.15] DPT_Reset
16	O1: Output 1	In 2 Wind alarm In 2 Measured value wind speed	1 bit 2 bytes	C, W C, W	[1.5] DPT_Alarm [9.5] DPT_Value_Wsp
17	O1: Output 1	In 2 Wind speed limit	2 bytes	C, W	[9.5] DPT_Value_Wsp
18	O1: Output 1	In 3.1 Sun In 3.1-3.3 Measuring value brightness	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.4] DPT_Value_Lux
19	O1: Output 1	In 3.2 Fair In 3.1 Sun - Limit value	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.4] DPT_Value_Lux
20	O1: Output 1	In 3.2 Fair - Limit value	2 bytes	C, W	[9.4] DPT_Value_Lux
21	O1: Output 1	In 3.3 Cloud - Limit value	2 bytes	C, W	[9.4] DPT_Value_Lux
22	O1: Output 1	In 3.4 night/dawn In 3.4 Measuring value brightness dawn	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.4] DPT_Value_Lux
23	O1: Output 1	In 3.4 Dawn - Limit value dawn	2 bytes	C, W	[9.4] DPT_Value_Lux
24	O1: Output 1	In 3.4 Dawn - Limit value dusk	2 bytes	C, W	[9.4] DPT_Value_Lux
25	O1: Output 1	In 4.2: Slat tracking input: blind length	1 byte	C, W	[5.1] DPT_Scaling
26	O1: Output 1	In 4.2: Slat tracking input: slat position [1] In 4.2: Slat tracking input blind/slats	1 byte 3 bytes	C, W C, W	[5.1] DPT_Scaling [240.800] DPT_CombinedPosition
27	O1: Output 1	In 4.5 Shading on window	1 bit	C, W	[1.2] DPT_Bool
28	O1: Output 1	In 5 Presence	1 bit	C, W	[1.18] DPT_Occupancy
29	O1: Output 1	In 5 Presence 2	1 bit	C, W	[1.18] DPT_Occupancy
30	O1: Output 1	In 5 Presence 3	1 bit	C, W	[1.18] DPT_Occupancy
31	O1: Output 1	In 6 Window/door contact	1 bit	C, W	[1.9] DPT_OpenClose
32	O1: Output 1	In 6 Window/door contact 2	1 bit	C, W	[1.9] DPT_OpenClose
33	O1: Output 1	In 6 Window/door contact 3	1 bit	C, W	[1.9] DPT_OpenClose
34	O1: Output 1	In 7 Building operating mode heating	1 bit	C, W	[1.2] DPT_Bool
35	O1: Output 1	In 7 Building operating mode heating/cooling	1 bit	C, W	[1.100] DPT_Heat_Cool
36	O1: Output 1	In 7 Building operating mode heating	1 bit	C, W	[1.2] DPT_Bool
37	O1: Output 1	In 7 Building operating mode cooling	1 bit	C, W	[1.2] DPT_Bool
38	O1: Output 1	In 7 Room too warm In 7 Measuring value room temperature	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.1] DPT_Value_Temp
39	O1: Output 1	In 7 Room too cold In 7 Set value room temperature	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.1] DPT_Value_Temp
40	O1: Output 1	In 8 Outside temperature high/low In 8.1 Outside temperature high In 8.1 Outside temperature high - Limit value	1 bit 1 bit 2 bytes	C, W C, W C, W	[1.5] DPT_Alarm [1.5] DPT_Alarm [9.1] DPT_Value_Temp
41	O1: Output 1	In 8.3 Outside temperature low In 8.2 Outside temperature low - Limit value	1 bit 2 bytes	C, W C, W	[1.5] DPT_Alarm [9.1] DPT_Value_Temp
42	O1: Output 1	In 9 Incidence of energy high/low In 9 Incidence of energy high In 9 Measuring value radiation	1 bit 1 bit 2 bytes	C, W C, W C, W	[1.2] DPT_Bool [1.2] DPT_Bool [9.22] DPT_PowerDensity
43	O1: Output 1	In 9 Incidence of energy low In 9.1 Incidence of energy high - Limit value	1 bit 2 bytes	C, W C, W	[1.2] DPT_Bool [9.22] DPT_PowerDensity
44	O1: Output 1	In 9.2 Incidence of energy low - Limit value	2 bytes	C, W	[9.22] DPT_PowerDensity
45	O1: Output 1	In 10.1: External bit	1 bit	C, W	[1.2] DPT_Bool
46	O1: Output 1	In 10.2: External bit	1 bit	C, W	[1.2] DPT_Bool
47	O1: Output 1	In 10.3: External bit	1 bit	C, W	[1.2] DPT_Bool

No.	Name	Object function	Length	Flags	Data type
48	O1: Output 1	In 10.4: External blind length	1 byte	C, W	[5.1] DPT_Scaling
49	O1: Output 1	In 10.4: External slat position [1]	1 byte	C, W	[5.1] DPT_Scaling
50	O1: Output 1	In 10.4: External blind/slats	3 bytes	C, W	[240.800] DPT_CombinedPosition
51	O1: Output 1	In 10.5: External blind length	1 byte	C, W	[5.1] DPT_Scaling
52	O1: Output 1	In 10.5: External slat position [1]	1 byte	C, W	[5.1] DPT_Scaling
53	O1: Output 1	In 10.5: External blind/slats	3 bytes	C, W	[240.800] DPT_CombinedPosition
55	O1: Output 1	Safety general active	1 bit	C, R, T	[1.2] DPT_Bool
56	O1: Output 1	Safety general possible	1 bit	C, R, T	[1.2] DPT_Bool
57	O1: Output 1	Safety general enable Safety general disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
59	O1: Output 1	Wind monitoring active	1 bit	C, R, T	[1.2] DPT_Bool
60	O1: Output 1	Wind monitoring possible	1 bit	C, R, T	[1.2] DPT_Bool
61	O1: Output 1	Wind monitoring enable Wind monitoring disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
63	O1: Output 1	Door/Window contact active	1 bit	C, R, T	[1.2] DPT_Bool
64	O1: Output 1	Door/Window contact possible	1 bit	C, R, T	[1.2] DPT_Bool
65	O1: Output 1	Door/Window contact enable Door/Window contact disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
66	O1: Output 1	Manual Up/Down move command	1 bit	C, W	[1.8] DPT_UpDown
67	O1: Output 1	Manual move command Stop/Step	1 bit	C, W	[1.7] DPT_Step
68	O1: Output 1	Command start run time [2]	1 bit	C, W	[1.10] DPT_Start
69	O1: Output 1	Move to blind length manually	1 byte	C, W	[5.1] DPT_Scaling
70	O1: Output 1	Move to slat position manually [1]	1 byte	C, W	[5.1] DPT_Scaling
71	O1: Output 1	Manual move command approach blind/slats	3 bytes	C, W	[240.800] DPT_CombinedPosition
72	O1: Output 1	Manual scenario	1 byte	C, W	[18.1] DPT_SceneControl
73	O1: Output 1	Manual active	1 bit	C, R, W, T	[1.3] DPT_Enable
74	O1: Output 1	Manual possible	1 bit	C, R, T	[1.2] DPT_Bool
75	O1: Output 1	Manual enable Manual disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
77	O1: Output 1	Ventilation function active	1 bit	C, R, T	[1.2] DPT_Bool
78	O1: Output 1	Ventilation function possible	1 bit	C, R, T	[1.2] DPT_Bool
79	O1: Output 1	Ventilation function, protection active	1 bit	C, R, T	[1.2] DPT_Bool
80	O1: Output 1	Ventilation function enable Ventilation function disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
81	O1: Output 1	Night/Dawn force	1 bit	C, W	[1.3] DPT_Enable
82	O1: Output 1	Night/Dawn active	1 bit	C, R, T	[1.2] DPT_Bool
83	O1: Output 1	Night/Dawn possible	1 bit	C, R, T	[1.2] DPT_Bool
84	O1: Output 1	Night/Dawn enable Night/Dawn disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
85	O1: Output 1	Heating support force	1 bit	C, W	[1.3] DPT_Enable
86	O1: Output 1	Heating support active	1 bit	C, R, T	[1.2] DPT_Bool
87	O1: Output 1	Heating support possible	1 bit	C, R, T	[1.2] DPT_Bool
88	O1: Output 1	Heating support enable Heating support disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
89	O1: Output 1	Cooling support force	1 bit	C, W	[1.3] DPT_Enable
90	O1: Output 1	Cooling support active	1 bit	C, R, T	[1.2] DPT_Bool

No.	Name	Object function	Length	Flags	Data type
91	O1: Output 1	Cooling support possible	1 bit	C, R, T	[1.2] DPT_Bool
92	O1: Output 1	Cooling support enable Cooling support disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
93	O1: Output 1	Sun control force Sun control active	1 bit 1 bit	C, W C, R, T	[1.3] DPT_Enable [1.2] DPT_Bool
94	O1: Output 1	Sun control active Sun control possible	1 bit 1 bit	C, R, T C, R, T	[1.2] DPT_Bool [1.2] DPT_Bool
95	O1: Output 1	Sun control possible Sun control enable Sun control disable	1 bit 1 bit 1 bit	C, R, T C, W C, W	[1.2] DPT_Bool [1.3] DPT_Enable [1.5] DPT_Alarm
96	O1: Output 1	Sun control enable Sun control disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
100	O1: Output 1	Control mode centralised approach blind length	1 byte	C, W	[5.1] DPT_Scaling
101	O1: Output 1	Control mode centralised approach slat position [1]	1 byte	C, W	[5.1] DPT_Scaling
102	O1: Output 1	Control mode centralised blind/approach slat	3 bytes	C, W	[240.800] DPT_CombinedPosition
103	O1: Output 1	Control mode centralised scenario	1 byte	C, W	[18.1] DPT_SceneControl
104	O1: Output 1	Control mode centralised active	1 bit	C, R, W, T	[1.3] DPT_Enable
105	O1: Output 1	Control mode centralised possible	1 bit	C, R, T	[1.2] DPT_Bool
106	O1: Output 1	Control mode centralised enable Control mode centralised disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
107	O1: Output 1	User defined 1 force User defined 1 move command Up/Down	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.8] DPT_UpDown
108	O1: Output 1	User defined 1 active User defined 1 move command Stop/Step	1 bit 1 bit	C, R, T C, W	[1.2] DPT_Bool [1.7] DPT_Step
109	O1: Output 1	User defined 1 possible	1 bit	C, R, T	[1.2] DPT_Bool
110	O1: Output 1	User defined 1 enable User defined 1 disable User defined 1 approach blind length	1 bit 1 bit 1 byte	C, W C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm [5.1] DPT_Scaling
111	O1: Output 1	User defined 1 approach slat position [1]	1 byte	C, W	[5.1] DPT_Scaling
112	O1: Output 1	User defined 1 approach blind/slat	3 bytes	C, W	[240.800] DPT_CombinedPosition
113	O1: Output 1	User defined 1 scenario	1 byte	C, W	[18.1] DPT_SceneControl
114	O1: Output 1	User defined 1 active	1 bit	C, R, W, T	[1.3] DPT_Enable
115	O1: Output 1	User defined 1 possible	1 bit	C, R, T	[1.2] DPT_Bool
116	O1: Output 1	User defined 1 enable User defined 1 disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
117	O1: Output 1	User defined 2 force User defined 2 move command Up/Down	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.8] DPT_UpDown
118	O1: Output 1	User defined 2 active User defined 2 move command Stop/Step	1 bit 1 bit	C, R, T C, W	[1.2] DPT_Bool [1.7] DPT_Step
119	O1: Output 1	User defined 2 possible	1 bit	C, R, T	[1.2] DPT_Bool
120	O1: Output 1	User defined 2 enable User defined 2 disable User defined 2 approach blind length	1 bit 1 bit 1 byte	C, W C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm [5.1] DPT_Scaling
121	O1: Output 1	User defined 2 approach slat position [1]	1 byte	C, W	[5.1] DPT_Scaling
122	O1: Output 1	User defined 2 approach blind/slat	3 bytes	C, W	[240.800] DPT_CombinedPosition
123	O1: Output 1	User defined 2 scenario	1 byte	C, W	[18.1] DPT_SceneControl
124	O1: Output 1	User defined 2 active	1 bit	C, R, W, T	[1.3] DPT_Enable
125	O1: Output 1	User defined 2 possible	1 bit	C, R, T	[1.2] DPT_Bool

No.	Name	Object function	Length	Flags	Data type
126	O1: Output 1	User defined 2 enable User defined 2 disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
127	O1: Output 1	User defined 3 force	1 bit	C, W	[1.3] DPT_Enable
128	O1: Output 1	User defined 3 active	1 bit	C, R, T	[1.2] DPT_Bool
129	O1: Output 1	User defined 3 possible	1 bit	C, R, T	[1.2] DPT_Bool
130	O1: Output 1	User defined 3 enable User defined 3 disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
131	O1: Output 1	User defined 4 force	1 bit	C, W	[1.3] DPT_Enable
132	O1: Output 1	User defined 4 active	1 bit	C, R, T	[1.2] DPT_Bool
133	O1: Output 1	User defined 4 possible	1 bit	C, R, T	[1.2] DPT_Bool
134	O1: Output 1	User defined 4 enable User defined 4 disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
135	O1: Output 1	Idle state/start active	1 bit	C, R, T	[1.2] DPT_Bool
136	O1: Output 1	Idle state/start enable Idle state/start disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm
137	O1: Output 1	Blind length status	1 byte	C, R, T	[5.1] DPT_Scaling
138	O1: Output 1	Slat position status [1]	1 byte	C, R, T	[5.1] DPT_Scaling
139	O1: Output 1	Status limit position, upper reached	1 bit	C, R, T	[1.2] DPT_Bool
140	O1: Output 1	Status limit position, lower reached	1 bit	C, R, T	[1.2] DPT_Bool
141	O1: Output 1	Status position range 1 reached	1 bit	C, R, T	[1.2] DPT_Bool
142	O1: Output 1	Status position range 2 reached	1 bit	C, R, T	[1.2] DPT_Bool
143	O1: Output 1	Status drives UP	1 bit	C, R, T	[1.2] DPT_Bool
144	O1: Output 1	Status drives DOWN	1 bit	C, R, T	[1.2] DPT_Bool
145	O1: Output 1	Status drives UP or DOWN	1 bit	C, R, T	[1.2] DPT_Bool
146	O1: Output 1	Status current function, number	1 byte	C, R, T	[5.10] DPT_Value_1_Ucount
147	O1: Output 1	Status current function, priority level	1 byte	C, R, T	[5.10] DPT_Value_1_Ucount
148	O1: Output 1	Status error message	1 bit	C, R, T	[1.1] DPT_Switch

[1] only in operating mode *Venetian blind/external venetian blind*
[2] only for devices from the *pro* series

The outputs 2 to 8 have the same group objects as output 1 (with relevant continuous GO numbers).

8.1.3 Inputs

No.	Name	Object function	Length	Flags	Data type
1101	I1: Input I1.1: Input	Sunblind push button operating mode: Up/Down move command	1 bit	C, T	[1.8] DPT_UpDown
		Two button dimming operating mode: Dimming On/Off	1 bit	C, W, T, U	[1.1] DPT_Switch
		Switch (on/off) operating mode: Switch 1.1	1 bit	C, T	[1.1] DPT_Switch
		Toggle operating mode: Toggle 1.1	1 bit	C, W, T, U	[1.1] DPT_Switch
		Edge evaluation operating mode: Edge bit 1.1	1 bit	C, T	[1.1] DPT_Switch
		Edge byte 1.1	1 byte	C, T	[5.10] DPT_Value_1_Ucount
		Edge scenario 1.1	1 byte	C, T	[18.1] DPT_SceneControl
		Push button (short/long) operating mode: Push button (short/long) bit A 1.1	1 bit	C, T	[1.1] DPT_Switch
		Push button (short/long) byte A 1.1	1 byte	C, T	[5.10] DPT_Value_1_Ucount
		Push button (short/long) scenario A 1.1	1 byte	C, T	[18.1] DPT_SceneControl
		Scenarios push button operating mode: Scenarios push button 1.1	1 byte	C, T	[18.1] DPT_SceneControl
		One button dimming operating mode: Dimming on/off 1.1	1 bit	C, W, T, U	[1.1] DPT_Switch
1102	I1: Input I1.1: Input	Sunblind push button operating mode: Stop/Step move command	1 bit	C, T	[1.7] DPT_Step
		Two button dimming operating mode: Relative dimming	4 bit	C, T	[3.7] DPT_Control_Dimming
		Switch operating mode:Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm
		Toggle operating mode: Toggle status 1.1	1 bit	C, W, U	[1.5] DPT_Alarm
		Edge evaluation operating mode:Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm
		Push button (short/long) operating mode: Push button (short/long) bit B 1.1	1 bit	C, T	[1.1] DPT_Switch
		Push button (short/long) byte B 1.1	1 byte	C, T	[5.10] DPT_Value_1_Ucount
		Push button (short/long) scenario B 1.1	1 byte	C, T	[18.1] DPT_SceneControl
		Scenarios push button operating mode: Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm
		One button dimming operating mode: Relative dimming 1.1	4 bit	C, W, T	[3.7] DPT_Control_Dimming
1103	I1: Input I1.1: Input	Sunblind push button operating mode:Enable/	1 bit	C, W	[1.3] DPT_Enable
		disable	1 bit	C, W	[1.5] DPT_Alarm
		Two button dimming operating mode:Enable/	1 bit	C, W	[1.3] DPT_Enable
		disable	1 bit	C, W	[1.5] DPT_Alarm
		Switch operating mode: –			
		Toggle operating mode:Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm
		Edge evaluation operating mode: –			
		Push button (short/long) operating mode:Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm
		Scenarios push button operating mode: –			
		One button dimming operating mode: Dimming on/off status 1.1	1 bit	C, W, U	[1.5] DPT_Alarm
1104	I1.1: Input	One button dimming operating mode: Enable 1.1	1 bit	C, W	[1.3] DPT_Enable
		disable 1.1	1 bit	C, W	[1.5] DPT_Alarm

No.	Name	Object function	Length	Flags	Data type
1105	I1.2: Input	Sunblind push button operating mode: – Two button dimming operating mode: – Switch (on/off) operating mode: Switch 1.2 Toggle operating mode: Toggle 1.2 Edge evaluation operating mode: Edge bit 1.2 Edge byte 1.2 Edge scenario 1.2 Push button (short/long) operating mode: Push button (short/long) bit A 1.2 Push button (short/long) byte A 12 Push button (short/long) scenario A 1.2 Scenarios push button operating mode: Scenarios push button 1.2 One button dimming operating mode: Dimming on/off 1.2	 1 bit 1 bit 1 bit 1 byte 1 byte 1 bit 1 byte 1 byte 1 byte 1 bit	 C, T C, W, T, U C, T C, T C, T C, T C, T C, T C, W, T, U	 [1.1] DPT_Switch [1.1] DPT_Switch [1.1] DPT_Switch [5.10] DPT_Value_1_Ucount [18.1] DPT_SceneControl [1.1] DPT_Switch [5.10] DPT_Value_1_Ucount [18.1] DPT_SceneControl [18.1] DPT_SceneControl [1.1] DPT_Switch
1106	I1.2: Input	Sunblind push button operating mode: – Two button dimming operating mode: – Switch operating mode:Enable 1.2 disable 1.2 Toggle operating mode: Toggle status 1.2 Edge evaluation operating mode:Enable 1.2 disable 1.2 Push button (short/long) operating mode: Push button (short/long) bit B 1.2 Push button (short/long) byte B 1.2 Push button (short/long) scenario B 1.2 Scenarios push button operating mode: Enable 1.2 disable 1.2 One button dimming operating mode: Relative dimming 1.2	 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte 1 bit 1 bit 4 bit	 C, W C, W C, W, U C, W C, W C, T C, T C, T C, W C, W C, W, T	 [1.3] DPT_Enable [1.5] DPT_Alarm [1.5] DPT_Alarm [1.3] DPT_Enable [1.5] DPT_Alarm [1.1] DPT_Switch [5.10] DPT_Value_1_Ucount [18.1] DPT_SceneControl [1.3] DPT_Enable [1.5] DPT_Alarm [3.7] DPT_Control_Dimming
1107	I1.2: Input	Sunblind push button operating mode: – Two button dimming operating mode: – Switch operating mode: – Toggle operating mode:Enable 1.2 disable 1.2 Edge evaluation operating mode: – Push button (short/long) operating mode:Enable 1.2 disable 1.2 Scenarios push button operating mode: – One button dimming operating mode: Dimming on/off status 1.2	 1 bit 1 bit 1 bit 1 bit 1 bit	 C, W C, W C, W C, W C, W, U	 [1.3] DPT_Enable [1.5] DPT_Alarm [1.3] DPT_Enable [1.5] DPT_Alarm [1.5] DPT_Alarm
1108	I1.2: Input	One button dimming operating mode:Enable 1.2 disable 1.2	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm

The inputs 2 to 8 have the same group objects as input 1 (with relevant continuous GO numbers).

8.1.4 Logic / Timer

Group objects 1165 to 1171 for the logic and timer functions are listed twice in the table to provide a better overview.

No.	Name	Object function	Length	Flags	Data type
1165	L1: Logic	Input 1	1 bit	C, W, T, U	[1.2] DPT_Bool
1166	L1: Logic	Input 2	1 bit	C, W, T, U	[1.2] DPT_Bool
1167	L1: Logic	Input 3	1 bit	C, W, T, U	[1.2] DPT_Bool
1168	L1: Logic	Input 4	1 bit	C, W, T, U	[1.2] DPT_Bool
1169	L1: Logic	Bit object output type: Bit output Scenario output type: Scenario output Blind length and slat position output type: Blind length output	1 bit 1 byte 1 byte	C, R, T C, R, T C, R, T	[1.2] DPT_Bool [18.1] DPT_SceneControl [5.1] DPT_Scaling
1170	L1: Logic	Bit object output type: – Scenario output type: – Blind length and slat position output type: Slat position output	 1 byte	 C, R, T	 [5.1] DPT_Scaling
1171	L1: Logic	Enable Disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm

Logic functions 2 to 16 are equipped with the same group objects as logic function 1 (with corresponding consecutive GO numbers).

No.	Name	Object function	Length	Flags	Data type
1165	T1: Timer	Start/Stop	1 bit	C, W, T	1-bit, 1.002 Boolean
1166	T1: Timer	Bit object output type: Bit output Scenario output type: Scenario output Blind length and slat position output type: Blind length output	1 bit 1 byte 1 byte	C, R, T C, R, T C, R, T	[1.2] DPT_Bool [18.1] DPT_SceneControl [5.1] DPT_Scaling
1167	T1: Timer	Bit object output type: – Scenario output type: – Blind length and slat position output type: Slat position output	 1 byte	 C, R, T	 [5.1] DPT_Scaling
1168	T1: Timer	Enable Disable	1 bit 1 bit	C, W C, W	[1.3] DPT_Enable [1.5] DPT_Alarm

Timer functions 2 to 16 are equipped with the same group objects as timer function 1 (with corresponding consecutive GO numbers).

8.1.5 Device

No.	Name	Object function	Length	Flags	Data type
1277	O1 - O8: Run time detection [2]	Start run time determination	1 bit	C, W	[1.10] DPT_Start
1278	O1 - O8: Run time detection [2]	Fault message	1 bit	C, R, T	[1.1] DPT_Switch
1279	Device	Actuator available	1 bit	C, R, T	[1.2] DPT_Bool
1280	Device	Activate Bluetooth	1 bit	C, W	[1.2] DPT_Bool

[2] only for devices from the *pro* series

8.2 Group objects in detail

Below you will find a function description of the group objects used, as well as the possible values. The "Required approvals" column contains the prerequisites for activating the respective group object and displaying it in ETS.

8.2.1 General group objects

Name	Object function	Values	Required approvals in the parameter dialogue
General time	Time	00:00:00 ... 23:59:59	Device parameters \ date/time \ input object type 2 x 3-byte
General date	Date	2021-01-01 ... 2099-12-31	Device parameters \ date/time \ input object type 2 x 3-byte
General date/ time	Date and time	DPT 19.001 date/time	Device parameters \ date/time \ input object type 8-byte
General azimuth	Horizontal angle of the position of the sun (4-byte value)	0° ... 359° 4-byte floating point value Angle (degree)	Device parameters \ sun position calculation \ calculate sun position \ out 4-byte objects azimuth and elevation
General elevation	Horizontal angle of the position of the sun (4-byte value)	0° ... 90° 4-byte floating point value Angle (degree)	
General azimuth	Horizontal angle of the position of the sun (2-byte value)	0° ... 359°	Device parameters \ sun position calculation \ calculate sun position \ out 2-byte objects azimuth and elevation
General elevation	Horizontal angle of the position of the sun (2-byte value)	0° ... 90°	
General azimuth	Horizontal angle of the position of the sun (1-byte value)	0° ... 359°	Device parameters \ sun position calculation \ calculate sun position \ out 1-byte objects azimuth and elevation
General elevation	Horizontal angle of the position of the sun (1-byte value)	0° ... 90°	
General measuring value precipitation	Input for precipitation	0 = no precipitation 1 = precipitation	Always enabled
General measuring value outside temperature	Input for outside temperature	2-byte floating point value, temperature (°C)	Always enabled

8.2.2 Group objects for the outputs

[1] only in operating mode *Venetian blind/external venetian blind*
[2] only for devices from the *pro* series

Name	Object function	Values	Required approvals in the parameter dialogue
In 1 Ice alarm	The bit object "In 1 Ice alarm" is forwarded directly by the KNX bus to the internal condition "In 1: Ice alarm".	0 = No ice alarm 1= Ice alarm or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 1: Ice/ precipitation active AND On: output \ function inputs \ In 1: Ice/ precipitation \ input format = bit object
In 1 Ice - Limit value	Limit value for ice monitoring in the actuator, the result of which is forwarded to the internal condition "In 1: ice alarm".	2-byte floating point value, temperature (°C)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 1: Ice/ precipitation active AND On: output \ function inputs \ In 1: Ice/ precipitation \ input format = measuring/limit value as object
In 1 Ice - Reset	An ice alarm triggered internally by measuring values can be terminated automatically and/or manually via the GO "In 1 ice – Reset".	0 = Do not reset ice alarm 1 = Reset ice alarm	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 1: Ice/ precipitation active AND On: output \ function inputs \ In 1: Ice/ precipitation \ input format = bit object = measuring values as object, fixed limit values OR measuring values/limit values as object
In 2 Wind alarm	The bit object "In 2 Wind alarm" is forwarded directly from the KNX bus to the internal condition "In 2: Wind alarm".	0 = No wind alarm 1 = Wind alarm or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 2: Wind alarm active AND On: output \ function inputs \ In 2: Wind alarm \ input format = bit object
In 2 Measured value wind speed	Input for wind speed	2-byte floating point value, speed (m/s)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 2: Wind alarm active AND On: output \ function inputs \ In 2: Wind alarm \ input format = bit object = measuring values as object, fixed limit values OR measuring values/ limit values as object
In 2 Wind speed limit	Limit value for wind monitoring in the actuator, the result of which is forwarded to the internal condition "In 2: wind alarm".	2-byte floating point value, speed (m/s)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 2: Wind alarm active AND On: output \ function inputs \ In 2: Wind alarm \ input format = measuring/limit value as object
In 3.1 Sun	Bit object "In 3.1 sun" is forwarded directly from the KNX bus to the internal condition "In 3.1: sunny".	0 = Sun false 1 = Sun true	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/ brightness active AND On: output → function inputs → In 3: Sun/ dawn/brightness \ input format = 1 bit object: sun OR 2 x 1 bit object: sun and fair

Name	Object function	Values	Required approvals in the parameter dialogue
In 3.1-3.3 Measuring value brightness	Brightness input for internal sun control	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs \ In 3: Sun/dawn/brightness \ input format = bit object = measuring values as object, fixed limit values OR measuring values/limit values as object
In 3.2 Fair	Bit object "In 3.2 fair" is forwarded directly from the KNX bus to the internal condition "In 3.2: fair".	0 = Fair false 1 = Fair true	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs In 3: Sun/dawn/brightness \ input format = 2 x 1 bit object: sun and fair
In 3.1 Sun - Limit value	Limit value for the condition "In 3.1 sun" (can override a parameterised limit value)	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs \ In 3: Sun/dawn/brightness \ input format = bit object = measuring values/limit values as object AND Evaluation method: WAREMA sun - cloud OR WAREMA sun - fair - cloud OR WAREMA fair - sun - fair - cloud
In 3.2 Fair - Limit value	Limit value for the condition "In 3.2 fair" (can override a parameterised limit value)	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs \ In 3: Sun/dawn/brightness \ input format = bit object = measuring values/limit values as object AND Evaluation method: WAREMA sun - cloud OR WAREMA fair - sun - fair - cloud
In 3.3 Cloud - Limit value	Limit value for the condition "In 3.3 cloud" (can override a parameterised limit value)	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs \ In 3: Sun/dawn/brightness \ input format = bit object = measuring values/limit values as object AND Evaluation method: WAREMA sun - cloud OR WAREMA sun - fair - cloud OR WAREMA fair - sun - fair - cloud
In 3.4 night/dawn	Bit object "In 3.4 Night/dawn" is forwarded directly from the KNX bus to the internal condition "In 3.4: Night/dawn".	0 = Day 1 = Night/dawn or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/brightness active AND On: output \ function inputs \ In 3.4: Night/dawn \ input format = bit objects

Name	Object function	Values	Required approvals in the parameter dialogue
In 3.4 Measuring value brightness dawn	Brightness input for "In 3.4: Night/dawn	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/ brightness active AND On: output \ function inputs \ In 3.4 Night/dawn \ input format = bit object = measuring values as object, fixed limit values OR measuring values/limit values as object
In 3.4 Dawn - Limit value dawn	Limit value for the condition "Dawn up" (can override a parameterised limit value)	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/ brightness active AND On: output \ function inputs \ In 3.4: Night/ dawn \ input format = bit object = measuring values/limit values as object
In 3.4 Dawn - Limit value dusk	Limit value for the condition "Dusk down" (can override a parameterised limit value)	2-byte floating point value, Lux (lux)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 3: Sun/dawn/ brightness active AND On: output \ function inputs \ In 3.4: Night/ dawn \ input format = bit object = measuring values/limit values as object
In 4.2: Slat tracking input: blind length	The value of the GO "In 4.2 slat tracking input blind length" with the GO "In 4.2 slat tracking input slat position" are combined and passed on to the internal condition "In 4.2: slat tracking".	8-bit unsigned, percent (0...100%)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 4: Position of the sun active AND On: output \ function inputs In 4.2: Slat tracking \ method = external (2 objects blind length/slat position)
In 4.2: Slat tracking input: slat position [1]	The value of the GO "In 4.2 slat tracking input slat position" is forwarded directly by the KNX bus to the internal condition "In 4.2: slat tracking".	8-bit unsigned, percent (0...100%)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 4: Position of the sun active AND On: output \ function inputs In 4.2: Slat tracking \ method = external (1 object slat position) OR (2 objects blind length/slat position)
In 4.2: Slat tracking input blind/ slats	The value of the combined GO "In 4.2 slat tracking input blind/slat" is forwarded directly by the KNX bus to the internal condition "In 4.2: slat tracking".	3-byte positions, combined position DPT240.800	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 4: Position of the sun active AND On: output \ function inputs In 4.2: Slat tracking \ method = external (DPT 240.800)
In 4.5 Shading on window	Additional bit object for shadow casting information (shading on windows yes/ no) from, for example, an external annual shading module.	0 =No shading on window 1 = Shading on window or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 4: Position of the sun active AND On: output \ function inputs In 4.5: Sun on window \ additional bit object "Window shaded" active
In 5 Presence	Presence information (person in room) via up to 3 bit objects "In 5 Presence" If more than one object is displayed, the linking method may be selected.	0 = No presence 1 = Presence	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 5: Presence active AND On: output \ function inputs \ In 5: Presence \ number of input objects

Name	Object function	Values	Required approvals in the parameter dialogue
In 6 Window/ door contact	Contact via up to 3 bit objects "In 6 Window/door contact" If more than one object is displayed, the linking method may be selected.	0 = Closed 1 = Open	Outputs, general \ Output channel n active AND On: output \ function inputs In 6: Window/door contact active AND On: output \ function inputs In 6: Window/door contact \ number of input objects
In 7 Building operating mode heating	Depending on the value, the internal condition "In 7.1: Building in heating mode" is set. The inverse condition is passed on to "In 7.2 building in neutral mode".	0 = Neutral 1 = Heating mode or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs In 7: Heating/ cooling support \ In 7.1-7.3: Building operating mode \ input format = 1 bit object heating mode/neutral
In 7 Building operating mode heating/cooling	Depending on the value, the internal condition "In 7.1: Building in heating mode" is set. The inverse condition is passed on to "In 7.3 building in cooling mode".	0 = Cooling mode 1 = Heating mode or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs In 7: Heating/ cooling support \ In 7.1-7.3: Building operating mode \ input format = 1 bit object heating mode/cooling mode
In 7 Building operating mode heating	The bit object "In 7: building operating mode heating" is passed directly to the internal condition "In 7.1: building in heating mode". The internal state "In 7.2 building in neutral mode" is 1 as soon as heating and cooling are both 0.	0 = Neutral 1 = Heating mode or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs In 7: Heating/ cooling support \ In 7.1-7.3: Building operating mode \ input format = 2 x 1 bit object heating mode and cooling mode
In 7 Building operating mode cooling	The bit object "In 7: building operating mode cooling" is passed directly to the internal condition "In 7.1: building in cooling mode". The internal state "In 7.2 building in neutral mode" is 1 as soon as heating and cooling are both 0.	0 = Neutral 1 = Cooling mode or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs In 7: Heating/ cooling support \ In 7.1-7.3: Building operating mode \ input format = 2 x 1 bit object heating mode and cooling mode
In 7 Room too warm	Depending on the GOs "In 7 room too warm" and "In 7 room too cold", the internal conditions "In 7.4 room too warm", "In 7.5 room temperature within target range" and "In 7.6 room too cold" are set.	0 = Not too warm 1 = Too warm or for 1 bit object: 0 = Too cold 1 = Too warm	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs \ In 7: Heating/ cooling support \ In 7.4-7.6 "Too warm"/"Too warm" \ input format = 2 x 1 bit object
In 7 Measuring value room temperature	Input for room temperature	2-byte floating point value, temperature (°C)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs \ In 7: Heating/ cooling support \ In 7.4-7.6 "Too warm"/"Too warm" \ input format = measuring and limit values

Name	Object function	Values	Required approvals in the parameter dialogue
In 7 Room too cold	Depending on the GOs "In 7 room too warm" and "In 7 room too cold", the internal conditions "In 7.4 room too warm", "In 7.5 room temperature within target range" and "In 7.6 room too cold" are set.	0 = Not too cold 1 = Too cold or for 1 bit object: 0 = Too warm 1 = Too cold	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs \ In 7: Heating/ cooling support \ In 7.4-7.6 "Too warm"/"Too warm" \ input format = 2 x 1 bit object
In 7 Set value room temperature	Input for room temperature set value	2-byte floating point value, temperature (°C)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 7: Heating/ cooling support active AND On: output \ function inputs \ In 7: Heating/ cooling support \ In 7.4-7.6 "Too warm"/"Too warm" \ input format = measuring and limit values
In 8 Outside temperature high/low	The bit object is forwarded directly by the KNX bus to the internal condition "In 8.1: outside temperature high". The inverse of this is passed on to "In 8.3 outside temperature low".	0 =Temp low 1 = Temp high or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 8: Outside temperature active AND On: output \ function inputs \ In 8: Outside temperature \ input format = 1 bit object temp high/temp low
In 8.1 Outside temperature high	The bit object "In 8.1: outside temperature high" is forwarded directly to the internal condition "In 8.1: outside temperature high". The internal condition "In 8.2 outside temperature moderate" is 1 as soon as high and low are both 0.	0 = Temp high false 1 = Temp high true or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 8: Outside temperature active AND On: output \ function inputs \ In 8: Outside temperature \ input format = 2 x 1 bit object temp high/temp low
In 8.1 Outside temperature high - Limit value	Limit value for the condition "Outside temperature high" (can override a parameterised limit value)	2-byte floating point value, temperature (°C)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 8: Outside temperature active AND On: output \ function inputs \ In 8: Outside temperature \ input format = measuring/limit value as object
In 8.3 Outside temperature low	The bit object "In 8.3: outside temperature low" is forwarded directly to the internal condition "In 8.3: outside temperature low". The internal condition "In 8.2 outside temperature moderate" is 1 as soon as high and low are both 0.	0 =Temp low false 1 =Temp low true or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 8: Outside temperature active AND On: output \ function inputs \ In 8: Outside temperature \ input format = 2 x 1 bit object temp high/temp low
In 8.2 Outside temperature low - Limit value	Limit value for the condition "Outside temperature low" (can override a parameterised limit value)	2-byte floating point value, temperature (°C)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 8: Outside temperature active AND On: output \ function inputs \ In 8: Outside temperature \ input format = measuring/limit value as object
In 9 Incidence of energy high/low	The bit object is forwarded directly by the KNX bus to the internal condition "In 9.1: incidence of energy high". The inverse of this is passed on to "In 9.3 incidence of energy low".	0 = Incidence of energy low 1 = Incidence of energy high or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = 1 bit object incidence of energy high/low

Name	Object function	Values	Required approvals in the parameter dialogue
In 9 Incidence of energy high	The bit object "In 9.1: incidence of energy high" is forwarded directly to the internal condition "In 9.1: incidence of energy high". The internal condition "In 9.2 incidence of energy moderate" is 1 as soon as high and low are both 0.	0 = Incidence of energy high false 1 = Incidence of energy high true or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = 2 x 1 bit object incidence of energy high/low
In 9 Measuring value radiation	Input for radiation	2-byte floating point value, power density (W/m^2)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = bit object = measuring value as object, fixed limit values OR measuring values/limit values as object
In 9 Incidence of energy low	The bit object "In 9.3: Incidence of energy low" is forwarded directly to the internal condition "In 9.3: incidence of energy low". The internal condition "In 9.2 incidence of energy moderate" is 1 as soon as high and low are both 0.	0 = Incidence of energy low false 1 = Incidence of energy low true or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = 2 x 1 bit object incidence of energy high/low
In 9.1 Incidence of energy high - Limit value	Limit value for the condition "Incidence of energy high" (can override a parameterised limit value)	2-byte floating point value, power density (W/m^2)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = measuring/limit value as object
In 9.2 Incidence of energy low - Limit value	Limit value for the condition "Incidence of energy low" (can override a parameterised limit value)	2-byte floating point value, power density (W/m^2)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 9: Incidence of energy active AND On: output \ function inputs \ In 9: Incidence of energy \ input format = measuring/limit value as object
In 10.1 / In 10.2 / In 10.3: External bit	Up to 3 "In 10 external bit" bit objects can be displayed. Reception monitoring can be activated for these. The condition of the objects is passed directly to the internal conditions "In 10.n external bit".	0 = False 1= True	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 10: External inputs active AND On: output \ function inputs \ In 10.n: Bit objects \ In 10.n: External input bit active
In 10.4 / In 10.5: External blind length	The GOs "In 10.n external blind length" and, for external venetian blind operating mode, "In 10.n external slat position" are displayed. The position values received via the objects can be used as movement targets in the functions.	8-bit unsigned, percent (0...100%)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 10: External inputs active AND On: output \ function inputs \ In 10.n: Position objects \ In 10.n: External input position active
In 10.4 / In 10.5 External slat position [1]	The GOs "In 10.n external blind length" and, for external venetian blind operating mode, "In 10.n external slat position" are displayed. The position values received via the objects can be used as movement targets in the functions.	8-bit unsigned, percent (0...100%)	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 10: External inputs active AND On: output \ function inputs \ In 10.n: Position objects \ In 10.n: External input position active

Name	Object function	Values	Required approvals in the parameter dialogue
In 10.4 / In 10.5: External blind/ slats	In addition, in external venetian blind operating mode, an object of type DPT 240.800 "In 10.n external blind /slat" can also be displayed.	3-byte positions, combined position DPT240,800	Outputs, general \ Output channel n active AND On: output \ function inputs \ In 10: External inputs active AND On: output \ function inputs \ In 10.n: Position objects \ In 10.n: External input position active AND On: output \ function inputs In 10.n: Position objects \ also display 3-byte objects for additional inputs
Safety general active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F1: Safety general active AND On: output \ functions \ safety general \ status \ object "Function active" active
Safety general possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F1: Safety general active AND On: output \ functions \ safety general \ status \ object "Function possible" active
Safety general enable Safety general disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F1: Safety general active AND On: output \ functions \ safety general \ use enable/disable object
Wind monitoring active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output → functions → F2: Wind monitoring active AND On: output \ functions \ wind monitoring \ status \ object "Function active" active
Wind monitoring possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output → functions → F2: Wind monitoring active AND On: output \ functions \ wind monitoring \ status \ object "Function possible" active
Wind monitoring enable Wind monitoring disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output → functions → F2: Wind monitoring active AND On: output \ functions \ wind monitoring \ use enable/disable object
Door/Window contact active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output → functions → F3: Door/window contact active AND On: output \ functions \ door/window contact \ status \ object "Function active" active

Name	Object function	Values	Required approvals in the parameter dialogue
Door/Window contact possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output → functions → F3: Door/window contact active AND On: output \ functions \ door/window contact \ status \ object "Function possible" active
Door/Window contact enable Door/Window contact disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output → functions → F3: Door/window contact active AND On: output \ functions \ door/window contact \ use enable/disable object
Manual Up/ Down move command	If this GO receives a telegram with the value 0, the sun shading product is raised. If a telegram with the value 1 is received, the sun shading product is lowered.	0 = UP 1 = DOWN	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ trigger \ bit objects active
Manual move command Stop/ Step	If a telegram is received on this GO, a moving sun shading product is stopped. In the *Venetian blind/external venetian blind* operating mode, a step command is executed for a stationary sun shading product.	0 = STOP/Open tilting 1 = STOP/close tilting	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ trigger \ bit objects active
Command start run time [2]	The GO Start run time detection starts the run time detection for the product connected to the output.	0 = No run time detection 1 = Start run time detection	Outputs, general \ Output channel n active AND On: output \ motor parameters \ current measurement active = Yes AND On: Output \ Motor parameters \ Run time detection active = Yes AND On: output \ functions \ F4: Manual active
Move to blind length manually	If a telegram is received on this GO, the sun shading product moves to the height that corresponds to the received value. Once the target position is reached, the slats assume the same position they had before the movement.	0% (top) ...100% (bottom)	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ trigger \ byte objects active
Move to slat position manually [1]	If a telegram is received on this GO, the slats are positioned in accordance with the received value.	0% (slat OPEN) ...100% (slat CLOSED)	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ trigger \ byte objects active
Manual move command approach blind/ slats	If a telegram is received on this GO, the blinds and slats are positioned in accordance with the received values. Type 240.800 combined object	3-byte positions, combined position DPT240,800	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ 3-byte object (DPT 240.800) active
Manual scenario	The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled under "Trigger" can be executed or learned for this function.	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ scenario object active

Name	Object function	Values	Required approvals in the parameter dialogue
Manual active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ status \ object "Function active" active
Manual possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ status \ object "Function possible" active
Manual enable Manual disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Manual active AND On: output \ functions \ manual \ use enable/disable object
Ventilation function active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output → functions → F5: Ventilation function active AND On: output \ functions \ ventilation function \ status \ object "Function active" active
Ventilation function possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output → functions → F5: Ventilation function active AND On: output \ functions \ ventilation function \ status \ object "Function possible" active
Ventilation function, protection active	Status object "Protection active" displays whether the parameterised protection function for ventilation is active.	0 = Protection not active 1 = Protection active	Outputs, general \ Output channel n active AND On: output → functions → F5: Ventilation function active AND On: output \ functions \ ventilation function \ use protection position active AND On: output \ functions \ ventilation function \ status \ object "Protection active" active
Ventilation function enable Ventilation function disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output → functions → F5: Ventilation function active AND On: output \ functions \ ventilation function \ use enable/disable object
Night/Dawn force	The force object is linked with the trigger conditions for the OR function. It triggers the function without the trigger requirements needing to be met.	0 = Do not force 1 = Force function	Outputs, general \ Output channel n active AND On: output \ functions \ F6: Night/dawn active AND On: output \ functions \ night/dawn \ trigger \ display additional force object
Night/Dawn active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F6: Night/dawn active AND On: output \ functions \ night/dawn \ status \ object "Function active" active

Name	Object function	Values	Required approvals in the parameter dialogue
Night/Dawn possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F6: Night/dawn active AND On: output \ functions \ night/dawn \ status \ object "Function possible" active
Night/Dawn enable Night/Dawn disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F6: Night/dawn active AND On: output \ functions \ night/dawn \ use enable/disable object
Heating support force	The force object is linked with the trigger conditions for the OR function. It triggers the function without the trigger requirements needing to be met.	0 = Do not force 1 = Force function	Outputs, general \ Output channel n active AND On: output \ functions \ F7: Heating support active AND On: output \ functions \ heating support \ trigger \ display additional force object
Heating support active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F7: Heating support active AND On: output \ functions \ heating support \ status \ object "Function active" active
Heating support possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F7: Heating support active AND On: output \ functions \ heating support \ status \ object "Function possible" active
Heating support enable Heating support disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F7: Heating support active AND On: output \ functions \ heating support \ use enable/disable object
Cooling support force	The force object is linked with the trigger conditions for the OR function. It triggers the function without the trigger requirements needing to be met.	0 = Do not force 1 = Force function	Outputs, general \ Output channel n active AND On: output \ functions \ F8: Cooling support active AND On: output \ functions \ cooling support \ trigger \ display additional force object
Cooling support active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F8: Cooling support active AND On: output \ functions \ cooling support \ status \ object "Function active" active
Cooling support possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F8: Cooling support active AND On: output \ functions \ cooling support \ status \ object "Function possible" active

Name	Object function	Values	Required approvals in the parameter dialogue
Cooling support enable Cooling support disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F8: Cooling support active AND On: output \ functions \ cooling support \ use enable/disable object
Sun control force	The force object is linked with the trigger conditions for the OR function. It triggers the function without the trigger requirements needing to be met.	0 = Do not force 1 = Force function	Outputs, general \ Output channel n active AND On: output \ functions \ F9: Sun control active AND On: output \ functions \ sun control \ trigger \ display additional force object
Sun control active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F9: Sun control active AND On: output \ functions \ sun control \ status \ object "Function active" active
Sun control possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F9: Sun control active AND On: output \ functions \ sun control \ status \ object "Function possible" active
Sun control enable Sun control disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F9: Sun control active AND On: output \ functions \ sun control \ use enable/disable object
Control mode centralised approach blind length	If a telegram is received on this GO, the sun shading product moves to the height that corresponds to the received value. Once the target position is reached, the slats assume the same position they had before the movement.	0% (top) ...100% (bottom)	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Control mode centralised active AND On: output \ functions \ control mode centralised \ trigger \ byte objects active
Control mode centralised approach slat position [1]	If a telegram is received on this GO, the slats are positioned in accordance with the received value.	0% (slat OPEN) ...100% (slat CLOSED)	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Control mode centralised active AND On: output \ functions \ control mode centralised \ trigger \ byte objects active
Control mode centralised blind/approach slat	If a telegram is received on this GO, the blinds and slats are positioned in accordance with the received values. Type 240,800 combined object	3-byte positions, combined position DPT240,800	Outputs, general \ Output channel n active AND On: output \ functions \ F10: Control mode centralised active AND On: output \ functions \ control mode centralised \ 3-byte object (DPT 240.800) active
Control mode centralised scenario	The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled under "Trigger" can be executed or learned for this function.	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Outputs, general \ Output channel n active AND On: output \ functions \ F4: Control mode centralised active AND On: output \ functions \ control mode centralised \ trigger \ scenario object active

Name	Object function	Values	Required approvals in the parameter dialogue
Control mode centralised active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F10: Control mode centralised active AND On: output \ functions \ control mode centralised \ status \ object "Function active" active
Control mode centralised possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ F10: Control mode centralised active AND On: output \ functions \ control mode centralised \ status \ object "Function possible" active
Control mode centralised enable Control mode centralised disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F10: Control mode centralised active AND On: output \ functions \ control mode centralised \ use enable/disable object
User defined n move command Up/Down	If this GO receives a telegram with the value 0, the sun shading product is raised. If a telegram with the value 1 is received, the sun shading product is lowered.	0 = UP 1 = DOWN	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario
User defined n move command Stop/Step	If a telegram is received on this GO, a moving sun shading product is stopped. In the *Venetian blind/external venetian blind* operating mode, a step command is executed for a stationary sun shading product.	0 = STOP/Open tilting 1 = STOP/close tilting	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario
User defined n approach blind length	If a telegram is received on this GO, the sun shading product moves to the height that corresponds to the received value. Once the target position is reached, the slats assume the same position they had before the movement.	0% (top) ...100% (bottom)	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario AND On: output \ functions \ Fn: user defined \ trigger \ byte objects active
User defined n approach slat position [1]	If a telegram is received on this GO, the slats are positioned in accordance with the received value.	0% (slat OPEN) ...100% (slat CLOSED)	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario AND On: output \ functions \ Fn: user defined \ trigger \ byte objects active
User defined n approach blind/ slat	If a telegram is received on this GO, the blinds and slats are positioned in accordance with the received values. Type 240,800 combined object	3-byte positions, combined position DPT240,800	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario AND On: output \ functions \ Fn: user defined \ trigger \ 3-byte object (DPT 240.800) active
User defined n scenario	The scenario object addresses the scenarios in the scenario memory for this output. Only the scenarios enabled under "Trigger" can be executed or learned for this function.	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active **and** type = move command/scenario AND On: output \ functions \ Fn: user defined \ trigger \ scenario object active

Name	Object function	Values	Required approvals in the parameter dialogue
User defined n force	The force object is linked with the trigger conditions for the OR function. It triggers the function without the trigger requirements needing to be met.	0 = Do not force 1 = Force function	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active AND On: output \ functions \ user defined \ trigger \ display additional force object
User defined n active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active AND On: output \ functions \ user defined \ status \ object "Function active" active
User defined n possible	"Function possible" status object (=1 if no higher function is active)	0 = Higher function active 1 = No higher function active	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active AND On: output \ functions \ user defined \ status \ object "Function possible" active
User defined n enable User defined n disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ Fn: user defined active AND On: output \ functions \ user defined \ use enable/disable object
Idle state/start active	"Function active" status object (=1 if the condition for the function is met)	0 = Condition for the function not met 1 = Condition for the function met	Outputs, general \ Output channel n active AND On: output \ functions \ F15: Idle state/start active AND On: output \ functions \ idle state/start \ status \ object "Function active" active
Idle state/start enable Idle state/start disable	Enable or disable object for the function (depending on parameterisation)	Enable object: 0 = Do not enable 1 = Enable Disable object: 0 = Do not enable 1 = Enable	Outputs, general \ Output channel n active AND On: output \ functions \ F15: Idle state/start active AND On: output \ functions \ idle state/start \ use enable/disable object
Blind length status	Transmits the current height of the sun shading product. Transmission behaviour is parameterised by: Outputs general \ Update of the status objects	0% (top) ...100% (bottom)	Outputs, general \ Output channel n active
Slat position status [1]	Transmits the current slat position of the sun shading product. Transmission behaviour is parameterised by: Outputs general \ Update of the status objects	0% (slat OPEN) ...100% (slat CLOSED)	Outputs, general \ Output channel n active
Status limit position, upper reached	Reports when sun shading product is in the upper limit position. The output can be issued following a change or cyclically.	0 = Not at top 1 = upper limit or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status limit positions active
Status limit position, lower reached	Reports when sun shading product is in the lower limit position. The output can be issued following a change or cyclically.	0 = Not at bottom 1 = lower limit or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status limit positions active

Name	Object function	Values	Required approvals in the parameter dialogue
Status position range 1 reached	Reports when the blind is within the parameterised position range. The output can be issued following a change or cyclically.	0 = Outside the range 1 = Within the range or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status position range 1 active
Status position range 2 reached	Reports when the blind is within the parameterised position range. The output can be issued following a change or cyclically.	0 = Outside the range 1 = Within the range or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status position range 2 active
Status drives UP	Reports when the status "Moving up" is active. The output can be issued following a change or cyclically.	0 = Not active 1 = Active or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status drive state active
Status drives DOWN	Reports when the status "Moving down" is active. The output can be issued following a change or cyclically.	0 = Not active 1 = Active or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status drive state active
Status drives UP or DOWN	Reports when the status "Moving up or down" is active. The output can be issued following a change or cyclically.	0 = Not active 1 = Active or opposite depending on the parameterisation	Outputs, general \ Output channel n active AND On: output \ status \ status drive state active
Status current function, number	Reports the number of the currently active function. The output can be issued following a change or cyclically.	1 byte (number)	Outputs, general \ Output channel n active AND On: output \ status \ status functions active
Status current function, priority level	Reports the priority level of the currently active function. The output can be issued following a change or cyclically.	1 byte (number)	Outputs, general \ Output channel n active AND On: output \ status \ status functions active
Status error message	The GO Fault message is set if the current flow is interrupted while driving (if the sun shading product is no longer in the monitored area after starting to move and has not yet reached the tolerance range around the end of the movement). (also see *Fig. 15 on page 35*: range ② and after range ④).	0 = No fault 1 = Fault	Outputs, general \ Output channel n active AND On: output \ motor parameters \ current measurement active = Yes

[1] only in operating mode *Venetian blind/external venetian blind*
[2] only for devices from the *pro* series

8.2.3 Group objects for the inputs

8.2.3.1 Group objects for sunblind push button input

Name	Object function	Values	Required approvals in the parameter dialogue
Up/down move command	Sends UP/DOWN telegram	0 = UP 1 = DOWN	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = sunblind push button (up/down)
Stop/step move command	Sends Stop/Step telegram	0 = UP step 1 = DOWN step	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = sunblind push button (up/down)
Enable/disable	Disables sunblind push button. An ***Up/Down*** or ***Stop/Step*** telegram is always sent after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GOs Up/Down move command*** and ***Stop/Step move command*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = sunblind push button (up/down) AND Input n \ In: sunblind push button \ use enable or disable object

8.2.3.2 Group objects for two button dimming input

Name	Object function	Values	Required approvals in the parameter dialogue
Dimming on/off	Switch ON/switch OFF	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = two button dimming (up/down)
Relative dimming	Incremental dimming / Start-Stop-Dimming	0 = Reduce 1 = Increase	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = two button dimming (up/down)
Enable/disable	Disables input. ***On/off*** or ***Relative dimming*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Dimming on/off*** and ***Relative dimming*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = in pairs AND Inputs, general \ operating mode In. 1/In. 2 = two button dimming (up/down) AND Input n \ In: two button dimming \ use enable or disable object

8.2.3.3 Group objects for switch (on/off) input

Name	Object function	Values	Required approvals in the parameter dialogue
Switching	Switch ON/switch OFF	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = switching (on/off)
Enable/disable	Disables input. ***Switch*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Switch*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = switching (on/off) AND Input n.n \ In.n: switching (on/off) \ use enable or disable object

8.2.3.4 Group objects for toggle input

Name	Object function	Values	Required approvals in the parameter dialogue
Toggle	***GO Toggle*** transmits a toggle telegram once or cyclically (inverted to ***GO Toggle status***)	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = toggle
Toggle status	***GO Toggle status*** receives the actuator status (input object)	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = toggle AND Input n.n \ en.n: toggle \ separate input object for status
Enable/disable	Disables input. ***Toggle*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Toggle*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = toggle AND Input n.n \ In.n: toggle \ use enable or disable object

8.2.3.5 Group objects for edge evaluation input

Name	Object function	Values	Required approvals in the parameter dialogue
Edge bit (or byte/scenario)	Transmits parameterised value once or cyclically	Bit/byte/scenario depending on the parameterisation	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = edge evaluation
Enable/disable	Disables input. ***Edge bit*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Edge bit*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = edge evaluation AND Input n.n \ In.n: edge evaluation \ use enable or disable object

8.2.3.6 Group objects for push button input (short/long)

Name	Object function	Values	Required approvals in the parameter dialogue
Button (short/long) bit A (or byte/scenario)	Transmits parameterised value for short or long keystroke once or cyclically	Bit/byte/scenario depending on the parameterisation	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = button (short/long)
Button (short/long) bit B (or byte/scenario)	Transmits parameterised value for short or long keystroke once or cyclically	Bit/byte/scenario depending on the parameterisation	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = button (short/long)
Enable/disable	Disables input. ***Push button (short/long) bit A*** and ***Push button (short/long) bit B*** telegrams are always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Push button (short/long) bit A*** and ***GO Push button (short/long) bit B*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = button (short/long) AND Input n.n \ In.n: button (short/long) \ use enable or disable object

8.2.3.7 Group objects for scenarios push button input

Name	Object function	Values	Required approvals in the parameter dialogue
Scenarios push button	Transmits parameterised values once or cyclically	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = scenario push button
Enable/disable	Disables input. ***Scenarios push button*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Scenarios push button*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = scenario push button AND Input n.n \ In.n: scenario push button \ use enable or disable object

8.2.3.8 Group objects for one button dimming input

Name	Object function	Values	Required approvals in the parameter dialogue
Dimming on/off	Switch ON/switch OFF	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = one button dimming
Relative dimming	Incremental dimming / Start-Stop-Dimming	0 = Reduce 1 = Increase	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = one button dimming
Dimming On/Off status	Actuator status (input object)	0 = Off 1 = On	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = one button dimming AND Input n.n \ In.n one button dimming \ separate input object for status
Enable/disable	Disables input. ***On/off*** or ***Relative dimming*** telegram is always transmitted after a reset If TRUE has been received via the bus on ***GO Disable***, telegrams are no longer transmitted on the ***GO Dimming on/off*** and ***Relative dimming*** until a FALSE value is received again on ***GO Disable***	0 = Enable 1 = Disable	Inputs, general \ use of terminals In n.1/In n.2 = individually AND Inputs, general \ operating mode In.n = one button dimming AND Input n.n \ In.n: one button dimming \ use enable or disable object

8.2.4 Group objects for the logic functions

Name	Object function	Values	Required approvals in the parameter dialogue
Input n	Up to four ***GO input n*** with different impacts on the input value, depending on the parameterisation (see section *7.6.2 on page 117*).	0 or 1	Logic/Timer, general \ Function n = Logical linking
Bit output	***GO output bit*** transmits a 1-bit telegram for the TRUE and FALSE result. The output can be inverted.	0 = TRUE 1 = FALSE or inverted	Logic/Timer, general \ Function n = Logical linking AND Ln: Logic \ output type = bit
Scenario output	***GO output scenario*** transmits a scenario command consisting of the scenario number and learn/execute for the TRUE and FALSE result.	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Logic/Timer, general \ Function n = Logical linking AND Ln: Logic \ output type = scenario
Blind length output	***GO output blind length*** transmits a position command for the TRUE and FALSE result (in conjunction with ***GO output slat position***).	0% (top) ...100% (bottom)	Logic/Timer, general \ Function n = Logical linking AND Ln: Logic \ output type = blind length and slat position
Slat position output	***GO output slat position*** transmits a position command for the TRUE and FALSE result (in conjunction with ***GO output blind length***).	0% (slat OPEN) ...100% (slat CLOSED)	Logic/Timer, general \ Function n = Logical linking AND Ln: Logic \ output type = blind length and slat position
Enable/disable	Disables logic function. After reset, a signal is always transmitted to the ***GOs output***. If TRUE was received by ***GO disable*** via the bus, no more telegrams are transmitted to ***GO output*** until ***GO disable*** receives a FALSE again.	0 = Enable 1 = Disable	Logic/Timer, general \ Function n = Logical linking AND Ln: Logic \ Use Enable or disable GO

8.2.5 Group objects for the timer functions

Name	Object function	Values	Required approvals in the parameter dialogue
Start/Stop	***GO start/stop*** starts or stops the timer depending on the parameterisation (see section *7.6.3 on page 121*).	0 or 1	Logic/Timer, general \ Function n = Timer
Bit output	***GO output bit*** transmits a 1-bit telegram upon start, stop or expiry of the timer.	0 or 1	Logic/Timer, general \ Function n = Timer AND Tn: Timer \ output type = bit
Scenario output	***GO output scenario*** transmits a scenario command, consisting of the scenario number and learn/execute upon start, stop or expiry of the timer.	0 = Activate scenario 1 = Learn scenario 1...64 = Scenario number	Logic/Timer, general \ Function n = Timer AND Tn: Timer \ output type = scenario
Blind length output	***GO output blind length*** transmits a position command upon start, stop or expiry of the timer (in conjunction with ***GO output slat position***).	0% (top) ...100% (bottom)	Logic/Timer, general \ Function n = Timer AND Tn: Timer \ output type = blind length and slat position
Slat position output	***GO output slat position*** transmits a position command upon start, stop or expiry of the timer (in conjunction with ***GO output blind length***).	0% (slat OPEN) ...100% (slat CLOSED)	Logic/Timer, general \ Function n = Timer AND Tn: Timer \ output type = blind length and slat position
Enable/disable	Disables timer function. After reset, a signal is always transmitted to the ***GOs output***. If TRUE was received by ***GO disable*** via the bus, no more telegrams are transmitted to ***GO output*** until ***GO disable*** receives a FALSE again.	0 = Enable 1 = Disable	Logic/Timer, general \ Function n = Timer AND Tn: Timer \ Use Enable or disable GO

8.2.6 Group objects for the device

Name	Object function	Values	Required approvals in the parameter dialogue
Start run time detection [2]	**Prerequisite:** Outputs, general \ output channel n active AND on: output \ motor parameters \ current measurement active = yes AND on: output \ motor parameters \ run time determination active = yes The GO Start run time detection starts the run time detection for the product connected to the output.	0 = No run time detection 1 = Start run time detection	Always enabled
Fault message [2]	**Prerequisite:** On: Output \ Motor parameters \ Current measurement active = Yes The GO Fault message is set if the current flow is interrupted while driving (if the sun shading product is no longer in the monitored area after starting to move and has not yet reached the tolerance range around the end of the movement). (also see *Fig. 15 on page 35*: range ② and after range ④).	0 = No fault 1 = Fault	Always enabled
Actuator available	The ***GO Actuator available*** indicates whether the actuator is ready for operation. The output can be issued once or cyclically.	0 or 1 Is determined by Device parameters \ Object "Actuator available" \ Object value	Device parameters \ Object "Actuator available" \ Object "Actuator available" active = Yes
Activate Bluetooth	The ***GO Activate Bluetooth*** can be used to switch the actuator's Bluetooth module on and off.	0 = Switch off Bluetooth 1 = Switch on Bluetooth	Device parameters \ Bluetooth connection \ Bluetooth on = yes

[2] only for devices from the *pro* series

9 WAREMA KNX Service App

The ETS app, **WAREMA KNX Service App**, can be used to manage the firmware of WAREMA Renkhoff SE KNX devices.

The **WAREMA KNX Service App** is available to download free of charge from the ETS app store.

When connected to the internet, the app attempts to download the latest data from the "WAREMA KNX Versions Server" each time the programme starts.

The received data is saved locally as an offline copy, allowing the app to access it in the future if there is no Internet connection.

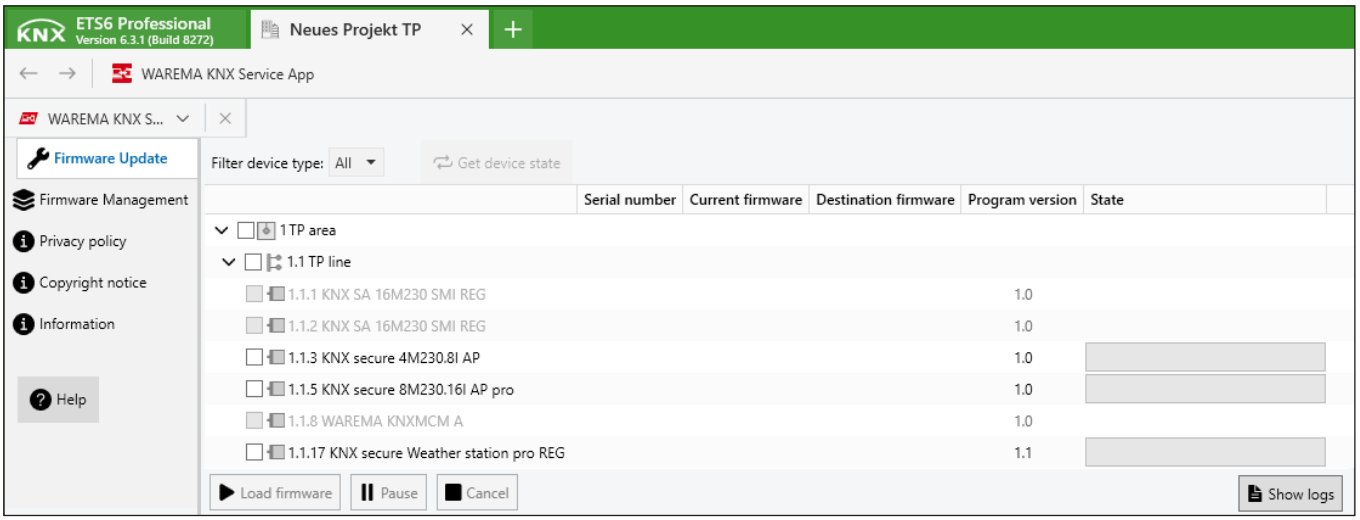


Fig. 56 WAREMA KNX Service App

The symbol at the top right displays the app status:

	→ Update of WAREMA KNX Versions Server successful.
	→ Data from the local cache is currently being used. → An update of the WAREMA KNX Versions Server is being attempted.
	→ Data from the local cache is currently being used. → Update of WAREMA KNX Versions Server failed.
	→ No data available. → An update of the WAREMA KNX Versions Server is being attempted.
	→ No data available. → Update of WAREMA KNX Versions Server failed.

9.1 Firmware update

The app always starts in the *Firmware update* tab and displays an overview of all WAREMA devices in the KNX project sorted according to topology.

WAREMA devices that cannot be updated or are not supported by the app are displayed in gray.

- Select the desired devices using the check boxes (selecting higher-level checkboxes selects all subordinate lines/devices).
- Start the query by pressing *Get device state*.

▶ The app queries the status of all selected devices.

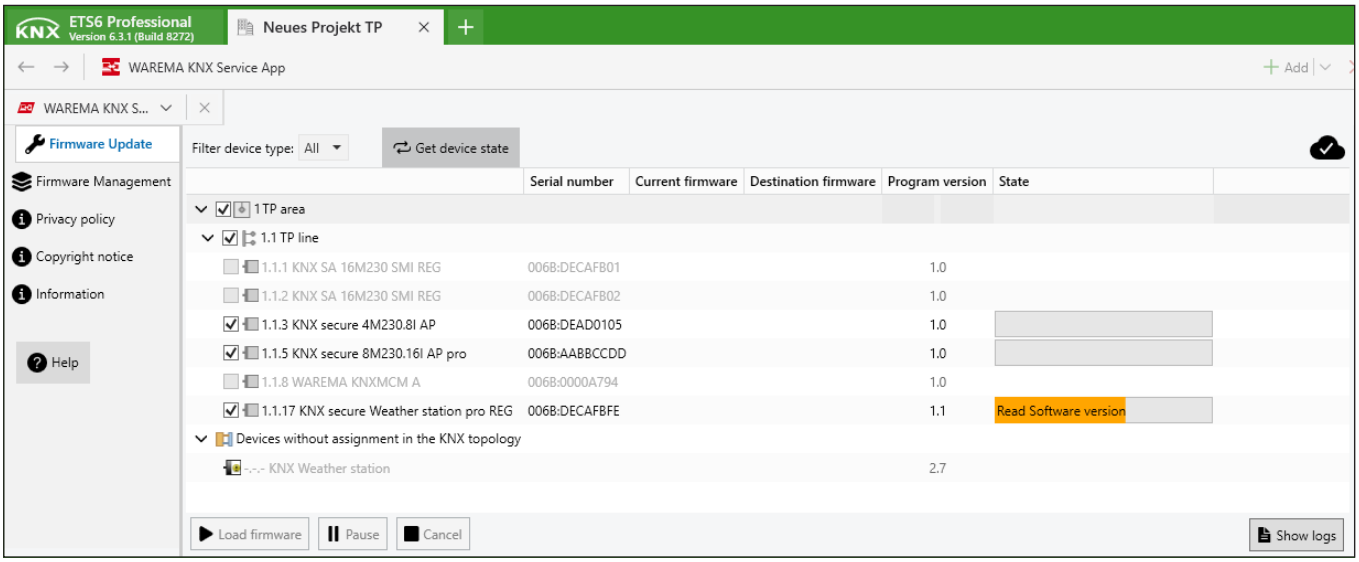


Fig. 57 WAREMA KNX Service App – query device status

▶ The information transmitted for each device (serial number and current firmware version) is displayed:

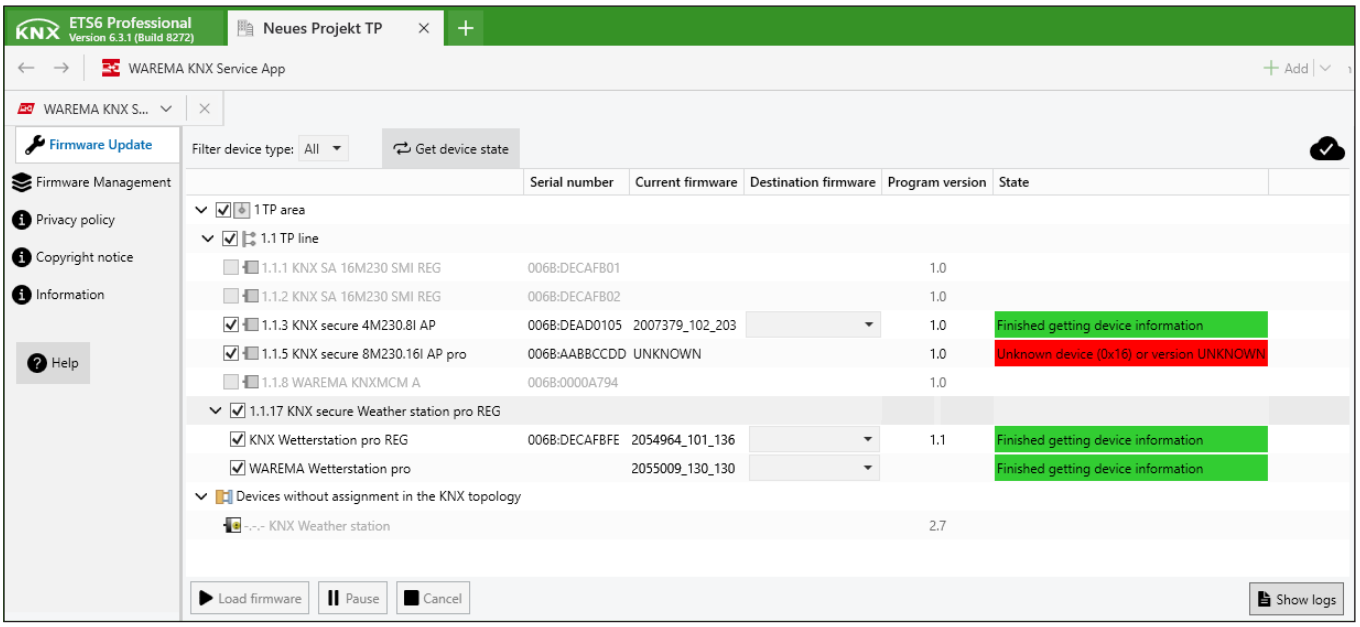


Fig. 58 WAREMA KNX Service App – firmware update

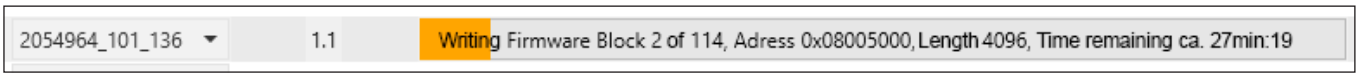
KNX secure Weather station pro has a drop-down submenu. The sensor interface (KNX secure Weather station pro AP/REG) and the WAREMA Weather station pro are displayed here. Both components can be updated separately from each other in the app.

▶ A pull-down menu for selecting the available software versions for updateable devices in the project is displayed under *Destination firmware*.

■ Select desired target firmware.

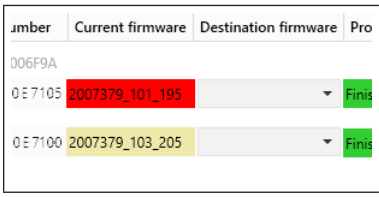
■ Start firmware update by clicking on *Load firmware*.

▶ The current loading status and estimated duration are displayed in the status field:



The update duration depends on the size of the firmware and the number of updates being performed at the same time. As the KNX bus is unable to permit high transmission speeds, the update process may take a long time.

Special marking



RED: the firmware is outdated and is no longer provided by WAREMA.

YELLOW: the firmware can only be accessed with an access key (*see section 9.2 on page 160*).

Show logs

The update history can be displayed and copied or saved by clicking on *Show logs*. If you experience any unexpected issues when using the app, information in the log function may provide useful guidance.

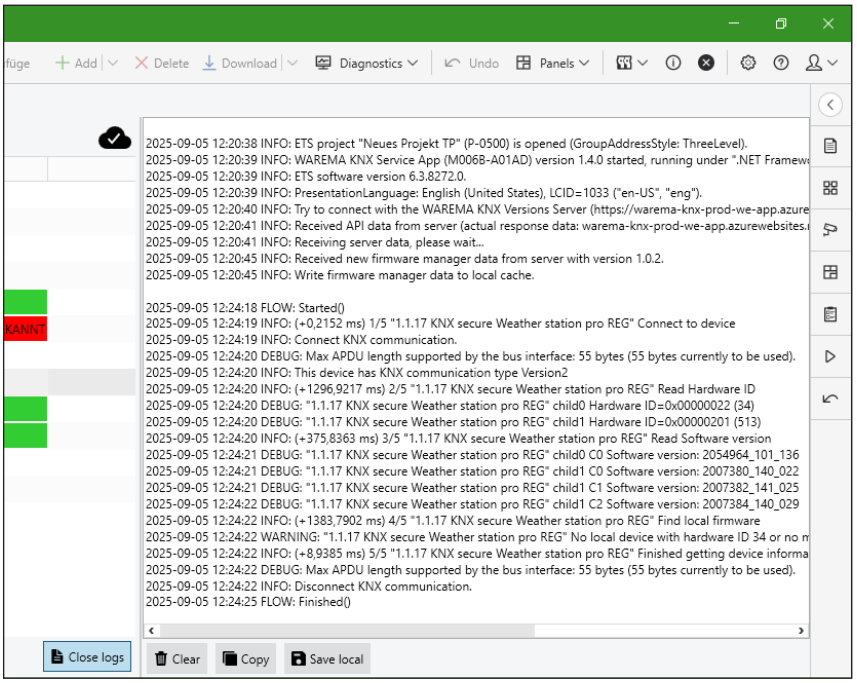


Fig. 59 Log view

9.2 Firmware management

All available firmware versions for every supported KNX device of WAREMA Renkhoff SE can be managed in the *Firmware Management* tab.

When connected to the internet, the app attempts to download the latest data from the "WAREMA KNX Versions Server" each time the programme starts.

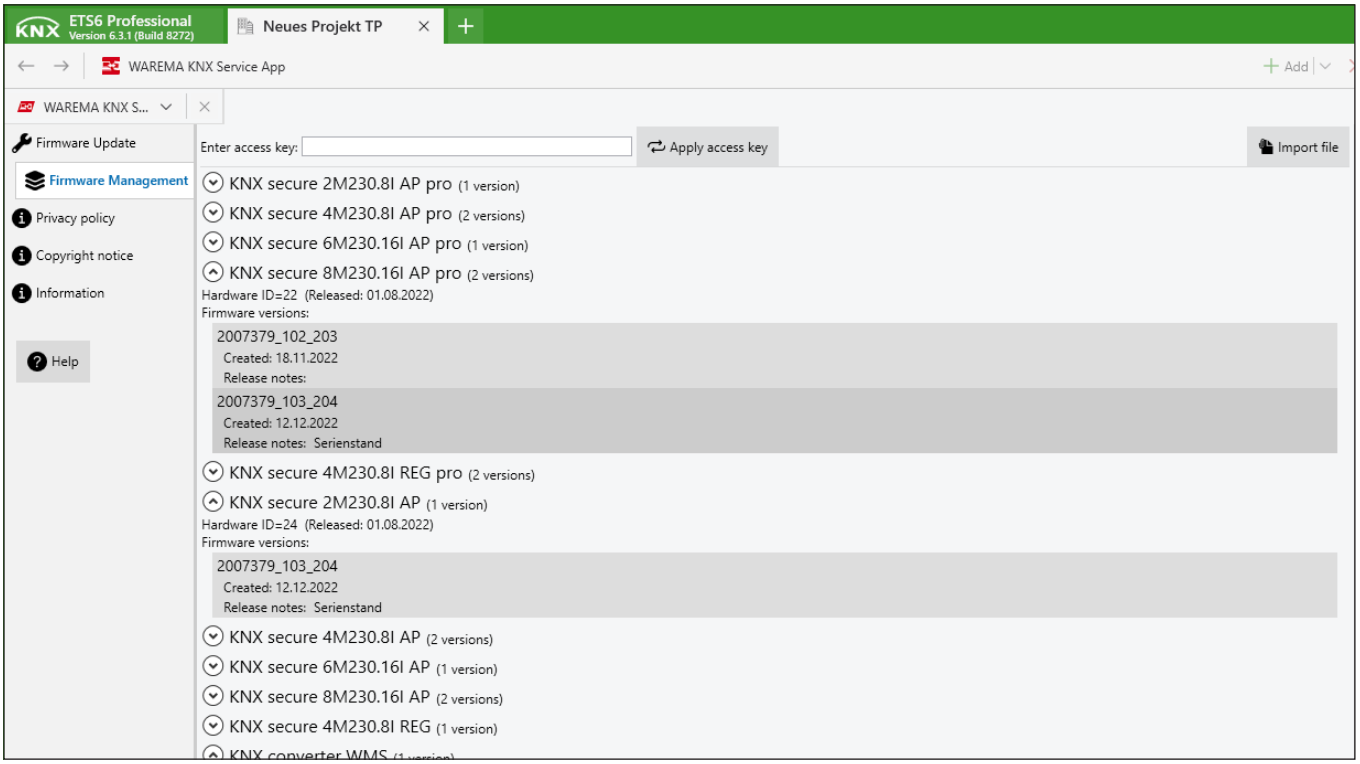


Fig. 60 WAREMA KNX Service App – firmware management

Use access key

Other customer-specific firmware versions can be activated by entering an access key.

Import file

This function can be used to import firmware files provided by WAREMA.

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