Introduction

About this Online Help

This online help explains the structure and use of the parameterisation of the Griesser KNX Blind actuators and provides associated product data and basic knowledge.
The online help applies to the devices listed under Versions in the Appendix.

Configuration Overview

Purpose of device configuration

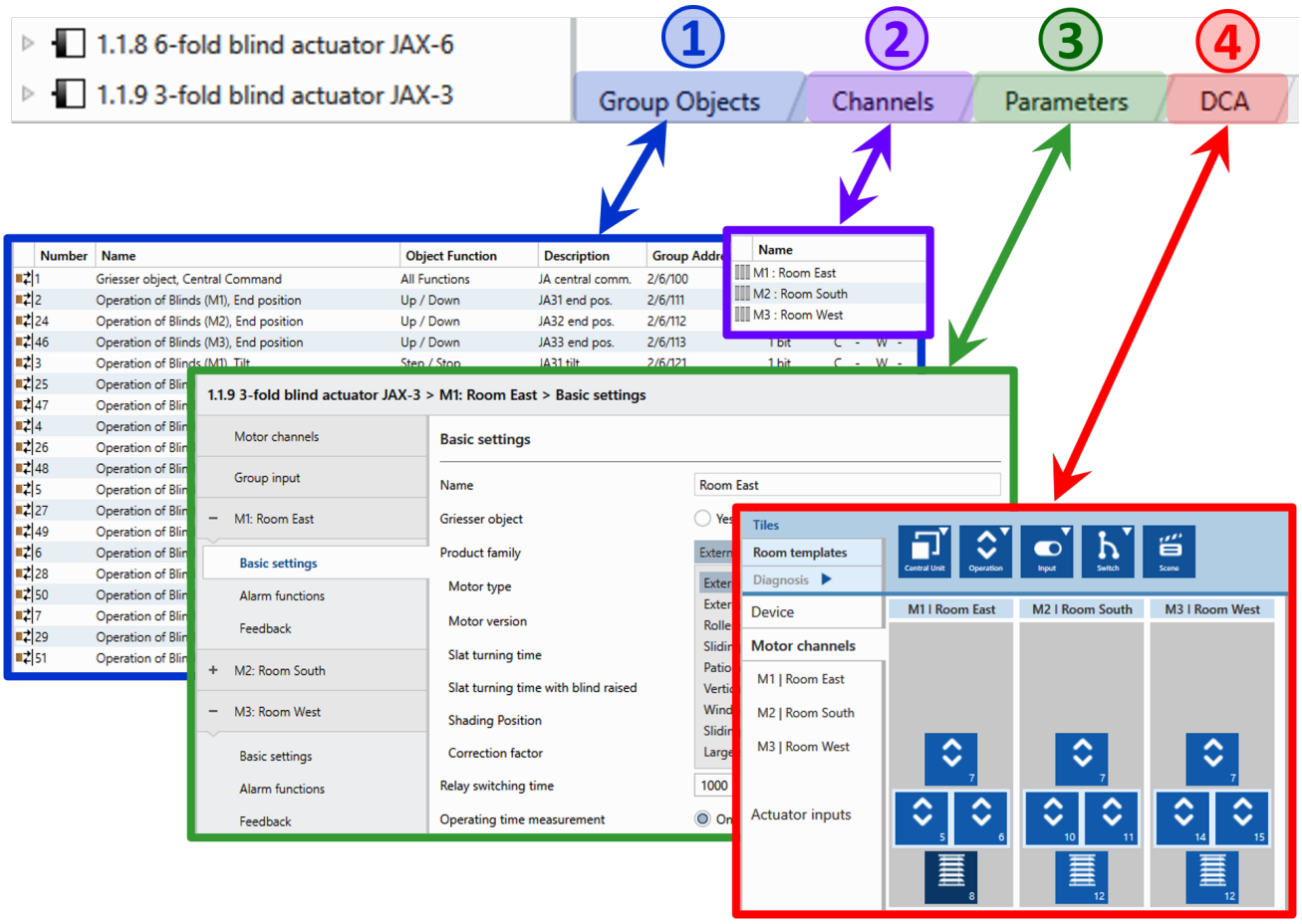
The device configuration in the ETS5 is used to set group objects and parameters of the Griesser KNX Blind actuators:

- JAX-1, Blind actuator 1-fold
- JAX-3, Blind actuator 3-fold
- JAX-6, Blind actuator 6-fold
- JAX-9, Blind actuator 9-fold

The most important features of the devices can be found in the Appendix under JAX blind actuators.

Structure of the ETS device configuration

The ETS user interface for device configuration consists of the “Group objects”, “Channels” and “Parameters” views, as well as the optional “DCA” view. The relevant tabs can be selected in the lower part of the window:



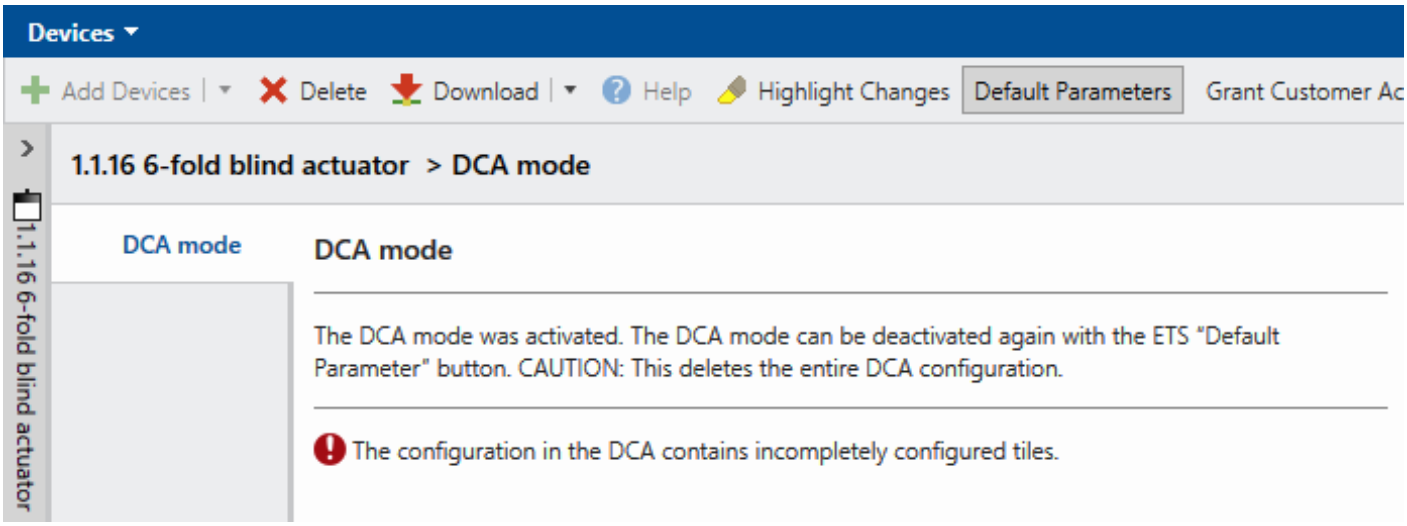
Position	Tab	Description
1	Group objects	Setting of all group objects and assigned group addresses for the selected device. The function of the group objects is described in detail in the context of the respective parameters.
2	Channels	Classification of group objects by motor channels
3	Parameters	In the Parameter View, the basic settings of the KNX Blind actuators can be easily configured.
4	DCA (Device Configuration App)	User interface for more complex device configurations. With the DCA, you can use the full functionality of the of the KNX Blind actuators . *Note:* The ETS "**Griesser JAX DCA**" app is available free of charge in the KNX online shop and can be installed in the ETS. The acquisition of components in the KNX online shop requires registration and login on My KNX. An ETS 5 (or higher) licence is required to use the DCA.

Switching between Parameter View and DCA

To switch between the two views for device configuration – the ETS tabs **Parameters** and **DCA** – you must note the following:

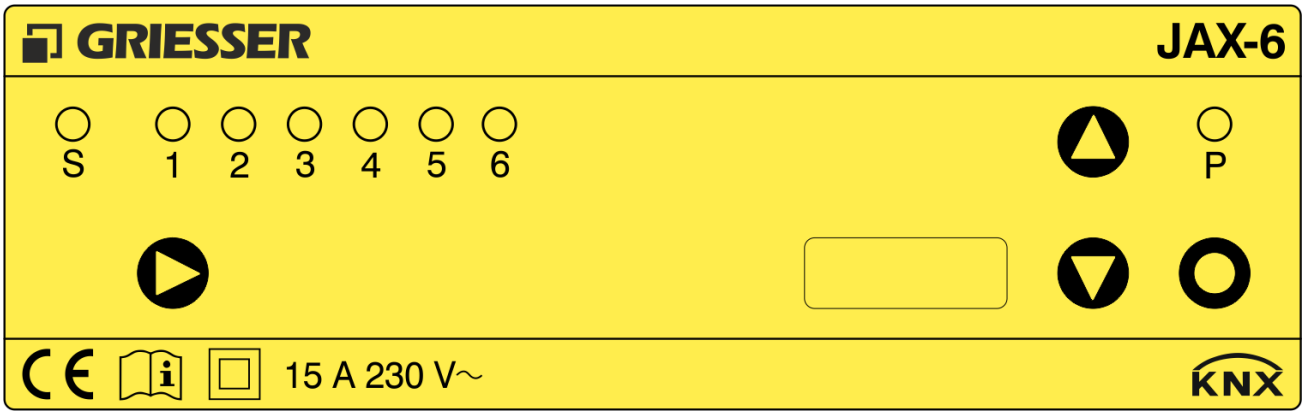
If a device setting is changed in the **DCA**, the system issues a warning message that further settings cannot be configured in the Parameter View upon confirmation (and only the **DCA** can be used).

You can only return to Parameter View once the device configuration has been reset using the **Standardparameter** button in the **Parameters** tab.
Caution: In this case, all settings in the DCA settings are lost and all group addresses are removed!



Device Operation

The blind actuator contains operating and display elements for programming the device as well as for test or emergency operation.
The operating and display elements are identical for all blind actuators. Only the number of Motor channel LEDs is different.



Further information on the operating elements can be found in the technical supplement sheet of the device.

Position	Item	Description
1	**S** Status LED (Green)	The Status LED lights up as soon as the blind actuator is connected to the supply voltage and is in operation (normal operation). If the Status LED is unlit, there is no supply voltage (230 V) in the blind actuator. The Status LED blinks slowly as soon as the Motor Channel selection button is used to select at least one channel for operation with the test buttons (operating mode). If the blind actuator receives a bus command, the Status LED goes out briefly. If the Status LED blinks very rapidly (and a chaser light appears on the Motor channel LED), the blind actuator is in “panic mode” as a result of a faulty download by the ETS.
2	**1...n** Motor channel LED (Yellow)	The Motor channel LED indicates states during manual operation (operating mode) or in normal operation. “Normal operation” display (green Status LED lights up): ■ Unlit — Normal operation, no lock-out ■ Lights up — Automatic commands locked out, operation possible ■ Blinks — Operation locked out, alarm function triggered. If the blinking only occurs for 10 s, a restricted range of motion is active for an operation (the desired position cannot be reached). ■ Flashes 2 x — Power failure detected. Check connection to motor or thermal protection motor. ■ Flashes 4 x — Overcurrent or welded relay contact detected. Motor channel is deactivated. Switch off actuator (network voltage and bus) and check installation/motor channel. ■ “Chaser light” — Configuration data is loaded by the ETS into the blind actuator or the blind actuator was unloaded by the ETS .

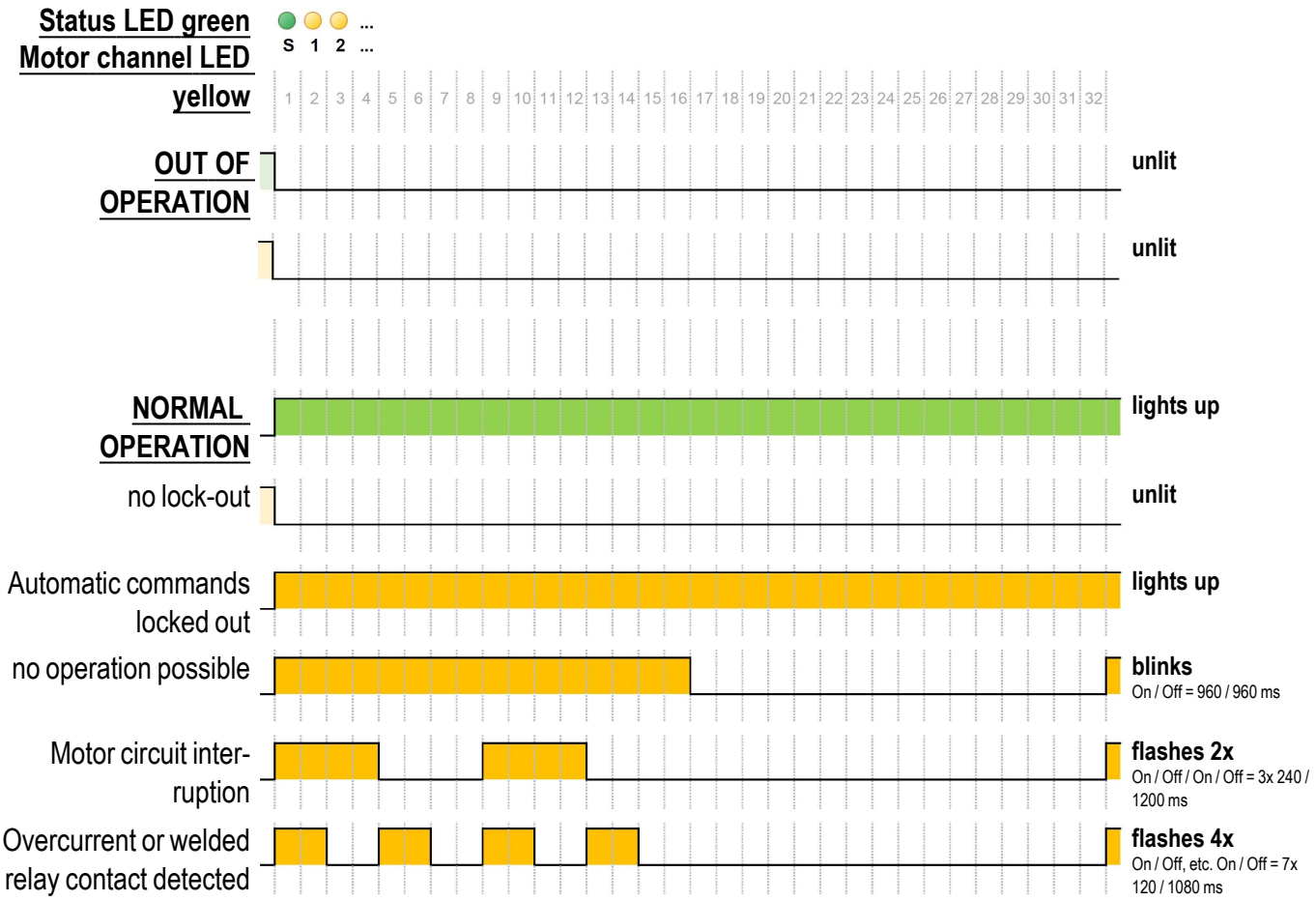
		"Operating mode" display (green Status LED blinks): ■ Unlit — Motor channel not selected ■ Lights up — Motor channel selected ■ Flashes 2 x inversely — Power failure detected. Check connection to motor or thermal protection motor. (When the motor channel is selected, the display flashes inversely.) ■ Flashes 4 x inversely — Overcurrent or welded relay contact detected. Motor channel is deactivated. Switch off actuator (network voltage and bus) and check installation/motor channel. ■ "Chaser light" — Configuration data is loaded by the ETS into the blind actuator or the blind actuator was unloaded by the ETS . "Panic mode" display (green Status LED blinks very rapidly) ■ "Chaser light" in reverse — The configuration data was incorrectly loaded by the ETS into the blind actuator; the device does not work and must be reset to the delivery state (see process below).
3	 Motor Channel selection button	The selection button is used to select motor channels for operation via the test keys (operating mode). When pressed repeatedly, the device runs cyclically through the following operating modes: ■ Operating mode channel 1 ■ Operating mode channel 2 ■ ... ■ Operating mode last channel ■ Operating mode all channels ■ Operating mode off (normal operation) ■ Operating mode channel 1 ■ etc. The operating mode is automatically exited after 5 minutes.
4	  Up test button Down test button	In operating mode (green Status LED blinks), the following operating patterns apply: ■ Short keystroke — Tilt in the selected direction ■ Long keystroke — Movement to the selected end position (Up relay or Down2 relay is active) ■ Long + short keystroke — Movement to the shading position (Down1 relay is active for motors with 3 limit switches) ■ Press the Up test button + Down test button at the same time for more than **2** seconds — Starts the process of automatically calibrating the operating times on the selected motor channels. All saved operating times are deleted.The blind actuator automatically directs the blind to the end positions until the operating times are calibrated. Each command cancels the calibration process. Also see the chapter Operating Time Measurement in the appendix.
5	**P** Pro-	The Programming LED displays the following information:

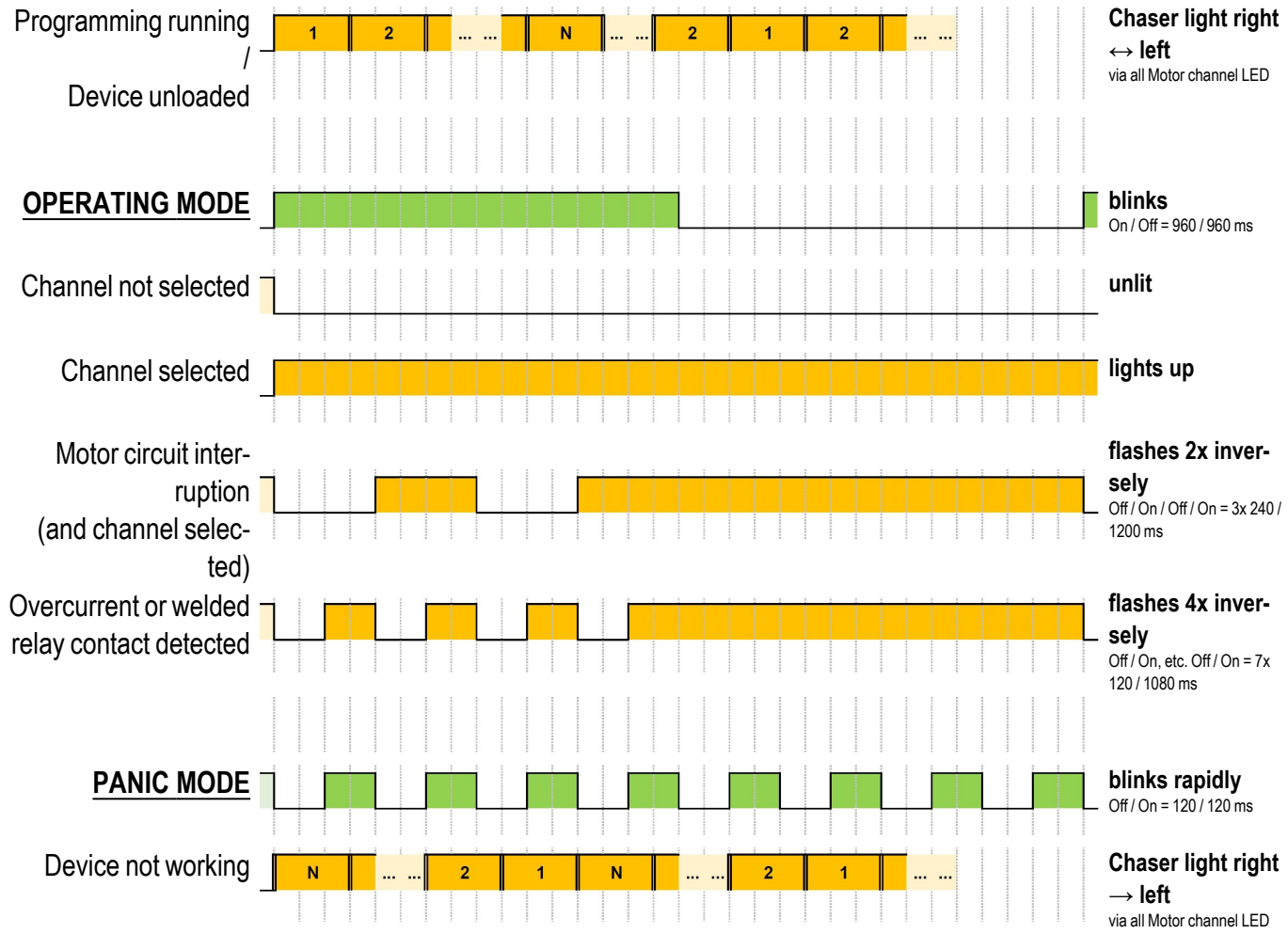
	gramming LED (Red)	■ Unlit	Normal operation, no programming mode active and individual address loaded
		■ Lights up	Programming mode active
		■ Flashes	No bus voltage present
		■ Flashes inversely	Programming mode active, but no bus voltage present
		■ Blinks	Blink mode, which was activated via the ETS
		The Programming LED goes out automatically after the individual address is loaded.	
6	Pro-gramming button	Pressing this button makes the blind actuator ready to accept the individual address.	

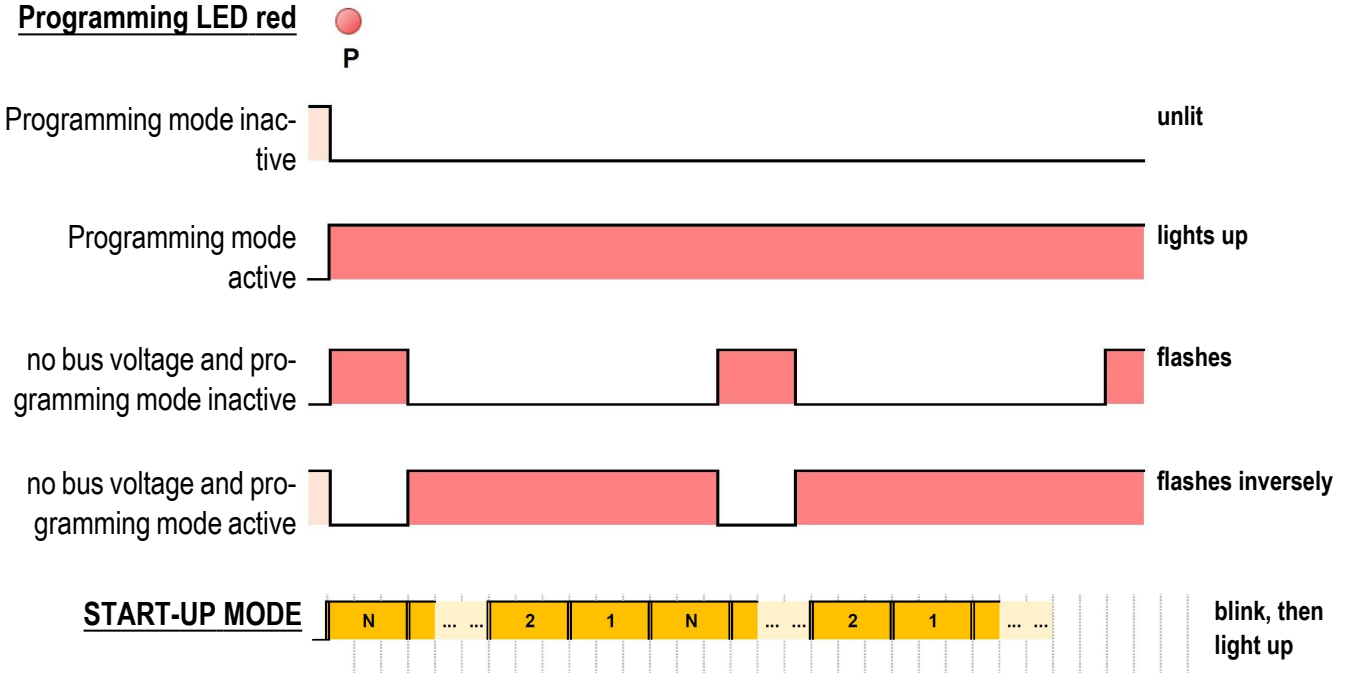
Notes:

- When operating with the test buttons, the channel is completely overridden (including safety tiles!). Immediately after leaving the operating mode (via a timeout after 5 minutes or via the selection button), the lock-out is deactivated and the last command is executed. The overridden channel is indicated in the DCA diagnosis with a red “sun protection” tile.
- The motor channel can also be reactivated via the DCA following overcurrent or a welded relay contact.

Blinking pattern on the LED of the Device Operation:







Resetting blind actuator to delivery state

The blind actuator can be reset to the delivery state via the following procedure.
In this case, all configuration settings (Parameter View or DCA as well as the individual address) and all operating data (measured operating times, etc.) are deleted or set to the default values.

	Action	LED Behaviour
1	Disconnect the actuator from the network (low voltage) and wait for 10 seconds	
2	Reconnect the actuator to the network	
3	Within one minute, press the **Up** and **Down** test buttons simultaneously and keep them pressed for at least 5 seconds	After 5 seconds, all Motor channel LED (yellow) and the Status LED (green) start flashing
4	Release both test buttons	
5	Within 5 seconds, press the **Motor Channel selection button** to confirm the reset process	All Motor channel LEDs (yellow) and the Status LED (green) go out
6		**Additional blinking pattern from firmware version 1.10:** All odd Motor channel LEDs (yellow) start blinking for approx. 1 minute and Status LED (green) lights up.
7	–	The Status LED (green) lights up when the device is ready for use

Behaviour of the Blind actuators in the event of a network interruption when resetting to the delivery state:

The Blind actuators is connected to the network	
When resetting (approx. 1 minute), the network voltage is interrupted	As soon as the actuator is reconnected to the network, the reset process continues.

The Blind actuators is connected to the network and to the KNX bus	
When resetting (approx. 1 minute), the network voltage is interrupted	As soon as the actuator is reconnected to the network, the actuator is in panic mode. The reset process must be repeated from point 3.

After the procedure, the blind actuator corresponds to the delivery state again in relation to the configuration data. Registered events such as overcurrent, overvoltage, number of relay circuits, resets to factory setting, etc. are not deleted from the blind actuator.

Local Operation / Simultaneous Operation

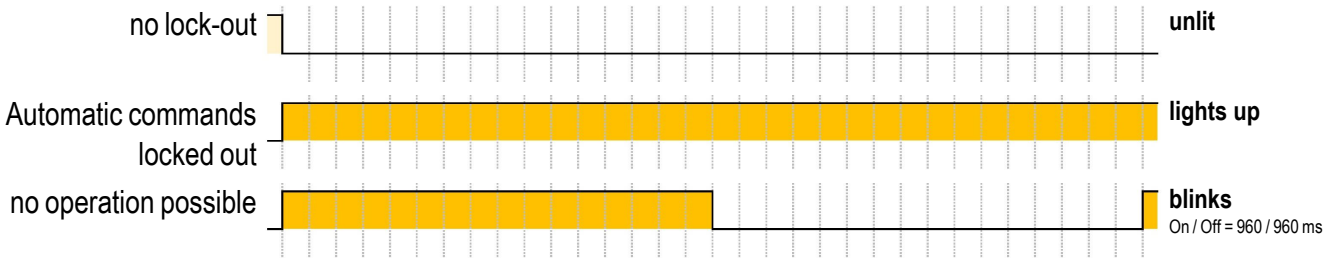
On the blind actuator , two types of operating inputs are available:

Local operation

For each channel, there are two inputs (for Up and Down) as well as the control of an external LED display (e.g. for electronic buttons).

Configuration	Description
None (Delivery state)	■ Local operation 1 affects motor channel 1; local operation 2 affects motor channel 2, etc. ■ The local operations are always active ■ The display on local operation shows the following patterns.
with the ETS **application**	■ Local operation 1 affects motor channel 1; local operation 2 affects motor channel 2, etc. ■ The display on local operation shows the following patterns. ■ By configuring the ETS application, one or more motor channels can be switched off. If a motor channel is switched off, the corresponding local operation is also switched off and is no longer available.
with the ETS **DCA**	■ Local operation can be selected via a tile. The display is connected to local operation as the default setting. ■ The display on local operation is displayed by default as shown below. ■ However, local operation 1 can be configured on any motor channels. ■ In the DCA, the local operation inputs can be used for other applications and are therefore no longer “local operations”, but binary inputs instead. ■ The display patterns on the LED can also be freely defined.

Default display at the LED output of local operation:



If the “no operation possible” blinking only occurs for 10 s, a restricted range of motion is active for an operation (the desired position cannot be reached).

Simultaneous operation

Each device has operation with three inputs (for Up, Shading position and Down). There is no LED display in simultaneous operation.

Configuration	Description
None (Delivery state)	■ Simultaneous operation affects all motor channels.
with the ETS **application**	■ Simultaneous operation can be configured with respect to the motor channels it affects. ■ If a motor channel is switched off, simultaneous operation no longer affects this channel.
with the ETS **DCA**	■ Simultaneous operation can be selected as a button input source for the operating tile. ■ In the DCA, the simultaneous operation inputs can be used for other applications and are thus no longer an “operation”, but become binary inputs.

Parameter View

In the Parameter View, the basic settings of the KNX blind actuator can be easily configured.

Device

Description of the Device Area

Reading Data

Display/button	Description
Read	The device data and channel status overview are read. The device must be connected and the application must be loaded for this purpose.
Read On	Date and time when Software version, Serial number and Hardware version as well as the channel status overview were last read.

Version information

Display	Description
Firmware version	Software version of the device
Hardware version	Hardware version of the device or “unknown” if the device does not yet support this display.
Serial number	Serial number of the device
Device restart	Last restart of Blind actuator (after download, disconnection of network and bus voltage, restart triggered by the ETS)

Error Messages

Display
No network voltage – 230 V must be applied to the actuator to control the motors
Panic mode – an error occurred in the configuration; reload application
Programming mode – the programming process was unexpectedly stopped; reload application

Overview of Channel States

Note: Commands from the Griesser object are abbreviated as “GO”. Example: *Griesser object - Safety command* is output as *Safety GO* or *Griesser object - Automatic command* as *GO Shading*.

Active motor channels are shown, and inactive motor channels are hidden in the table (activating and deactivating motor channels in the “Motor Channels” tab).

Height
Current blind height in % (0% fully open, 100% fully closed)

Angle
Current slat angle in % (no value is displayed for awnings, roller shutters and windows, as it is impossible to move to any angles).

Trigger
There was movement to the current position (height/angle) by:

- Automatic shading (GO Shading)
- Operation (Group button, Local operation, Bus operation, GO Operation, Automatic mode lock-out, Test Operation)
- Automatic timer (Time command GO)
- Alarm function (Safety GO or Safety 1-8)

The trigger does not correspond to the last command sent to the actuator. If a lock-out is active and the positioning command could not be executed, the last command is not displayed because it was not executed. More information can be found in the diagnostics under the motor channel.

Lock-out state

A lock-out by the trigger is active and one or more of the following functions are locked out:

- Automatic shading (GO Shading)
- Operation (Group button, Local operation, Bus operation, GO Operation)
- Automatic timer (Time command GO)
- Alarm function (Safety GO or Safety 1-8)

Motor State

A malfunction or hazard was detected during the motor control:

- No motor available: No motor is connected or the neutral conductor is interrupted.
- Lead wire interruption: One of the control lines is interrupted, i.e. the movement works on a different motor line.
- Thermal Protection: the motor drive is overheated and cannot be moved. The cooling-down time varies depending on the ambient temperature.
- Torque limiter: The electronic motor detected an obstacle and the movement was stopped by the motor.
- Overcurrent: A motor current of more than 5 A was measured (a maximum motor current of 3 A is permitted). The motor channel is deactivated and the installation must be checked. Reliable operation is no longer guaranteed on the affected motor channel.
- Welded relay contact: The relay contact no longer switches correctly. The motor channel is deactivated and the installation must be checked. The affected motor channel is defective and may no longer be used.

Delete read data

All data read out from the device, such as firmware version and diagnostic data, will be deleted. This is useful before copying devices, for example, as otherwise the read data will also be copied.

DCA mode

After activating DCA mode, the following information is displayed.

Note	Description
The DCA mode was activated. The DCA mode can be deactivated again with the ETS “Standardparameter” button. CAUTION: This deletes the entire DCA configuration.	After activating DCA mode (by changing the configuration in the DCA), no changes are possible in the Parameter View of the ETS – all parameter settings are hidden and are available with extended functionality in the DCA. The parameter settings are restored by the default parameters. All settings and links of group addresses are lost – the parameter settings correspond to the delivery state. In addition, DCA mode is terminated and the device is configured via the parameter settings.
	Error messages of the DCA in the Parameter View

	If an ETS project is passed on to third parties, the data configured by means of the DCA is also included in it. If the third party's ETS does not have an installed DCA, incorrect configurations will be displayed in the ETS parameter settings. In principle, the product can also be programmed without an installed DCA. However, all functions that are (still) incorrect are not active and are not executed as a result. In the Parameter View, the following error messages can be issued:
The configuration in the DCA contains incompletely configured tiles.	The tile function cannot be executed with the (usually incomplete) configuration. Also see DCA Warning Messages

Motor channels

Description of the Motor channels parameter group

Activated motor channels use several group objects. Deactivating unnecessary motor channels reduces the number of group objects, which results in a better overview.

Parameter Name	Selection	Description
Activating motor channel n	■ ☑ ■ ☐	The motor channel is activated by setting the check mark or deactivated by removing the check mark. *Note:* If a motor channel is deactivated, the parameter settings and group objects are hidden.

Connecting Group Input

Description of the Group input parameter group

The group input is a connection within the actuator that acts on all motor channels as standard. When deactivated, the motor channel is disconnected from the group.

Parameter Name	Selection	Description
... connecting to motor channel n	■ ☑ ■ ☐	The group input affects the motor channels for which the check mark is set.

Differentiation between local input/group input

Channel inputs are preset to the respective motor channel (input 1 = motor 1, input 2 = motor 2, etc.).
The group input, on the other hand, affects all motor channels that are activated in this Parameter View window.

Group input also differs from the channel inputs as follows:
- In addition to the Up and Down connections, the group input has a **connection for the shading position**
- The group input has **no LED connection**
- Automatic mode lock-outs are neither activated nor deactivated by simultaneous operation.

Test Operation

Description of the Test Operation parameter group

The test operation is used for direct operation of the KNX blind actuator and its motors. Positioning commands with the highest priority are sent via the user interface.

The user interface is also used to calibrate shading levels (P-positions) or slat turning times. To do so, proceed as follows:

- Move to reference position (move to the end position)
- Enter Upward movement time (time from the reference position to the desired end position)
- Execute test (movement is made to the entered Upward movement time)

Repeat this process until the desired position is correct, and then enter the value in the corresponding parameter.

Icon	Function	Description
Motor channel	All M1 M2 ...	Selection of motor channels intended to receive the positioning commands of the Test Operation.
Positioning command		
	Up (Upper End Position – Up relay)	The up relay is activated.
	Shading position	Movement is made to the shading position.
	Down (Lower End Position – Down relay)	The down relay is activated.
	Tilt Up	Tilt command according to loaded parameter “Tilt duration” in the direction of the upper end position.
	STOP	The currently activated relay is released.
	Tilt Down	Tilt command according to loaded parameter “Tilt duration” in the direction of the lower end position.
	P1	Move to Shading positions P1...P4
	P2	
	P3	
	P4	
Calibration Guide		Testing these parameters eliminates the need to program or download the parameters. This test can be useful for calibrating the slat turning time(s) and the shading position(s) (P1-P4).
	Move to reference position	Move to the end position Down (blind closed) or Down1. The function Down1 is only displayed for “open” external venetian blinds with three limit switches. The Down1 relay (shading end position) is always activated, even if the motor channel is configured with 2 limit switches.

	Upward movement time	Time from the reference position to the desired end position.
	Execute test	Movement is made to the entered Upward movement time.

Configuring Motor Channel

This section describes the specific settings of an individual motor channel.

Multiple selection: By keeping the CTRL key pressed down, you can use the left mouse button to select the same parameter groups of multiple motor channels. Changing settings within the parameter group then simultaneously affects all selected channels.

Basic settings

This is where basic settings for the individual motor channel are configured.

Parameter Name	Selection	Description
Name	Motor channel	Designation for the Motor channel
Griesser object	■ Yes ■ No	■ Yes: Activate the Griesser object on the motor channel and show the Sector address parameter. ■ No: Deactivate Griesser object and hide Sector address.
Sector address [1]	1 ... 512	Sector address of GRIESSER sun protection central unit. The address must be entered manually on both sides (sun protection central unit and all blind actuators).*Note:* This is important in connection with the Griesser object
Bus operation	■ None ■ Only 1-bit objects ■ All objects	This selection determines which group objects are shown for operation of the motor channel.
Automatic mode lock-out	■ None ■ Object Only ■ For operation	An active “Automatic mode lock-out” suppresses automatic commands from the Griesser object (automatic shading and temperature control), but not alarm commands (e.g. automatic wind, rain, frost modes). The Automatic mode lock-out is deactivated by a time or alarm command from the Griesser object and by a command to the “Automatic mode lock-out” group object. The “Automatic mode lock-out” is indicated on the LED of the local button. If the “Automatic mode lock-out” is active, the LED lights up on the connected local button. ■ None: The “Automatic mode lock-out” function is not used; the “Automatic mode lock-out” group

[1]Parameter is visible if “Griesser object” is set to “Yes”

		object is hidden. ■ Object Only: The “Automatic mode lock-out” function is activated and deactivated via the “Automatic mode lock-out” group object. ■ For operation: In the event of a local command (Group object “Operation Mn, ...” or operation on local button), the Automatic mode lock-out is activated. The “Automatic mode lock-out” group object is also available.
Response to Bus voltage interruption	■ Not Active ■ No Positioning Command ■ Up ■ Down ■ Shading position	“Not Active” setting: The actuator does not respond to the bus voltage interruption **Remaining settings:** In the event of a bus voltage interruption , movement is made to the selected position and the operation is locked out. However, the test buttons on the actuator can be used for operation. The command will only be executed if the bus voltage is interrupted for more than 10 minutes. This is to prevent brief interruptions from having an effect on the entire system.

Operation group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Motor channel operation, basic functions [1]			
Up / Down	Operation of blinds (Mn), End position	0 = movement to the upper end position 1 = movement to the lower end position	1 bit (1.008) (C - W - -)
Up / Shading	Operation of blinds (Mn), Shading	0 = movement to the upper end position 1 = movement to the shading position	1 bit (1.022) (C - W - -)
Step/Stop	Operation of blinds (Mn), Tilt	0 = tilt up or stop when moving 1 = tilt down or stop when moving	1 bit (1.007)

[1] Group objects are visible if “Bus operation” is set to “Only 1-bit objects“ or “All objects”

			(C - W - -)
Motor channel operation, advanced functions [1]			
Height 0…255	Operation of blinds (Mn), Height	Move to blind height: 0 = blind fully retracted 255 = blind fully extended	1 byte (5.001) (C - W - -)
Angle 0…255	Operation of blinds (Mn), Angle	Move to slat angle: 0 = Slats fully open 255 = Slats fully closed	1 byte (5.001) (C - W - -)
Position Height/Angle	Operation of blinds (Mn), Position	Move to target position specified by blind height and slat angle	3 bytes (240.800) (C - W - -)
Central operation			
All functions	Griesser object, Central command	Command from the sun protection central unit for a range of sector addresses	6 bytes (none) (C - W - -)
Automatic mode lock-out of motor channel [2]			
On / Off	Automatic mode lock-out (Mn), activate	0 = deactivate Automatic mode lock-out 1 = activate Automatic mode lock-out If the “Transmit” flag is set, the current status of the Automatic mode lock-out is fed back; see Objekt-Flags. Feedback of the Automatic mode lock-out is also possible under “Feedback”.	1 bit (1.001) (C - W - -)

[1]Group objects are visible if “Bus operation” is set to “All objects”

[2]Group object is visible if “Automatic mode lock-out” is set to “Object Only” or “For operation”

Product Settings

Facade Product

Parameter Name	Selection	Description
Product family	■ External venetian blinds open ■ External venetian blinds closed ■ Roller shutters ■ Sliding-arm awning ■ Patio awning ■ Vertical awning ■ Window ■ Sliding shutters ■ Large slats	The selection shows Standard facade products. The selected product defines the movement behaviour and the mechanical parameter settings.
Manufacturer [1]	■ General ■ Griesser	Filtering by manufacturer-neutral or manufacturer-specific products: ■ General: The **Product type** parameter shows manufacturer-neutral products which match the selected **Product family**.

[1]Parameter is visible if manufacturer-specific products are configurable for the selected **Product family**.

		■ Griesser: The **Product type** parameter shows manufacturer-specific products from Griesser AG which match the selected **Product family**.
Product type [1]	■ Unknown ■ Aluflex ■ Grinotex ■ Lamisol ■ Metalunic ■ Solomatic ■ Roller slats	Griesser AG facade products
Slat turning time [2]	0 ... 25,000 ms	Turning time of the slat from the lower end position to maximum opening (upward movement position).
Slat turning time with blind raised [3]	0 ... 25,000 ms	Turning time of the slat from the downward movement position to maximum opening (upward movement position). The value set here must never exceed the value set under **Slat turning time**.
Tilt duration [4]	0 ... 10 mins	This setting is used for fine manual positioning. For slat products, the setting determines the turning movement of the slats for one impulse (e.g. a short keystroke). Note: Use the Calibration Guide if necessary.

Motor

Parameter Name	Selection	Description
Motor version [5]	■ Standard ■ Griesser ECM	The “Motor version” selection specifies the installed motor. ECM stands for an electronic motor with low speed when adjusting the slats and reaching the end position. ■ Standard: conventional blind drive 230 VAC ■ Griesser ECM: Electronic. drive “Soft Closing” ECMx.01 or JA Comfort (2 limit switches) or ECMx.51 or JAR Comfort (3 limit switches)
Motor type [6]	■ 2 limit switches ■ 3 limit switches	The “Motor type” selection specifies the number of motor limit switches available. ■ 2 limit switches: Operation with 1 upper and 1 lower limit switch ■ 3 limit switches: Operation with 1 upper and 2 lower limit switches
Relay switching time	500 ... 10,000 ms	Direct switching from one direction to another is executed with a delay (protection of the motor).

[1]Parameter is visible if different products are configurable for the selection made with the **Product family** and **Manufacturer** parameters.
[2]Parameter is visible if “Product family” is set to “External venetian blinds open” or “External venetian blinds closed”
[3]Parameter is visible if “Product family” is set to “External venetian blinds open”
[4]Parameter is visible if a **Slat product** is selected.
[5]Parameter is visible if “Product family” is set to “External venetian blinds open” or “External venetian blinds closed”
[6]Parameter is visible if “Product family” is set to “External venetian blinds open” and a JAX-1, JAX-3 or JAX-6 is configured

Operating time measurement	■ On ■ Off	The movement to a certain blind height ranging from 0% (blind retracted) to 100% (blind extended) occurs between the upper and lower end position on the basis of the operating times saved in the blind actuator. These settings allow you to specify for each motor channel whether the device should calibrate the operating times itself or use user-specified operating times: ■ On: The operating time is automatically determined and saved. Also see the chapter Operating Time Measurement in the appendix. *Use:* Thanks to the immediate end position detection, beaded-slat blind products can tilt to the shading position without any disruptive dark phase as soon as the lower end position has been reached (i.e. in contrast to operation with the operating time measurement switched off, there is no need to wait for an operating time calculated for an extreme case). ■ Off: The operating time is not automatically determined, but must be set manually. *Note:* Changes due to ageing and heat differences are already taken into account in the actuator. This allows the manually measured operating time to be set without a safety reserve. *Use:* Movement can also be made to target positions between the end positions using electrical constellations in which the automatic operating time measurement is not applicable (for example, motors coupled via cut-off relay)
Operating time [1]	00:01 ... 10:00 [mm:ss]	Full operating time from the lower to the upper end position. Input of operating time based on manual measurement.
Motor start-up delay [1]	0 ... 10,000 ms	The set time corresponds to the delay from the closing of the motor circuit to the start of the triggered movement.

[1] Parameter is visible if “Operating time measurement” is set to “Off”

Shading positions

Parameter Name	Selection	Description
Position P1	0 ... 10 mins ■ Time from Down1 ■ Time from Down2	Position P1 (visual protection) P1 = no view towards the outside Time from Down1: The downward opening slat position is used as the reference position. The value causes the opening at the set time. Time from Down2: The closed slat position is used as the reference position. The value causes the opening at the set time.
Shading position P2	0 ... 10 mins ■ Time from Down1 ■ Time from Down2	Position P2 (shading low) P2 = little view towards the outside Shading position defines the “shading” position in the group object **Up / Shading**
Position P3	0 ... 10 mins ■ Time from Down1 ■ Time from Down2	Position P3 (shading high) P3 = medium view towards the outside
Position P4	0 ... 10 mins ■ Time from Down1 ■ Time from Down2	Position P4 (transparent) P4 = full view towards the outside
Correction factor	0 ... 200%	Ensures the adjustment of a prescribed slat angle and the Shading positions P1...P4 for slat products: 0% ... 99% reduces the opening of the slats, while 101% ... 200% increases the opening of the slats. A correction factor received from the sun protection central unit (in Griesser object) is multiplied by the factor of the motor channel defined here.

[1] Parameter is visible if “Operating time measurement” is set to “Off”

Alarm functions

Description of the Alarm Functions parameter group

Alarm functions have the highest priority and lock out automatic commands as well as manual controls.

Upon receipt of the object value “On”, the actuator responds with the set positioning command.
“Off” deactivates the lock-out.

Priority order:
- Safety 1
- Safety 2
- Safety 3
- Safety 4

- Griesser object - Safety command
- Safety 5
- Safety 6
- Safety 7
- Safety 8
- Operation of group button
- Griesser object - Time command
- Griesser object - Operation, Bus operation and Operation of local button
- Griesser object - Automatic command

Parameter Name	Selection	Description
Safety 1 - 4		The **Safety 1** alarm function has the highest priority and **Safety 4** has the lower priority.
Positioning command		Triggers a positioning command in the event of an alarm.
	■ Not Active	The alarm function is not used (the “Safety” group object and its settings are hidden).
	■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle ■ Position (Height/Angle) ■ Position (P1-P4)	Response of the actuator to the group object “Safety”.
Designation		Safety designation, e.g. fire, hail, wind, frost, rain, cleaning, etc.
Height [1]	0 ... 255	Blind height
Angle [2]	0 ... 255	Slat angle
Position (P1-P4) [3]	■ Position P1 (visual protection) ■ Position P2 (shading low) ■ Position P3 (shading high) ■ Position P4 (transparent)	Position (P1-P4)
Monitoring	■ ☑ ■ ☐	Switch on or off the monitoring function for the “Safety” group object.
Monitoring time [4]	00:01 ... 72:00 hh:mm	If the “Safety” group object never receives the value “off” or “on” within the set monitoring time, the response is the same as when “on” is received. The “hh:mm” input mask contains hours and minutes.
...		

[1]Parameter is visible if “Positioning command” is set to “Position (height/angle)” or “Blind height”

[2]Parameter is visible if “Positioning command” is set to “Position (height/angle)” or “Slat angle” and “Product family” (under Basic Settings) is set to “Venetian blinds open” or “Venetian blinds closed”

[3]Parameter is visible if the “(fehlender oder ungültiger Codeausschnitt)” positioning command is selected.

[4]Parameter is visible if “Monitoring” is activated.

Griesser object - Safety command [1]		The priority of the Griesser central commands lies between safety 4 and 5.
Monitor cyclically	Yes, from central unit	The tile monitors whether a command arrives from the Griesser central unit via the Griesser object within a certain time period. If this is not the case, the actuator moves to the safety position (parameter setting) and the tile activates a lock-out (in the same way as if the central unit had activated a lock-out). The cyclic monitoring of the actuators must be activated in the central unit: ■ EMX: General - Settings - Monitoring - Watchdog Output (30 s .... 12 hrs) ■ FMX: System Data - Monitoring - BUS Monitoring (Off; 1 min ... 36 hrs) The monitoring time is set in the central unit and communicated to the actuator via the Griesser object. The safety position is triggered in the actuator if no command is received from the central unit after **2.5 times** the monitoring time has elapsed.
Safety 5 - 8		
...		Analogous to **Safety 1-4**. **Safety 5** has a higher priority than **Safety 8**.

Group objects safety 1 ... 8

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
On / Off	Safety (Mn), alarm	Upon receipt of the object value “On”, the actuator on the motor channel n responds with the set positioning command for safety and locks out the operation. “Off” deactivates the lock-out for safety again.	1 bit (1.005) (C - W - -)

[1]The “Griesser object - Safety command” is only shown if the Griesser object is activated in the basic settings of the motor channel.

Feedback

Description of the Feedback parameter group

This section describes and configures the specific feedback of an individual motor channel.

In order to avoid a high bus load during central commands, feedback concerning the position (i.e. height, angle, upper/lower end position, shading area, position unknown) can be suppressed if necessary. The feedback for lock-out functions and fault messages is always active.

This is useful, for example, for visualisations: The values are transferred only if the visualisation image with the facade product is also selected.

Position

Parameter Name	Selection	Description
Position feedback	■ Suppressible ■ Always active	If **Position feedback = suppressible** is selected, the **Activate position feedback Mn** group object for the corresponding motor channel n is shown. With this object, all feedback concerning the position (i.e. height, angle, upper/lower end position, shading area, position unknown) of the blind actuator for this motor channel can be switched on or off if necessary. The remaining feedback, such as lock-out functions, is always active. When the feedback is activated, the: - 1-byte height / angle feedback is sent to the bus (regardless of whether or not the value has changed). - 1-bit feedback is not sent. - 4-byte BMS feedback is sent to the bus (if the send criterion is set to “For change”).
Send position	■ No (switched off) ■ Readout Only ■ Upon reaching target ■ For position change	■ No (switched off): The group objects for **Height** and **Angle** feedback are hidden. ■ Readout Only: The group objects for **Height** and **Angle** feedback are shown. The current values can be read via a read request. ■ Upon reaching target: The group objects for **Height** and **Angle** feedback are shown. Each time the prescribed position is reached, the blind actuator sends the current position (height and angle). ■ For position change: The group objects for **Height** and **Angle** feedback are shown. The **Send for change by** parameter is shown. *Note on height position feedback:* The following criteria must be met for valid height position feedback: ■ With the end position detection switched on: The facade product must be calibrated (full movement from the bottom to the top without interruption of the movement or limitation of operation).

		■ With the end position detection switched off: There must have been movement at least once to the upper or lower end position. *Note on angle position feedback:* For a valid angle position, the slat angle must have been moved to an end position once (fully closed or fully open).
Send for change by [1]	■ 10% ■ 20% ■ 25% ■ 50%	The group objects for **Height** and **Angle** feedback send the value 0 and 255, as well as each of the set intermediate levels, when height and angle reach or exceed one of these position values. This produces the following number of feedback messages, depending on the setting: *Note:* The % values refer to the full blind height from **Up** to **Down**, or to the full slat turning from **fully closed** to **fully open**. The **Activate feedback** group object controls the **Height** and **Slat angle** feedback. ■ 10%: 11 feedback messages (Lower, 9 intermediate positions, Upper) ■ 20%: 6 feedback messages (Lower, 4 intermediate positions, Upper) ■ 25%: 5 feedback messages (Lower, 3/4, Centre, 1/4, Upper) ■ 50%: 3 feedback messages (Lower, Centre, Upper)
Send BMS object	■ Off ■ For changes	The coding in the BMS output object corresponds to the Griesser definition, as used in the MSX and MGX products since 2005. ■ Off: The **Feedback of all commands** group object is shown. ■ For changes: The actuator sends each time the status messages are changed or the target position is reached.
Upper End Position	■ Deactivated ■ Activated	If “Upper End Position” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Lower End Position	■ Deactivated ■ Activated	If “Lower End Position” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Shading Area	■ Deactivated ■ Activated	If “Shading Area” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Target position reached	■ Deactivated ■ Activated	If “Target position reached” is activated, a group object is shown as feedback with respect to the corresponding operating state.

[1]The “Send for change by...%” selection is shown with the “Send position” = “For position change” setting

Position Unknown	■ Deactivated ■ Activated	If “Position Unknown” is activated, a group object is shown as feedback with respect to the corresponding operating state.

Availability

Parameter Name	Selection	Description
Motor power failure	■ Deactivated ■ Activated	If “Motor power failure” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Automatic mode lock-out	■ Deactivated ■ Activated	If “Automatic mode lock-out” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Operational lock-out	■ Deactivated ■ Activated	If “Operational lock-out” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Safety lock-out	■ Deactivated ■ Activated	If “Safety lock-out” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Limitation	■ Deactivated ■ Activated	If “Limitation” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Height limited	■ Deactivated ■ Activated	If “Height limited” is activated, a group object is shown as feedback with respect to the corresponding operating state.
Angle limited	■ Deactivated ■ Activated	If “Angle limited” is activated, a group object is shown as feedback with respect to the corresponding operating state.

Group objects feedback

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Height 0…255	Sun Protection (Mn), Height feedback [1]	Blind height feedback for motor channel n	1 byte (5,001) (C R - T -)

[1]The Height feedback object is shown or hidden depending on the “Send position” parameter

Angle 0…255	Sun Protection (Mn), Angle feedback [1]	Feedback of the slat angle for motor channel n	1 byte (5,001) (C R - T -)
On / Off	Sun Protection (Mn), Activate position feedback [2]	With this object, all configured position feedback (height, angle, end positions, shading area, target reached) for the motor channel n can be unlocked (object value = on) or suppressed (object value = off)	1 bit (1,001) (C - W - -)
BMS object	Sun Protection (Mn), Feedback of all commands	Feedback to the building management system via a single 4-byte object. A feedback message contains the current position (height/angle) as well as status information.	4 bytes (12,000) (C R - T -)
1-bit feedback (Yes/No) [3]		**Feedback of specific operating states from the motor channel n**	
Yes / No	Sun Protection (Mn), Feedback: Upper End Position	Feedback as to whether the blind is in the upper end position.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Lower End Position	Feedback as to whether the blind is in the lower end position.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Shading Area	Feedback as to whether the blind is in the shading position area.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Target position reached	Feedback as to whether the actuator has reached the prescribed target position.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Position Unknown	Feedback as to whether the actuator knows the blind height (object value = no) or not (object value = yes). The position is unknown, for example, after an ETS download or after a network interruption, until the next reference movement.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Motor power failure	The actuator sends the object value “Yes” if it detects an unexpected interruption of the motor circuit. The exact cause is unknown. Possible cases to be checked: Motor not connected, limit switch defective or thermostatic switch triggered.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Automatic mode lock-out	Feedback as to whether the Automatic mode lock-out is active. See " Compatibility list of blind actuators" auf Seite 127	1 bit (1,002) (C R - T -)

[1]The Angle feedback object is shown or hidden depending on the “Send position” parameter

[2]The “Activate Feedback” group object is shown or hidden depending on the “Suppressible feedback” parameter

[3]The 1-bit “Sun Protection (Mn), feedback:... (operating mode)” group object is shown if the parameter for this operating mode is activated

Yes / No	Sun Protection (Mn), Feedback: Operational lock-out	Feedback as to whether the Operational lock-out is active.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Safety lock-out	Feedback as to whether the safety lock-out is active.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Limitation	Feedback as to whether a limitation is active in the stack. Feedback is also given if a parent lock-out is active.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Height limited	Feedback as to whether a limitation is preventing the target blind height from being reached. Feedback is automatically set to “0” after 10 seconds because the blind stopped at the restriction limit.	1 bit (1,002) (C R - T -)
Yes / No	Sun Protection (Mn), Feedback: Angle limited	Feedback as to whether a limitation is preventing the target slat angle from being reached. Feedback is automatically set to “0” after 10 seconds because the blind stopped at the restriction limit.	1 bit (1,002) (C R - T -)

Motor Channel Test Operation

Description of the Motor Channel Test Operation parameter group

The test operation is used for direct operation of the KNX blind actuator and its motors. Positioning commands with the highest priority are sent via the user interface.

The user interface is also used to calibrate shading levels (P-positions) or slat turning times. To do so, proceed as follows:

- Move to reference position (move to the end position)
- Enter Upward movement time (time from the reference position to the desired end position)
- Execute test (movement is made to the entered Upward movement time)

Repeat this process until the desired position is correct, and then enter the value in the corresponding parameter.

Icon	Function	Description
Positioning command		
	Up (Upper End Position – Up relay)	The up relay is activated.
	Shading position	Movement is made to the shading position.
	Down (Lower End Position – Down relay)	The down relay is activated.
	Tilt Up	Tilt command according to loaded parameter “Tilt duration” in the direction of the upper end position.
	STOP	The currently activated relay is released.

	Tilt Down	Tilt command according to loaded parameter “Tilt duration” in the direction of the lower end position.
1 2 3 4	P1 P2 P3 P4	Move to Shading positions P1...P4
Calibration Guide		Testing these parameters eliminates the need to program or download the parameters. This test can be useful for calibrating the slat turning time(s) and the shading position(s) (P1-P4).
	Move to reference position	Move to the end position Down (blind closed) or Down1. The function Down1 is only displayed for “open” external venetian blinds with three limit switches. The Down1 relay (shading end position) is always activated, even if the motor channel is configured with 2 limit switches.
	Upward movement time	Time from the reference position to the desired end position.
	Execute test	Movement is made to the entered Upward movement time.

Diagnosis

Reading Data

Display/button	Description
Read	The device data and channel status overview are read. The device must be connected and the application must be loaded for this purpose.
Read On	Date and time when Software version, Serial number and Hardware version as well as the channel status overview were last read.

Current states

Note: Commands from the Griesser object are abbreviated as “GO”. Example: *Griesser object - Safety command* is output as *Safety GO* or *Griesser object - Automatic command* as *GO Shading*.

Height
Current blind height in %

Angle
Current slat angle in % (no value is displayed for awnings, roller shutters and windows, as it is impossible to move to any angles).

Trigger
There was movement to the current position (height/angle) by:
- Automatic shading (GO Shading)
- Operation (Group button, Local operation, Bus operation, GO Operation, Automatic mode lock-out, Test Operation)
- Automatic timer (Time command GO)
- Alarm function (Safety GO or Safety 1-8)

Positioning command
The positioning command sent by the trigger.
- Up, Down, Position (P1-P4) , Height, Angle, Position (Height and Angle)
- Tilt Up, Tilt Down, Stop

Target position reached
The positioning command sent by the trigger was able to reach the target position
- Yes
- No (e.g. as a result of a limitation, hazard, malfunction or operational event, the positioning command could not be completed.)

Alarm function
The configured alarm functions can be “available” or “locked-out”.
- Available (no safety is locked out)
- Locked out (one or more safeties are locked out. The locked-out safety is indicated by the number. “GO” stands for the Griesser object Safety.)

Automatic timer
[1] The Timer control of the Griesser object is
- Available
- Locked out

Operation
The operation can be done from *Operation of group button*, *Operation of local button*, *Bus operation*, *Griesser object - Operation*, *Automatic mode lock-out* and *Test Operation*.
- Available (all operations are available)
- Locked out (all operations are locked out. It is not possible for some operations to be locked out while other operations are not. Thus, there is no distinction)

Automatic shading
[2] The Shading control system of the Griesser object is
- Available
- Locked out

Limitation
[3] A limitation can be imposed by the Griesser object (Safety or Shading).
- None
- Active (the range of motion is not fully possible. If the target position is outside the range, the blind moves to the restriction limit)

Hazard
- Overcurrent: A motor current of more than 5 A was measured (a maximum motor current of 3 A is permitted). The motor channel is deactivated and the installation must be checked. Reliable operation is no longer guaranteed on the affected motor channel.
- Welded relay contact: The relay contact no longer switches correctly. The motor channel is deactivated and the installation must be checked. The affected motor channel is defective and may no longer be used.

Fault
- No motor available: No motor is connected or the neutral conductor is interrupted.
- Lead wire interruption: One of the control lines is interrupted, i.e. the movement works on a different motor line.
- Thermal Protection: the motor drive is overheated and cannot be moved. The cooling-down time varies depending on the ambient temperature.

Operating Note

- Fault analysis runs: The motor analysis has not yet been completed.
- Operating time change - Change facade product: A product change is a possible cause of an operating time change.
- Torque limiter: The electronic motor detected an obstacle and the movement was stopped by the motor.

Number of overcurrents
Number of channel shutdowns as a result of impermissible current flow (> 5 A) on the motor channel.

Operating times
- Up-Down2: Travel time between the upper and lowest end positions
- Down2-Up: Travel time between the lowest and upper end positions
- Down1-Down2: Travel time between the shading position with 3 end position motors and the lowest end position
- Operating Note: Connection Up and Down2 swapped or Connection Down1 and Down2 swapped

Last commands

The last commands are displayed, regardless of whether or not the positioning command could be executed (as a result of an active lock-out or limitation).
- Last commands: Date and time when the command was issued
- Trigger of the last command
- Positioning command
- Lock-out
- Executed: Yes / Limited / No

Display of states

Function	Available	Locked out
Alarm function ■ Safety 1 ... 3 ■ Griesser object - Safety command ■ Safety 4 ... 8		
Automatic timer ■ Griesser object - Time command		
Operation ■ Operation of group button ■ Operation of local button ■ Bus operation ■ Griesser object - Operation		
Automatic shading ■ Griesser object - Automatic command		

[1]If the Griesser object is not switched on, the Timer control line is not displayed.
[2]If the Griesser object is not switched on, the Shading control system line is not displayed.
[3]If the Griesser object is not switched on, the Limitation line is not displayed.

Priorities

The settings of the Parameter View are displayed in the DCA as function groups in the form of stacked tiles. Parent tiles have a higher priority than the child tiles.
The functions that can be configured in the Parameter View have the following priorities (highest at the top).

Priority order:
- Safety 1
- Safety 2
- Safety 3
- Safety 4
- Griesser object - Safety command
- Safety 5
- Safety 6
- Safety 7
- Safety 8
- Operation of group button
- Griesser object - Time command
- Griesser object - Operation, Bus operation and Operation of local button
- Griesser object - Automatic command

For the device configuration in the Parameter View, the priority is prescribed and the settings are reduced to the essential functions. More complex configurations require switching from the Parameter View to the DCA.

Device Configuration App (DCA)

The “DCA” ETS view for Griesser KNX blind actuators is based on function modules, also known as “tiles”.

The functionality of each motor channel can be composed by a stack of these tiles.

The lowest tile in the stack is always the “Sun Protection” tile.

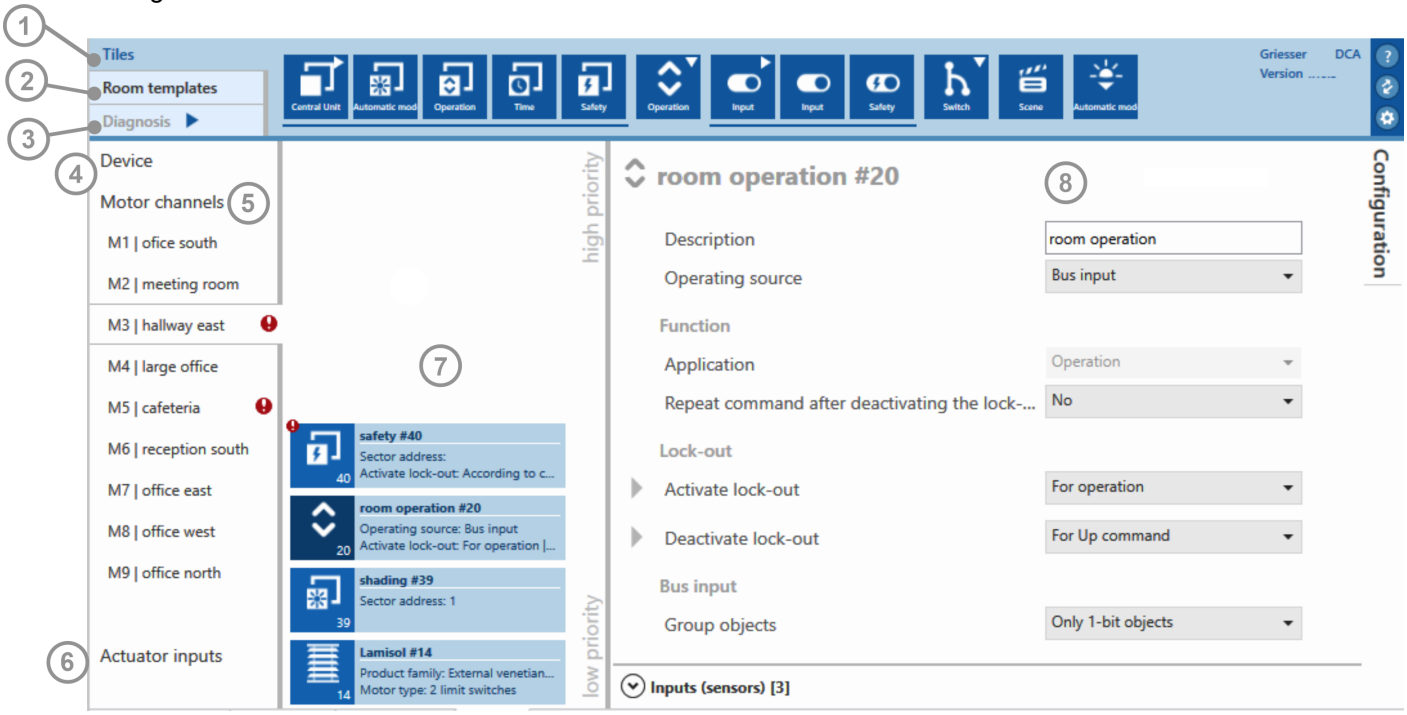
The position of the tiles above it defines the priority of these sub-functions.

In contrast to the Parameter View of the ETS, the full scope of functionality of the Griesser KNX blind actuator can be used with the DCA.

Overview

Description of DCA areas

The left side is used to navigate within the DCA. The upper section (header area) includes the choice of tiles, room templates and the switch to analysis mode (Diagnosis and Simulation). Motor channels, actuator inputs and general device settings can be selected in the lower section.



Reference	Display Area	Description
1	Tiles	All available tiles are displayed in this area. The tile can be assigned to a motor channel by drag & drop or copy/paste. Each tile represents a function that can be configured accordingly with individual parameters of the function.
2	Room Templates	Predefined stacks are stored as a template in this area. Your can create, import and export your own room templates.
3	Diagnosis	In this view, settings, internal states and received and sent data of the programmed system can be analysed during ope-

		ration. A bus connection with the KNX blind actuator is required for this view.
4	Device	General device functions: general functions and settings of the KNX blind actuator as well as operation (test buttons) of the motor channels if communication is available.
5	Motor channels	Overview of the stacks of all motor channels. In this view, you can move or copy tiles from one motor channel to another.
	M1 ... Mn	More detailed view of the stack of an individual motor channel
6	Actuator inputs	Overview of all inputs and outputs. In this view, you can edit and make assignments between the local inputs on the KNX blind actuator and motor channels as well as the bus output.
7	Stack	This area displays the tiles (functions) assigned to the channel. Further information can be found in the sub-chapter Arranging Tiles.
8	Configuration	Displays the parameters that can be set for the tile selected in the **Stack** area.
	Open Help File	
	Import/Export	Import/Export room templates
	Delete log data	The log data saved in the actuator is deleted.
	Resources	A fill bar is shown when 80% of the memory is used. From then on, notifications (showing from right to left) are indicated for every 5% of additional memory used and the fill bar increases. Below 80%, the bar disappears.

Tile Overview

Description of available tiles

All functions and automatic modes that are possible with the blind actuator are called tiles.

Tile (application)	Icon	Description
Operation		Tiles for decentralised and central operation:  Control point for one of the following command sources: ■ Bus input ■ Contact input ■ Radio receiver  Operation from a building management system or central visualisation
Griesser object		Connection between weather central unit / sun protection central unit and blind actuator. The commands of the weather station are broken down on the blind actuator channel.

		The Griesser object consists of the following four tiles:  **Griesser Safety object** Wind, rain, frost and priority inputs  **Griesser Time object** Timer program  **Griesser Operation object** Local command or central command (from the Griesser BGS or BGT control terminal or from the simultaneous operation switch input of the Griesser FMX control unit)  **Griesser Automatic object** Shading program, temperature program
Input		The input can be used as:  **Safety Command Input** for cleaning lock-outs, fire contact, etc.  **Command Input** Presence detectors, window contacts, etc.
Scenes		Scene control
Switch		This tile group is used to switch between different operating modes and includes 2 versions:  2-fold switches for example, heating operation/cooling operation or presence dependency Present/Absent  4-fold switches for example Room operating mode: Comfort/Precomfort/Economy/Protection
Automatic mode		Automatic blinds

Help

Open Help File

Button	Setting	Description

	Open Help File (F1 key)	Opens the help file for the selected topic

Import/Export

Importing and Exporting Data

Button	Setting	Description
	By pressing the icon, you can select:	
	Import room templates	Import and replace tile stack
	Export room templates	Export existing tile stack

For more information, see Room Templates.

Settings

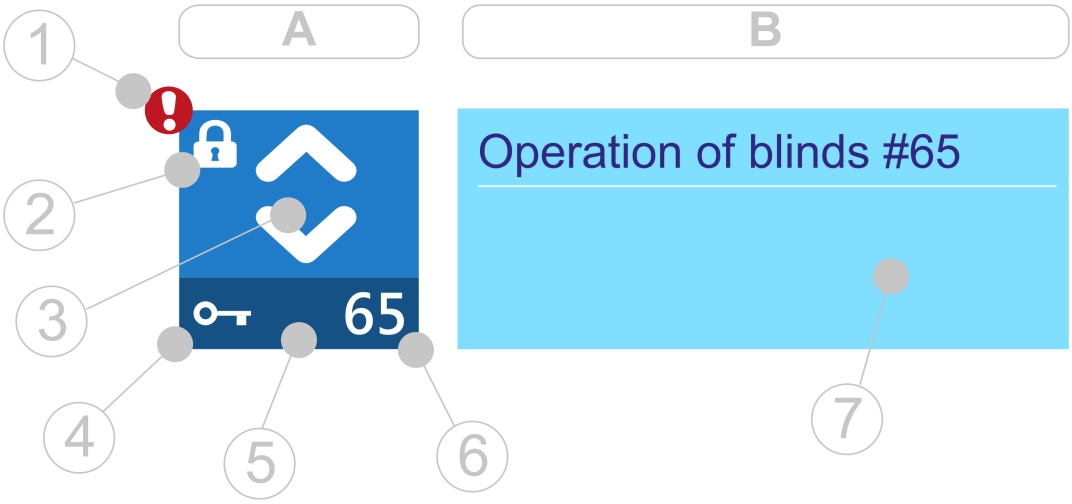
DCA settings

In this view, the following basic settings can be configured for DCA:

Button	Setting	Description
	Delete log data	The data (log) read by the actuator will be deleted in the DCA. The log data remains available in the actuator after being deleted in the DCA.

DCA Tiles

Structure



Display	Description / Information
(A)	**Thumbnail view** with tile icon (3), tile number (6) and any configuration warnings (1) and icons for locking behaviour
(B)	**Extension field**, only visible in the single channel view

(1)	Tile warnings  Error – The tile has a configuration error. If the application is loaded into the device despite errors, this tile will not work. The motor channel functions as if there were no tile. Warning – The tile has an unfavourable parameter setting or the tile is in an unfavourable position. The tile is not guaranteed to work or it may cause undesirable effects.
(2)	State of the tile due to another parent tile. Lock: locked out or limited No icon normal
(3)	Icon or function of the tile.
(4)	Action or effect of the lock-out command on other tile(s). Key Locks child tiles Arrows (pointing in opposite directions) Limits child tiles The icon becomes visible if the **Lock out child tile** parameter is selected in the selected tile. The lock (2) becomes visible for all child tiles.
(5)	A selected tile becomes dark. If a tile is selected, the lower section is darkened for all identical tiles (with the same number).
(6)	Tile number. A tile can be used on multiple channels. If a tile is used on multiple channels, it shows the same number on all channels. The parameter settings also affect all channels accordingly – in other words, the parameter settings are always identical on all channels of this tile. This enables efficient configuration.
(7)	Designation and number of the tile in the title line

Tile colours and icons in the configuration view (motor channels)

Tile	not selected	selected	same ID (as selected)
without lock-out (active)			
locks others			
is locked out or limited			
limits others			
is limited, locks out others			

Tile colours and icons in the Diagnosis view

Tile	not selected	selected	same ID (as selected)
without lock-out (active)			
locks others			
is locked out			
limits others			
is limited			
is limited, locks out others			
inactive			

Creating and Arranging Tiles

Creating or moving a tile in the stack of a motor channel

Action	Method	Effect
Dragging tile from menu	Drag & drop	Creating new tile with new number
Dragging tile from stack	Drag & drop	Moving the tile in the stack of the same motor channel or into the stack of another motor channel
	Drag & drop while holding down the **Alt** key or Copy / paste with **Ctrl+C** and **Alt+V**	Creating a tile with an identical number in the stack of another motor channel. Tiles with identical numbers are linked in such a manner that they always have the same parameter settings.
	Drag & drop while holding down the **Ctrl** key	Creating a copy of the tile with a new number in the stack of the same motor channel or in the stack of another motor channel.

	or Copy / paste with **Ctrl+C** and **Ctrl+V**	The parameter settings of the two tiles are identical after the copy operation, but can then be changed independently.

Tile context menu

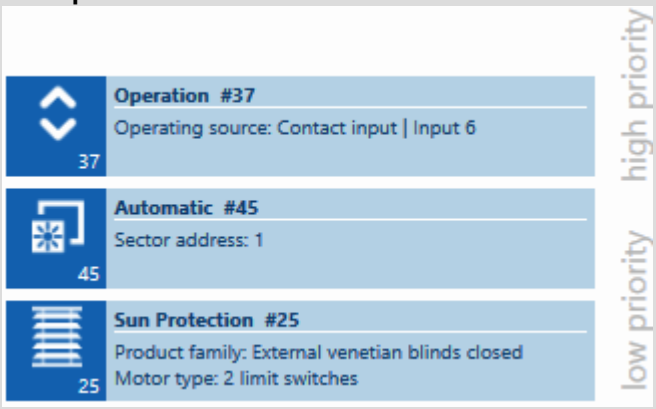
Function	Effect
Copy	Copy the selected tile to the clipboard.
Cut	Copy the selected tile to the clipboard and delete it in the motor channel.
Insert (new ID) [1]	Paste tile from clipboard with a new ID into the motor channel (copy of the original tile).
Reference (same ID) [2]	Paste tile from clipboard with the same ID into the motor channel (link to the original tile).
Delete	Delete selected tile in the motor channel.
Replace Sun Protection [3]	Replace the selected “Sun Protection” tile with the “Sun Protection” tile of another motor channel. If the current configuration of the motor channels has “Sun Protection” tiles with a different ID, the program displays a window which allows you to select a replacement from the available tiles (the function has no effect otherwise).

The “Sun Protection” tile appears as the bottom tile in the stack of each motor channel. It cannot be moved or deleted.

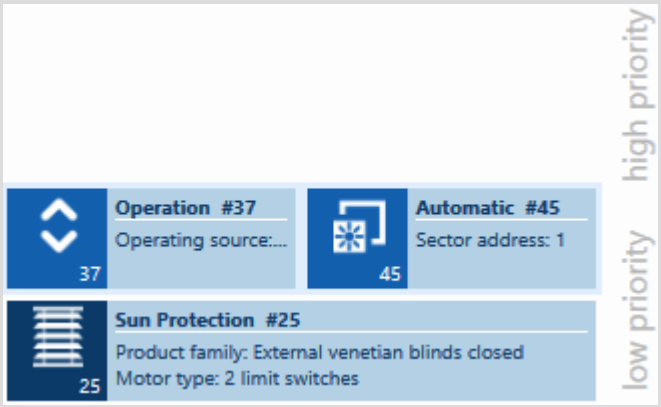
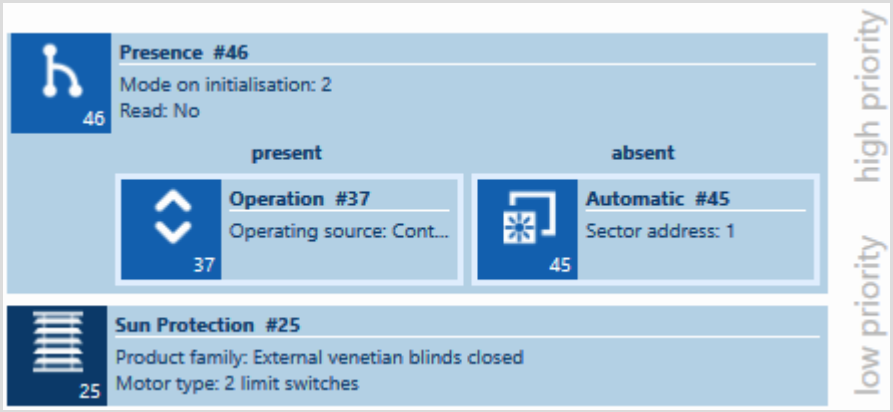
Safety tiles are marked with a **lightning icon**. These tiles have rules with respect to arrangement and behaviour in the stack (see below).

Arranging tiles

The tiles can be arranged and deleted within the area. There are three basic principles for arranging the tiles:

Arranging the Tiles...	Description
On top of each other 	Tiles can be stacked on top of each other. In the event of lock-out priorities, the higher-level tile takes precedence. Safety tiles (lightning in the tile icon) can only be arranged above tiles with automatic functions. Griesser object tiles have a defined sequence. The sequence of these tiles cannot be changed. Other tiles

[1]The function is available in the context menu if the contents of the clipboard can be pasted into the selected location.
[2]The function is available in the context menu if the contents of the clipboard can be pasted into the selected location.
[3]The function is available in the context menu if a “Sun Protection” tile is selected.

	can be arranged between, above and below the Griesser object tiles.
Next to each other 	Tiles can be arranged next to each other. In the event of lock-out priorities, the adjacent tiles are equivalent. The lock-out only affects child tiles, but can be activated or deactivated by any tile that is adjacent to the child tile. Griesser object tiles cannot be arranged next to each other in all combinations. Other tiles can be arranged next to Griesser object tiles. *Note:* Pay attention to whether the tile is marked with or without lightning! Tiles cannot be positioned next to the **Sun Protection** tile.
Switch 	Entire tile stacks can be activated or deactivated with a special tile, the switch. Within a column of the switch, the same arrangement options apply as in the motor channel itself, i.e. each column can hold an autonomous stack. The rules must be observed across the entire stack. For example, safety tiles must always be arranged above automatic functions. Switches can also be nested inside each other. Only one column of the switch is active at a time. The tiles in the other columns are then inactive.

Locking Out Tiles

The arrangement of the tiles influences functionality when using lock-out functions. A tile can activate a lock-out and lock out child tiles as a result. The lock-out of a tile can be deactivated again by the parent tiles.

A tile can have the following states:	
■ Active	The tile is fully functional; all functions are enabled.
■ Limited	The tile is limited by one or more parent tiles. The tile is active, but commands are only executed within the limitation area.
■ Locked out	The tile is locked out by one or more parent tiles. The tile is active in the background, commands are saved, but are not executed.

A tile can send two types of commands:	
■ Positioning command	Up, Down, Height, Angle, Shading positions P1...P4, etc.
■ Lock-out command	Lock-out (activate/deactivate) or limitation (limit/enable) applied to child tiles.

Basic rules for lock-out behaviour
■ If **no** tile is locked out, the most recent positioning command of a tile applies, regardless of the position of the tile in the stack.
■ If a tile (Z) is locked out by multiple parent tiles (A, B etc.), you can use parameters to set whether a parent tile (A) deactivates or activates other active lock-outs (e.g. from tile B) in tile (Z).
■ For **safety tiles** (lightning in the icon), the following applies: If a tile (Z) is locked out by safety tiles (A, B etc.), each individual safety tile (A, B etc.) must deactivate its lock-out so that the tile (Z) is no longer locked out. This always applies, even if safety tiles are arranged next to each other. A lock-out on a safety tile can never be deactivated by a parent tile.

Example	**Description**

The two tiles **Safety 1** and **Safety 2** arranged at the top of the stack lock out all child tiles. Since **Safety 1** locks out all tiles (incl. **Safety 2**), the positioning command of **Safety 1** applies. (Rule No. 2)

The tiles **Zeitautomatik** and **Bedienung zentral** override **Bedienung Bus** and **Bedienung lokal** as well as the underlying **Beschattungsautomatik**. (Rule No. 2)

Bedienung Bus locks out the child tile **Beschattungsautomatik**. **Bedienung lokal** is not affected by this lock-out and continues to work. The lock-out can be deactivated via **Bedienung lokal** or **Bedienung Bus**.

It is possible that the **Zeitautomatik** deactivates the **Bedienung Bus**'s activated lock-out of the **Beschattungsautomatik**.

Parameter settings of the tiles

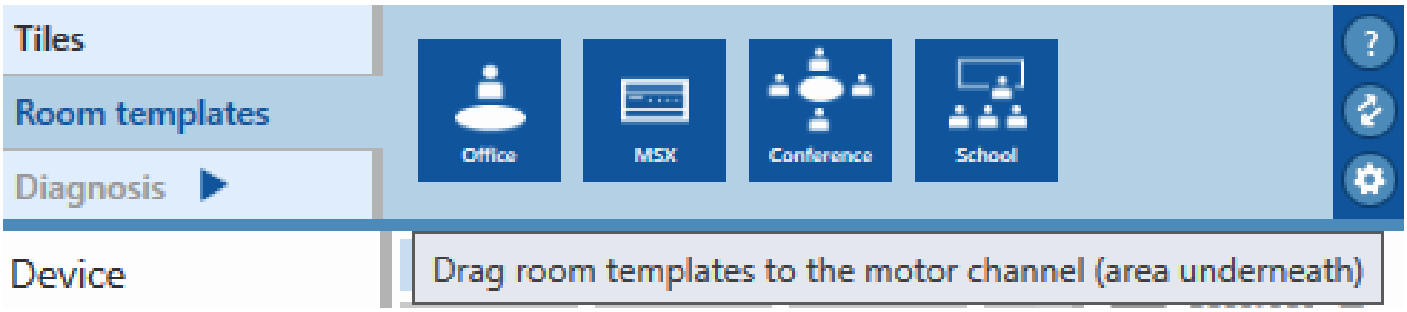
The parameter settings are more or less repeated for each tile (the setting options vary depending on the tile function). Example of parameter setting

Parameter Name	Selection	Description
Function		
Repeat command after deactivating the lock-out	■ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position.

		For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Lock-out function		The lock-out function does not affect the tile itself, but all child tiles.
Activate lock-out	■ Never ■	Definition of the state which activates the lock-out. More options individually per tile
Child tiles	■ Lock out all	For the selection “Activate lock-out with ...” All child tiles are locked out.
Deactivate lock-out	■ Never ■ ...	Definition of the state which deactivates the lock-out. More options individually per tile
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.
Child limitations		This parameter setting is relevant if there are multiple limitations in a stack. In practice, more than one limitation at the same time is often difficult to understand.
	■ take into account	The intersection of all limitations is calculated.
	■ do not take into account (override)	Only the limitation of the tile with the highest (lock-out) priority is active.

Room templates

A room template is a stack of tiles that can be reused. Room templates can be created and saved individually and are available in all ETS projects.
To apply a room template, drag it to the desired channel via drag & drop. The stack in the channel **is deleted** and replaced with the corresponding room template.



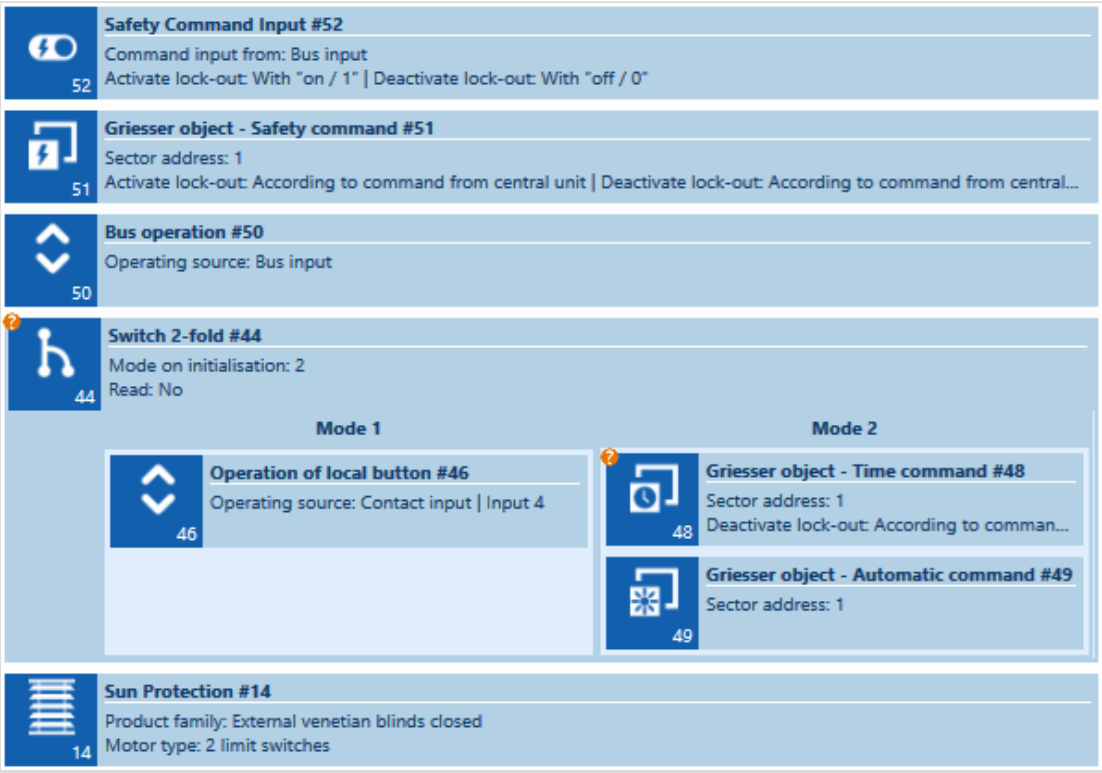
Setting	Description
Create room template	Use the context menu (right mouse button) to select “Create room template” on the **motor channel**. The new room template can be individually named and described with a text. Saving creates the room template with an icon in the upper part.
Import room templates	Room templates can be imported by selecting the icon in the right bar. When you open the window, you can select which individual room templates you wish to import.
Export room templates	Room templates can be exported and imported into another ETS by selecting the icon in the right bar. When you open the window, you can select which room templates you wish to export.
Delete room template	Use the “ Delete room template ” context menu on a user-defined room template to delete this. Deleting a room template does not affect already implemented room templates in the channels – these remain unchanged.

Room templates that are always available cannot be deleted or changed.
After insertion in the channel, the tiles must be individualised with a red dot.

Icon	Stack
	

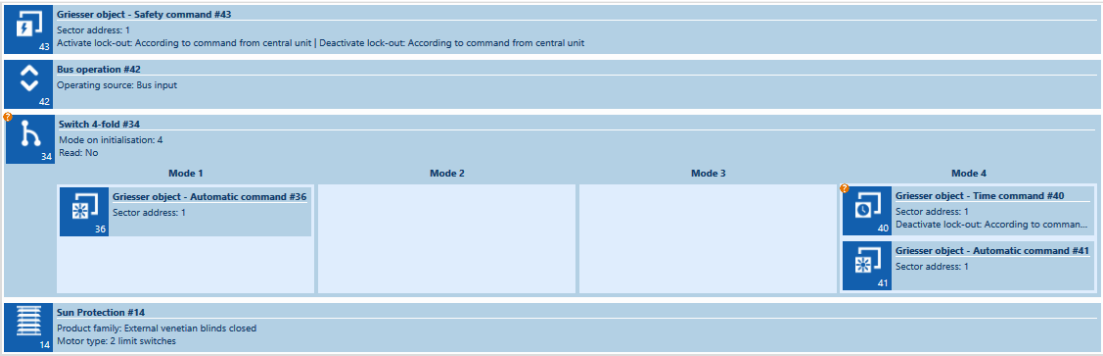
Office
(Objective: simple facade automation)

- Product protection from Griesser central unit (wind)
- Operation via the bus
- Time command from Griesser central unit
- Operation of local button
- Shading control system from Griesser central unit



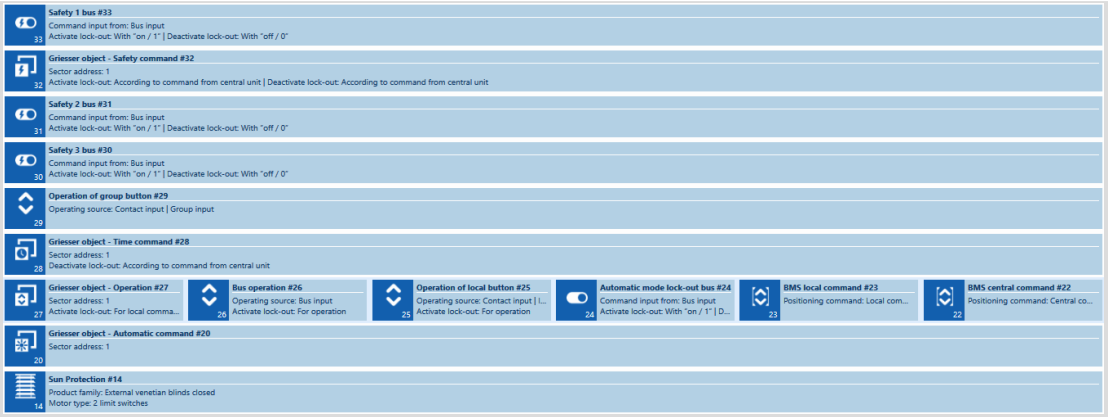
School room incl. presence detector
(Objective: positioning commands that disturb as little as possible if room is occupied)

- Contact input for fire (via bus)
- Product protection from Griesser central unit (wind, frost)
- Central operation (overrides room operation)
- Presence detector as a switch. If people are present, only room operation; if no people are present, automatic time and shading from the Griesser central unit.



Conference room incl. connection to heating and cooling requirements
(Objective: optimised control in terms of comfort and energy)

- Product protection from Griesser central unit (wind, frost)
- Central operation (overrides room operation)
- Switching due to room operating mode (Comfort, Pre-Comfort, Economy, Protection)

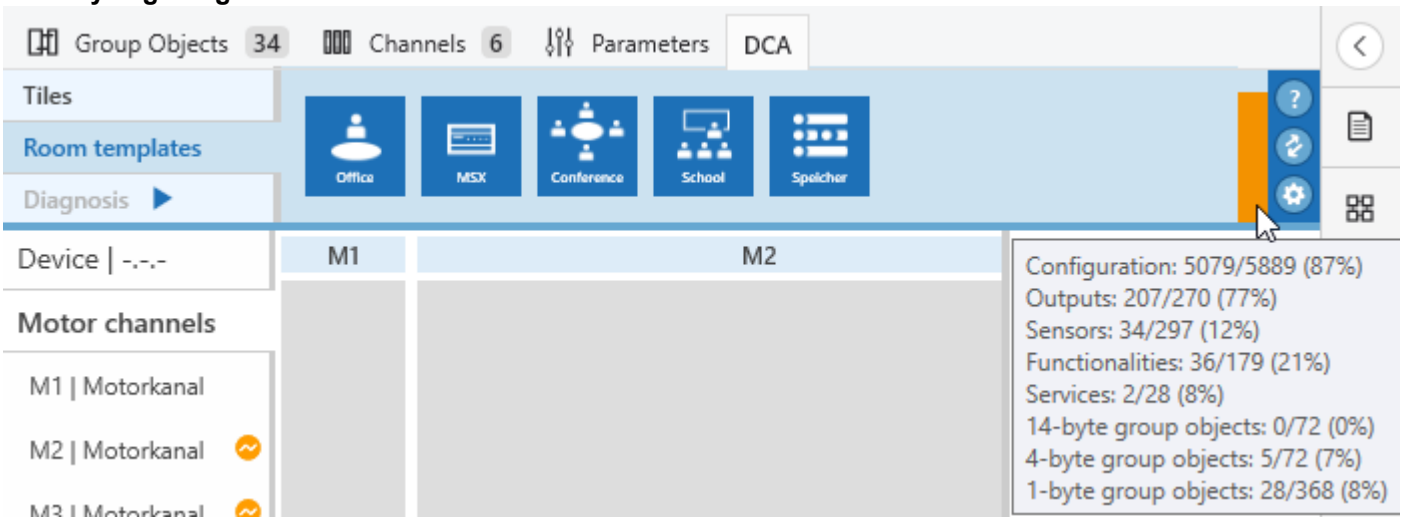
	The automatic function of each room operating mode is added for each project.
	 **MSX** (Objective: replacing an MSX with a JAX) The stack represents the scope of functionality of the MSX with all activated functions. (for a better overview, tiles not needed should be deleted).

Required memory for tiles

General

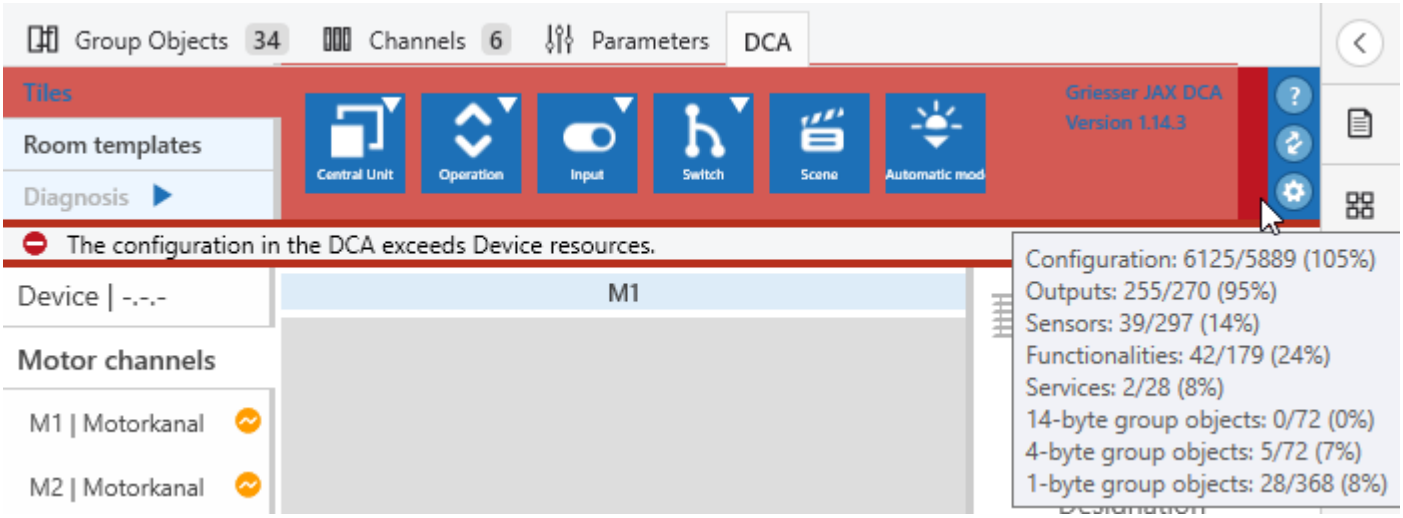
The memory is sufficient for an average of 15 to 20 tiles per channel. Depending on the tile type, the required memory for the parameters and group objects etc. differs. If the memory is low or exceeded, a message appears in the DCA.

Memory is getting low



Once more than 80% of the memory has been used, an orange bar appears on the right side showing the “level” or the remaining memory.

Memory exceeded



The following message appears when the device memory is exceeded: “The configuration in the DCA exceeds Device resources.”
The configuration can still be created in the DCA, but it cannot be downloaded.

Memory per channel
If a large stack with various tiles is created on a single channel, the total memory is sufficient. If this large stack were copied to all channels, the total memory would no longer be sufficient. This is indicated by an icon on the motor channel so that this possible bottleneck can be recognised for the test case on a channel.

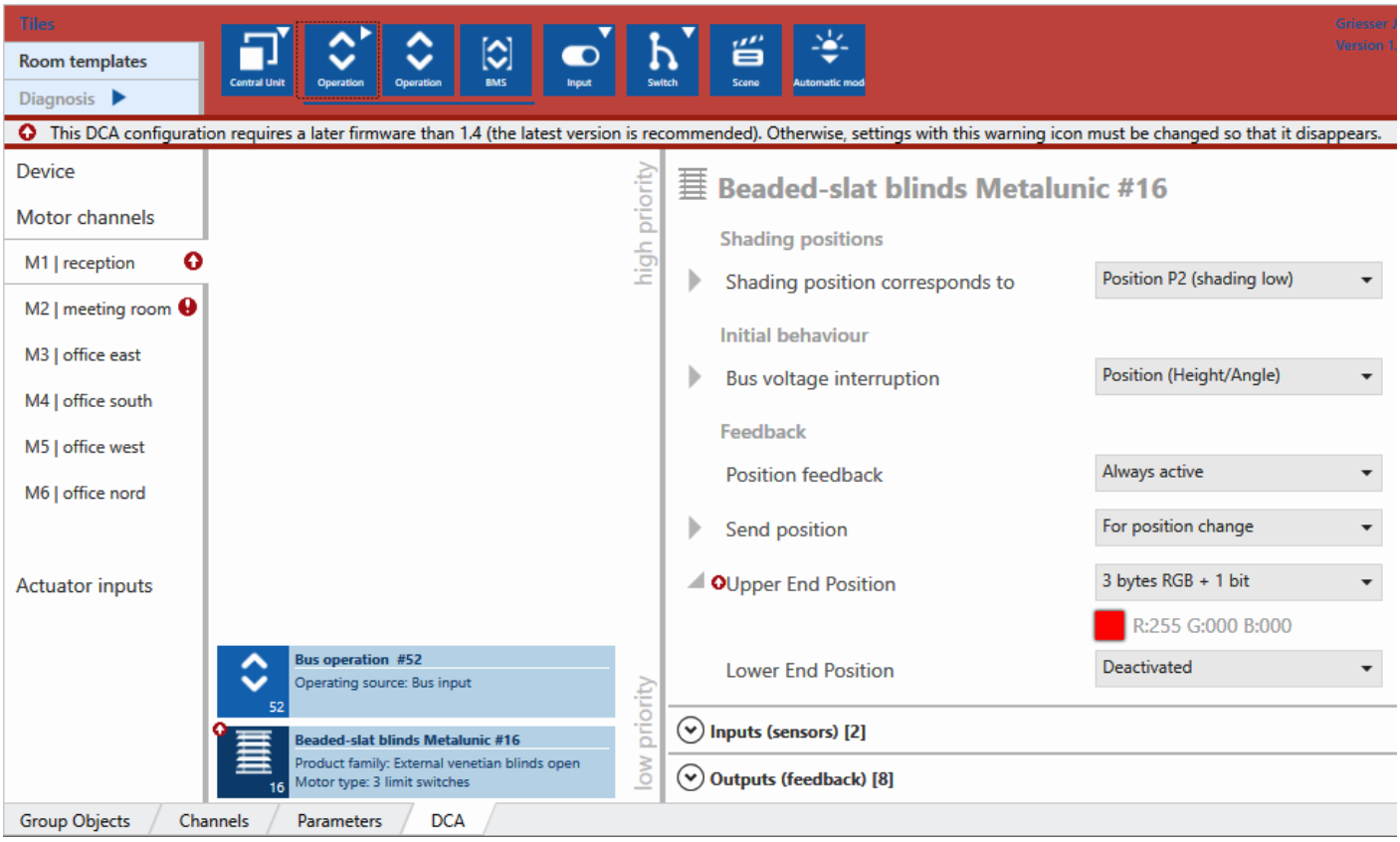
Icon	Message
	The stack configuration may exceed the Device resources if this stack is copied to all channels.

DCA Warning Messages

Update

If a new DCA version is available, the following message may appear when you open the DCA:
Update DCA configuration
The device was configured with an older DCA version. The current DCA version can optimise the current configuration. This may reset “ETS programming status flags”. Do you want to rewrite the configuration now?
With “Yes, update configuration”, the adjustment will be made and the device must be restarted.
With No, keep configuration, no adjustment is made.

Configuration



Icon	Message
	The created configuration is incomplete. It can be downloaded, but the incorrect tile will not be loaded. The “Incomplete configuration” icon is displayed for the corresponding parameter, on the tile and on the channel. Typical incomplete configurations include, for example, a Griesser object tile without a sector address or an operating function of a local operation without an assignment to contact input.
	The selected function requires a higher firmware version than that of the blind actuator (or as set under “Validation” in the DCA area “Firmware”). A download is not possible with this version. If the configuration does not match the selected version, a red bar is displayed. You then have two options: - Adjust the tile function so that it is compatible with the firmware version. - Carry out a Firmware update for the device. The “Higher firmware version” icon is displayed for the device, corresponding channel, tile and incompatible parameters.

Diagnosis

Icon	Message
	There was a malfunction The actuator could not execute any functions because there was a missing supply voltage, missing bus voltage or a reset process.

DCA Toolbox

Area of application

The DCA toolbox can be used to create a specific configuration for several devices at the same time. This includes the changes in all selected channels at the same time, such as...

- Enabling DCA mode
- Setting the parameter values for the facade product
- Applying room templates and adjusting the sector address in all Griesser object tiles
- Creating a description of the motor channel groups in the ETS with the product and sector address
- Updating the DCA version
- Setting firmware validation

The DCA toolbox is used to assign the individual KNX RF drives (Griesser ECX) to a physical address based on the serial number.

The DCA toolbox will continue to be developed – its functions are not exhaustive.

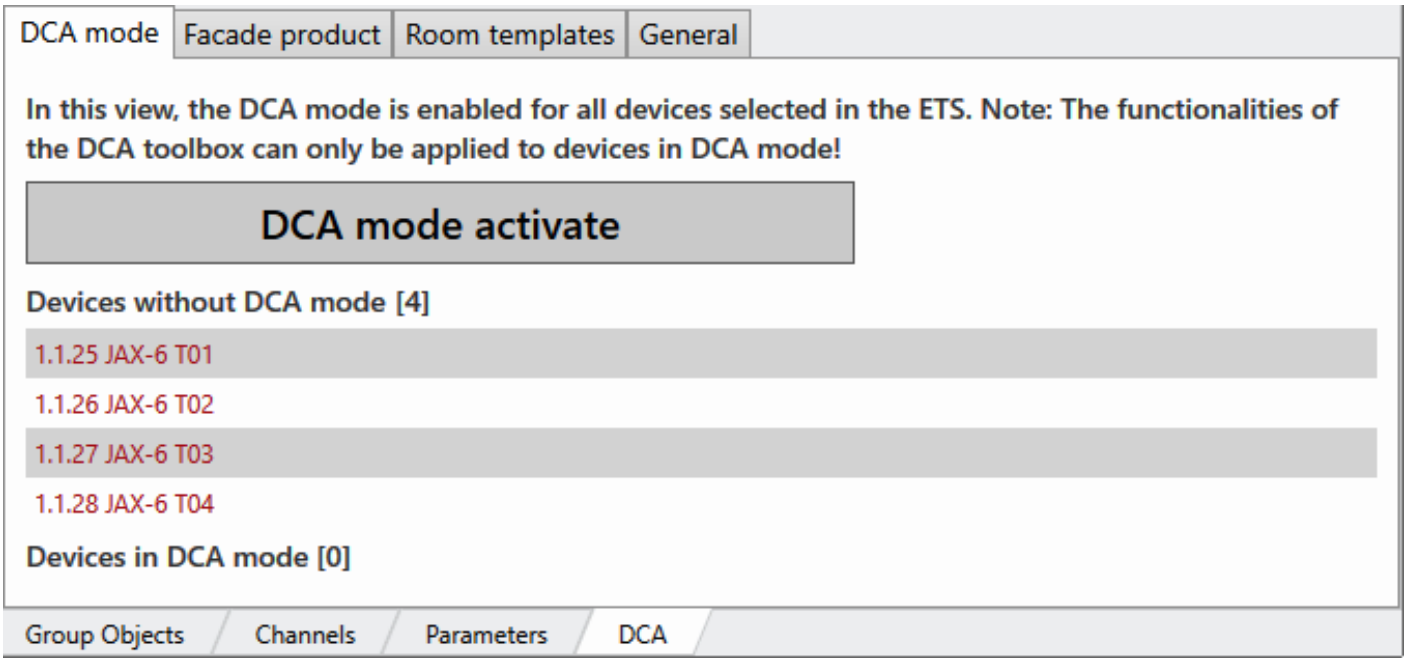
Procedure

- Disable ETS compatibility mode (Compatibility Mode App) before using the DCA toolbox. The “Compatibility Mode App” can be found with the apps (bottom right) in the ETS and is used for old plug-ins. If this remains switched on, it can lead to a scarcity of resources when handling many devices with the DCA toolbox.
- In the ETS, select all devices of the same type (e.g. only JAX-3; no JAX-1, JAX-6, JAX-9 or other devices may be selected at the same time).
- Select the “DCA” tab of a device (if the “DCA” tab is not visible, it may be that not all selected actuators are of the same type)
- The Griesser DCA Toolbox is activated.
- Make the desired adjustments.
- Close the DCA Toolbox by selecting a single device in the ETS.
- Reactivate the “Compatibility Mode App”.

DCA Toolbox Functions

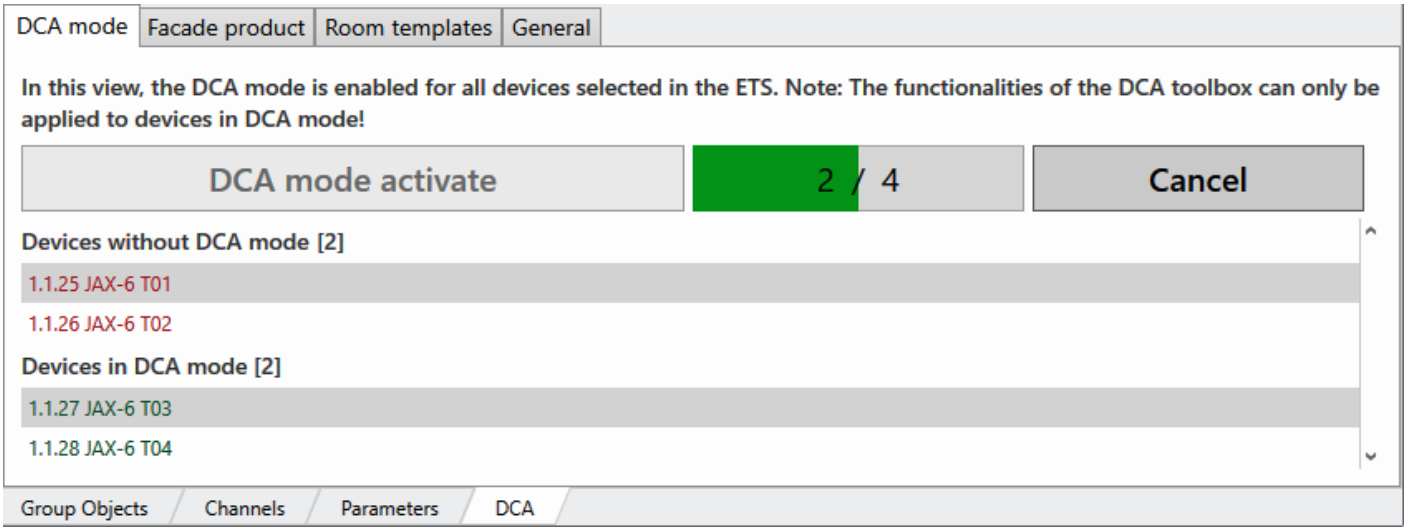
DCA mode

In this view, the DCA mode is enabled for all devices selected in the ETS.
Note: The functionalities of the DCA toolbox can only be applied to devices in DCA mode!



With **"**DCA mode activate**"**, all selected devices are put into DCA mode. Processing in the Parameter View of the ETS is then no longer possible.

The selected devices are displayed as number Devices without DCA mode and number Devices in DCA mode. The Devices without DCA mode are transformed, and the remaining devices remain unchanged.

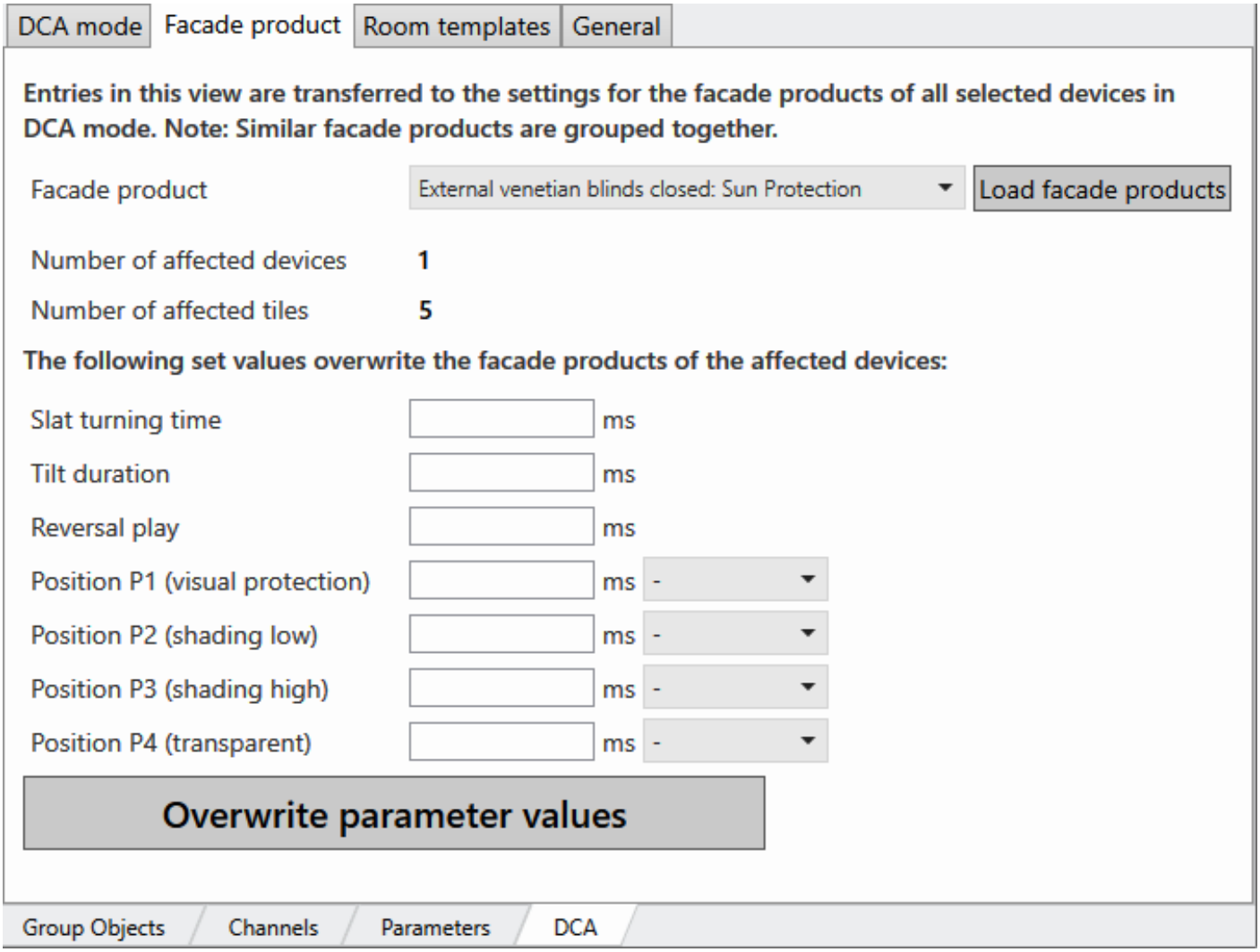


Facade product

Entries in this view are transferred to the settings for the facade products of all selected devices in DCA mode.
Note: Similar facade products are grouped together.

Load facade products
After selecting "Load facade products", all selected devices are searched for identical settings and are grouped together. The groups are visible in the Facade product selection window.

After selecting a group, the system displays the following:
Number of affected devices
Number of affected tiles



The following parameters can be set to the same value for a group of facade products:

Parameter Name	Selection	Description
Slat turning time [1]	0 ... 25,000 ms	Turning time of the slat from the lower end position to maximum opening (upward movement position). Time step: 10 ms
Slat turning time with blind raised [2]	0 ... 25,000 ms	Turning time of the slat from the downward movement position to maximum opening (upward movement position). The value set here must never exceed the value set under **Slat turning time**. Time step: 10 ms
Tilt duration	0 ... 600 s	This setting is used for fine manual positioning. For slat products, the setting determines the turning

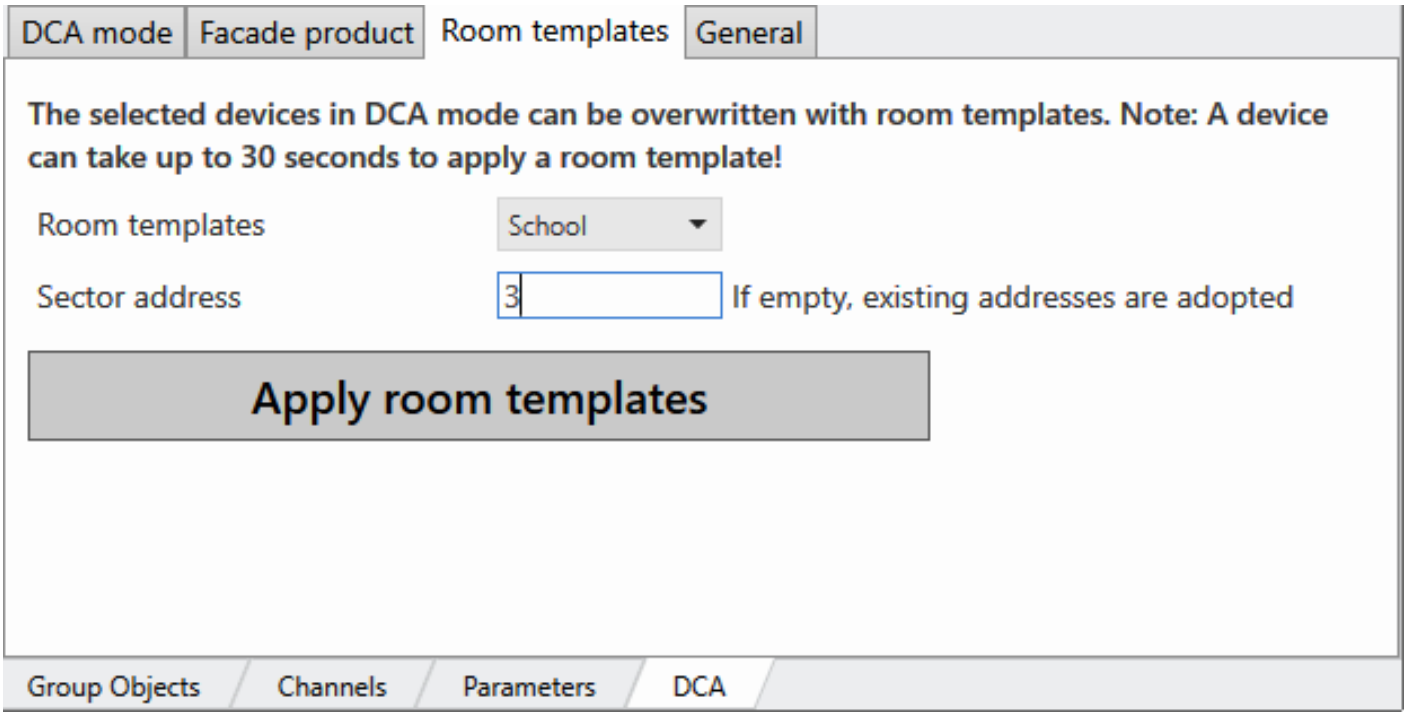
[1]Parameter is visible if a **Slat product** is selected. This setting is possible in the DCA and in the Parameter View; the settings are synchronised automatically.
[2]Parameter is visible if a **External venetian blinds open** is selected. This setting is possible in the DCA and in the Parameter View; the settings are synchronised automatically.

		movement of the slats for one impulse (e.g. a short keystroke).
Reversal play [1]	0 ... 10 s	Compensation for the mechanical reversal play after a change in direction.
Position P1 (visual protection)	0 … 10 min	Time from Down2: The closed slat position is used as the reference position. ■ Positive value: Causes opening at the set time ■ Negative value: Is not possible
Position P2 (shading low)	0 … 10 min	
Position P3 (shading high)	0 … 10 min	
Position P4 (trans-parent)	0 … 10 min	

The “Overwrite parameter values” button overwrites the values in all devices of the group.

Room templates

The selected devices in DCA mode can be overwritten with room templates.
Note: A device can take up to 30 seconds to apply a room template!



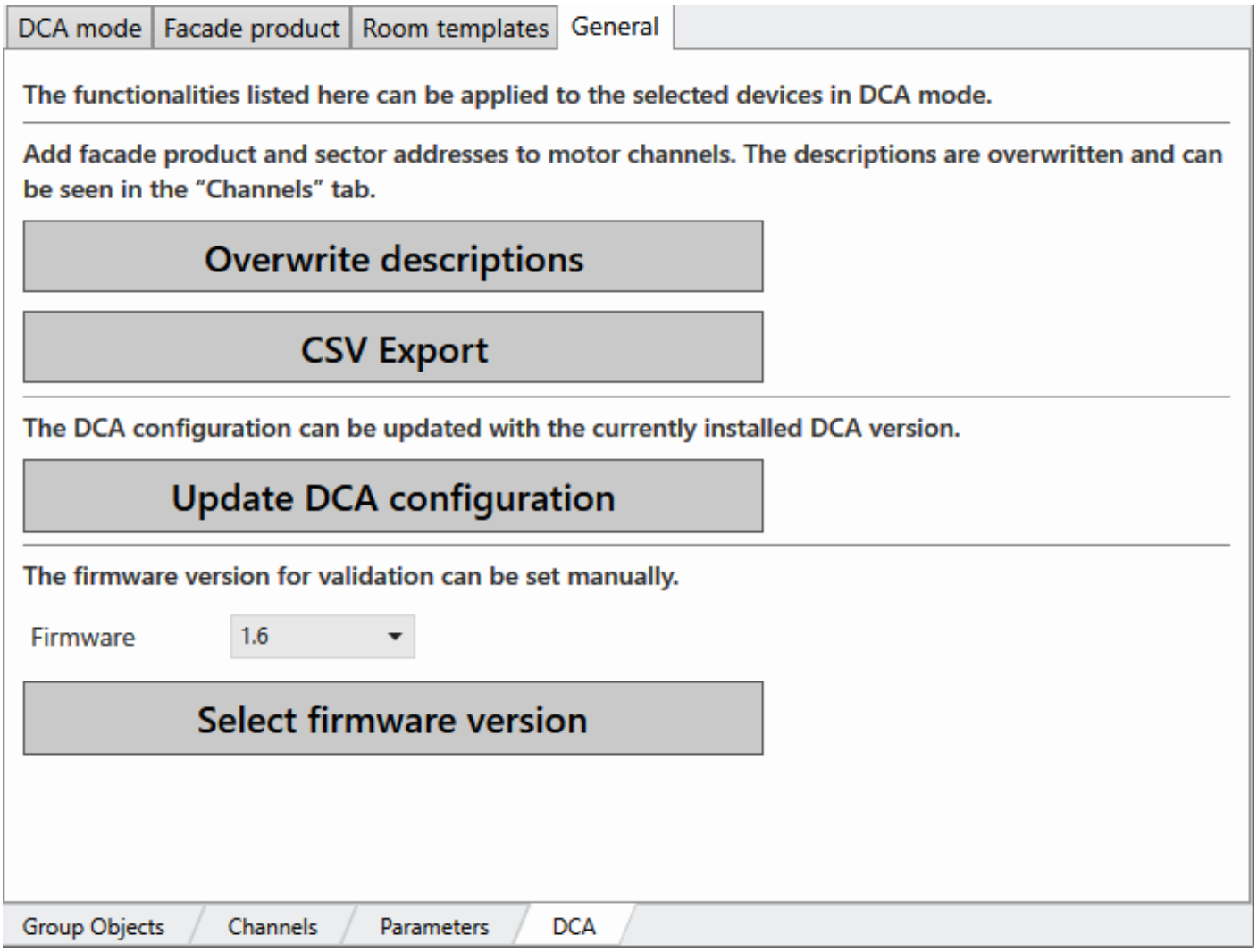
Load room templates
After selecting “Load room templates”, the existing room templates are displayed in the selection list.

For the selected room template, the sector address can be set for the Griesser object tiles.
If empty, existing addresses are adopted.

[1] Parameter is visible if a **Slat product** is selected.

The “Apply room templates” button inserts the desired room template into all devices and channels and, if necessary, adds the corresponding sector address to the Griesser object tiles.

General



Add facade product and sector addresses to motor channels. The descriptions are overwritten and can be seen in the “Channels” tab.

The “Overwrite descriptions” button is used to enter the information into the ETS.

The DCA configuration can be updated with the currently installed DCA version. The DCA does not have to be opened for each device in order to update it. Updating the DCA does not affect the configuration that has already been created.

The “Update DCA configuration” button is used to upgrade the DCA to the current version for all selected products.

The firmware version for validation can be set manually.

Load firmware
The “Load firmware” button lists the existing firmware versions in the selection field.

The “Select firmware version” button selects the relevant version for validation. Here, the firmware is not loaded into the selected products. Instead, the firmware version to be checked is selected in the DCA.

Configuring Motor Channels

In the **“Motor channels”** view, channel-specific configurations are set based on tiles and priorities due to their vertical arrangement.

Motor channel context menu

Right-clicking on a motor channel (in the list on the left side of the DCA) opens a window with the following functions:

Function	Effect
Activate channel [1] Deactivate channel [2]	“**Activate channel**” is used to activate an inactive motor channel. “**Deactivate channel**” is used to deactivate an active motor channel. These two functions of the DCA correspond to activating and deactivating the checkbox in the “**Motor channels**” parameter view (see chapter Activating Motor Channels). In the list of motor channels on the left side of the DCA, **inactive channels are displayed crossed out**. When deactivating a channel in the DCA, the **Tile stack of the motor channel[3] including the associated group objects is deleted**.
Rename	Change the designation of the motor channel. This function can also be performed directly with the F2 key instead of via the context menu.
Copy	Copy Tile stack of the motor channel [4] to the clipboard.
Cut	Copy Tile stack of the motor channel [5] to the clipboard and delete it in the channel.
Delete	Delete Tile stack of the motor channel [6].
Insert (new ID) [7] Reference (same ID) [8]	Paste clipboard contents (tile stack or individual tile): ▪ Replace Tile stack of the motor channel [9] with clipboard ▪ Insert tile from clipboard into the motor channel The “**Insert (new ID)**” function gives each inserted tile a new ID (copy of the original tile), while the “**Reference (same ID)**” function applies the ID (link to the original tile).
Create room template	Save Tile stack of the motor channel [10] as a room template (see chapter Room Templates).

[1] this function is only visible if the motor channel is inactive
[2] this function is only visible if the motor channel is active
[3] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”
[4] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”
[5] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”
[6] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”
[7] The function is available in the context menu if the contents of the clipboard can be pasted into the selected location.
[8] The function is available in the context menu if the contents of the clipboard can be pasted into the selected location.
[9] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”
[10] All tiles in the stack of the motor channel except the lowest tile “**Sun Protection**”

Assigning tiles to the motor channels

The available tiles are displayed in the Tiles display area.

- Select a tile and drag it into the column of the desired motor channel (for example, M1). Position the tile according to the required priority
  The higher a tile is in the stack, the higher is its priority.
- Settings for the selected tile can be adjusted in the **"Configuration"** area.

Sun Protection

The "Sun Protection" tile includes facade product settings and basic functions of the motor channel:

- Facade Product
- Motor
- Shading positions
- Initial Behaviour
- Feedback
- Diagnosis for Sun Protection
- Calibration Guide

Facade Product

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Product family [1]	■ External venetian blinds open ■ External venetian blinds closed ■ Roller shutters ■ Sliding-arm awning ■ Patio awning ■ Vertical awning ■ Window ■ Sliding shutters ■ Large slats	Selection of Facade product families as an umbrella term, irrespective of the manufacturer. The selection of child Manufacturer, Product type and Product criteria is filtered based on the Product family setting.
Manufacturer [2]	■ General	Filtering by manufacturer-neutral or manufacturer-specific products:General: The **Product type** parameter shows manufacturer-neutral products which match the selected **Product family**.Griesser: The **Product type** parameter shows manufacturer-specific products from Griesser AG which match the selected **Product family**. : The **Product type** parameter shows manufacturer-neutral products which match the selected **Product family**.
	■ Griesser	The **Product type** parameter shows manufacturer-specific products from Griesser AG which match the selected **Product family**.
	■ Hella	The **Product type** and **Product** parameters show manufacturer-specific products from

[1]This setting can be configured in the DCA and in the Parameter View; the settings are synchronised automatically.
[2]Parameter is visible if manufacturer-specific products are configurable for the selected **Product family**.

		HELLA Sonnen- und Wetterschutztechnik GmbH which match the selected **Product family**
Product type [1]	■ Unknown	Selection of the product or a product group:: The **Product** parameter shows all entries that match the **Product family** and **Manufacturer** settings
	■ Aluflex ■ Grinotex ■ Lamisol ■ Metalunic ■ Solomatic ■ Roller slats	Griesser AG facade products
	■ Z slats	Beaded-slat blinds with Z profile from HELLA Sonnen- und Wetterschutztechnik GmbH
	■ Flat slats	Beaded-slat blinds of type “Flat slats” from HELLA Sonnen- und Wetterschutztechnik GmbH
Product [2]	... ■ Lamisol 90 Reflect ... ■ Metalunic V 45° ■ Metalunic V 70° ■ Solomatic R II ... ■ Folding-arm awning ■ Sun room awning ...	If different versions can be configured for the chosen selection with the **Product family**, **Manufacturer** and **Product type** parameters, the selection with the **Product** parameter can be specified with regard to criteria such as the blind type, design, version, slat width, operating position, etc. Depending on the preselection made, some possible selection list entries are listed on the left for illustration purposes.
	■ General	no specific design
Slat turning time [3]	0 ... 25,000 ms	Turning time of the slat from the lower end position to maximum opening (upward movement position). Time step: 10 ms Note: Use the Calibration Guide if necessary.
Slat turning time with blind raised [4]	0 ... 25,000 ms	Turning time of the slat from the downward movement position to maximum opening (upward movement position). The value set here must never exceed the value set under **Slat turning time**. Time step: 10 ms Note: Use the Calibration Guide if necessary.
Tilt duration	0 ... 600 s	This setting is used for fine manual positioning. For slat products, the setting determines the turning movement of the slats for one impulse (e.g. a short keystroke).

[1]Parameter is visible if different products are configurable for the selection made with the **Product family** and **Manufacturer** parameters.
[2]Parameter is visible if different versions are configurable for the selection made with the **Product family**, **Manufacturer** and **Product type** parameters.
[3]Parameter is visible if a **Slat product** is selected. This setting is possible in the DCA and in the Parameter View; the settings are synchronised automatically.
[4]Parameter is visible if a **External venetian blinds open** is selected. This setting is possible in the DCA and in the Parameter View; the settings are synchronised automatically.

		Note: Use the Calibration Guide if necessary.
Reversal play [1]	0 ... 10 s	Compensation for the mechanical reversal play after a change in direction. Note: Use the Calibration Guide if necessary.

Motor

Parameter Name	Selection	Description
Motor type [2]	■ 2 limit switches	Operation with 1 upper and 1 lower limit switch
	■ 3 limit switches	Operation with 1 upper and 2 lower limit switches
Motor version [3]	■ Standard	conventional blind drive 230 VAC
	■ Griesser ECM	Electronic. drive “Soft Closing” ECMx.01 or JA Comfort (2 limit switches) or ECMx.51 or JAR Comfort (3 limit switches)
Relay switching time	500 ... 10,000 ms	Direct switching from one direction to another is executed with a delay (protection of the motor).
Operating time measurement	■ On	The operating time is automatically determined and saved. Also see the chapter Operating Time Measurement in the appendix. Also see the chapter Operating Time Measurement in the appendix. *Use:* Thanks to the immediate end position detection, beaded-slat blind products can tilt to the shading position without any disruptive dark phase as soon as the lower end position has been reached (i.e. in contrast to operation with the operating time measurement switched off, there is no need to wait for an operating time calculated for an extreme case).
	■ Off	The operating time is not automatically determined, but must be set manually. *Note:* Changes due to ageing and heat differences are already taken into account in the actuator. This allows the manually measured operating time to be set without a safety reserve. *Use:* Movement can also be made to target positions between the end positions using electrical constellations in which the automatic operating time measurement is not applicable (for example, motors coupled via cut-off relay)
Operating time Up [4]	00:01 ... 10:00 [mm:ss]	Full operating time from the lower to the upper end

[1] Parameter is visible if a **Slat product** is selected.

[2] Parameter is visible if “Product family” is set to “External venetian blinds open” and a JAX-1, JAX-3 or JAX-6 is configured

[3] Parameter is visible if “Product family” is set to “External venetian blinds open” or “External venetian blinds closed”

[4] Parameter is visible if “Operating time measurement” is set to “Off”

		position.Input of operating time based on manual measurement. Note: Use the Calibration Guide if necessary.
Operating time Down [1]	00:01 ... 10:00 [mm:ss]	Full operating time from upper to lower end position. Input of operating time based on manual measurement. Note: Use the Calibration Guide if necessary.
Motor start-up delay [2]	0 ... 10,000 ms	The set time corresponds to the delay from the closing of the motor circuit to the start of the triggered movement.
Motor Overtravel Up	00:01 ... 10:00 [mm:ss]	The set time compensates for the overtravel of the motor in the upward direction after opening the motor circuit.
Motor Overtravel Down	00:01 ... 10:00 [mm:ss]	The set time compensates for the overtravel of the motor in the downward direction after opening the motor circuit.
Motor connection		Changing the terminal assignment in the event of incorrect wiring at the motor output: (For changing the terminal assignment at the output, see “Button assignment” setting under Operation via Contact Input)
	■ Don't change	The movement to the **upper** end position occurs via the △ connection (Up). The movement to the **lower** end position occurs via the ▼ connection (Down).
	■ Swap Down1/Down2 [1]	The movement to the **intermediate** limit switch occurs via the ▼ connection (Down2). The movement to the **lower** end position occurs via the ▽ connection (Down1).
	■ Swap Up/Down	The movement to the **upper** end position occurs via the ▼ connection (Down). The movement to the **lower** end position occurs via the △ connection (Up). *Note:* The “Swap Up/Down” selection also changes the assignment of the direction of movement for the test buttons as well as for the “Operating time Up”, “Operating time Down”, “Motor Overtravel Up” and “Motor Overtravel Down” parameters.

[1]Selection is visible if “Motor type” is set to “3 limit switches”

Shading Positions

Parameter Name	Selection	Description
Shading position corresponds to	■ Position P1 (visual protection) ■ Position P2 (shading low)	The selected Shading position P1...P4 with its time setting is applied as the shading position.

[1]Parameter is visible if “Operating time measurement” is set to “Off”
[2]Parameter is visible if “Operating time measurement” is set to “Off”

	■ Position P3 (shading high) ■ Position P4 (transparent)	
Position P1 (visual protection) Position P2 (shading low) Position P3 (shading high) Position P4 (transparent)	■ Time from Down1 0 ... 10 mins ■ Time from Down2 0 … 10 min	Specifies the Shading positions P1...P4 . Time from Down1: The downward opening slat position is used as the reference position. The value causes the opening at the set time. Time from Down2: The closed slat position is used as the reference position. The value causes the opening at the set time. Note: Use the Calibration Guide if necessary.
Correction factor	0 ... 200%	Ensures the adjustment of a prescribed slat angle and the Shading positions P1...P4 for slat products: 0% ... 99% reduces the opening of the slats, while 101% ... 200% increases the opening of the slats. A correction factor received from the sun protection central unit (in Griesser object) is multiplied by the factor of the motor channel defined here.

Initial Behaviour

Parameter Name	Selection	Description
Bus voltage interruption	■ Not Active ■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle ■ Position (Height/Angle) ■ Position (P1-P4)	"Not Active" setting: The actuator does not respond to the bus voltage interruption **Remaining settings:** In the event of a bus voltage interruption , movement is made to the selected position and the operation is locked out. However, the test buttons on the actuator can be used for operation. The command will only be executed if the bus voltage is interrupted for more than 10 minutes. This is to prevent brief interruptions from having an effect on the entire system.

Height [1]	0 ... 100%	0% 100%	Blind fully retracted Blind fully extended
Angle [2]	0 ... 100%	0% 100%	Slats fully open Slats closed
Position (P1-P4) [3]	■ Position P1 (visual protection) ■ Position P2 (shading low)		

[1]Parameter is visible if the "Blind height" or "Position (Height/Angle)" positioning command is selected.
[2]Parameter is visible if the "Slat angle" or "Position (Height/Angle)" positioning command is selected.
[3]Parameter is visible if the " Position (P1-P4) " positioning command is selected.

	■ Position P3 (shading high) ■ Position P4 (transparent)	
Bus voltage recovery	see Bus voltage interruption	When the bus voltage is restored, the position selected will be moved to and operation will be enabled. The command is executed only if the **Behaviour in Case of Bus Voltage Interruption** was previously executed.
Network voltage recovery	see Bus voltage interruption	When the network is restored, the selected position will be moved to and operation will be enabled.
Reset [1]	see Bus voltage interruption	After resetting, movement is made to the selected position and the operation is released.

Feedback

The accuracy of the feedback depends on the set **Operating time** and **Slat turning time** parameters and on the selected drive strategy, and it may vary.

Position feedback

Parameter Name	Selection	Description
Position feedback	■ Suppressible ■ Always active	If **Position feedback = suppressible** is selected, the **Activate position feedback Mn** group object for the corresponding motor channel n is shown. With this object, all feedback concerning the position (i.e. height, angle, upper/lower end position, shading area, position unknown) of the blind actuator for this motor channel can be switched on or off if necessary. The remaining feedback, such as lock-out functions, is always active. When the feedback is activated, the: - 1-byte height / angle feedback is sent to the bus (regardless of whether or not the value has changed). - 1-bit feedback is not sent. - 4-byte BMS feedback is sent to the bus (if the send criterion is set to “For change”).
Send position	■ No (switched off)	The group objects for **Height** and **Angle** feedback are hidden.
	■ Readout Only	The group objects for **Height** and **Angle** feedback are shown. The current values can be read via a read request.
	■ Upon reaching target	The group objects for **Height** and **Angle** feedback are shown. Each time the prescribed position is reached, the blind actuator sends the current position (height and angle).
	■ For position change	The group objects for **Height** and **Angle** feedback are shown. The **Send for change by** parameter is shown.

[1] Restart of device due to ETS download.

		■ No (switched off): The group objects for **Height** and **Angle** feedback are hidden. ■ Readout Only: The group objects for **Height** and **Angle** feedback are shown. The current values can be read via a read request. ■ Upon reaching target: The group objects for **Height** and **Angle** feedback are shown. Each time the prescribed position is reached, the blind actuator sends the current position (height and angle). ■ For position change: The group objects for **Height** and **Angle** feedback are shown. The **Send for change by** parameter is shown. *Note on height position feedback:* The following criteria must be met for valid height position feedback: ■ With the end position detection switched on: The facade product must be calibrated (full movement from the bottom to the top without interruption of the movement or limitation of operation). ■ With the end position detection switched off: There must have been movement at least once to the upper or lower end position. *Note on angle position feedback:* For a valid angle position, the slat angle must have been moved to an end position once (fully closed or fully open).
Send for change by [1]		The group objects for **Height** and **Angle** feedback send the value 0 and 255, as well as each of the set intermediate levels, when height and angle reach or exceed one of these position values. This produces the following number of feedback messages, depending on the setting: *Note:* The % values refer to the full blind height from **Up** to **Down**, or to the full slat turning from **fully closed** to **fully open**. The **Activate feedback** group object controls the **Height** and **Slat angle** feedback. ■ 10%: 11 feedback messages (Lower, 9 intermediate positions, Upper) ■ 20%: 6 feedback messages (Lower, 4 intermediate positions, Upper) ■ 25%: 5 feedback messages (Lower, 3/4, Centre, 1/4, Upper) ■ 50%: 3 feedback messages (Lower, Centre,

[1]The “Send for change by...%” selection is shown with the “Send position” = “For position change” setting

		Upper)
	■ 10%	11 feedback messages (Lower, 9 intermediate positions, Upper)
	■ 20%	6 feedback messages (Lower, 4 intermediate positions, Upper)
	■ 25%	5 feedback messages (Lower, 3/4, Centre, 1/4, Upper)
	■ 50%	3 feedback messages (Lower, Centre, Upper)
Upper End Position	■ Deactivated ■ 1 bit ■ 3 bytes RGB ■ 3 bytes RGB + 1 bit Colour selector | RGB value	Setting as to whether and how the feedback occurs: - do not show group object (GO) - only show 1-bit GO - only show RGB GO - show both GOs Display of colour field and 8-bit RGB value in each case for red, green and blue is indicated by the colour selector in the tooltip
Lower End Position	same	
Shading Area	same	
Target position reached	same	
Position Unknown	same	
Colour when inactive 1	Colour selector | RGB value	If no state is active, the colour value “inactive” is sent. Display of colour field and 8-bit RGB value in each case for red, green and blue is indicated by the colour selector or can be adjusted manually.

Availability feedback

Parameter Name	Selection	Description
Motor power failure	■ Deactivated ■ 1 bit ■ 3 bytes RGB ■ 3 bytes RGB + 1 bit Colour selector | RGB value	Setting as to whether and how the feedback occurs: - do not show group object (GO) - only show 1-bit GO - only show RGB GO - show both GOs Display of colour field and 8-bit RGB value in each case for red, green and blue is indicated by the colour selector in the tooltip
	same	
Automatic mode lock-out	same	See " Compatibility list of blind actuators" auf Seite 127
Operational lock-out	same	
Safety lock-out	same	
Limitation	same	
Height limited	same	
Angle limited	same	
Colour when inactive 2	Colour selector | RGB value	If no state is active, the colour value “inactive” is sent. Display of colour field and 8-bit RGB value in each

		case for red, green and blue is indicated by the colour selector or can be adjusted manually.

Operating data feedback

Parameter Name	Selection	Description
Operating time of motor	■ Deactivated	The **Operating time of motor** group object is shown. Sum of the time periods within which the motor has moved. This counter can be reset.
	■ Readout Only	
	■ If the limit value is exceeded	
Limit value [3]	[1.... 100,000]	
Resend		If the limit value is exceeded, the value can be resent. When resending, a change of plus 2% of the value content (as of the limit value) resends the object.
Operating time blind	same	The **Operating time blind** group object is shown. Sum of the time periods within which the blind was in an extended state (and exposed to the weather). This counter can be reset.
Motor overcurrent	same	The **Motor overcurrent** group object is shown. Number of channel shutdowns as a result of impermissible current flow (> 5 A) on the motor channel.
Motor switching cycles	same	The **Motor switching cycles** group object is shown. Number of switching cycles of the controlled motor with load (only with the current detection switched on, otherwise the number of relay circuits is counted). This counter can be reset.

BMS feedback

Parameter Name	Selection	Description
Send BMS object	■ Off	The **Feedback of all commands** group object is shown.
	■ On (readout only)	The actuator never sends actively, and the control system must make a request instead.
	■ For malfunction change	If applicable, the actuator sends the status messages **Check the motor and lead wire** or **Device defective**.
	■ For changes	The actuator sends each time the status messages are changed or the target position is reached. If, for the Send position parameter, the Suppressible entry is selected, fault changes are always sent and the position confirmations are sent depending on the value in the group object (1=send, 0=do not send).
BMS coding	■ Griesser	The coding in the BMS output object corresponds to

		... the Griesser definition, as used in the MSX and MGX products since 2005.
	■ KNX	... the KNX specification according to DPT 241.800, which is defined as of 2015.

Group objects feedback

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Height 0…255	Sun Protection (Mn), Height feedback	Blind height feedback for motor channel n	1 byte (5.001) (C R - T -)
Angle 0…255	Sun Protection (Mn), Angle feedback	Feedback of the slat angle for motor channel n The effective slat angle is output. The returned slat angle may deviate from the target position if, for example, there is a restriction or a correction factor.	1 byte (5.001) (C R - T -)
On / Off	Sun Protection (Mn), Activate position feedback	With this object, all configured position feedback (height, angle, end positions, shading area, target reached) for the motor channel n can be unlocked (object value = on) or suppressed (object value = off)	1 bit (1.001) (C - W - -)
RGB object blinking	Sun Protection (Mn), RGB feedback blinking	Additional status information about the RGB colour.	1 bit (1.002) (C R - T -)
BMS object	Sun Protection (Mn), Feedback of all commands	Feedback to the building management system via a single 4-byte object. A feedback message contains the current position (height/angle) as well as status information.	4 bytes (12.000 or 241.800) (C R - T -)
Operating time of motor	Sun Protection (Mn), Operating data	Sum of the time periods within which the motor has moved. This counter can be reset.	4 bytes (13.100) (C R - T -)
Operating time blind	Sun Protection (Mn), Operating data	Sum of the time periods within which the blind was in an extended state (and exposed to the weather).	4 bytes (13.100) (C R - T -)

		This counter can be reset.	
Motor overcurrent	Sun Protection (Mn), Operating data	Number of channel shutdowns as a result of impermissible current flow (> 5 A) on the motor channel.	4 bytes (12.001) (C R - T -)
Motor switching cycles	Sun Protection (Mn), Operating data	Number of switching cycles of the controlled motor with load (only with the current detection switched on, otherwise the number of relay circuits is counted). This counter can be reset.	4 bytes (12.001) (C R - T -)
Code [4]	Sun Protection (Mn), Resetting motor data	Resets the “Motor switching cycles” and “Operating time of motor” counters and should therefore be done after replacing the motor. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”. Resetting occurs by first receiving the value 127 and then receiving the value 222 within 10 minutes	1 byte (5.004) (C - W - -)
Code [5]	Sun Protection (Mn), Resetting blind data	Resets the “Operating time blind” counter and should therefore be done after replacing the blind. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”. Resetting occurs by first receiving the value 127 and then receiving the value 222 within 10 minutes	1 byte (5.004) (C - W - -)

Function	Name	Description	Type (DPT)
Yes / No		for setting “**1 bit**” or "**3 bytes RGB + 1 bit**"	1 bit (1.002) (C R - T -)
RGB object		for setting “**3 bytes RGB**” or "**3 bytes RGB + 1 bit**"	3 bytes (232.600) (C R - T -)
	Sun Protection (Mn), Feedback: Upper End Position	Feedback as to whether the blind is in the upper end position.	
	Sun Protection (Mn), Feedback: Lower End Position	Feedback as to whether the blind is in the lower end position.	
	Sun Protection (Mn), Feedback: Shading Area	Feedback as to whether the blind is in the shading position area.	
	Sun Protection (Mn), Feedback: Target position reached	Feedback as to whether the actuator has reached the prescribed target position.	

	Sun Protection (Mn), Feedback: Position Unknown	Feedback as to whether the actuator knows the blind height (object value = no) or not (object value = yes). The position is unknown, for example, after an ETS download or after a network interruption, until the next reference movement.	
	Sun Protection (Mn), Feedback: Motor power failure	The actuator sends the object value “Yes” if it detects an unexpected interruption of the motor circuit. The exact cause is unknown. Possible cases to be checked: Motor not connected, limit switch defective or thermostatic switch triggered.	
	Sun Protection (Mn), Feedback: Automatic mode lock-out	Feedback as to whether the Automatic mode lock-out is active. If a tile that executes an automatic function is locked out, the information “Automatic mode lock-out” is displayed.	
	Sun Protection (Mn), Feedback: Operational lock-out	Feedback as to whether the Operational lock-out is active. If an operating tile is locked out, the information “Automatic mode lock-out” is displayed.	
	Sun Protection (Mn), Feedback: Safety lock-out	Feedback as to whether the safety lock-out is active. If a safety tile locks out other tiles, the information “Safety lock-out” is displayed.	
	Sun Protection (Mn), Feedback: Limitation	Feedback as to whether a limitation is active in the stack. Feedback is also given if a parent lock-out is active.	
	Sun Protection (Mn), Feedback: Height limited	Feedback as to whether a limitation is preventing the target blind height from being reached. Feedback is automatically set to “0” after 10 seconds because the blind stopped at the restriction limit.	
	Sun Protection (Mn), Feedback: Angle limited	Feedback as to whether a limitation is preventing the target slat angle from being reached. Feedback is automatically set to “0” after 10 seconds because the blind stopped at the restriction limit.	

[1]Visible if “3 bytes RGB” has been selected in a state

[2]Visible if “3 bytes RGB” has been selected in a state

[3]Visible if “If the limit value is exceeded” was selected

[4]
Visible if “Operating time of motor” or “Motor switching cycles” was selected

[5]Visible if “Operating time blind” was selected

Diagnosis Sun Protection

Selecting the “Sun Protection” tile in the Diagnosis view allows operation states and events of the motor channel to be read out and displayed.
The displays in the **Current states** section are updated continuously, and the update takes place in the **Operating data** section when the Load operating data button is pressed.

Current states and Operating data

Field	Content	Description
Diagnosis cycle Input field	hh:mm:ss	Continuous reading in the background (first initial, then by selected cycle or by keystroke)
Diagnosis		
Channel number	No.	
Current states		
Time	Date / Time	
Position (actual) Blind height	 0...255 (0...100%)	
Slat angle	0...255 (0...100%)	
Shading Area	Yes / No	
Target position reached	Yes / No/ Unknown	If no data is available, “Unknown” is output.
Target position (target)		
Blind height	0...255 (0...100%)	
Slat angle	0...255 (0...100%)	The effective slat angle is output. The returned slat angle may deviate from the target position if, for example, there is a restriction or a correction factor.
Trigger	Description Tile No.	
Date / Time	Date / Time	
Limitation active Limitation of tile	Yes / No No. / Name No. / Name ... (more)	
Correction factor [1]		The correction factor affects the adjustment of a given slat angle and the shading positions P1...P4
Total	50% *25% ... 150% *225%	The total is composed of the correction factor of the central unit and the correction factor of the motor channel.
Central Unit	25% ... 225%	The correction factor “Central Unit” is received via the Griesser object.
Motor channel	0 ... 200%	The correction factor “Motor channel” can be configured specifically

		to the channel in the Blind actuator .
Operating times		
Up – Down2	.... s / unknown	
Down2 – Up	.... s / unknown	
Down1 – Down2 [2]	.... s / unknown	
Motor connection [1]	check / ok	Date / Time
Hazard 	■ Welded relay contact ■ Overcurrent	Welded relay contact, i.e. a current flows on a relay contact even though the relay is open. In this case, the device must be replaced. Overcurrent, i.e. a current greater than 5 A flowed (permissible current is 2.5 A), which could have damaged the actuator.
Fault 	■ No motor available ■ Thermal Protection ■ Lead wire interruption	No motor available: No motor is connected or the neutral conductor is interrupted. Thermal Protection, i.e. the motor drive is overheated and cannot be moved. The cooling-down time varies depending on the ambient temperature. Lead wire interruption, i.e. one of the control lines (Up/Down2/Down1) is interrupted, the movement works on a different motor line.
Operating Note 	■ Operating time change - Change facade product ■ Torque limiter	Operating time change - Change facade product: A product change is a possible cause of an operating time change. Torque limiter: The electronic motor detected an obstacle and the movement was stopped by the motor.
Malfunction	Cause (Date / Time)	Possible causes include: ■ Bus voltage interruption ■ Network voltage interruption If no data is available, “Unknown” is output.
Device restart	Cause (Date / Time)	Possible causes for the device restart include: ■ Scheduled restart ■ Network voltage interruption If no data is available, “Unknown” is output.

[1] A pending malfunction on the channel is indicated by a red product tile in the stack

Operating data		
Load operating data		Updates the displays in this section
Time	Date / Time	
Operating time of device	Duration	Sum of the time periods within which the actuator was in operation.
Overcurrent		
Last overcurrent	Date / Time	Time of overcurrent detection (or welded relay contact). The relay contacts may have been damaged by the overcurrent. Flawless operation (e.g. safety functions) is no longer guaranteed, and the motor channel may no longer be used.
Number of overcurrents	Number	Number of channel shutdowns as a result of impermissible current flow (> 5 A) on the motor channel.
Motor		
Motor switching cycles	Number	Number of switching cycles of the controlled motor with load (only with the current detection switched on, otherwise the number of relay circuits is counted). This counter can be reset.
Limit value exceeded on[3]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Operating time of motor	Duration	Sum of the time periods within which the motor has moved. This counter can be reset.
Limit value exceeded on[4]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Motor counter reset	Number	Number of resets of the “Motor switching cycles” and “Operating time of motor” counters
Reset motor counter		Resets the “Motor switching cycles” and “Operating time of motor” counters and should therefore be done after replacing the motor. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”.
Last reset on [5]	Date / Time	The diagnostic data was last reset on the specified date. If the line is not visible, a reset has never been performed.
Facade product		
Operating time blind	Duration	Sum of the time periods within

		which the blind was in an extended state (and exposed to the weather). This counter can be reset.
Limit value exceeded on[6]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Blind counter reset	Number	Number of resets of the “Operating time blind” counter
Reset blind counter		Resets the “Operating time blind” counter and should therefore be done after replacing the blind. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”.
Last reset on [7]	Date / Time	The diagnostic data was last reset on the specified date. If the line is not visible, a reset has never been performed.

Last events (actuator firmware up to version 1.5)

#	Date / Time	Tile No.Designation	Target positionHeight / Angle	Lock-out
16	**30.08.2021 / 16:36:13**	**Griesser object - Safety command #12**		**No limitation**
15	30.08.2021 / 16:35:30	Griesser object - Safety command #12		No limitation
14	30.08.2021 / 16:29:44	Bedienung Bus #11	216 / 0 85 / 0 %	
13	30.08.2021 / 16:29:44	Bedienung Bus #11		Locks out
12	30.08.2021 / 16:29:39	Bedienung Bus #11	Up position	

The last 10 events are saved per channel and can be read out via the DCA. If the diagnosis remains open with an active bus connection, the entries are continuously added to the list, making longer event lists (recordings) possible.

[1]Only visible for slat products

[2]Only visible with 3 limit switch motors

[3]Only visible if the limit value has been exceeded

[4]Only visible if the limit value has been exceeded

[5]Only visible if the motor counter has been reset

[6]Only visible if the limit value has been exceeded

[7]Only visible if the blind counter has been reset

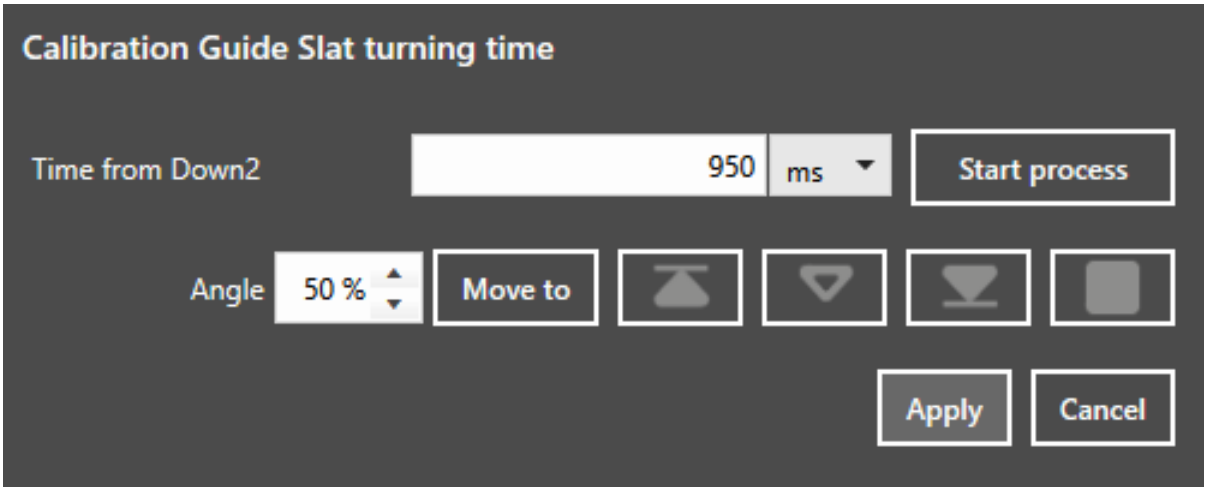
Calibration Guide

The processes described below to calibrate specific parameters of the facade product can only be performed if the ETS is connected to the bus and actuator. For this purpose, at least the individual address of the actuator must be loaded.

With the Calibration Guide, the set value can be checked directly and can be changed, if necessary, until the correct position is reached.

Slat turning time

The "**Slat turning time**" parameter determines the maximum rotation range of the slats. This ranges from fully closed slats to maximum opening of the slats (typically about 90° until the slats are horizontally aligned; certain blinds can also close a little further in the opposite direction).



Process:

- Enter "Time from Down2"
- Press the "Start process" button
- The blind moves to the lower end position and turns the slat for the specified time
- Check position to which blind has moved (maximum opening of the slats when blind is fully extended). It may be necessary to repeat 1 until the time is right.
- Further checks as needed with slat angle specifications and positioning command buttons

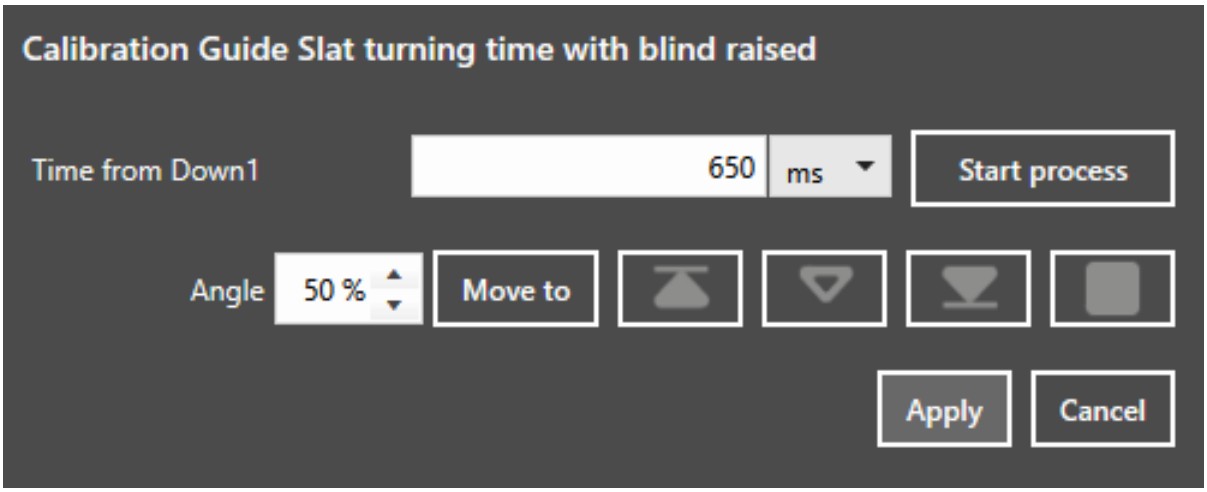
Input field, Button	Description
Time from Down2	Slat turning time from the Down2 position (lower end position: blind fully extended and slats fully closed) to the upward movement position (blind fully extended and slats fully open)
Start process	The maximum slat opening is set by moving to the lower end position and then turning for the specified time.
Slat angle Move to	Check slat orientation within the set rotation area by specifying a slat angle of 0-100%
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement. Up Shading Down STOP
Apply	Close "Calibration Guide" window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.

Cancel	Close “Calibration Guide” window without applying calibrated parameter

Slat turning time with blind raised

The “**Slat turning time with blind raised**” parameter determines the rotation range of the slats from the downward movement position to maximum opening.

This parameter is only important for downwards opening beaded-slat blinds: with this type of blind, the slats are tilted to a mechanically prescribed downward movement position when the blind is extended and do not begin to close fully until the blind is completely lowered. This is why there is **a shorter slat turning time for a raised blind than from the lower end position**.



Process:

- Enter “Time from Down1”
- Press the “Start process” button
- The blind moves to the Down1 position and turns the slat for the specified time
- Check position to which blind has moved (maximum opening of the slats when blind is fully extended). It may be necessary to repeat 1 until the time is right.
- Further checks as needed with slat angle specifications and positioning command buttons

Input field, Button	Description
Time from Down1	Slat turning time from the Down1 position (blind fully extended and slats in downward movement position) to the upward movement position (blind fully extended and slats fully open). The route between the Down1 position and the lower end position can be determined by the intermediate limit switch of a 3-limit-switch blind motor or by a parameter in the motor control.
Start process	The maximum slat opening is set by moving to the Down1 position and then turning for the specified time.
Slat angle Move to	Check slat orientation within the set rotation area by specifying a slat angle of 0-100%
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement.

	Up Shading Down STOP
Apply	Close “Calibration Guide” window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.
Cancel	Close “Calibration Guide” window without applying calibrated parameter

Tilt duration

The “**Tilt duration**” parameter specifies the duration of a single tilt step.

Process:

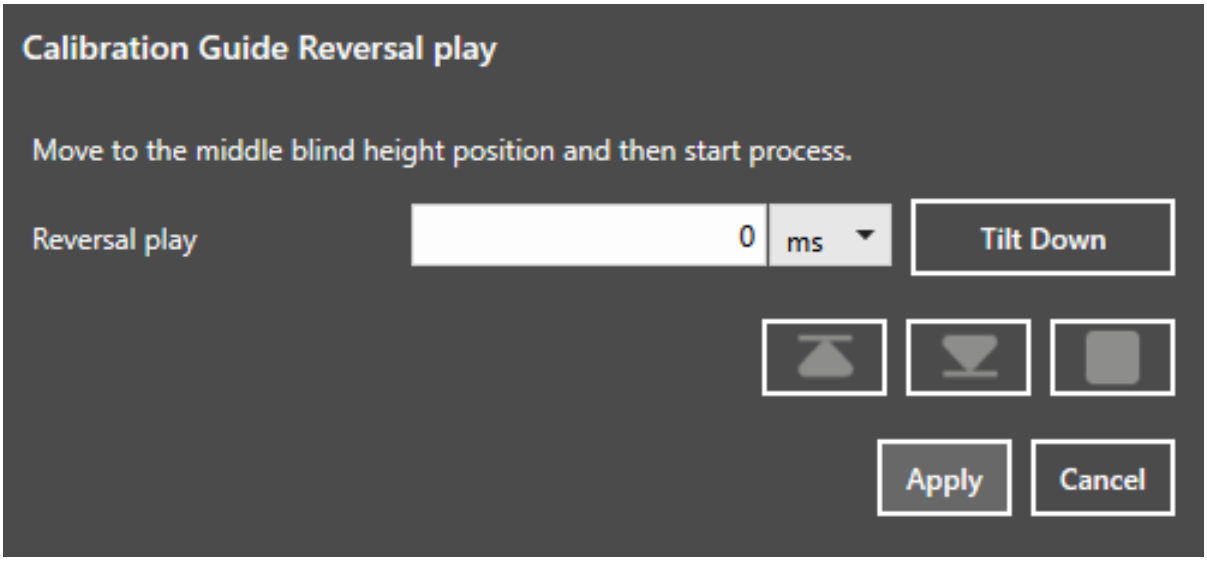
- Enter the expected tilt duration (the number of tilt steps for a full slat turn is output automatically).
- Use the “Save” button to write the time to the blind actuator.
- The set tilt duration can be checked using the tilt buttons.
- Press “Apply” to save the set time for the reversal play

Input field, Button	Description
Tilt duration	Time for the compensation of direction-dependent travel motion
Tilt	The blind tilts in the corresponding direction with “reversal play” time
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement. Up Down Tilt Up Tilt Down

	STOP
Apply	Close “Calibration Guide” window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.
Cancel	Close “Calibration Guide” window without applying calibrated parameter

Reversal play

The “**Reversal play**” parameter compensates for travel motion that is not visible on the slat when changing direction.



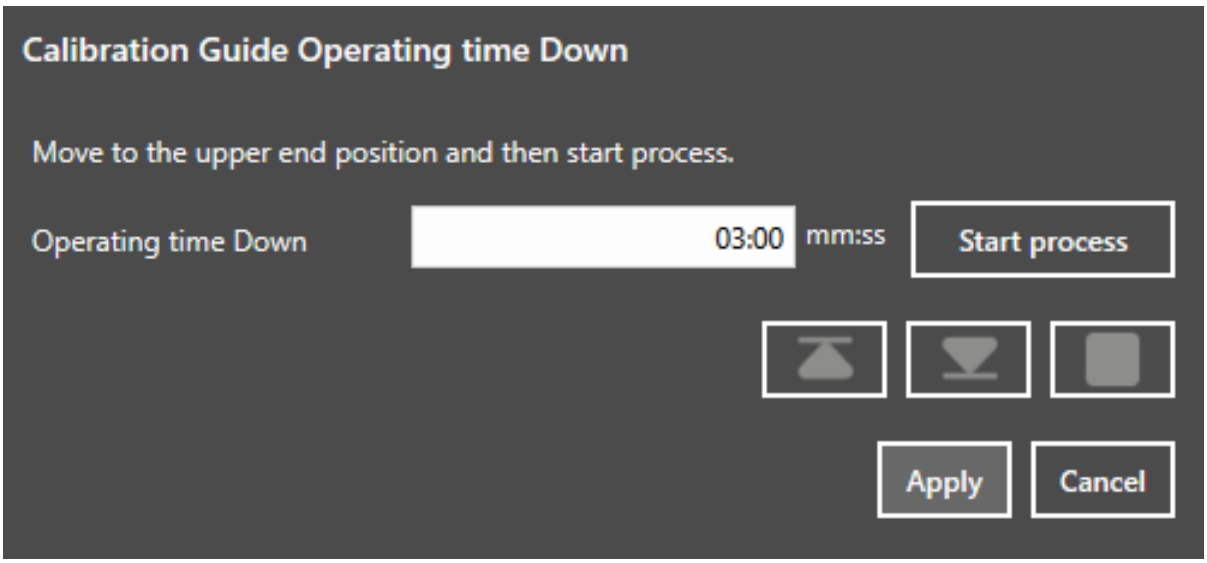
Process:

- Enter the expected time for the reversal play
- Press the “Tilt up” button. Press it again to reverse the direction of travel. You can press the button several times in succession.
- If movement on the slat is visible, the reversal play should be **reduced**.
  If there is **no** movement visible on the slat, the reversal play should be **increased**.
- The reversal play is correctly set when there is no movement on the slat.
- Press “Apply” to save the set time for the reversal play

Input field, Button	Description
Reversal play	Time for the compensation of direction-dependent travel motion
Tilt	The blind tilts in the corresponding direction with “reversal play” time
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement. Up Down STOP
Apply	Close “Calibration Guide” window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.
Cancel	Close “Calibration Guide” window without applying calibrated parameter

Operating time

The “**Operating time**” parameter determines the travel of a blind from the upper end position to the lower end position (and vice versa).



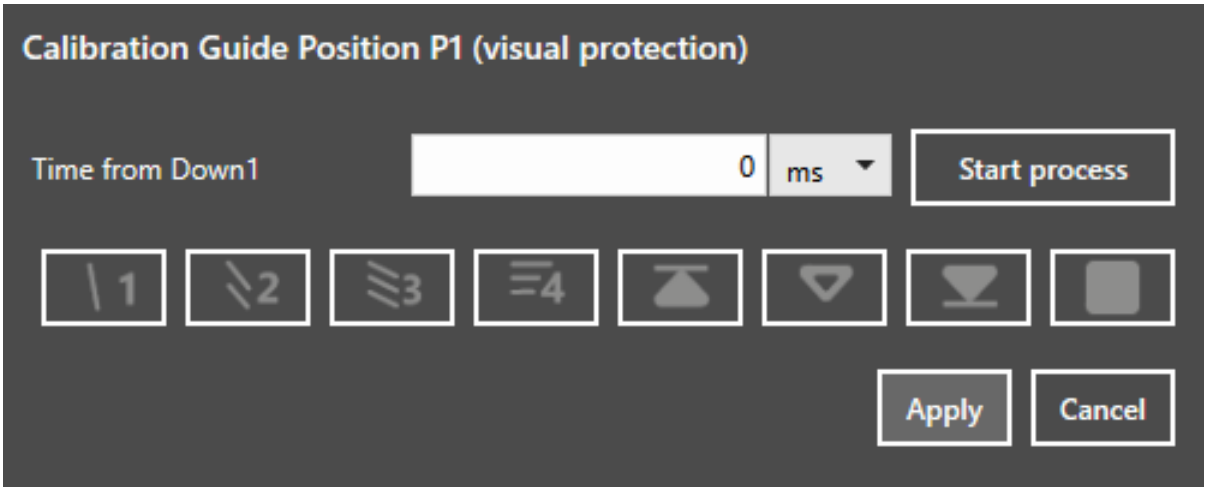
Process:

- Use the control buttons to move the blind to the upper end position (or, for setting “Operating time Up”, to the lower end position)
- Press the “Start process” button
- The blind moves to the lower end position
- Press the “STOP” button upon reaching the lower end position
- Press “Apply” to confirm the measured operating time or repeat the process.

Input field, Button	Description
Operating time	Slat turning time from the Down2 position (lower end position: blind fully extended and slats fully closed) to the upward movement position (blind fully extended and slats fully open)
Start process	After actuation, the blind moves to the corresponding end position. The current operating time is displayed continuously.
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement. Up Down STOP
Apply	Close “Calibration Guide” window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.
Cancel	Close “Calibration Guide” window without applying calibrated parameter

Shading positions P1...P4

Setting of Shading positions P1...P4 . All four Shading positions have the same Calibration Guide.



Process:

- Enter turning time from the reference position (Down1 or Down2)
- Press the “Start process” button
- The blind moves to the reference position and turns the slat for the specified time
- Check position to which blind has moved. It may be necessary to repeat 1 until the time is right.
- Further checks as needed with the buttons for moving directly to the Shading position P1...P4 and to the other positioning commands

Input field, Button	Description
Time from Down1 or Time from Down2	Turning time from the reference position (Down1 or Down2)
Start process	The Shading position is set by moving to the reference position and then turning for the specified time.
	These buttons can be used to move to each of the four Shading positions: P1 P2 P3 P4
	These buttons can be used to trigger a movement to the end positions or shading position, or to stop a current movement. Up Shading Down STOP
Apply	Close “Calibration Guide” window and apply the calibrated parameter. The actuator must be reloaded for the changed setting time to take effect.

Cancel	Close “Calibration Guide” window without applying calibrated parameter

Operation

The Operation tile group comprises:

Tile (application)	Description
Operation	Operation is triggered via the existing contact input or via the bus.
BMS	It is triggered via the **BMS input object**.

Operation of blinds

The configurable operating sources are:
- Contact input on the actuator
- Bus input

Operation of blinds settings

Parameter Name	Selection	Description
Share group objects	■ Yes, shared across the device	Group objects can either be created individually per motor channel or shared across multiple motor channels on one device. Group objects of this tile are shared across all motor channels for which the same function is configured.
	■ No, individually per motor channel	Separate group objects are explicitly created for each individual motor channel.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Operating source	■ Contact input	Selection of operation via ... ... button connected locally to the actuator
	■ Bus input	... Group objects
Input of Input of[1]	■ Local input Channel 1...3/6/9 ■ Group input ■ Local input	Actuator channel used for operating input. Actuator channel used for operating input. The input number of the local input is selected automatically in the same manner as the channel number. Example: Contact input 1 affects motor channel 1, contact input 2 affects motor channel 2, etc.
Function		
Application	Operation	If the tile is locked out, the feedback on the 1-bit feedback object “Operational lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.
Repeat command		If the lock-out state of the tile itself is no longer

after deactivating the lock-out	■ No	active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Lock-out		The lock-out function does not affect the tile itself, but its child tiles.
Activate lock-out	■ Never	No lock-out is activated.
	■ For operation	The lock-out is activated during operation (regardless of the command).
	■ For button combination [2]	The lock-out is activated if the Up and Down buttons are pressed simultaneously for a short time (<400 ms).
Child tiles	■ Lock out all	For the selection “Activate lock-out with ...” All child tiles are locked out.
Deactivate lock-out	■ Never	The lock-out is not deactivated.
	■ For operation	The lock-out is deactivated during operation (regardless of the command).
	■ On Up command	The lock-out is deactivated with a **To upper end position** positioning command.
	■ After delay	After the delay, the lock-out is deactivated. The time setting parameter is shown.
	■ For button combination [3]	The lock-out is deactivated if the Up and Down buttons are pressed simultaneously for a long time (> 400 ms).
Delay [1]	1 s ... 48 hrs	Delay after activating the lock-out until automatic

[1]Parameter is visible if **After delay** was selected under Deactivate lock-out.

		deactivation
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

[1]Parameter is visible if **Contact input** was selected under Operating source.
[2]Parameter is visible if **Contact input** was selected under Operating source.
[3]Parameter is visible if **Contact input** was selected under Operating source.

Operation via Contact Input

The following parameters are visible if “Contact input” was selected under the “Operating source from” parameter.

Parameter Name	Selection	Description
Contact input Button assignment		Changing the terminal assignment in the event of incorrect wiring at the contact input: (Changing the terminal assignment at the output, see setting “Motor connection” under Motor)
	■ Don't change	The movement to the **upper** end position occurs via the △ connection (Up). The movement to the **lower** end position occurs via the ▼ connection (Down).
	■ Swap Up/Down	The movement to the **upper** end position occurs via the ▼ connection (Down). The movement to the **lower** end position occurs via the △ connection (Up).
LED output Control LED	■ -- (no display)	
	■ **Internal (channel status)**	Lighting up = operation locks out other tiles (usually automatic functions)Blinking = operation is locked out (via parent tiles)
	■ External (via bus)	

Operation via Bus Input

The following parameters are visible if **Bus** was selected under the **Operating source from** parameter.

Parameter Name	Selection	Description
Group objects	■ Only 1-bit objects	The Up/Down, Up/Shading and Step/Stop group objects are shown.
	■ All objects	All group objects are shown.

Operation group objects

Abbreviations used:

GO Group object
Type Data type (bit length of the GO)
C R W T preset Objekt-Flags
U (C - W - -) means, for example: C and W are set, R, T and U are not
DPT “Data Point Type” according to KNX standard
(Mn) Motor channel No. n
...(En) Contact input No. n or group input
(EGx) Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Up / Down	Operation of blinds (Mn), End position	0 = movement to the upper end position 1 = movement to the lower end position	1 bit (1.008) (C-W- -)
Up / Shading	Operation of blinds (Mn), Shading	0 = movement to the upper end position 1 = movement to the shading position	1 bit (none) (C-W- -)
Step/Stop	Operation of blinds (Mn), Tilt	0 = tilt up or stop when moving 1 = tilt down or stop when moving	1 bit (1.007) (none)[1] (C-W- -)
Height 0…255	Operation of blinds (Mn), Height	Move to blind height: 0 = blind fully retracted 255 = blind fully extended	1 byte (5.001) (C-W- -)
Angle 0…255	Operation of blinds (Mn), Angle	Move to slat angle: 0 = Slats fully open 255 = Slats fully closed	1 byte (5.001) (C-W- -)
Position (Height/Angle)	Operation of blinds (Mn), Position	Move to target position specified by blind height and slat angle	3 bytes (240.800) (C-W- -)

Forwarding Operation to Bus Output

The following parameter is visible if **Contact Input** was selected under the **Operating source from** parameter.

Parameter Name	Selection	Description
Send operation to bus	■ No	The command from the input (contact input or radio) is sent to the bus.

[1]For differentiation of the DPT, see “Device setting” chapter, section “Operating philosophy”

	■ Yes	The group objects are set based on the parameter settings of the contact input . [1].

Operation group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Up / Down	Input (En), end position	0 = movement to the upper end position 1 = movement to the lower end position	Bit (1.008) (C - - T -)
Up / Shading	Input (En), shading	0 = movement to the upper end position 1 = movement to the shading position	1 bit (none) (C - - T -)
Step/Stop	Input (En), tilt	0 = tilt up or stop when moving 1 = tilt down or stop when moving	1 bit (1.007) (C - - T -)

BMS control

Settings for the BMS control

Parameter Name	Selection	Description
Share group objects		Group objects can either be created individually per motor channel or shared across multiple motor channels on one device.
	■ Yes, shared across the device	Group objects of this tile are shared across all motor channels for which the same function is configured.
	■ No, individually per motor	Separate group objects are explicitly created for

[1]Assignment of parameters to group object:
Up → Up/Down
Down → Up/Down
Shading position → Up/Shading
Tilt → Step/Stop
Position (Height/Angle) → Height and Angle

	channel	each individual motor channel.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Function		
Application	Automatic mode	If the tile is locked out, the feedback on the 1-bit feedback object “Automatic mode lock-out” is output. Repeated command is not executed (no retriggering). After a command is executed, other identical commands from this tile are not executed again.
	Operation	If the tile is locked out, the feedback on the 1-bit feedback object “Operational lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.
Positioning command	▪ Local command	The tile responds to commands which are defined as a “local command”. Central commands are discarded
	▪ Central command	The tile responds to commands which are defined as a “central command”. Local commands are discarded
	▪ None	No positioning command is executed
Repeat command after deactivating the lock-out	▪ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	▪ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	▪ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Activate lock-out		

	■ BMS local command [1]	
	■ BMS central command [2]	
	■ BMS lock-out flag	If the lock-out flag in the BMS object = “1”, the lock-out is activated, and if the lock-out flag = “0”, the lock-out is deactivated. Whether or not the lock-out is considered depends on the parameter “Positioning command”: With a BMS “Local command”, the lock-out flag has no influence on a tile with the setting “Positioning command” = “Central command” (and vice versa).
	■ Never	
Child tiles Deactivate lock-out	■ Lock out all	For the selection “Activate lock-out with ...” All child tiles are locked out.
	■ BMS local command [3]	
	■ BMS central command [4]	
	■ BMS lock-out flag	If the lock-out flag in the BMS object = “1”, the lock-out is activated, and if the lock-out flag = “0”, the lock-out is deactivated. Whether or not the lock-out is considered depends on the parameter “Positioning command”: With a BMS “Local command”, the lock-out flag has no influence on a tile with the setting “Positioning command” = “Central command” (and vice versa).
	■ Never	
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
BMS object	BMS control (Mn), BMS command	Command from a control station or visualisation. All positioning commands are combined into one object.	4 bytes (12.000) (C-W- -)

[1] Selection is visible if “Positioning command” is set to “Local command”

[2]Selection is visible if “Positioning command” is set to “Local command”
[3]Selection is visible if “Positioning command” is set to “Local command”
[4]Selection is visible if “Positioning command” is set to “Local command”

Input

The **Input** group tiles cause the motor channel to respond (positioning command, lock-out function) to a command that is fed in via a switch contact, a group object or a radio input.
Two versions are available:

Tile (application)	Description
Command Input	For commands such as presence detectors, contacts.
Safety Command Input	For safety commands such as fire, cleaning, limit switches, etc. The tile can only be placed in the top section of the stack.

In the settings, both tiles differ from each other due to their **Lock-out** and **Feedback** parameter groups.

Command Input

Settings for command input

Parameter Name	Selection	Description
Share group objects		Group objects can either be created individually per motor channel or shared across multiple motor channels on one device.
	■ Yes, shared across the device	Group objects of this tile are shared across all motor channels for which the same function is configured.
	■ No, individually per motor channel	Separate group objects are explicitly created for each individual motor channel.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Command input from		Source for the tile is used by...
	■ Contact input	Input on the blind actuator itself
	■ Bus input	Group object
Function		
Application	Automatic mode	If the tile is locked out, the feedback on the 1-bit feedback object “Automatic mode lock-out” is output. Repeated command is not executed (no retriggering). After a command is executed, other identical commands from this tile are not executed again.
	Operation	If the tile is locked out, the feedback on the 1-bit feedback object “Operational lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.

Command with “on / 1” Command with “off / 0”	■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle ■ Position (Height/Angle) ■ Position (P1-P4)		Positioning command with active or inactive input. The command is triggered again (retriggering) when it is received repeatedly (without changing the state).The command is not triggered again if the command input functions in automatic mode (parameter “Application” set to “Automatic mode”).
Height [1]	0 ... 100%	0% 100%	Blind fully retracted Blind fully extended
Angle [2]	0 ... 100%	0% 100%	Slats fully open Slats closed
Position (P1-P4) [3]	■ Position P1 (visual protection) ■ Position P2 (shading low) ■ Position P3 (shading high) ■ Position P4 (transparent)		
Repeat command after deactivating the lock-out	■ No		If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out		... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always		... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued

[1]Parameter is visible if the “Blind height” or “Position (Height/Angle)” positioning command is selected.
[2]Parameter is visible if the “Slat angle” or “Position (Height/Angle)” positioning command is selected.
[3]Parameter is visible if the “ Position (P1-P4) ” positioning command is selected.

		when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Lock-out		
Activate lock-out	■ Never ■ **With “on / 1”** ■ With “off / 0”	Definition of the situation which activates the lock-out.The lock-out function does not affect the tile itself, but its child tiles.
Child tiles	■ Limit range of motion	For the selection “Activate lock-out with ...” The range of motion is limited for all child tiles.
	■ **Lock out all**	All child tiles are locked out.
Limitation	■ Height 0…255 ■ Angle 0…255 ■ Position (Height/Angle) ■ Position (P1-P4)	Enabled range of motion.
Height free Angle free from [1]	■ 0 ... 255	
Shading position free from [2]	■ Down ■ P1 ■ P2 ■ P3 ■ P4	
Free to	same	same setting as “Free from”
Child limitations		This parameter setting is relevant if there are multiple limitations in a stack.
	■ take into account	The intersection of all limitations is calculated.
	■ do not take into account (override)	Only the limitation of the tile with the highest (lock-out) priority is active. All other limitations are not considered.
Deactivate lock-out	■ Never ■ With “on / 1” ■ With “off / 0” ■ After delay	Definition of the situation which deactivates the lock-out.
Delay [3]	1 s ... 48 hrs	Delay after activating the lock-out until automatic deactivation
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.

[1]Parameter is visible if only **Height** or only **Angle** was selected under **Position** Limitation
[2]Parameter is visible if “ Position (P1-P4) ” was selected under Limitation.
[3]The parameter is visible if “After delay” is selected for “Deactivate lock-out” (does not apply to limitations).

	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

Safety Command Input

Command Input Safety Settings

Parameter Name	Selection	Description
Share group objects		Group objects can either be created individually per motor channel or shared across multiple motor channels on one device.
	■ Yes, shared across the device	Group objects of this tile are shared across all motor channels for which the same function is configured.
	■ No, individually per motor channel	Separate group objects are explicitly created for each individual motor channel.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Command input from		Source for the tile is used by...
	■ Contact input	Input on the blind actuator itself
	■ Bus input	Group object
Function		
Application	Safety	If a lock-out of at least one safety tile is active, the feedback is output on the 1-bit feedback object “Safety lock-out”.
With “on / 1” With “off / 0”	■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle ■ Position (Height/Angle) ■ Position (P1-P4)	Positioning command with active or inactive input. The command is executed again when “1” is received again (retriggering), but not for “0” (no retriggering).

Height [1]	0 ... 100%	0% 100%	Blind fully retracted Blind fully extended
Angle [2]	0 ... 100%	0% 100%	Slats fully open Slats closed
Position (P1-P4) [3]	■ Position P1 (visual protection)		

[1]Parameter is visible if the “Blind height” or “Position (Height/Angle)” positioning command is selected.
[2]Parameter is visible if the “Slat angle” or “Position (Height/Angle)” positioning command is selected.
[3]Parameter is visible if the “Position (P1-P4)” positioning command is selected.

	■ Position P2 (shading low) ■ Position P3 (shading high) ■ Position P4 (transparent)	
Repeat command after deactivating the lock-out		If the lock-out state of the tile itself is no longer active, then...
	Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated.
Lock-out		
Activate lock-out	■ **With "on / 1"** ■ With "off / 0"	Definition of the state which activates the lock-out.
Child tiles	■ Limit range of motion	For the selection "Activate lock-out with ..." The range of motion is limited for all child tiles.
	■ **Lock out all**	All child tiles are locked out.
Limitation	■ Height 0…255 ■ Angle 0…255 ■ Position (Height/Angle) ■ Position (P1-P4)	Enabled range of motion.
Height free Angle free from [1]	■ 0 ... 255	
Shading position free from [2]	■ Down ■ P1 ■ P2 ■ P3 ■ P4	
Free to	same	same setting as "Free from"
Deactivate lock-out	■ With "on / 1" ■ **With "off / 0"**	Definition of the state which deactivates the lock-out.
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

[1]Parameter is visible if only **Height** or only **Angle** was selected under **Position** Limitation
[2]Parameter is visible if "Position (P1-P4)" was selected under Limitation.

Command via Contact Input

The following parameters are visible if “Contact input” was selected under the “Command input” parameter.

Parameter Name	Selection	Description
Contact Setting		
Contact connected to Contact connected to	■ Local input Channel 1 (Up contact) ■ Local input Channel 1 (Down contact) ■ Local input Channel 2 (Up contact) ■ Local input Channel 2 (Down contact) ■ ... ■ Local input Channel 9 (Down contact) ■ Group input (Up contact) ■ Group input (Down1 contact) ■ Group input (Down contact) ■ Local input (Up contact) ■ Local input (Down contact)	Contact input of the blind actuator Contact input of the blind actuator .The input number of the local input is selected automatically in the same manner as the channel number. Example: Contact input 1 affects motor channel 1, contact input 2 affects motor channel 2, etc.
LED control		
Control LED	■ -- (no display)	
	■ Internal (status channel n) [1]	Channel status of the channel to which the LED is connected.
	■ External (via bus)	

Command via Bus Input

The following parameters are visible if “Bus input” was selected under the “Command input” parameter.

Parameter Name	Selection	Description
Monitoring	■ ☑ ■ ☐	Switch on or off the monitoring function for the group object for this command input.
Monitoring time [2]	00:01 ...72:00 hh:mm	If the group object for this command input never receives the value “Off” or “On” within the set monitoring time, the response is the same as for the function “Command with ‘on / 1’”. (the “hh:mm” input mask comprises hours and minutes)
Initialisation	■ Value 0	The state that is loaded after a restart.

[1]Parameter is visible if contact input is linked to command input (cannot be selected if input is already used for operation, for example).
[2]Parameter is visible if “Monitoring” is activated.

Read	■ Value 1 ■ ☑ ■ ☐	A read request on the group object is triggered. Caution: Note bus load! If no feedback is received in useful time, the selected parameter is applied. Note: When activating the read request, the “Update” flag must be set on the group object; see Objekt-Flags.

Group object

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
On / Off	Command Input (Mn), Switch	Bus input to **Command Input** tile	1 bit (1.001) (C-W- -)
	Safety Command Input (Mn), Alarm	Bus input to **Safety Command Input** tile	1 bit (1.005) (C-W- -)

Forwarding Contact Input to Bus Output

Parameter Name	Selection	Description
Send contact to bus	■ No	The group object is hidden (and no information is transferred to the bus).
	■ Yes	The group object is shown and the contact state is sent to the bus.
Send cyclically	■ Yes ■ No	When “Send cyclically” = “No”, the actuator sends the object value “On” when closing the contact and the object value “Off” when opening it to the GO for this tile. When “Send cyclically” = “Yes”, the actuator repeatedly sends the object value with the interval set under “Cycle time”.
Cycle time	10 s .... 3 d	The “hh:mm:ss” input mask contains hours, minutes and seconds
Send on initialisation	■ No	Current value can be read, but is not actively sent

		when restarting.
	■ Yes	When the device is restarted, the current input state is sent to the bus.

Group object

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
On / Off	Input (En), switching (EGx)	0 = contact input open 1 = contact input closed	1 bit (1.001) (C - -T -)

Griesser object (Central Unit)

The tiles of the **Griesser object** group are used in a system with the Griesser FMX and EMX central units. The Griesser object tiles are already available as standard in the stack.
The tiles can be dragged several times into the stack and can be used once as a **safety** command, **time** command, **operation** command or **automatic command** per sector address.
The priority of the following three command tiles cannot be changed among themselves.
Sequence:

- Safety tile
- Time tile
- Automatic tile

There may be other tiles between the four Griesser object command tiles. Individual Griesser object command tiles could also be omitted, but this is not recommended.
If the sector address is changed in a Griesser object tile, a message is displayed as to whether the change should only be made on the tile, in the stack or on all motor channels.

Group object

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n

...(En) Contact input No. n or group input
(EGx) Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
All functions	Griesser object, Central command	Command from the sun protection central unit for a range of sector addresses	6 bytes (none) (C-W- -)

Safety

The “Griesser object - Safety command” tile processes commands from a Griesser central unit (FMX and EMX) which were triggered by an automatic safety control such as wind, rain or frost .

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Sector address	1 ... 512	Sector address of GRIESSER sun protection central unit. The address must be entered manually on both sides (sun protection central unit and all blind actuators).
Function		
Application	Safety	If a lock-out of at least one safety tile is active, the feedback is output on the 1-bit feedback object “Safety lock-out”.
Command	According to command from central unit	The Command is sent from a Griesser central unit via the “Griesser Object” group object.
Monitor cyclically	■ No ■ Yes, from central unit	The tile monitors whether a command arrives from the Griesser central unit via the Griesser object within a certain time period. If this is not the case, the actuator moves to the safety position (parameter setting) and the tile activates a lock-out (in the same way as if the central unit had activated a lock-out). The cyclic monitoring of the actuators must be activated in the central unit: ■ EMX: General - Settings - Monitoring - Watchdog Output (30 s .... 12 hrs) ■ FMX: System Data - Monitoring - BUS Monitoring (Off; 1 min ... 36 hrs) The monitoring time is set in the central unit and communicated to the actuator via the Griesser object. The safety position is triggered in the actuator if no command is received from the central unit after **2.5 times** the monitoring time has elapsed.
Response to length of Griesser object [1]	■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle	Safety position if the Griesser central unit fails.

	■ Position (Height/Angle) ■ Position (P1-P4)		
Height [1]	0 ... 100%	0% 100%	Blind fully retracted Blind fully extended
Angle [2]	0 ... 100%	0% 100%	Slats fully open Slats closed
Position (P1-P4) [3]	■ Position P1 (visual protection) ■ Position P2 (shading low) ■ Position P3 (shading high) ■ Position P4 (transparent)		
Lock-out			
Activate lock-out	According to command from central unit		
Child tiles	■ Automatic		The type of lock-out function in the Griesser object determines which child tiles are locked out.
Deactivate lock-out	According to command from central unit		
Child tiles	■ Keep lock-outs & limitations		When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations		When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

[1]Parameter is visible if “Monitor cyclically” = “Yes, from central unit” is selected.

Time

The “Griesser object - Time command” tile processes commands from a Griesser central unit (FMX and EMX), which were triggered by a timer control .

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Sector address	1 ... 512	Sector address of GRIESSER sun protection central unit. The address must be entered manually on both sides (sun protection central unit and all blind actuators).
Function		
Application	Automatic mode	If the tile is locked out, the feedback on the 1-bit feedback object “Automatic mode lock-out” is output. Repeated command is not executed (no retriggering). After a command is executed, other identical commands from this tile are not executed again.

[1]Parameter is visible if the “Blind height” or “Position (Height/Angle)” positioning command is selected.
[2]Parameter is visible if the “Slat angle” or “Position (Height/Angle)” positioning command is selected.
[3]Parameter is visible if the “ Position (P1-P4) ” positioning command is selected.

Command	According to command from central unit	The Command is sent from a Griesser central unit via the “Griesser Object” group object.
Repeat command after deactivating the lock-out	■ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

Operation

The “Griesser object - Operation” tile processes commands from a Griesser central unit (FMX and EMX) which were triggered by an operation source .

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Sector address	1 ... 512	Sector address of GRIESSER sun protection central unit. The address must be entered manually on both sides (sun protection central unit and all blind actuators).
Function		
Application	Operation	If the tile is locked out, the feedback on the 1-bit feedback object “Operational lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.

Command	According to command from central unit	The Command is sent from a Griesser central unit via the “Griesser Object” group object.
Command type	■ Local command	Only evaluate operation commands from the central unit that were sent as local commands.
	■ Central command	Only evaluate operation commands from the central unit that were sent as central commands.
	■ Local and central command	Evaluate all operation commands from the central unit.
Repeat command after deactivating the lock-out	■ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Activate lock-out	■ Never ■ For each command ■ **For local command**	Child tiles are usually locked out with a local command.
Child tiles	■ Lock out all	For the selection “Activate lock-out with ...” All child tiles are locked out.
Deactivate lock-out	■ Never ■ For each command ■ **For central command**	Child tiles are usually enabled with a central command.
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep	When the lock-out is deactivated, the lock-outs of

	limitations	child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

Automatic mode

The “Griesser object - Automatic command” tile processes commands from a Griesser central unit (FMX and EMX) which were triggered by an automatic shade or temperature control.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Sector address	1 ... 512	Sector address of GRIESSER sun protection central unit. The address must be entered manually on both sides (sun protection central unit and all blind actuators).
Function		
Application	Automatic mode	If the tile is locked out, the feedback on the 1-bit feedback object “Automatic mode lock-out” is output. Repeated command is not executed (no retriggering). After a command is executed, other identical commands from this tile are not executed again.
Command	According to command from central unit	The Command is sent from a Griesser central unit via the “Griesser Object” group object.
Repeat command after deactivating the lock-out	■ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.

Switch

The **Switch 2-fold** or **Switch 4-fold** tiles are used to switch between different operating modes which are defined by the child paths of the switch tile.

Typical application examples of switching	
Presence dependency	Two operating modes are available ■ Present ■ Absent
Room operating mode	Four operating modes are available ■ Comfort (present) ■ Precomfort (temporarily absent, standby) ■ Economy (absent for longer, e.g. holidays) ■ Protection (not used)
Heating/cooling requirements	Two operating modes are available ■ Heating operation ■ Cooling operation

Switches can also be nested inside each other. A maximum of 3 nesting levels is possible. This is required in order to execute, for example, a heating and cooling operation within one comfort level.
If you switch between switching paths, lock-outs are deactivated and existing limitations are retained.

Switch 2-fold

Settings

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Group object for switching	■ 1 bit ■ 2 x 1 bit ■ 2 bits ■ 1 byte	The choice of group object determines how the switching occurs. The coding is described in the table of group objects.
Mode on initialisation	■ 1 ■ 2	State on initialisation. The selected mode is applied.
Read	■ ☑ ■ ☐	A read request is created on the group objects. If there are several 1-bit objects, a read request is created on all objects. If several objects are set to “1”, the highest active mode number is applied. If feedback is missing, the mode is applied using the setting. Note: When activating the read request, the “Update” flag must be set on the group object; see Objekt-Flags.
Per Mode		
Description	Free text	Brief description of the function for this Mode. The text appears on the tile as the title for this path in

		the Switch.

Group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Mode 1 / 2	Switch 2-fold (Mn), Switching modes	0 = mode 1 1 = mode 2	1 bit (1.xxx) (C-W- -)
activate	Switch 2-fold (Mn), Switching to mode 1	0 = not active (keep last mode) 1 = activate mode 1	1 bit (1.011) (C-W- -)
activate	Switch 2-fold (Mn), Switching to mode 2	0 = not active (keep last mode) 1 = activate mode 2	1 bit (1.011) (C-W- -)
Mode No.	Switch 2-fold (Mn), Switching modes	00 = activate mode 1 01 = activate mode 2	2 bit (2.xxx) (C-W- -)
Mode No.	Switch 2-fold (Mn), Switching modes	0 = initial mode 1 = activate mode 1 2 = activate mode 2 >2 = keep last mode	1 byte (20.xxx) (C-W- -)

Notes:
For the “Switching to mode X” group objects, the last command is relevant and not the state of the group object. All group objects can have a “1”; the last command is decisive.

Switch 4-fold

Settings

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Group object for switching	■ 4 x 1 bit ■ 2 bits ■ 1 byte	The choice of group object determines how the switching occurs. The coding is described in the table of group objects.

Mode on initialisation	■ 1 ■ 2 ■ 3 ■ 4	State on initialisation. The last state (before restarting the device) is applied. The selected mode is applied.
Read	■ ☑ ■ ☐	A read request is created on the group objects. If there are several 1-bit objects, a read request is created on all objects. If several objects are set to “1”, the lowest active mode number (or the far left mode in each case) is applied. If the response is invalid (for example, at 1 byte outside the range), the defined “Mode on initialisation” is applied. Note: When activating the read request, the “Update” flag must be set on the group object; see Objekt-Flags.
Per Mode		
Description	Free text	Brief description of the function for this Mode. The text appears on the tile as the title for this path in the Switch.

Group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
activate	Switch 4-fold (Mn), Switching to mode 1	0 = not active (keep last mode) 1 = activate mode 1	1 bit (1.011) (C-W- -)
activate	Switch 4-fold (Mn), Switching to mode 2	0 = not active (keep last mode) 1 = activate mode 2	1 bit (1.011) (C-W- -)
activate	Switch 4-fold (Mn), Switching to mode 3	0 = not active (keep last mode) 1 = activate mode 3	1 bit (1.011) (C-W- -)
activate	Switch 4-fold (Mn), Switching to mode 4	0 = not active (keep last mode) 1 = activate mode 4	1 bit (1.011) (C-W- -)
Mode No.	Switch 4-fold (Mn), Switching modes	00 = activate mode 1 01 = activate mode 2 10 = activate mode 3 11 = activate mode 4	2 bit (2.xxx) (C-W- -)

Mode No.	Switch 4-fold (Mn), Switching modes	0 = initial mode 1 = activate mode 1 2 = activate mode 2 3 = activate mode 3 4 = activate mode 4 >4 = do not activate (keep last mode)	1 byte (20.xxx) (C-W- -)

Notes:
For the “Switching to mode X” group objects, the last command is relevant and not the state of the group object. All group objects can have a “1”; the last command is decisive.

Scene

The **Scene** tile allows you to define, save and retrieve application-specific scenarios with specific facade product positions under a scene number.

64 such freely configurable scenes are available for each motor channel.

A scene tile can contain one or more of these 64 scenes.

The stack of a motor channel can contain several scene tiles (for example, for scene numbers with high priority and scene numbers with low priority), but these scene tiles revert internally to the same 64 scenes per channel. It is not useful to use the same scene number in different scene tiles of a channel. Unlike other tiles, a scene tile cannot be used with the same number in several motor channels

All scene tiles of a channel use the same group object.

Settings for scenes

Scene tile settings, adding and deleting scenes

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Read saved scenes		Scenes saved by the user are read and updated in the ETS DCA. This means that the customer’s settings are not lost when adjusting the actuator.
Overwrite saved scenes		Scenes saved in the actuator are overwritten by the parameterised settings. If the scenes are to be overwritten again at a later point, the button must be pressed again.
Function		
Application	Operation	If the tile is locked out, the feedback on the 1-bit feedback object “Operational lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.
Repeat command after deactivating the lock-out		If the lock-out state of the tile itself is no longer active, then...

	■ No	... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
Lock-out		
Deactivate lock-out Child tiles	■ **according to scene**	
	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

The ⊕ and ⊖ buttons can be used to add individual scenes to the tile or to remove them from the tile.

Settings per scene

Checkbox in the title line	■ ☑ ■ ☐	Selected: Scene is activated in the tile Not selected: Scene is active on the channel (possibly active in another tile), but not in this scene tile.
Scene number	1 ... 64	Number assigned to the scene for retrieval and saving via the group object.
Title line of the scene	Free text	Designation of each scene.
Positioning command	■ No Positioning Command ■ Up ■ Down ■ Shading position ■ Blind height ■ Slat angle ■ Position (Height/Angle) ■ Position (P1-P4)	Positioning command when retrieving the scene.

Height [1]	0 ... 100%	0% 100%	Blind fully retracted Blind fully extended
Angle [2]	0 ... 100%	0% 100%	Slats fully open Slats closed
Position (P1-P4) [3]	■ Position P1 (visual protection) ■ Position P2 (shading low) ■ Position P3 (shading high) ■ Position P4 (trans-parent)		
Lock-out			
Activate lock-out	■ **No**	No lock-out is activated or the lock-out is deactivated when the scene is retrieved.	
	■ Yes	The lock-out is activated when the scene is retrieved.	

Group object

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Retrieve / Save	Scene (Mn)	Retrieve or save scene in the blind actuator). The scene numbers 1..64 configured in the Scene tile correspond to the scene numbers 0...63 in the GO	1 byte (18.001) (C-W- -)

[1] Parameter is visible if the “Blind height” or “Position (Height/Angle)” positioning command is selected.
[2] Parameter is visible if the “Slat angle” or “Position (Height/Angle)” positioning command is selected.
[3] Parameter is visible if the “Position (P1-P4) ” positioning command is selected.

Automatic blinds

Automatic blinds settings

Parameter Name	Selection	Description
Share group objects	■ Yes, shared across the device	Group objects can either be created individually per motor channel or shared across multiple motor channels on one device. Group objects of this tile are shared across all motor channels for which the same function is configured.
	■ No, individually per motor channel	Separate group objects are explicitly created for each individual motor channel.

Parameter Name	Selection	Description
Designation	Free text	Tile designation
Function		
Application	Automatic mode	If the tile is locked out, the feedback on the 1-bit feedback object “Automatic mode lock-out” is output. Repeated command is executed (retriggering). All commands are executed, including those that are identical in succession.
Repeat command after deactivating the lock-out	■ No	If the lock-out state of the tile itself is no longer active, then... ... no command is executed. For operations that are neither local nor central operations.
	■ Yes, before lock-out	... the last command before the activation of a lock-out is executed. If a command is executed during an active lock-out, it is discarded. After the lock-out is deactivated, the blinds move to the last position. For local operations in the room, as operations should not be repeated during an active lock-out.
	■ Yes, always	... the last command before or during an active lock-out is executed. If a command is issued during an active lock-out (i.e. the blind cannot move into the position as a result of the lock-out), the command is saved and issued when the lock-out is deactivated. For automatic commands such as shading control system, timer control, central operation, safety commands, etc.
	■ Never	No lock-out is activated.
	■ On command	The lock-out is activated when a command is recei-

		ved.
Child tiles Deactivate lock-out	■ Lock out all	For the selection “Activate lock-out with ...” All child tiles are locked out.
	■ Never	The lock-out is not deactivated.
	■ On command	The lock-out is deactivated when a command is received.
	■ After delay	After the delay, the lock-out is deactivated. The time setting parameter is shown.
Delay [1]	1 s ... 48 hrs	Delay after activating the lock-out until automatic deactivation
Child tiles	■ Keep lock-outs & limitations	When deactivating the lock-out, lock-outs and limitations of child tiles remain unchanged.
	■ Deactivate lock-outs, keep limitations	When the lock-out is deactivated, the lock-outs of child tiles other than Safety tiles are deactivated, whereas limitations of child tiles remain unchanged.

Group Objects Automatic blinds

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Up / Down	Automatic blinds (Mn), End position	0 = movement to the upper end position 1 = movement to the lower end position	1 bit (1.008) (C-W- -)
Up / Shading	Automatic blinds (Mn), End position	0 = movement to the upper end position 1 = movement to the shading position	1 bit (none) (C-W- -)
Step/Stop	Automatic blinds (Mn), End position	0 = tilt up or stop when moving 1 = tilt down or stop when moving	1 bit (1.007) (none)[2]

[1] Parameter is visible if “Deactivate lock-out” is set to “After delay”.

[2] For differentiation of the DPT, see “Device setting” chapter, section “Operating philosophy”

			(C-W- -)
Height 0…255	Automatic blinds (Mn), End position	Move to blind height: 0 = blind fully retracted 255 = blind fully extended	1 byte (5.001) (C-W- -)
Angle 0…255	Automatic blinds (Mn), End position	Move to slat angle: 0 = Slats fully open 255 = Slats fully closed	1 byte (5.001) (C-W- -)
Position (Height/Angle)	Automatic blinds (Mn), End position	Move to target position specified by blind height and slat angle	3 bytes (240.800) (C-W- -)

Configuring Actuator inputs

In the Actuator inputs view, you can edit and make assignments between the local inputs on the KNX blind actuator and motor channels as well as on the bus output.

View Actuator inputs

In the **Matrix view** Actuator inputs, the inputs (physical, radio or bus input) can be assigned to a motor channel (M) and/or to the bus output.

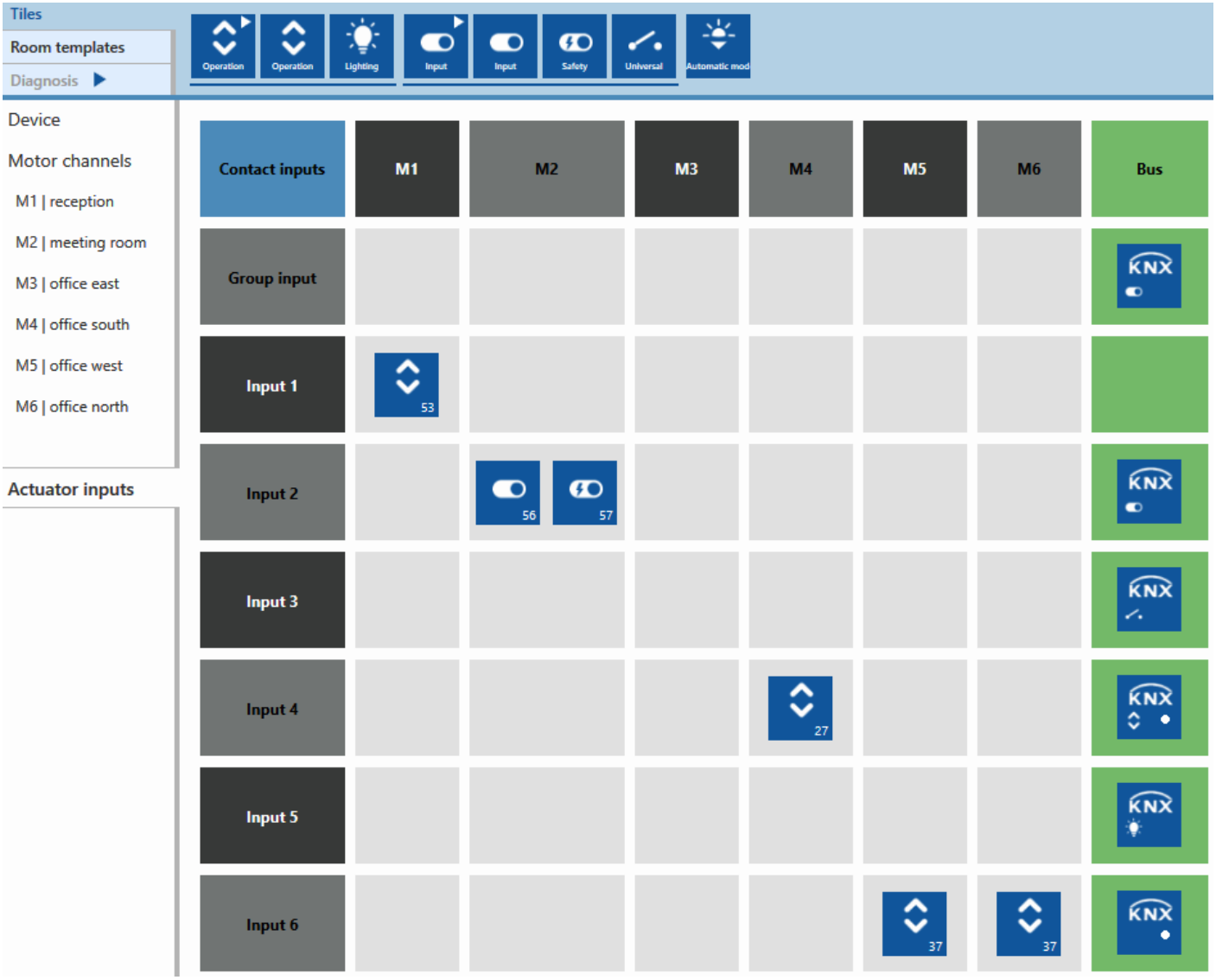
The display in rows and columns shows which physical input acts on which output (motor channel or bus) with which function (tile). In this view, the priority of the tiles cannot be identified (in contrast to the **Stack view** Motor channels).

- Local operation inputs (E) of the blind actuator as direct operation on one or more motor channels (M)
- Local operation inputs (E) of the blind actuator on the bus output
- Local operation inputs (E) as binary input (for various tiles) on the bus output

- Simultaneous operation input (G) of the blind actuator on the motor channels (M)
- Simultaneous operation input (G) of the blind actuator on the bus output

- Bus operation (B) via the bus input on one or more motor channels (M)

View



Assigning a tile to a motor channel or to the bus output

- In the **Overview** area, click on the desired tile (Operation, Lighting, Command Input, Safety Command Input or Universal Input) and drag it to the desired intersection of the E, G, F, K inputs and the Outputs column for motor channel or the Bus output column
- This sets the assignment, i.e. the tile acts with the input values (row) on the corresponding output (column)
- Detailed settings can be configured in the **Detail** area.

If a tile cannot be dragged to the desired intersection point, this is indicated by a brief message and the icon jumps back to the bar

Description of available tiles

All functions and automatic modes that are possible with the actuator are called tiles.

Tiles (application)	Description
	Input is used to operate blinds. The input can be output to the channel and/or to the bus output.

Operation of blinds	
 Command Input	Input is used for receiving from a contact. The input can be output to the channel and/or to the bus output.
 Lighting	Input is used to operate lighting. The input can only be output to the bus output.
 Universal Input	Input is used for the universal use of contact inputs on the bus output. The input can only be output to the bus output.

Lighting

The **Lighting** tile can be used to operate the room lighting. To do so, an external button is used on the contact input of the blind actuator. The tile can only be assigned in the **Bus** column.
Note: The button cannot be used simultaneously for the lighting and a blind.

Settings

Parameter Name	Selection	Description
Description	Free text	Brief description of the function for this Lighting.
Operating philosophy	■ KNX standard ■ Own setting	Basic behaviour of the inputs
Long keystroke min.	100 ms ... 1 s	If the contact input is closed for at least the set time, a long impulse is evaluated. A shorter closing time is considered a short impulse.

Contact setting - x[1]		x = Up, Down, Down1
Long keystroke Short keystroke Double-click	■ no response ■ On ■ Off ■ **Dimming brighter** [2] ■ Dimming darker [3] ■ Brightness value ■ Scenes	Behaviour with long keystroke Behaviour with short keystroke Behaviour with 2 short keystrokes
Brightness value	■ 0 ... 100% [4]	
Scene number	■ 1 ... 64 [5]	
Dimming 100% [6]	■ Dimming with stop	

Group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
On / Off	Input (En), switching	Switch on or off during configured pressing of the button	1 bit (1.001) (C-W- -)
Dimming 100%	Input (En), dimming	during configured pressing of the Dimming brighter or Dimming darker button (with fixed step size 100%) and stop dimming when opening the contact	4 bits (3.007) (C-W- -)
Brightness value	Input (En), value	Send a predefined brightness value (0... 100%) during configured pressing of the button	1 byte (5.001) (C-W- -)
Retrieve scene	Input (En), scene	Retrieve a scene with a predefined number during configured pressing of the button	1 byte (18.001) (C-W- -)

[1]selection is visible if Operating philosophyOwn setting is selected.
[2]Parameter Dimming brighter is visible if Long keystroke is selected.
[3]Dimming darker parameter is visible if Long keystroke is selected.
[4]Brightness value parameter is visible if Brightness value is selected.
[5]Scene number parameter is visible if Scenes is selected.
[6]Dimming 100% parameter is visible if Dimming brighter or Dimming darker is selected.

Universal Input

The **Universal Input** tile enables the opening and closing of the Contact inputs on the blind actuator to be evaluated in the form of freely configurable events and transmitted to the bus with the corresponding group objects.

In the opposite direction, group objects can be activated in order to control the LED outputs of the blind actuator from the bus.

The **Universal Input** tile can only be used in the **Bus** column and can be assigned there to any row in the **Contact inputs** column that does not contain any other links.

Settings

Parameter Name	Selection	Description
Description	Free text	Brief description of the function for this Universal Input.

Contact setting x2 / x3		x = 1...9 input motor channel or G group input
Evaluation of input	■ Short/long impulse	Set behaviour when closing the contact input for a short and long time. Two group objects (short/long) are created.
	■ Open / Close contact	Set behaviour when opening and closing the contact input. Two group objects (open / close) are created.
Short impulse Long impulse Double-click Open contact Close contact	■ 1-bit object ■ 2-bit object ■ 1-byte object ■ 2-byte object ■ Retrieve 1-byte scene ■ Save 1-byte scene	Group object for short impulse Group object for long impulse Group object for 2 short impulses Group object for opening Group object for closing
Response	■ On	Sends a “1” telegram each time it is pressed (can only be set for “1-byte value”)
	■ Off	Sends a “0” telegram each time it is pressed (can only be set for “1-byte value”)
	■ Switch	Switches (toggles) between “0” and “1” each time it is pressed. (can only be set for “1-byte value”)
	■ Automatic mode	No limited guidance active (can only be set for “2-byte value”)
	■ On (constraint)	Limited guidance On “1” is active. (can only be set for “2-byte value”)
	■ Off (constraint)	Limited guidance Off “0” is active. (can only be set for “2-byte value”)
	■ 0 ... 255	Can only be set for “1-byte value”
	■ 0...65,535	Can only be set for “2-byte value”
	■ 1 ... 64	Can only be set for “1-byte scenes”
Send cyclically	■ Yes ■ No	When “Send cyclically” = “No”, the actuator sends the object value defined under “Response” to the group address of this GO each time the event assigned to a GO occurs (and only then). When “Send cyclically” = “Yes”, the actuator repeatedly sends the last object value written to this group address at the interval set under “Cycle time”.
Cycle time	10 s .... 3 d	
Long impulse min. [1]	100 ms ... 10 s	If the contact input is closed for at least the set time, a long impulse is evaluated. A shorter closing time is considered a short impulse.

Application note: If the two GOs “Open contact” and “Close contact” are programmed with the “Response” parameter to different object values and are placed on **the same group address**, the opening and closing of the contact input can be transferred to the bus as a binary event with any polarity:

[1] Parameter is visible if “Evaluation of input” is set to “Short/long impulse”

- normal polarity: object value “On” when closing and object value “Off” when opening the contact
- inverted polarity: object value “Off” when closing and object value “On” when opening the contact

If “Send cyclically” is also activated, the actuator repeatedly sends the last event (open or close) with the desired polarity.

Group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
On / Off	Input (En), switching (EGx)	0 = contact input open 1 = contact input closed	1 bit (1.001) (C-TW -)
Limited guidance	Input (En), switching (EGx)		2 bits (2.001) (C-TW -)
Value	Input (En), switching (EGx)		1 byte (5.001) (C-TW -)
Scenes	Input (En), switching (EGx)		1 byte (18.001) (C-TW -)
Value	Input (En), switching (EGx)		2 bytes (7.001) (C-TW -)

Controlling LED of Local Operation via Bus

Parameter Name	Selection	Description
Blinking rapidly		Blinking behaviour of the LED at the selected contact input. The priority sequence is set, i.e. “blinking rapidly” before “blinking slowly” before “on” before “off”.
	■ -- (no display)	Blinking rapidly is never displayed.
	■ Show one object	A group object is shown for the control.
	■ Show two objects	Two group objects are shown for the control. The objects are for the control of the LED OR linked.
	■ Show three objects	Three group objects are shown for the control. The objects are for the control of the LED OR linked.
	■ Show four objects	Four group objects are shown for the control. The

		objects are for the control of the LED OR linked.
Blinking slowly	same	
Always on	same	

Group objects

Abbreviations used:

GO	Group object
Type	Data type (bit length of the GO)
C R W T U	preset Objekt-Flags (C - W - -) means, for example: C and W are set, R, T and U are not
DPT	“Data Point Type” according to KNX standard
(Mn)	Motor channel No. n
...(En)	Contact input No. n or group input
(EGx)	Contact input or group input, terminal Up , Down or Down1

Function	Name	Description	Type (DPT)
Blinking rapidly	Input (En), control LED	1 = switch on LED blinking rapidly 0 = switch off LED blinking rapidly	1 bit (1.001) (C-W- -)
Blinking slowly	Input (En), control LED	1 = switch on LED blinking slowly 0 = switch off LED blinking slowly	1 bit (1.001) (C-W- -)
Always on	Input (En), control LED	1 = switch on LED permanently 0 = switch off LED	1 bit (1.001) (C-W- -)

General device functions

The DCA field Device comprises general functions of the KNX Blind actuators and settings relating to all motor channels. In the field selection, the individual address is specified after the designation “Device”.

Device setting

In this area, settings can be adjusted that apply to the entire device and all motor channels.

Parameter Name	Selection	Description
Description	Free text	Brief description of the device or the Device setting.
Operation		
Motor channel LED	■ Always switched on	The Motor channel LED are permanently active and show the following blinking patterns:Unlit: Normal operation, no lock-outLights up: Automatic commands locked out, operation possibleBlinks:

		Operation locked out, alarm function triggeredFlashes 2x: Power failure detected.Flashes 4x: Overcurrent detected, channel is deactivatedFor more information, see the documentation.	
Test buttons	■ Always possible	The test buttons are at the top of the stack (invisible) and have the highest priority. When operating with the test buttons, the channel is completely overridden (including safety tiles!).	
Operating philosophy		A short keystroke will result in different behaviour depending on the setting: ■ Griesser: Stop when moving; tilt when stopped; shading immediately after a long keystroke ■ KNX standard: Tilt when moving; tilt when stopped	
	■ Griesser	Long Long + short Short	Up / Down Shading Stop / Tilt[1]
	■ KNX standard	Long Short	Up / Down Tilt [2]
General			
Eco operating mode	■ Deactivated	The eco operating mode reduces the energy consumption of the device. For this purpose, the diagnostic function, which continuously writes all information to the memory, is switched off.	
	■ Activated		

Test Operation

In this area, positioning commands can be sent to a motor channel or a group of motor channels.

Icon	Function	Description
	Connect Disconnect	Establish or disconnect communication link to the device
☐ All ☑ All	All channels	Selection or deactivation of all motor channels intended to receive the positioning commands of the Test Ope-

[1]Stop when moving; tilting when stopped

[2]Tilting when moving and when stopped (tilting time is extended with a tilt command), corresponds to DPT 1.007

		ration.
☐ M1 ☑ M2 ...	Channel Selection	Selection of motor channels intended to receive the positioning commands of the Test Operation.
	Up (Upper End Position – Up relay)	The up relay is activated.
	Shading position	Movement is made to the shading position.
	Down (Lower End Position – Down relay)	The down relay is activated.
	Tilt Up	Tilt command according to loaded parameter “Tilt duration” in the direction of the upper end position.
	STOP	The currently activated relay is released.
	Tilt Down	Tilt command according to loaded parameter “Tilt duration” in the direction of the lower end position.
	P1	Move to Shading positions P1...P4
	P2	
	P3	
	P4	
	Height ... % Move to	Move the blind height and slat angle, individually or in a positioning command.
	Angle ... % Move to	
	Move to position.	
	Start calibration	Calibrate the operating time of the selected motor channels. Also see the chapter Operating Time Measurement in the appendix.

Firmware

In this area, the Software version, Serial number and Hardware version of the device are read out.

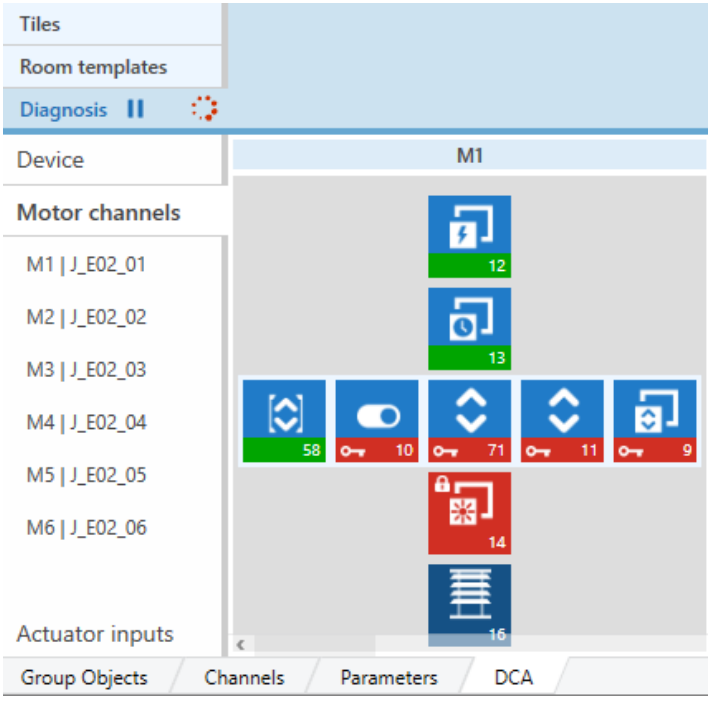
Display/button	Description
Version	Software version of the device
Validation ■ According to the read version ■ according to the version from the list	Check whether the configuration created works with the selected software version. If the configuration does not match the selected version, a red bar is displayed. You then have two options: - Adjust the tile function so that it is compatible with the firmware version. - Carry out a Firmware update for the device.
Serial number	Serial number of the device
Hardware version	Hardware version of the device or “unknown” if the device does not yet support this display.
Read On	Date and time when Software version, Serial number and Hardware version were last read out.
	Read out Software version, Serial number and Hardware version of the device.

Diagnosis

In the Diagnosis View, the locking statuses of the individual tiles can be identified through the colour coding in the tile stack.

A connection to the actuator must exist in order to display the diagnostic data.
If the log data was already read out from the actuator, this read data can also be retrieved without a bus connection.
When starting the diagnosis, the system displays the message “The last read log data is loading...”

Tile stack with locking statuses



Field	Content	Description
Diagnosis		The DCA does not read out any data from the blind actuator. Action when pressing the icon: **Start** reading of actuator data
		The DCA continuously reads out data from the blind actuator and displays the information. It is represented by a red rotating “spinner”. Action when pressing the icon: **Stop** reading of actuator data

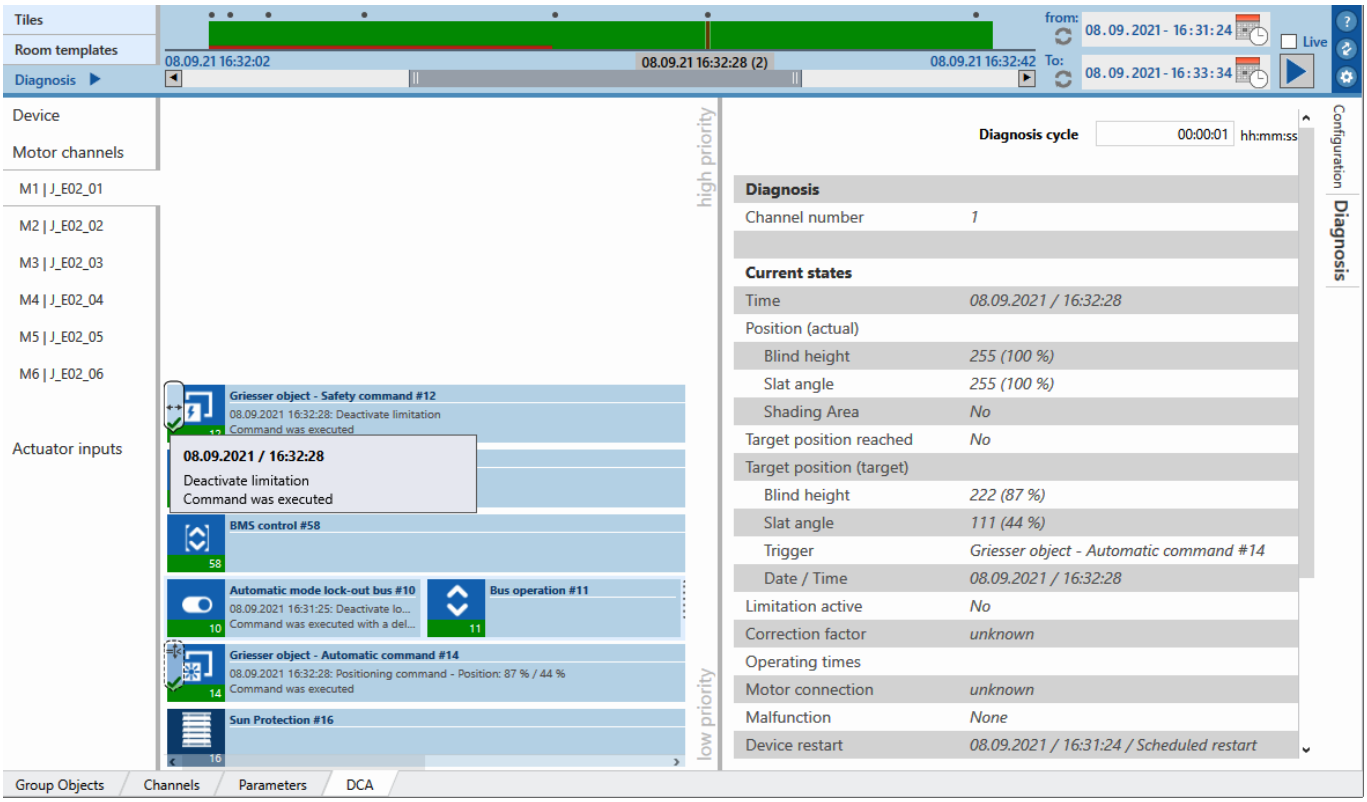
The following functions (especially Past View Diagnosis) require firmware version 1.6 as well as DCA version 10 and higher.

The diagnosis provides two options for a time-based view of the statuses:

Live View Diagnosis
The current stack and the most recently executed commands are displayed continuously. New data is continuously read out and the view is updated. Although the most recently executed commands can also be analysed, the timeline is nevertheless populated with the latest data.
This type of diagnosis is primarily used for commissioning.

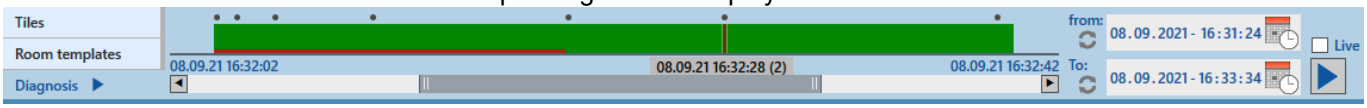
Past View Diagnosis
Past data from the actuator (or a file) is loaded and displayed. The current statuses and commands are not displayed. This type of diagnosis is used to analyse previous events – e.g. for questions about behaviour at a specific point in time. For normal use, the “Diagnosis Past View” goes back about 4 months. The length of time varies greatly depending on the frequency of received commands and executed actions.

The Diagnosis View is divided into a timeline for selecting the diagnosis time (displayed in the header, with the time setting area on the right) and the stack for displaying priorities and last commands (in the lower area).



Timeline

The timeline represents the display of the stack of a selected channel at any time in a reduced form. It shows how much of the stack height (number of tiles) was fully functional (green), locked out (red) or limited (yellow). The slider can be used to select a time and the corresponding stack is displayed in the lower area.



Individual events are displayed above the timeline:

Event	Description
Dot (grey)	Command: - Receipt of a command - Execution of a positioning command - Delayed execution of a positioning command (command repetition after lock-out function, after a delay time, etc.) - Target position was reached
Diamond (blue)	Operating mode change such as: - Change of operating modes (e.g. automatic operation to manual operation) - Exceeding limit values (number of circuits or operating hours) - Operating Notes (Operating time change - Change facade product, Torque limiter, etc.)
Triangle (red)	System events such as - Power failure and resumption (bus and network): the actuator had no bus communication for a while. No recordings are available for this period. - Motor error (lead wire or thermal protection) - Actuator problem (welded relay contact, overcurrent, Thermal Protectionetc.) - Manual override of the actuator channel (device operation on the actuator or test operation with the DCA) - Panic mode

If several events occur at the same time, the following applies to the summary: triangle before diamond before dot.

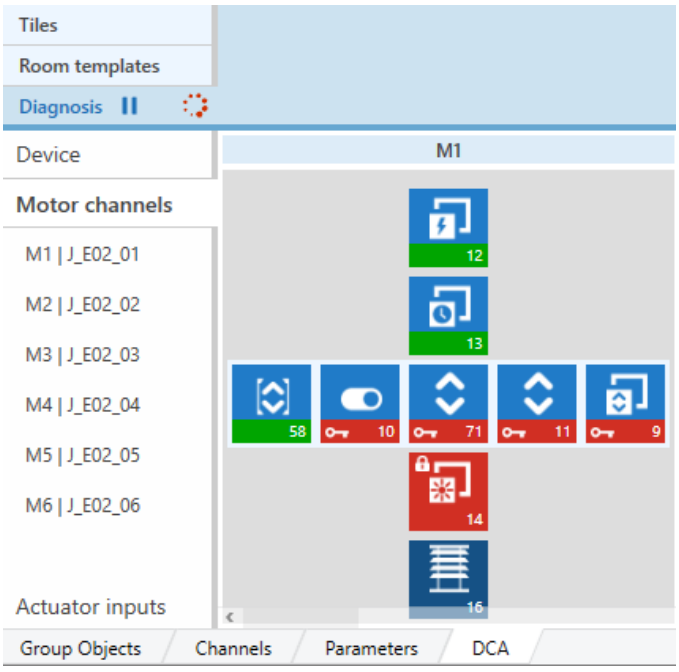
To the right of the reduced stack, you will find the operating elements:

Item	Description
Live	With the Live View, the current states are continuously loaded from the actuator and displayed.
from [1]	Time as of the loading of the data from the actuator. Pressing : Read the earliest available time from the device.
To [2]	Time up to the loading of the data from the actuator. Pressing : Select current time.
Zoom	The slider shows the section of the reduced stack (can be changed by positioning) One way to “enlarge” the section displayed in the timeline is by right-clicking via “click & select” in the timeline itself. Alternatively, the zoom slider can be enlarged in width (displays more data) or reduced (displays less data) and placed in the desired position. The cursor arrow keys can be used to select the previous or next event.
START / STOP	Starting and stopping the diagnosis. This button is present on both sides of the timeline. The function of both buttons is identical (coupled/synchronised).

The Diagnosis View behaves as follows:

- If you switch to the Diagnosis View, the most recently displayed timeline (Past View Diagnosis) appears.
- If a stack has never been read out from the actuator, the timeline is empty.

Tile stack



In the tile stack, the tiles are coloured in relation to the lock-out functions .

In the Channel View, the tiles contain more information:
Line 1: Positioning command and lock-out/limitation
Line 2: Received or executed on date/time

Command bubble
To ensure that the time sequence per analysis time can be identified, the last three tile triggerings are displayed with a command bubble.
The command bubble displays three aspects: command, lock-out situation, execution:

Lock-outs and limitations

Execution

Icon Command	Description
	Positioning command - Tilt Up
	Positioning command - Tilt Down
	Positioning command - Up (Upper End Position – Up relay)
	Positioning command - Stop
	Positioning command - Down1
	Positioning command - Down (Lower End Position – Down relay)
	Shading position
1	Positioning command - P1
2	Positioning command - P2
3	Positioning command - P3
4	Positioning command - P4
	Positioning command - Height: ... %
	Positioning command - Angle: ... %
	Positioning command - Position:
1	Switch on
0	Switch off
1...n	Value (scene number, switch path)
	Events relating to motor switching cycles/blind times

	Description
	Activate lock-out (child tiles are locked out)
	Deactivate lock-out (no lock-out for child tiles)
	Activate limitation (or change)
	Deactivate limitation (no limitation)

	Description
	Command was executed (without delay).
	Command could not (yet) be executed (e.g. as the tile is locked out). If a command has not yet been executed, the command icon also turns grey.
	Command was executed with a delay (e.g. after cancelling a parent lock-out).

Bubble	Description
	Last command
	Penultimate command
	Third last command

Display of sun protection tile

The sun protection tile turns red in the event of a hazard or orange in the event of a malfunction. For more information, see Motor connection.

Display of system events for the entire device

A red bar is displayed for events that affect the entire device.

System events are
- Bus voltage interruption
- Network voltage interruption
- Reset actuator (manually through ETS, too low supply voltage, other cause)

[1] Information about the earliest available time (from when data is in the actuator, i.e. from the time of download or last overwritten data)
[2]Visible if the check mark is not set for Live.

Diagnosis Sun Protection

Selecting the “Sun Protection” tile in the Diagnosis view allows operation states and events of the motor channel to be read out and displayed.
The displays in the **Current states** section are updated continuously, and the update takes place in the **Operating data** section when the Load operating data button is pressed.

Current states and Operating data

Field	Content	Description
Diagnosis cycle Input field	hh:mm:ss	Continuous reading in the back-ground (first initial, then by selected cycle or by keystroke)
Diagnosis		
Channel number	No.	
Current states		
Time	Date / Time	
Position (actual) Blind height	0...255 (0...100%)	

Slat angle	0...255 (0...100%)	
Shading Area	Yes / No	
Target position reached	Yes / No/ Unknown	If no data is available, “Unknown” is output.
Target position (target)		
Blind height	0...255 (0...100%)	
Slat angle	0...255 (0...100%)	The effective slat angle is output. The returned slat angle may deviate from the target position if, for example, there is a restriction or a correction factor.
Trigger	Description Tile No.	
Date / Time	Date / Time	
Limitation active Limitation of tile	Yes / No No. / Name No. / Name ... (more)	
Correction factor [1]		The correction factor affects the adjustment of a given slat angle and the shading positions P1...P4
Total	50% *25% ... 150% *225%	The total is composed of the correction factor of the central unit and the correction factor of the motor channel.
Central Unit	25% ... 225%	The correction factor “Central Unit” is received via the Griesser object.
Motor channel	0 ... 200%	The correction factor “Motor channel” can be configured specifically to the channel in the Blind actuator .
Operating times		
Up – Down2	.... s / unknown	
Down2 – Up	.... s / unknown	
Down1 – Down2 [2]	.... s / unknown	
Motor connection [1]	check / ok	Date / Time
Hazard 	■ Welded relay contact ■ Overcurrent	Welded relay contact, i.e. a current flows on a relay contact even though the relay is open. In this case, the device must be replaced. Overcurrent, i.e. a current greater than 5 A flowed (permissible current is 2.5 A), which could have damaged the actuator.
Fault 	■ No motor available	No motor available: No motor is connected or the neutral conductor

[1] A pending malfunction on the channel is indicated by a red product tile in the stack

	■ Thermal Protection ■ Lead wire interruption	is interrupted. Thermal Protection, i.e. the motor drive is overheated and cannot be moved. The cooling-down time varies depending on the ambient temperature. Lead wire interruption, i.e. one of the control lines (Up/Down2/Down1) is interrupted, the movement works on a different motor line.
Operating Note	■ Operating time change - Change facade product ■ Torque limiter	Operating time change - Change facade product: A product change is a possible cause of an operating time change. Torque limiter: The electronic motor detected an obstacle and the movement was stopped by the motor.
Malfunction	Cause (Date / Time)	Possible causes include: ■ Bus voltage interruption ■ Network voltage interruption If no data is available, “Unknown” is output.
Device restart	Cause (Date / Time)	Possible causes for the device restart include: ■ Scheduled restart ■ Network voltage interruption If no data is available, “Unknown” is output.
Operating data		
Load operating data		Updates the displays in this section
Time	Date / Time	
Operating time of device	Duration	Sum of the time periods within which the actuator was in operation.
Overcurrent		
Last overcurrent	Date / Time	Time of overcurrent detection (or welded relay contact). The relay contacts may have been damaged by the overcurrent. Flawless operation (e.g. safety functions) is no longer guaranteed, and the motor channel may no longer be used.
Number of overcurrents	Number	Number of channel shutdowns as a result of impermissible current flow (> 5 A) on the motor channel.
Motor		
Motor switching cycles	Number	Number of switching cycles of the controlled motor with load (only

		with the current detection switched on, otherwise the number of relay circuits is counted). This counter can be reset.
Limit value exceeded on[3]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Operating time of motor	Duration	Sum of the time periods within which the motor has moved. This counter can be reset.
Limit value exceeded on[4]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Motor counter reset	Number	Number of resets of the “Motor switching cycles” and “Operating time of motor” counters
Reset motor counter		Resets the “Motor switching cycles” and “Operating time of motor” counters and should therefore be done after replacing the motor. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”.
Last reset on [5]	Date / Time	The diagnostic data was last reset on the specified date. If the line is not visible, a reset has never been performed.
Facade product		
Operating time blind	Duration	Sum of the time periods within which the blind was in an extended state (and exposed to the weather). This counter can be reset.
Limit value exceeded on[6]	Date / Time	If a limit value is set and has been exceeded, the time it was exceeded is displayed.
Blind counter reset	Number	Number of resets of the “Operating time blind” counter
Reset blind counter		Resets the “Operating time blind” counter and should therefore be done after replacing the blind. The triggering of the reset operation must be confirmed again after the warning message “The resetting of the counters cannot be undone!”.
Last reset on [7]	Date / Time	The diagnostic data was last reset on the specified date. If the line is not visible, a reset has never been performed.

Last events (actuator firmware up to version 1.5)

#	Date / Time	Tile No.Designation	Target positionHeight / Angle	Lock-out
16	**30.08.2021 / 16:36:13**	**Griesser object - Safety command #12**		**No limitation**
15	30.08.2021 / 16:35:30	Griesser object - Safety command #12		No limitation
14	30.08.2021 / 16:29:44	Bedienung Bus #11	216 / 0 85 / 0 %	
13	30.08.2021 / 16:29:44	Bedienung Bus #11		Locks out
12	30.08.2021 / 16:29:39	Bedienung Bus #11	Up position	

The last 10 events are saved per channel and can be read out via the DCA. If the diagnosis remains open with an active bus connection, the entries are continuously added to the list, making longer event lists (recordings) possible.

[1]Only visible for slat products

[2]Only visible with 3 limit switch motors

[3]Only visible if the limit value has been exceeded

[4]Only visible if the limit value has been exceeded

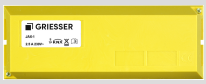
[5]Only visible if the motor counter has been reset

[6]Only visible if the limit value has been exceeded

[7]Only visible if the blind counter has been reset

Appendix

Device Overview of JAX Blind Actuators

Feature	Type			
	JAX-1 	JAX-3 	JAX-6 	JAX-9 
Motor supply voltage	AC 230 V			
Channels (motors)	1	3	6	9
For motors with	2 or 3 limit switches			2 limit switches
End position detection	Yes, fully automatic			
Design, Housing	Installation / Surface mount		Series installation housing	
Dimensions	190 x 70 x 52 mm (W x H x D)	250 x 70 x 50 mm (W x H x D)	158 x 90 x 58 mm (W x H x D)	
Group inputs / Operations [1]	3 / 1			
Other inputs / Operations [2]	2 / 1	6 / 3	12 / 6	18 / 9
Motor channel LED	1[3]	3	6	9
Test buttons	Yes			

Further information can be found in the technical supplement sheets.

Facade Products

Below, you will find a description of the facade products listed in the “Product” tab, which are divided according to:

- General products
- GRIESSER products

General products

Name	Application / Property	Image

[1]The first number quantifies the number of individual (universally configurable) contact inputs, and the second number quantifies the number of control points that can be implemented with these contact inputs.
[2]The first number quantifies the number of individual (universally configurable) contact inputs, and the second number quantifies the number of control points that can be implemented with these contact inputs.
[3]LED No.1 for motor channel and two additional LEDs Nos.2+3 for chaser light displays, see Device Operation

External venetian blinds open	Also designated as external venetian blinds, beaded blinds, compact beaded blinds or louvre blinds. The slats are open during downward motion. The angle is determined mechanically and cannot be changed by the control. **Advantage of beaded-slat blinds, open during motion**: - Defined shading position for downward-motion position provides a uniform facade appearance - Minimal dark phase - Ideal for sun, glare, heat and visual protection **Notes**: - Motors with 3 limit switches are possible (important to remember!) - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
External venetian blinds closed	Also designated as external venetian blinds, beaded blinds, compact beaded blinds or louvre blinds. The slats are closed during downward motion. **Advantage of beaded-slat blinds, closed during motion**: - The slats can be closed in any position - Ideal for sun, glare, heat and visual protection **Notes**: - Motors with 3 limit switches are not possible - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Roller shutters	The roller shutter blind is “wrapped” around the motor in the canopy hood. **Advantages of roller shutters**: - Ideal for protection from break-ins and weather - Effective room darkening **Notes**: - Tubular motors can be installed to the left or right, therefore Up / Down is not always the same connection lead. - Not suitable for sun protection in the workplace.	

Vertical awning	The vertical awning fabric is “wrapped” around the motor. **Advantage of vertical awnings**: - Decorative facade element **Notes**: - Tubular motors can be installed to the left or right, therefore Up / Down is not always the same connection lead. - Automatic awnings must be protected from wind and potentially from rain and frost.	
Sliding-arm awning	A sliding-arm awning first moves vertically downwards and then, once it reaches a certain height, extends the arm. **Advantage of sliding-arm awnings**: - Better view and sun protection than with vertical awnings **Notes**: - Tubular motors can be installed to the left or right, therefore Up / Down is not always the same connection lead. - Automatic awnings must be protected from wind and potentially from rain and frost.	
Drop-arm awning	In contrast to the sliding-arm awning, the drop-arm awning extends immediately upon downward motion. **Advantage of drop-arm awnings**: - Better view and sun protection than with vertical awnings **Notes**: - Tubular motors can be installed to the left or right, therefore Up / Down is not always the same connection lead. - Automatic awnings must be protected from wind and potentially from rain and frost.	
Patio awning	Also called seating area awnings or joint-arm awnings. The patio awning fabric is “wrapped” around the roller tube. **Advantage of folding-arm awnings**: - Large areas can be shaded **Notes**: - Tubular motors can be installed to the left or right, therefore Up / Down is not always the same connection lead. - Automatic patio awnings must be protected from wind and potentially from rain and frost.	

GRIESSER products

Name	Application / Property	Image
Lamisol®	Lamisol is a brand name of Griesser AG (type: compact beaded blinds). The slats are open or closed during downward motion. The slats are guided by lifting belts. The angle is easy to adjust by “tilting up”. **Features of Lamisol**: - Lifting belt in the centre of the slat - Adjusting belts on the outside of the slats - “Z” slat shape **Advantages of Lamisol**: - Defined shading position for downward-motion position provides a uniform facade appearance when Lamisol is open during motion. - Minimal dark phase - Ideal for sun, glare, heat and visual protection **Notes**: - Motors with 3 limit switches are possible (important to remember!) - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Solomatic®	Solomatic is a brand name of Griesser AG (type: compact beaded blinds) The slats are open or closed during downward motion. The slats are pulled up by lifting belts. The angle is easy to adjust by “tilting up”. **Features of Solomatic**: - Lifting belt in the centre of the slat - Belts on the outside of the slats - “C” slat shape **Advantages of Solomatic**: - Ideal for sun, glare, heat and visual protection **Notes**: - Motors with 3 limit switches are possible (important to remember!) - No dimming (slats do not close completely). - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Grinotex®	Grinotex is a brand name of Griesser AG (type: compact beaded blinds) The slats are open or closed during downward motion and are pulled up by chains in the guide rail. The angle cannot be adjusted by “tilting up” if a uniform facade appearance is required. The chain creates mechanical play. **Features of Grinotex**: - No lifting belt in the centre - Wire rope on the outside of the slats - “Z” slat shape **Advantages of Grinotex**: - Defined shading position for downward-motion position provides a uniform facade appearance - Minimal dark phase - Ideal for sun, glare, heat and visual protection - Robust product, highly shockproof!	

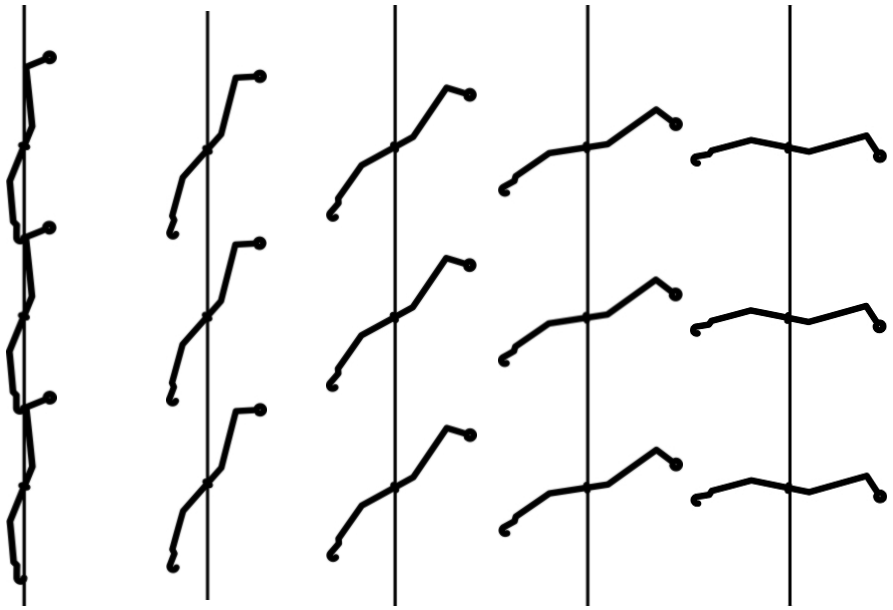
	Notes: - Motors with 3 limit switches are possible (important to remember!) - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Metalunic®	Metalunic is a brand name of Griesser AG (type: all-metal external venetian blinds) The slats are open or closed during downward motion and are pulled up by chains in the guide rail. The angle cannot be adjusted by “tilting up” if a uniform facade appearance is required. **Features of Metalunic**: - Slats only attached at the side (no belts) - “U” slat shape **Advantages of Metalunic**: - Defined shading position for downward-motion position provides a uniform facade appearance - Minimal dark phase - Ideal for sun, glare, heat and visual protection - Robust product, highly shockproof! **Notes**: - Motors with 3 limit switches are possible (important to remember!) - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Aluflex®	Aluflex is a brand name of Griesser AG (type: beaded-slat blinds) The slats are open or closed during downward motion. The slats are pulled up by lifting belts. The angle is easy to set by “tilting up”. **Features of Aluflex**: - Flat slats with a slight curvature - Lifting belt in the centre of the slat - Adjusting belts on the outside of the slats - Individual slats are “surrounded” by adjusting belts **Advantages of Aluflex**: - Ideal for sun, glare and heat protection **Notes**: - Motors with 3 limit switches are possible (important to remember!)	

Lamistar®	Lamistar is a brand name of Griesser AG (type: beaded-slat blinds) In contrast to the other beaded-slat blinds, the Lamistar moves upwards from the bottom to the top. The slats are closed during motion and are pulled up by chains in the guide rail. The angle cannot be easily adjusted by “tilting” if a uniform facade appearance is required **Features of Lamistar**: - Moves upwards **Advantages of Lamistar**: - Defined shading position for downward-motion position provides a uniform facade appearance - Minimal dark phase - Ideal for sun, glare, heat and visual protection as well as utilisation of daylight - Robust product, highly shockproof! **Notes**: - No motors with 3 limit switches possible - Automatic beaded-slat blinds must be protected from wind and potentially from frost	
Solomatic® R	Solomatic R is a brand name of Griesser AG (type: roller shutters) In contrast to the other beaded-slat blinds, the Solomatic R is rolled up like a roller shutter in the canopy hood. It can only be controlled with a special drive strategy, as the slats are open in the end position and only close by tilting up. **Features of Solomatic R**: - Metal belt at the back of the slat - Solomatic slat shape **Advantages of Solomatic R**: - For retrofitting on objects with roller shutters - Ideal for sun, glare, heat and visual protection **Notes**: - Motors with 3 limit switches are possible (important to remember!) - Automatic beaded-slat blinds must be protected from wind and potentially from frost	

Shading positions P1...P4

You can use the blind actuator to control four predefined Shading positions P1, P2, P3 and P4.For beaded-slat blind products, the positions P1...P4 correspond to different slat openings when the blind is fully extended (in the lower end position).The predefined settings are measured in a manner that results in a uniform gradation of the slat opening from P1 to P4:P1 = no view towards the outsideP2 = little view towards the outsideP3 = medium view towards the outsideP4 = full view towards the outside

Lower end position	Visual protection	Lower shading	Upper shading	Transparent
	P1	**P2**	**P3**	**P4**



For other facade products, the Shading positions P1...P4 can be used as freely configurable saved positions.

Compatibility list of blind actuators

Where is what?

The following table shows which functions of the Griesser MSX/MGX actuators are available in the Parameter View of the JAX blind actuators and which functions of the Griesser MSX/MGX actuators are available in the Device Configuration App (DCA) of the JAX blind actuators.
"–" means that the function is (as it is) not available
"Link" means that the function is described in the given link (available).

"General" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Show/hide and label channels	Motor channels	Motor channel
Allocate button inputs	–	Contact input configuration
Diagnosis	–	–
Priorities	–	Stack

"Channel – Settings" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Griesser object sector address	Basic settings	Griesser object tiles
Monitor cyclically	–	Griesser Safety object tile
Product type	Basic settings	Facade product sun protection tile
Motor type	Basic settings	Sun protection motor settings tile
Limit switches	Basic settings	Sun protection motor settings tile
Shading position	Basic settings	" Shading Positions " auf Seite 55

Position correction factor	Basic settings	Sun protection shading positions tile
Behaviour during bus interruption	Basic settings	Sun protection initial behaviour tile
Behaviour when network is restored	–	Sun protection initial behaviour tile

"Channel – Lock-out function" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Safety 1 ... 3	Alarm function	Safety command input tile
Reset function	–	In each tile, see: Priority handling
Automatic mode lock-out	Basic settings	In each operation or command input tile, see: Priority handling Operation tile

"Channel – Inputs" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Central command	–	Operation tile
Local command	Basic settings	Operation tile
Receive BMS object	–	BMS operation tile
Inputs on actuator	–	Contact inputs Control LED

"Channel – Feedback" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Height/Angle	Feedback	Sun protection, Feedback tile
Status messages	Feedback	Sun protection, Feedback tile
BMS feedback	Feedback	Sun protection, Feedback tile

"Channel – Product" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Tilt duration	Basic settings	Facade product sun protection tile
P1...P4	Basic settings	Sun protection shading position tile
Relay switching time	Basic settings	Sun protection motor tile
Motor overtravel Up and Down	–	Sun protection motor tile
End position detection		Sun protection motor tile
Operating time Up/Down	Basic settings	Sun protection motor tile

Reverse button input	–	–
Reverse motor output	–	Sun protection motor tile
Drive strategy	–	–
Slat turning times	Basic settings	Facade product sun protection tile
Play	–	Facade product sun protection tile
Travel times	–	–

"Channel – Scenes" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Scene active	–	Scene tile
Scene 1-16	–	Scene tile

"Channel – Logic" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Logic function	–	Switch tile

"Channel – Analysis" parameter

MSX / MGX	JAX Parameter View	JAX DCA
Logic	–	Diagnosis stack
Actuator commands	–	Test operation
Internal states	–	Sun protection diagnosis tile
Priorities	–	Diagnosis stack

Hardware

The table shows what needs to be considered when an existing device (row) is replaced by a new device (column). For example, an MSX-2 is replaced by a JAX-3. The field marked in green describes what needs to be considered.

		Existing		
		MSX-2	**MSX-6**	**MGX-9**
Replaced by	**JAX-3**	Size is identical in terms of width and height. However, JAX-3 is longer	–	–
	JAX-6	–	structurally identical	–
	JAX-9	–	–	structurally identical

Detailed functional differences between MSX/MGX and JAX

	MSX / MGX	JAX-n
“Height” positioning command (not with Up/Down, Tilt, Angle, Position)	If the blind is not yet at the target height, it is retracted or extended until the target height is reached. With beaded-slat blinds, the slats then remain open in the upward-motion position or closed in the downward-motion position. That is, the **slats are not reproduced** at the initial angle before the height of the blind was changed.	If the blind is not yet at the target height, it is retracted or extended until the target height is reached. With beaded-slat blinds, if necessary the **slats are subsequently reproduced at the initial angle before the height of the blind was changed**. **Special cases:** **Target height=0** results in movement to the **upper end position**, **target height=100%** results in movement to the **lower end position** (irrespective of the initial position).
“Tilt Up/Down” positioning commands via Griesser object	**Tilt duration is evaluated according to specification** parameter	**Tilt duration is not evaluated** parameter (the actuator always uses “its own” pre-programmed tilt duration regardless of the received parameter)
“Tilt Up/Down” positioning commands via BMS object	**Tilt duration is evaluated according to specification** parameter	**Tilt duration is not evaluated** parameter (the actuator always uses “its own” pre-programmed tilt duration regardless of the received parameter)
Changing Facade product parameter from “Slats closed” to “Slats open”	No adjustments	Motor is automatically changed from 2 end switches to 3 end switches and the Shading positions P1...P4 are adjusted (P2 = Down1).
Applying the **correction factor** to Shading positions P1...P4	Correction of travel time according to specification	Correction of the assigned slat angle for slat products. No correction for other facade products.
Setting range for the motor-channel-specific **correction factor**	0 ... 200%	0 ... 200%
Cyclical monitoring of Griesser object	Cyclical monitoring must be actively switched on.	Cyclical monitoring is always switched on (but not activated). Cyclical monitoring is not activated until a corresponding monitoring command is received from the Griesser object. If required, monitoring in the DCA can be switched off selectively (e.g. monitoring is always active, but you wish to deactivate it on one channel).
Automatic mode lock-out feedback	Active only if a Automatic mode lock-out has been activated.	**Behaviour with Product database < 2.1 or DCA < 2.1:**

	An automatic mode locked out by a safety lock-out is not displayed.	Active when the automatic mode is locked out. Feedback is output regardless of the lock-out (safety lock-out or Automatic mode lock-out). **Behaviour with Product database ≥ 2.1 or DCA ≥ 2.1:** The behaviour is analogous to the MSX/MGX.
BMS input	The BMS object consists of a positioning command and a lock-out. The lock-out is executed with high priority as a safety lock-out, but the positioning commands are executed with low priority. For more information on the priorities, see the MSX Plugin Help.	There is a single BMS operation tile in the DCA as a representation of the BMS input. It can be used to configure various combinations for triggering the lock-out. You cannot configure a safety tile with a BMS object as input. Accordingly, the BMS safety lock-out cannot be configured.
Negative reference of Down1 for P1...P4	Adjustable range: –327…327 s	Only positive values of Ab1 can be referenced. Adjustable range: 0 ... 10 mins

BMS object

Telegrams for commands and feedback in exchange with a facility of the building management system or central visualisation

BMS Object Incoming Telegram

The evaluation of the incoming telegram for a specific motor channel is defined by the BMS Control tile in the DCA.

Structure

The incoming telegram comprises the following 4 bytes:

Byte 0								Byte 1								Byte 2								Byte 3							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Control Flags								**Command**								**Argument 1**								**Argument 2**							
8 bit								8 bit								8 bit								8 bit							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0

Control Flags

Bit	Value	Meaning
0	0 1	Execute command as a local command Execute command as a central command
1	0 1	
2	0 1	
3	0 1	
4	0	

	1	
5	0 1	
6	0 1	
7	0 1	Deactivate BMS lock-out Activate BMS lock-out

Commands and Arguments

Command		Meaning	Argument 1	Argument 2
decimal	hexadecimal			
0	0x00	No command		
1	0x01	Up		
2	0x02	Down		
3	0x03	Shading		
4	0x04	P1		
5	0x05	P2		
6	0x06	P3		
7	0x07	P4		
8	0x08	One step up	It is used as a step size, regardless of the command value of the parameters in the actuator.	
9	0x09	One step down	It is used as a step size, regardless of the command value of the parameters in the actuator.	
10	0x0A	Height	0…255 corresponding to 0…100% of the blind height.	
11	0x0B	Angle	0…255 corresponding to 0…100% of the blind angle.	
12	0x0C	Position	0…255 corresponding to 0…100% of the blind height.	0…255 corresponding to 0…100% of the blind angle.
13	0x0D	Night position		
14	0x0E			
15	0x0F			
16	0x10			
17	0x11			
18	0x12			
19	0x13			
20	0x14			

Notes

- “100%” corresponds to the height/angle with the blind closed.
- “Night position” for now always triggers moving to the upper end position, regardless of the facade product

BMS Object Outgoing Telegram

The outgoing telegram delivers feedback about the state of the actuator and the current blind position.

The sending of the outgoing telegram for a specific motor channel is defined in the Feedback section of the DCA Sun Protection tile.

Two settings are available for coding:

Griesser	Griesser definition, as used in the MSX and MGX products since 2005
KNX	KNX specification according to DPT 241.800, which is defined as of 2015

The two codings differ in the **status flags** (bytes 2 and 3 in the telegram)

Griesser Coding

Structure

The outgoing telegram comprises the following 4 bytes:

Byte 0								Byte 1								Byte 2								Byte 3							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Height								**Angle**								**Status Flags**															
8 bit								8 bit								16 bit															
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Height and Angle

For the “Height” and “Angle” fields, the values 0...255 are used, corresponding to 0...100% of the blind height / blind angle.
“100%” corresponds to the height/angle with the blind closed.

Status Flags

Bit	Value	Meaning
0	0 1	- Upper end position
1	0 1	- Lower end position
2	0 1	Position outside the shading area Position within the shading area
3	0 1	Target position not reached / in motion Target position reached
4	0 1	Position known Position unknown
5	0 1	- Not Possible to Move to Height (Limited)

6	0 1	- Not Possible to Move to Angle (Limited)
7	0 1	No safety lock-out active At least one safety lock-out active
8	0 1	Automatic mode lock-out inactive Automatic mode lock-out active
9	0 1	Operational lock-out inactive Operational lock-out active
10	0 1	No limited operation Limited operational range
11	0 1	- Check the motor and lead wire: - No motor connected - Lead wire interruption - Thermal Protection
12	0 1	- Device defective
13	0 1	
14	0 1	
15	0 1	

KNX Coding

Structure

The outgoing telegram comprises the following 4 bytes:

Byte 0								Byte 1								Byte 2								Byte 3							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Height								**Angle**								**Status Flags**															
8 bit								8 bit								16 bit															
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Height and Angle

For the “Height” and “Angle” fields, the values 0...255 are used, corresponding to 0...100% of the blind height / blind angle.
“100%” corresponds to the height/angle with the blind closed.

Status Flags

Bit	Value	Meaning
0	0 1	- Upper end position reached
1	0 1	- Lower end position reached
2	0 1	Position outside the shading area Position within the shading area
3	0 1	Motor in motion Target position reached

4	0 1	- Not possible to move to height (limited)
5	0 1	- Not possible to move to angle (limited)
6	0 1	No weather alarm Weather alarm active (Griesser Safety object)
7	0 1	No safety lock-out active At least one safety lock-out active
8	0 1	No lock-out active Lock-out active
9	0 1	
10	0 1	- Device defective or check the motor lead wire
11	0 1	
12	0 1	
13	0 1	
14	0 1	Height invalid Height valid
15	0 1	Angle invalid Angle valid

Operating time measurement

The movement to a certain blind height ranging from 0 (blind retracted) to 100% (blind extended) occurs between the upper and lower end position on the basis of the operating times saved in the blind actuator.

The Basic Settings (Parameter View) or the settings in the Motor section of the DCA allow you to specify for each motor channel whether the device should calibrate the operating times itself or use user-specified operating times:

Parameter Name	Selection	Description
Operating time measurement	■ On	The operating time is automatically determined and saved. Also see the chapter Operating Time Measurement in the appendix. *Use:* Thanks to the immediate end position detection, beaded-slat blind products can tilt to the shading position without any disruptive dark phase as soon as the lower end position has been reached (i.e. in contrast to operation with the operating time measurement switched off, there is no need to wait for an operating time calculated for an extreme case).
	■ Off	The operating time is not automatically determined, but must be set manually. *Note:* Changes due to ageing and heat differences are

		already taken into account in the actuator. This allows the manually measured operating time to be set without a safety reserve. *Use:* Movement can also be made to target positions between the end positions using electrical constellations in which the automatic operating time measurement is not applicable (for example, motors coupled via cut-off relay)

Automatic calibration of the Operating time

If **"Operating time measurement" = "On"** has been configured and no operating time between the upper and lower end position has been calibrated and saved since then, an **automatic calibration** occurs as soon as the operating time is required to calculate and move to a certain target position. **When first moving a blind height between the upper and lower end position**, this is the case of a respective value above 0 and below 100%.

Before moving to the desired blind height, a movement from the lower to the upper end position is first executed and the measured Operating time is saved (the Operating time from the upper to the lower end position is assumed to be identical, as long as a different Operating time is not registered on the motor channel during operation).

N.B.: The Operating time is only required to move to a blind height. The movement to a certain slat angle of beaded-slat blind products occurs on the basis of the configured turning time and does not require any Operating time measurement.

Note:
The Operating time measurement can lead to an incorrect result if the calibration movement has been interrupted by an extraordinary event which the blind actuator interprets as reaching the end position (i.e. not by stopping controlled by the device control or the end position detection of the motor, but as a result of another interruption of the motor circuit). Noticeable differences between the movement time with a Tilt Up and a Tilt Down command are an indication of an improper calibration. After such cases, the Operating time measurement must occur manually via the Device Operation or the Test Operation of the DCA.

Flags von Kommunikationsobjekten

ETS Sprache			
deutsch		andere	
K	Kommunikation	C	Communication
L	Lesen	R	Read
S	Schreiben	W	Write
Ü	Übertragen	T	Transmit
A	Aktualisieren	U	Update
I	Initialisierung	I	Initialisation

Beschreibung der Objekt-Flags s. https://support.knx.org/hc/de/articles/115003188089-Flags

Versions

Help File

Document Number / Version / Date of Issue: 013909.721 / 2V21 / 22.01.2025 / EN

Overview

	HW JAX-1	HW JAX-3 JAX-6 JAX-9	FW	PDB	DCA
March 2025			2.1	2.1	2.1
August 2024					2.0
January 2024			1.13		1.14.4
September 2023			1.11		1.14.3
August 2023			1.10		
July 2023					1.14.2
May 2023					1.14.1
March 2023					1.14
August 2022		1.6	1.8		
March 2022					1.13
January 2022		1.5	1.7		
December 2021		1.4			
November 2021					1.12
September 2021			1.6		1.11
October 2020					1.8.9.5
August 2020			1.5		
September 2019					1.8.1.4
August 2019					1.8.1.3
July 2019					1.7.1.2
April 2019			1.4		
March 2019			1.3		
February 2019				1.1	1.7.1.1
October 2018			1.2		
September 2018		1.3	1.1	1.0	1.7.1.0

Hardware (HW)

Blind actuators JAX-1

Revision	Description
1.0	■ Initial market version

Blind actuators JAX-3, JAX-6, JAX-9

Revision	Description
1.6	■ Customisation of printed circuit boards
1.4	■ Various optimisations

1.3	■ Initial market version

Firmware (FW)

Version	Description
2.1	■ New functions with Product database 2.1 ■ Motor diagnostics detects thermal protection; lead wire interruption per connecting conductor; load cutoff ■ After exiting the device operation, the last positioning command is not repeated ■ Automatic mode lock-out feedback: An automatic mode locked out by a safety lock-out is not displayed.
1.11 - 1.13	■ Performance improvements and troubleshooting ■ Eco operating mode
1.7 - 1.10	■ Performance improvements and troubleshooting
1.6	■ Performance improvements and troubleshooting ■ Events (Live/Past View Diagnosis) are saved in the actuator. ■ Scenes saved by the user can be overwritten.
1.5	■ The Safety command input releases the lock-out when a signal is received again after cyclical monitoring has been triggered. ■ The hardware revision of the device is displayed in the Device display area in the DCA. ■ The scene numbers 33 to 64 can be issued. ■ The feedback of the “Lower end position” state works for all products. ■ LED output flashes during limited operation. ■ The 1-bit feedback of the limitations is implemented. ■ The RGB feedback is implemented.
1.4	■ Performance improvements and troubleshooting
1.3	■ The LED of the local operation can be controlled via the bus. ■ The operating parameters are available in the diagnosis and can be sent to the bus. ■ The roller slat facade product can be selected as a product.
1.2	■ Performance improvements and troubleshooting
1.1	■ Initial market version

Product database (PDB)

Version	Description
2.1	■ 8 Safety objects instead of 3 Safety objects ■ Test operation integrated ■ Diagnostic functions ■ Configurable shading positions P1...P4 and tilt duration ■ Griesser facade products integrated ■ Feedback objects for limitations and BMS object ■ Contextual help included ■ Spanish introduced ■ An automatic mode locked out by a safety lock-out is not displayed by the automatic mode lock-out feedback

1.1	■ Incomplete and incorrect configurations are displayed in the Parameter View and in the DCA.
1.0	■ Initial market version

Device Configuration App (DCA)

Version	Description
2.1	■ Performance improvements and troubleshooting ■ Automatic mode lock-out feedback: An automatic mode locked out by a safety lock-out is not displayed.
2.0	■ Performance improvements and troubleshooting ■ Diagnostics expanded for motor connection, malfunctions and device rest-art ■ Channel lock-out can be switched on and off in DCA test operation
1.14.4	■ Performance improvements and troubleshooting
1.14.3	■ Eco operating mode
1.14 - 1.14.2	■ Performance improvements and troubleshooting ■ Parameters in the sun protection tile made clearer ■ Spanish introduced as a new language in the DCA ■ The assignment of the sector address for the Griesser object tiles can be easily adjusted
1.13	■ In the Matrix view, an Up / Shading GO is created for a command on the bus input. ■ The individual address is displayed on the surface. ■ The triggered bus monitoring is logged.
1.12	■ Performance improvements and troubleshooting
1.11	■ The Selection function/application has been added to the command input tile. ■ The versioning of the DCA has been adapted. ■ The automatic blinds tile has been added. ■ Scenes saved by the user can be overwritten. ■ In the diagnosis, the possible fault case is output in the event of a fault in the motor connection. ■ In the diagnosis, the sun protection tile turns red in the event of an error state. ■ In the diagnosis, past events (Past View Diagnosis) can be displayed in the timeline. ■ In the diagnosis, system events that affect the entire device are indicated by a red bar. ■ In the diagnosis, all read log data is saved in the DCA. ■ In the diagnosis, parent lock-outs are displayed in the switch tile. ■ The new DCA toolbox for multi-selection of the same device types has been added.
1.8.9.5	■ The relay switching time for ECM motors is adjusted. ■ The hardware revision of the device is displayed in the Device display area in the DCA. ■ The scene numbers 33 to 64 can be issued. ■ When the DCA is opened, the programming flags “Par” and “Grp” are retained in the ETS. ■ The Shading positions P1...P4 of the Parameter View and the DCA are

	coordinated with each other. ■ In the event of limited operation, the corresponding motor channel LED blinks. ■ The 1-bit feedback of the limitations is implemented.
1.8.1.4	■ Griesser object - safety tile, function: Monitor cyclically with a different default value.
1.8.1.3	■ Warning on motor channel: The stack configuration may exceed the device resources if this stack is copied to all channels. ■ Incomplete and incorrect configurations are displayed in the Parameter View and in the DCA.
1.7.1.1 - 1.7.1.2	■ Performance improvements and troubleshooting
1.7.1.0	■ Initial market version