

Window "Channels" - Overview

Purpose and Content

In the window "Channels", you can:

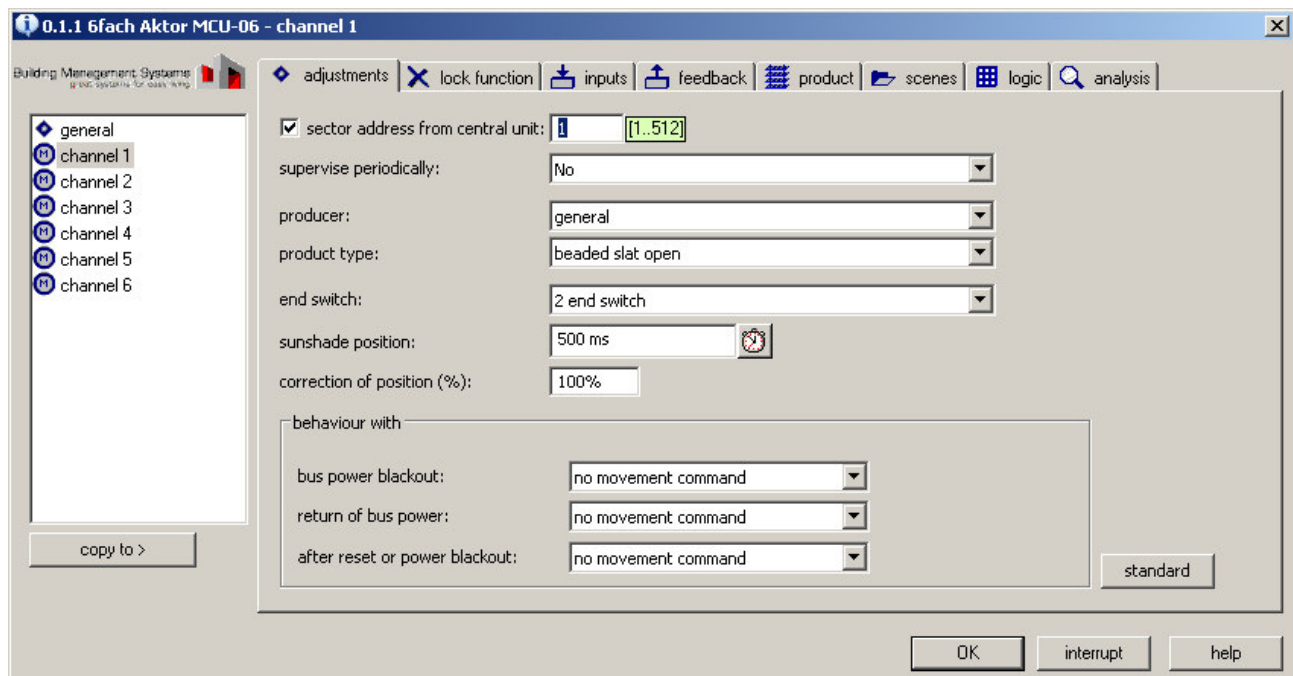
- set parameters in the actuator for individual channels
- perform an analysis

The "BMS KNX Actuators" application's structure is entirely channel-orientated in accordance with the actuators, i.e.:

You can make settings (parameters, communication objects) individually for every channel or every group of connected channels.

By clicking on the desired channel or the desired group of connected channels in the menu on the left hand side, the window containing the associated content and settings will be displayed.

The window contains a number of tabs which are visible depending on the actuator type and the access level. The following image shows the window for MCU actuators at the Pro access level:



A Brief Description of the Items

Item

[Settings](#) tab
[Lock-out Function](#) tab
[Inputs](#) tab
[Feedback](#) tab

[Product](#) tab
[Scenes](#) tab
[Logic](#) tab
[Analysis](#) tab
Copy To button
Standard button
OK button

Cancel button

Purpose / Brief Description

Basic settings for the channels or connected channels.
Definition of the conditions for the lock-out of a channel or connected channels.
Configuration of the inputs of the channels or connected channels.
Specification whether and how feedback regarding the position of the base product should be performed.
Selection of the base product / adaptation of the parameterisation of the channels.
Creation of up to 16 scenes per channel.
Definition of room functions based on EIB/KNX signals, such as presence.
Several windows for the online display of important states and signals.
Copy previously parameterised channels to another channel or to all other channels.
Restores default tab values (applies to tabs from "Settings" through "Product").
The changes made since the application was started will be saved definitely and the application will be closed.
The changes made since the application was started will be discarded and the application will be closed.

Help button

The help topic associated with the tab will be displayed.

Tabs Displayed

Which tabs are displayed depends on the selection of the access level as follows:

Access Level	Tab							
	Settings	Lock-out Func.	Inputs	Feedback	Product	Scenes	Logic	Analysis
Standard	x	x						
Full	x	x	x	x	x			
Pro	x	x	x	x	x	x	x	x

Note

The Pro access level is not available for the actuator MCU-09.

Tab "Settings"

Purpose and Content


You can specify the basic settings for the tagged channel or the tagged connected channels using the tab "Settings".

This deals primarily with:

- The allocation of a sector address for communication with a BMS central unit
- The selection of the sun-protection product to be operated
- The behaviour in the event of an interruption of the bus voltage

Making Settings

Proceed as follows:

1. If the actuator is connected to a BMS central unit:
Click on the Sector from Central Unit checkbox and enter the sector address to the right.
2. In the Cyclical Monitoring drop-down menu, click on Automatic by Central Unit, if this monitoring is required.
3. Select the Manufacturer and the Product Type in the drop-down menu.
=>Caution: This step changes various parameter settings. Be certain to perform this step here!
4. Select 2 or 3 Limit Switches, if this list box is visible (only the case for MCU actuators; there it is automatic, product-dependent).
5. Leave the preset default settings for the Shading Position as they were (automatic, product-dependent).
The [Calibration Dialogue](#) is required for optimisation only when putting the product into service. You get there by clicking on the  icon.
6. Select the settings for Behaviour in Case of in the drop-down menu, Bus Voltage Interruption, Bus Voltage Restoration and Network Restoration.
Note: This group field is only visible at the Full and Pro access levels.

Example

Notes

- The selection offered in the Manufacturer and Product Type drop-down menus cannot be amended.
- You can return to the default settings for the tab by clicking on the Standard button.

Description of the Parameters

Parameter Name	Selection	Description
Sector Address from Central Unit	<ul style="list-style-type: none"> • None • 1...512 	<p>Sector address from the BMS central unit. The address must be entered on both sides manually (central unit and all actuators). This is important in connection with the SCO object.</p>
Cyclical Monitoring	<ul style="list-style-type: none"> • No • Automatic by Central Unit 	<p>This option is visible if Sector Address from Central Unit has been selected and a sector address has been entered.</p> <p>Automatic by Central Unit: The actuator monitors whether at least 3 commands arrive from the BMS central unit via the SCO object within a certain time period. Failing that, the actuator moves to the safety position (upper end position).</p>
Manufacturer	<ul style="list-style-type: none"> • General 	<p>The monitoring time must be set in the central unit. It is communicated to the actuator automatically via the SCO object and also applies to the cyclical sending of priority commands.</p> <p>General: Below Product Type, the "General Product Type" drop-down menu is displayed.</p>
General Product Type	<ul style="list-style-type: none"> • Beaded slats, open • Beaded slats, closed • Roller shutters • Sliding-arm awning • Seating-area awning • Window • Vertical awning 	<p>The selection shows Standard Blind Products in broad terms, not manufacturer-specific.</p> <p><i>Note:</i></p> <p>If a parameter change is made for a Product Type on the tab "Product", then it will be shown here on the tab "Settings" for the respective Product Type with the additional text "(changed)".</p>
Limit Switches	<ul style="list-style-type: none"> • 2 Limit Switches • 3 Limit Switches 	<p>The menu will be displayed in dependence upon the Product Type.</p>
Shading Position	<ul style="list-style-type: none"> • -327...327 s 	<p>Number of limit switches for the motor of the corresponding product type.</p> <p>Specifies the shading position as follows:</p> <ul style="list-style-type: none"> - Slat products: Slats opened slightly. - Fabric products: Fabric taut. - Roller shutters: With ventilation slots.
	<ul style="list-style-type: none"> • Time from Down1 • Time from Down2 	<p>This selection item is only displayed for 3 limit switches and the Pro access level. It is not available for the actuator MCU-</p>

09.

Time from Down1:

How much should the angle still be changed after the motor has reached this position?

- Positive value: Effects opening by the adjusted time.

- Negative value: Effects closing by the adjusted time (only intended for special products).

Time from Down2:

As for Down1, just referring to the end position (all the way down).

Individual correction for the respective channel:

The actuator interprets all commands received with an angle value (Positions P1...P4) for the respective channel in accordance with the adjusted correction of the position. The commands can originate from the BMS central unit or from a user (via buttons or operator unit, etc.) or come from inside the actuator.

Application example:

For a façade completely equipped with venetian blinds, the slat angle of a single venetian blind deviates from that of the others.

Note:

Corrections for entire buildings or sectors are entered in the BMS central unit and are sent from it via the SCO object.

In the event of a bus-voltage interruption or the absence of cyclical signals (commands from the SCO object), the sun-protection product will be moved to the position and the operation will be locked out.

No Drive Command: For this selection as well, operation will be locked out.

The command will only be executed if the bus voltage is interrupted for more than 10 minutes. So, only short interruptions do not have any effect on the entire system.

Note:

The group field Behaviour in Case of is only visible at the access levels Full and Pro.

When the bus voltage is restored, the sun-protection product will be moved to the selected position and the operation will be enabled.

The command will only be executed if "Behaviour in Case of Bus Voltage Interruption" has been executed.

Note:

The group field Behaviour in Case of is only visible at the access levels Full and Pro.

Position Correction
Factor(%)

- 0...(100 %)...200 %

Behaviour in Case of
Bus Voltage
Interruption

- No Drive Command
- Up
- Down
- Shading
- P1
- P2
- P3
- P4
- Height
- Angle
- Height/Angle
- Last Local Command
- Last Central Command
- Last local or central command

Behaviour in Case of
Bus Voltage
Restoration

- **No Drive Command**
- Up
- Down
- Shading
- P1
- P2
- P3
- P4
- Height
- Angle
- Height/Angle
- Last Local Command
- Last Central Command
- Last local or central command

Behaviour in Case of
Network Restoration

- **No Drive Command**
- Up
- Down
- Shading
- P1
- P2
- P3
- P4
- Height
- Angle
- Position
- Height/Angle
- Last Local Command
- Last Central Command
- Last local or central command

When the network is restored, the sun-protection product will be moved to the selected position and the operation will be enabled.

Note:

The option Behaviour in Case of is only visible at the access levels Full and Pro.

Tab "Lock-out Functions"

Purpose and Content

On the tab "Lock-out Functions", you can specify, whether and under what conditions the channel or the connected channels should be locked out. This has to do with the answer to these questions:

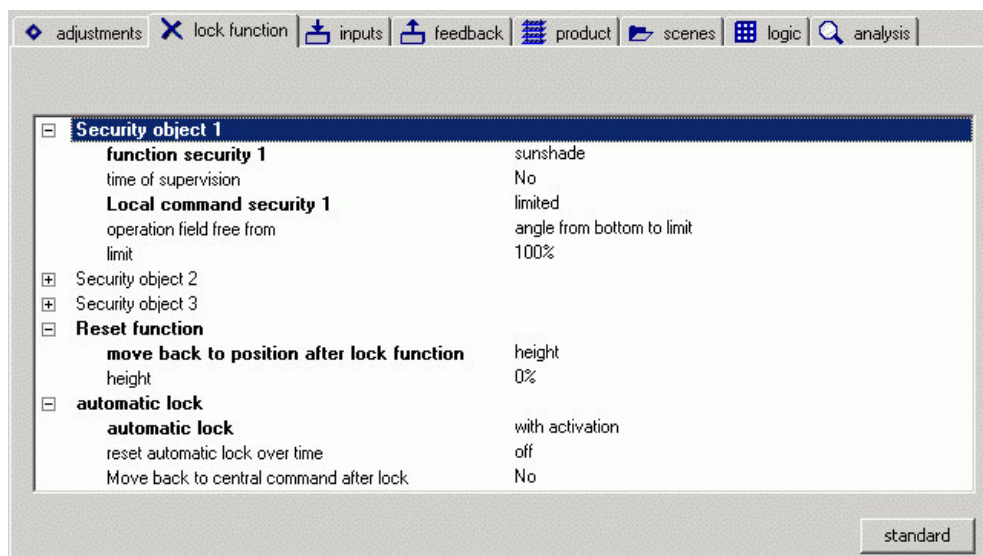
- Apart from the SCO object, should the actuator be locked out by one of the three safety objects (1, 2, 3)?
- Is there an automatic lock-out, and if yes, how should it work?

Setting Lock-out Functions

Proceed as follows:

1. Think about the required functions of the system and about the priority handling resulting from this.
2. Click on the respective parameters and make the selection in the drop-down menu.

Example



Notes

- Changed parameters will be displayed in bold.
- You can restore the default values for the parameters by clicking on the Standard button.

Description of the Parameters

The following tables describe the parameters listed on the tab, grouped according to the way they are displayed in the selection field.

Parameters "Safety Object 1"

Parameter Name	Selection	Description
Function Safety 1	<ul style="list-style-type: none"> • Not Active • No Drive Command • Up • Down • Shading • P1 • P2 • P3 • P4 • Height • Angle • Height/Angle 	<p>When a "1" is received by the "Safety 1" communication object, the sun-protection product is moved to the selected position.</p> <p>Not Active hides the "Safety 1" communication object.</p>
Monitoring Time	<ul style="list-style-type: none"> • No • 1 min....48 h 	If no command is received by the safety object during the set monitoring time, then the selection made under "Local Command for Safety 1" will be executed.
Local Command for Safety 1	<ul style="list-style-type: none"> • Locked out • Enabled • Limited 	<p>Locked out: No operation is possible.</p> <p>Enabled: Local operation is enabled.</p> <p>Limited: Local operation is possible within a limited range. The range is defined by using the parameter "Operating Range enabled from".</p> <p><i>Note:</i></p> <p>Central commands are always locked out; local commands are locked out in dependence on the selection made here.</p> <p>This parameter is only visible if Limited was selected for the parameter "Local Command for Safety 1".</p> <p>By making the appropriate selection here, the operating range for angle or height can be enabled up to a certain value (limit).</p> <p>With "Angle Limited", the height can be adjusted and vice versa.</p> <p><i>Note:</i></p> <p>"Limited Operation" is indicated by the LED on the actuator. When the locally connected button is pressed and motion into the restricted area is initiated, the LED will blink. When the button is released, the blinking will stop after 10 seconds.</p>
Operating Range enabled from	<ul style="list-style-type: none"> • Angle from Top to Limit • Angle from Bottom to Limit • Height from Top to Limit • Height from Bottom to Limit 	
Limit	<ul style="list-style-type: none"> • 0...100% or 0...255 	Value of the limit for the operating range.

Parameters "Safety Object 2"

As for the parameters "Safety Object 1"

Parameters "Safety Object 3"

As for the parameters "Safety Object 1"

Parameters "Reset Function"

Parameter Name	Selection	Description
Move to new Position after Lock-out Function	<ul style="list-style-type: none"> • No Drive Command • Up • Down • Shading • P1 • P2 • P3 • P4 • Height 	<p>Once the lock-out is cancelled, the sun-protection product will be moved to the selected position.</p> <p>Last Local Command: The last position which was actually reached via local operation will be moved to once again after the lock-out is reset.</p> <p>Last Central Command: The last position which was intended to be reached via central commands will be moved to once again after the lock-out is reset.</p>

	<ul style="list-style-type: none"> • Angle • Height/Angle • Last Local Command • Last Central Command • Last local or central command 	Last Local or Central Command: A combination of the two settings above, i.e. the last event according to the descriptions above will be executed.
Height	<ul style="list-style-type: none"> • 0...100% or 0...255 	This input field appears if previously "Height" or "Height/Angle" was selected.
Angle	<ul style="list-style-type: none"> • 0...100% or 0...255 	This input field appears if previously "Height" or "Height/Angle" was selected.

Parameters "Automatic Lock-out"

Parameter Name	Selection	Description
Automatic Lock-out	<ul style="list-style-type: none"> • None • Object Only • When Operated • Button Combination • When Operated and with Button Combination 	<p>Every selection except for None activates the automatic lock-out.</p> <p>When it is activated, no commands from the BMS central unit or from the "Central Command" communication object will be executed, except for safety commands.</p> <p>The selection made also defines how the automatic lock-out is set and reset:</p> <p>Object Only: The automatic lock-out will only be switched on or off via the "Automatic Lock-out" communication object (not via the operating controls).</p> <p>When Operated: When a local operation is actuated ("Local Command" EIB/KNX object or directly at the actuator/channel), the automatic lock-out will be set.</p> <p>Button Combination: Press both buttons, Up/Down, simultaneously. Duration < 1 s = set. Duration > 1 s = reset.</p> <p>When Operated and with Button Combination: Combination of the two settings mentioned before. Advantage compared to When Operated alone: The user can perform a reset.</p> <p><i>Notes:</i></p> <p>For the selection None, the "Automatic Lock-out" communication object will be hidden.</p> <p>The parameter values Button Combination and When Operated and with Button Combination are only active if the Venetian Blind Button Input selection was made on the tab "Inputs" below "Inputs Connected to Buttons".</p>
Reset Automatic Lock-out over Time	<ul style="list-style-type: none"> • Off • 30 min....24 h 	<p>After the selected time has elapsed, the automatic lock-out will reset itself independently, i.e., the "Automatic Lock-out" communication object will be given the value "0".</p> <p>The setting made here will apply for each of the selections made above for "Automatic Lock-out".</p> <p><i>Note:</i></p> <p>A reset also occurs in the event of: a Button Combination OR a command via the "Up/Night" communication object OR a timer command from the central unit (SCO object).</p> <p>When the lock-out is lifted, the automatic position currently being sent from the central unit or the "Central Command" communication object will be moved to.</p> <p>This parameter is dependent on the parameter "Reset Function" > "Move to new Position after Lock-out Function": Only if that parameter does not provide a valid position, the parameter "Move according to Central Command" will take effect, if set to "Yes".</p>
Move according to Central Command	<ul style="list-style-type: none"> • No • Yes 	

Tab "Inputs"

Purpose and Content

You can configure the inputs of the actuator per channel or per connected channels on the tab Inputs".

The inputs are divided into two groups:

- EIB/KNX Inputs (EIB/KNX communication objects):
Here is set which commands from EIB/KNX are to be received is set here.
The communication objects will be visible or hidden accordingly.
See the topic [Inputs: Definitions](#) in the appendix.
- Inputs Connected to Actuator (Operation):
These inputs function essentially like a binary input.
The signals affect the bus, but can also be directed directly to the actuator.
See the topic [Inputs: Definitions](#) in the appendix.

Procedure

1. Check to be sure what offers in the system:
 - Only EIB/KNX inputs
 - Only inputs on the actuator
2. Edit the parameters of the respective group.

Example

Note

You can restore the default settings for the tab by clicking on the button Standard.

Description of the "EIB/KNX Inputs"

By setting these parameters you can hide or display the EIB/KNX communication objects for central commands, local commands and the BCSS object.

Parameter Name	Selection	Description
Central Command	<ul style="list-style-type: none"> • Off(SCO object only) • Reduced (Up/Down, Tilt) • All On (all objects) 	<p><i>Usage:</i></p> <p>If no BMS central unit (and therefore no SCO object) is present and thus central commands must be created independently.</p> <p>Off: All "Central Command" communication objects are hidden (except for the SCO object).</p> <p>Reduced: The central command communication objects</p>

Local Command	<ul style="list-style-type: none"> ■ Off (no objects) ■ Reduced (Up/Down, Tilt) ■ All On (all objects) 	"Up/Down" and "Step/Stop" are displayed.
		All On: All "Central Command" communication objects are displayed.
		Off: All "Local Command" communication objects are hidden.
Receive BCSS Object	<ul style="list-style-type: none"> ● No ● Yes 	Reduced: Only the "Up/Down" and "Step/Stop" local command communication objects are displayed.
		On: All "Local Command" communication objects are displayed.
		No: The BCSS object ("Control System Command") is hidden.
		Yes: The BCSS object ("Control System Command") is displayed.
		A description of the BCSS object is in the appendix under the topic, "BCSS Object"

Description of "Inputs Connected to Actuator (Operation)"

Conventional buttons or contacts can be connected directly to the actuator (e.g. window contacts). The inputs function essentially like a binary input. The signals affect the bus, but can also be directed directly to the actuator.

Input Selection

The selection defines how the input will be utilised.

Parameter Name	Selection	Description
Inputs Connected to Actuator (Operation)	<ul style="list-style-type: none"> ○ None 	Button Input, Dimming:
	<ul style="list-style-type: none"> ○ Button Input, Venetian Blind ○ Button Input, Dimming ○ Button Input ○ Input for Logic 	Two communication objects, "Dimmer Function On/Off" and "Dimmer Function Lighter/Darker" are displayed.
		Single-button operation is not supported.
		Input for Logic:
		- The input connected physically is only required on the "Logic Table" tab.
		- Not available for the actuator MCU-09.

Parameters for the Selection "Button Input, Venetian Blind"

Parameter Name	Selection	Description
Objects for Button LED	<ul style="list-style-type: none"> ● No ● Yes 	Hides/displays the communication objects for the control of the LED on the button.
Input	<ul style="list-style-type: none"> ● Only on EIB/KNX ● EIB/KNX and directly on channel ● Directly on Channel 	Input from conventional button for roller shutters and venetian blinds.
		Directly on Channel: Affects only the channel directly, no EIB/KNX communication object present.
		Only on EIB/KNX: For controlling another actuator via EIB/KNX; has no effect on channel itself.
		EIB/KNX and Directly on Channel: Both effects described above.
Shading Position	<ul style="list-style-type: none"> ● Yes ● No 	The philosophy of operation is determined by:
		Yes: Long + short button pressure = Shading
		No: Long + short button pressure = Stop
		<i>Note:</i>

Long Button Pressure • 400 ms 1.2 s

If EIB/KNX was selected previously and here Yes is selected here, then the communication object "Local Command, Shading" will be displayed.

As of the time set, button pressure will be interpreted as long.

Parameters for the Selection "Button Input, Dimming"

Parameter Name	Selection	Description
Objects for Button LED	<ul style="list-style-type: none"> • No • Yes 	Hides/displays the communication objects for the control of the LED on the button.
Long Button Pressure	<ul style="list-style-type: none"> • 400 ms 1.2 s 	As of the time set, button pressure will be interpreted as long.

Parameters for the Selection "Contact Input"

Parameter Name	Selection	Description
Objects for Button LED	<ul style="list-style-type: none"> • No • Yes 	Hides/displays the communication objects for the control of the LED on the button.
Input 1 / Input 2	<ul style="list-style-type: none"> • No Function • Press Invert • Press On • Press Off • Release On • Release Off • Press On Release Off • Press Off Release On • Press Position • Press Scene 	<p>The two inputs are only connected on the EIB/KNX (communication object displayed) – no reaction to channel command.</p> <p>This makes it possible to trigger an arbitrarily selectable function on the EIB/KNX system, such as a contact for registering presence or a window contact, etc.</p> <p>Meaning of the terms in the selection:</p> <p>Press: Rising edge.</p> <p>Release: Falling edge.</p> <p>Invert: Send inverted value from communication object (toggle).</p> <p>On: Send the value 1.</p> <p>Off: Send the value 0.</p> <p>Position: Parameters for "Height" and "Angle" are displayed.</p> <p>Scene: Parameters for "Scene Settings" are displayed.</p>
Cyclical Sending	<ul style="list-style-type: none"> • No Cyclical Sending • 0.3 s 16 h 	<p>The drop-down menu "Cyclical Sending" is displayed for any of the selections from Press Invert to Press On Release Off for input 1 or input 2.</p> <p>If a time is set under "Cyclical Sending" in accordance with the selection made, then the commands from the respective contact input will be applied to the KNX BUS at this interval.</p> <p>"Cyclical Sending" is used for safety signals such as "Fire" and "Cleaning".</p> <p><i>Note:</i></p> <p>For "Cyclical Sending", the selection Invert will not toggle the value!</p>
Height	<ul style="list-style-type: none"> • 0...100% or 0...255 	<p>The input field "Height" will be displayed with the selection of Press Position for input 1 or input 2.</p> <p>The value entered will be sent via the communication object "Height".</p>
Angle	<ul style="list-style-type: none"> • 0...100% or 0...255 	<p>The input field "Angle" will be displayed with the selection of Press Position for input 1 or input 2.</p> <p>The value entered will be sent via the communication object "Angle".</p>
Scene	<ul style="list-style-type: none"> • Call Up • Save • Call Up and Save 	<p>The drop-down menu "Scene" will be displayed with the selection of Press Scene for input 1 or input 2.</p>

Call Up:

- Short Button Pressure (< 2 s): The value of the scene number set will be called up.

- Long Button Pressure (> 2 s): No Function.

Save:

- Short Button Pressure (< 2 s): No Function.

- Long Button Pressure (> 2 s): The current value will be saved under the scene number set.

Call Up and Save (short / long):

- Short Button Pressure (< 2 s): The value of the scene number set will be called up.

- Long Button Pressure (> 2 s): The current value will be saved under the scene number set.

Note:

The reactions are always triggered by a falling edge.

Number of the scene, the value for which is to be called up and/or saved.

1...16

Tab "Feedback"

Purpose and Content

On the tab "Feedback", you can specify whether and how feedback about the position of the sun-protection product is to be made. This has to do with the answer to these three questions:

- Should feedback about the actual position of the base product (Height/Angle) be given?
- Which of the available status messages of the channel should be given as feedback, and for which state should it be given?
- Should the BCSS object "Control System Feedback" be sent to the operating station of a building control system and, if yes, for which state?

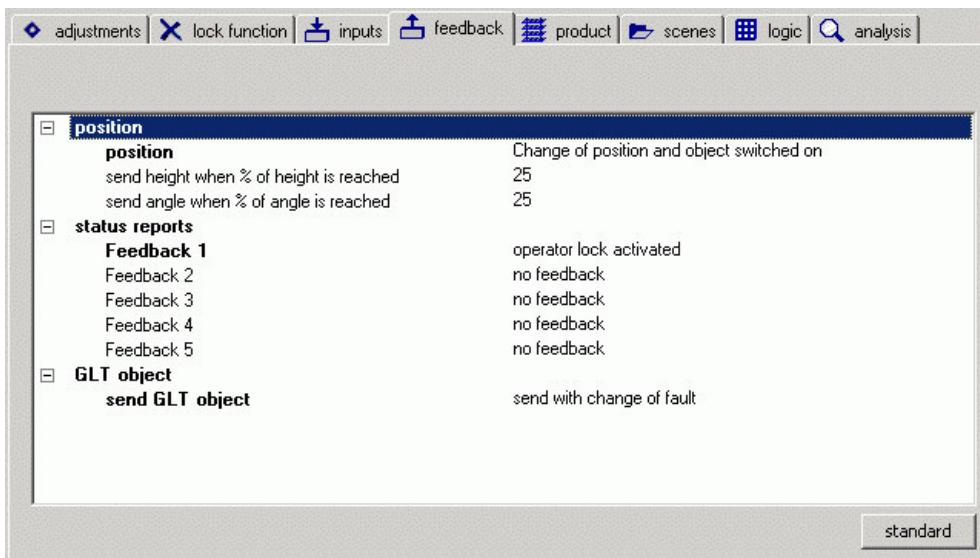
Note: The feedback of a BCSS object contains information about position and status messages.

Parameterising Feedback

Proceed as follows:

1. Think through the functions required of the system based on the questions above.
2. Click on the respective parameters and make the selection in the drop-down menu.

Example



Notes

- Parameterisation is always to be done per channel – even for connected channels.
- Changed parameters will be displayed in bold.
- You can restore the default values for the parameters by clicking on the Standard button.

Description of the Parameters

Parameter "Position"

Parameter Name

Position

Selection

- **No Feedback**
- Reaching Position
- Reaching Position and Object Switched On
- Position Change and Object Switched On

Description

The parameter "Position" is only sent when the position is known (run time has been calibrated and end position only moved to once).

The accuracy of the feedback depends on the parameter settings for "Run Time" and "Slat Turning Time" as well as on the drive strategy selected and it can vary.

Via the communication object "Activate Feedback" it can be controlled whether feedback should be sent and, if yes, under what conditions.

No Feedback: The communication objects "Height Feedback" and "Slat Angle Feedback" are hidden.

Reaching Position: The communication objects "Height Feedback" and "Slat Angle Feedback" are displayed. Every time the prescribed position is reached, the actuator sends the current position (height and angle).

Reaching Position and Object Switched On: In addition to the communication objects "Height Feedback" and "Slat Angle Feedback", the communication object "Activate Feedback" will also be displayed. However, the actuator sends the current position only if the value for the "Activate Feedback" communication object is "1".

This makes sense, for example, for visualisations: It will only be transmitted if the image with the venetian blind is selected (minimise bus load).

Position Change and Object Switched On: The three communication objects mentioned before as well as the following parameters "Send Height if .." and "Sent Angle if .." will be displayed.

These parameters specify for which intermediate positions (changes in height and angle) feedback should be given via the respective communication objects.

Height Position Criteria:

The following criteria must be met for a valid feedback of the height position:

- For activated detection of the end-position: The facade product must have been calibrated (one full motion from the bottom to the top without interruption). The feature "limited operation" (limits) can prevent calibration.

- For deactivated detection of the end-position: The upper or lower end position must have been moved to at least once.

Note for angle position:

For a valid angle position, the slat angle must have been moved to an end position once (fully closed or fully opened).

In addition to the feedback at the end positions, the communication object "Height Feedback" also sends the values for the height when the prescribed intermediate positions are reached.

This produces the following number of feedback messages, depending on the selection:

- 50 (50 %): 3 feedback messages (bottom, middle, top)

- 25 (25 %): 5 feedback messages

- 20 (20 %): 6 feedback messages

- 10 (10 %): 10 feedback messages

Note:

The % values relate to the full run time from "Up" to "Down".

In addition to the feedback at the end positions, the communication object "Angle Feedback" also sends the values for the angle when the prescribed intermediate positions are reached.

This produces the following number of feedback messages, depending on the selection:

- 50 (50 %): 3 feedback messages (fully closed, middle, fully open)

- 25 (25 %): 5 feedback messages

- 20 (20 %): 6 feedback messages

- 10 (10 %): 10 feedback messages

Note:

The % values relate to the full run time from "Fully closed" to "Fully open".

Notes regarding "Height" and "Angle":

The feedback messages for "Height" and "Angle" are sent to the EIB/KNX as follows:

- If the target position is prescribed via separate Height/Angle objects (e.g. via the EIB/KNX objects), the height and angle object will be sent to the KNX BUS for every intermediate stop of the positioning of the blind.
- If the target position is assigned via a combined Height/Angle object (e.g. SCO object, Scene, BCSS Object), the height and angle objects will be sent to the KNX BUS only when the end position has been reached.

Parameters "Status Messages"

=> Note: Parameter not available for the actuator MCU-09

Parameter Name	Selection	Description
Feedback 1	<ul style="list-style-type: none"> • No Feedback • Top End Position • Bottom End Position 	No Feedback: The communication object "Feedback 1" will be hidden.

- Shading Area
- Target Position Reached
- Position Unknown
- Not Possible to Move to Height (Limited)
- Not Possible to Move to Angle (Limited)
- Safety Lock-out Active
- Automatic Lock-out Active
- Operational Lock-out Active
- Limited Operation Active
- Check the Motor Lead Wire / Thermal Protection
- Actuator Defective

Remaining Selection:

The selected status message (Top End Position, Bottom End Position, etc.) will be transmitted to the KNX BUS when applicable.

Shading Area: Slats are positioned at the lower end position and in a shading position.

Check the motor lead wire:

A power supply interruption can cause the problem "Check the motor lead wire". The more precise reason is unknown. Possibilities are disconnection of a motor, defective limit switches, or a motor thermostatic switch that triggered.

Check the connection, the limit switches or the motor thermostatic switch.

Thermal Protection:

The problem Thermal Protection can occur during motion caused by power interruption. Due to the current position, the end position is signalled unexpectedly caused by power interruption and it is detected as thermal protection.

Check connection, limit switches and motor thermostatic switch.

Actuator Defective:

Check the actuator.

As For Feedback 1

As For Feedback 1

As For Feedback 1

As For Feedback 1

As For Feedback 1

Feedback 2	As For Feedback 1
Feedback 3	As For Feedback 1
Feedback 4	As For Feedback 1
Feedback 5	As For Feedback 1

"BCSS Object" Parameters

Parameter Name	Selection	Description
Send BCSS Object	<ul style="list-style-type: none"> • Off • Readout Only • Send for Malfunction Change • For Change 	<p>Off: The "Control System Feedback" communication object will be hidden.</p> <p>Readout Only: The actuator never sends actively, the control system must make a request instead. The entire communication object will be sent.</p> <p>Send for Malfunction Change (incoming and outgoing): When applicable, the actuator sends the status message "Check the Motor Lead Wire" or "Device Defective".</p> <p>For Change: The actuator sends for every change of a value in this communication object.</p>

Tab "Product"

Purpose and Content

Per channel or per connected channel, on the tab "Product", you can:

- select the base product to be actuated
- adapt the predefined default actuator parameters upon initial start-up, if necessary.

Two drop-down menus are used to select the base product. They are ["General" Products](#) and [BMS Products](#).


The parameters with their predefined settings are listed in the field below this, grouped according to "Positioning", "Motor Settings" and "Base Product".

Parameters Product Selection / Setting Channel

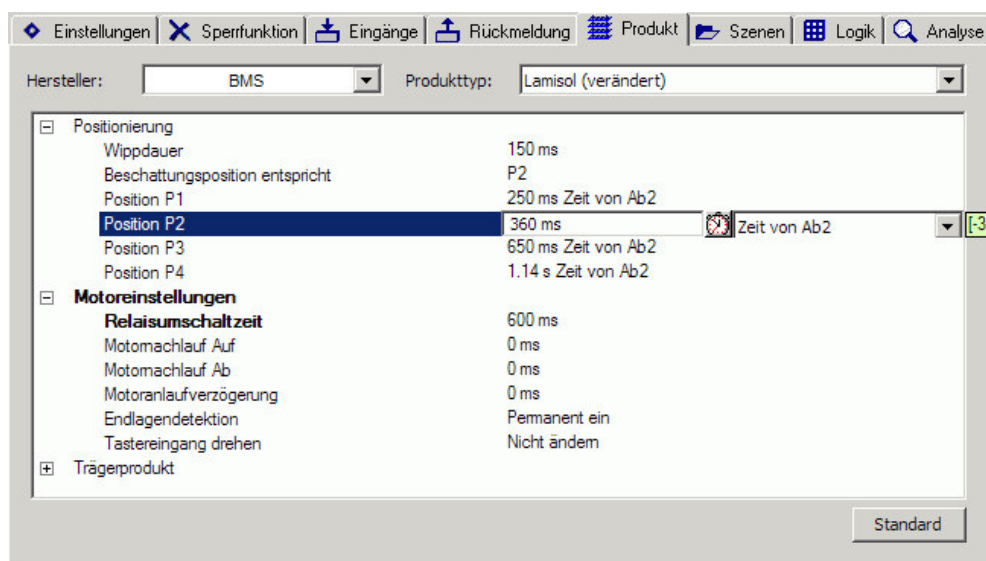
Proceed as follows:

1. Select the manufacturer in the drop-down menu Manufacturer.
2. Select the product type in the drop-down menu Product Type:
=> Depending on the product type selected, certain parameters and their predefined settings will be hidden or displayed.
3. For the time being, leave these settings as they are.

If you discover certain deviations during the subsequent initial start-up, then you can adapt the respective parameter values as follows:

1. Enter the new values in the text fields or select the suitable settings in the drop-down menu.
2. Make calibration measurements for the times as needed. The [Calibration Dialogue](#) can be opened by clicking on the icon .

Example



Notes

- The selection offered in the drop-down menus Manufacturer and Product Type cannot be amended.
- Changed parameters will be displayed in bold.
- After a change of the parameters, the Product Type will be marked by the addition "(changed)".
- You can restore the predefined values for the parameters by clicking on the Standard button.

Parameters Description of the "Positioning"

Note: The default values for these parameters are set based on the product selection made.

Parameter Name	Selection	Description
Tilt Duration	<ul style="list-style-type: none"> • 0...5 s 	The setting specifies how long the motor should run once an impulse (e.g. short button pressure) is received for changing the angle or height.
Shading Position Corresponds To	<ul style="list-style-type: none"> • Position P1 • Position P2 • Position P3 • Position P4 	The corresponding position (P1...P4) with its adjusted time will be transferred (see the following). <i>Note:</i> The selection made will be applied on the tab "Settings" under "Shading Position".
Position P1	<ul style="list-style-type: none"> • -327...327 s 	Shading position (angle) at the end position, i.e. blinds all the way down / closed. - "Time for Down2" or "Time for Down1" for motors with 3 limit switches. This information will only be displayed at the access level

Pro.

- "Time from Down1":

How much should the angle still be changed after the motor has reached this position?

Positive value: Causes opening by the time set.

- "Time from Down2":

As for Down1, however at the end position (all the way down).

Note for parameters P1...P4:

The time set must not be greater than the time in the parameter "Max. Slat Turning Time with Blind Raised" (see the following under "Base Product").

An incorrect setting leads to unnecessary movements.

Position (angle) more open than the shading position, P1, but closed more than P3.

Position (angle) more open than P2, but closed more than P4.

The slats are horizontal.

Position P2	• -327...327 s
Position P3	• -327...327 s
Position P4	• -327...327 s

Parameters Description of the "Motor Settings"

Note: The default values for these parameters are set based on the product selection made.

Parameter Name	Selection	Description
Relay Switching Time	• 500 ms...5 s	Direct switching from the downward direction to the upward direction is executed with a pause (protection of the motor).
Motor Overtravel, Up	• 0...5 s	Interval: 50 ms The time set compensates for the overtravel of the motor after the relay switches off.
Motor Overtravel, Down	• 0...5 s	Interval: 20 ms The time set compensates for the overtravel of the motor after the relay switches off.
Motor Start-up Delay	• 0...5 s	Interval: 20 ms The time set compensates for the start-up delay of the motor after the relay switches on.
End Position Detection	• Off • On Permanently • Measure Once	Interval: 20 ms Permanently On: The run time between the mechanical limit switches in the motor is automatically measured continuously. Advantage: Short period of darkness. Run time doesn't need to be measured manually. Changes due to aging and thermally-caused differences are recognised automatically. Measure Once: The run time is measured once automatically after the download of the ETS application. This is done as soon as the actuator has moved from all the way up to all the way down and back one time. Afterwards, this time which is saved is always used for calculations.
Run Time, Up	• 0...(3 min)...10 min	Full run time from the bottom to the top end position. Only visible when "End Position Detection" set to Off.
Run Time, Down	• 0...(3 min)...10 min	Input based on manual measurement. Interval: 100 ms. Full run time from the top to the bottom end position. Only visible when "End Position Detection" set to Off.

Reverse Button Input	<ul style="list-style-type: none"> • Do Not Change • Reverse Contacts 	<p>Input based on manual measurement. Interval: 100 ms.</p> <p>To reverse the direction of rotation – after an incorrect connection by the electrician.</p> <p><i>Notes:</i></p> <p>- In the background, all the associated functions will also be corrected.</p> <p>- Ideally the contacts should be rewired.</p>
Reverse Motor Input	<ul style="list-style-type: none"> • Do Not Change • Reverse Direction of Motor Rotation 	<p>As for "Reverse Button Input", however, only for 2-limit-switch configuration.</p>

Parameters Description of the "Base Product"

Note: The default values for these parameters are set based on the product selection made and are displayed/hidden accordingly.

Parameter Name	Selection	Description
Drive Strategy	<ul style="list-style-type: none"> • Approach from Above • Approach from Below • Approach from both Sides 	<p>Only visible if the selection 2 Limit Switches was made on the register "Settings".</p> <p>Designation for the mathematical model for the respective drive strategy, i.e.:</p> <p>The sequence of movements which ensures that the base product finally reaches the correct, reproducible position as prescribed (target value).</p>
Tension Fabric	<ul style="list-style-type: none"> • No • Yes 	<p>For details, see the topic "Drive Strategies" in the appendix.</p> <p>Yes: Prevents the awning fabric from sagging in the lower end position.</p>
Max. Slat Turning Time	<ul style="list-style-type: none"> • 0...10 min 	<p>The time from "closed completely" to "fully open" of the slats.</p> <p>Use the calibration dialogue if needed.</p>
Max. Slat Turning Time with Blind Raised	<ul style="list-style-type: none"> • 0...10 min 	<p>The parameter is only displayed for products with slats.</p> <p>The time from "closed completely" to the full opening of the blind in the raised state.</p> <p>Use the calibration dialogue if needed.</p>
Reversal Play	<ul style="list-style-type: none"> • 0...5 s 	<p>The parameter is only displayed for products with slats.</p> <p>Compensation for the mechanical reversal play after a change in direction.</p>
Travel Time, Up	<ul style="list-style-type: none"> • 0...5 s 	<p>For the driving strategies "from above" (2 LS and 3 LS):</p> <p>Time which defines how much more the blind must be moved upward in order to reach the shading position.</p>
Travel Time, Down	<ul style="list-style-type: none"> • 0...5 s 	<p>For the driving strategies "from above" and "from both sides":</p> <p>Time which defines how far the blind must be moved downward in order to reach the shading position.</p>

Calibration Dialogue

Purpose and Content

The calibration dialogue helps you to optimise various product-related parameters for a channel upon initial start-up.

The window is divided into two areas for this purpose:

- Calibration aid P2 (left) for determining the shading position
- Test commands (right) for entering drive commands on the respective channel

Notes

- Before the calibration dialogue can be used, the physical address of the respective actuator must be stored.
- Commands entered in the calibration dialogue have priority over all other commands – even over safety commands!
- The factor of the correction of position should be set to 100% so that the test commands can be evaluated correctly.

Items Calibration Aid P2

Item

Move to Down2 button

Drop-down menu

Buttons and

Text field Travel Time P2

Save button:

Save and Close button

Close button

Function

Movement to the shading position shown in the menu above, according to the selected product.

Selection of the tilt step size.

Move to the desired angle.

Display of the determined travel time.

Note: The mechanical characteristics of the product as recorded in the database are also included in the determined time. For this reason, the determined time does not correspond exactly to the value entered in the menu "Shading Position" above. The determined time is read from the actuator and entered in the Travel Time P2 text field.

The determined value will be applied. The calibration dialogue will be closed.

The determined value will not be applied. The calibration dialogue will be closed.

Note

Leaving the calibration dialogue triggers a reset for the actuator.

Test Command Items

Item

button

button

button

Buttons P1...P4

Move to: Height button

Move to:Angle button

Function

Move to upper end position.

Stop

Move to lower end position

Shading reference + move to corresponding angle.

Note: The command can be executed from any position.

The height entered in the text field will be moved to.

The angle entered in the text field will be moved to.

Determining a Shading Position

Proceed as follows:

1. Click on the Move to Down2 button (or Move to Down1 for motors with 3 limit switches):
=> The starting point for the shading position will be moved to (in the list box above, the displayed value / calibrated parameter).

2. In the drop-down menu, select the tilt step size.
3. Move the blind to the desired angle using the and buttons.
Alternatively: Move the blind to the desired angle via the EIB/KNX button (local operation).
4. Click on the Save button:
=> the determined value will be read from the actuator and entered in the Travel Time P2 field.
5. Click on the Save and Close button if you wish to apply the determined value.

Tab "Scenes"

=> This tab is not available for the actuator MCU-09

Purpose and Content

You can define up to 16 scenes per channel on the tab "Scenes". The following are available:

- A table with 16 rows for creating and changing scenes.
- The Read In button for uploading scenes stored in the actuator:
=> With the respective number scenes which already exist in the table will be overwritten.

Procedure

How to create scenes:

1. Select Yes in the drop-down menu Scenes Active:
=> The table will be displayed.
2. Create the desired scene by making an appropriate selection of the respective parameters described below.

Example

no.	command	height	angle	lock function
1	no movement command			no
2	up			no
3	down			no
4	sunshade			no
5	height	50		automatic lock
6	angle		25	automatic lock
7	inactive			
8	inactive			
9	inactive			

Making Changes to Scenes:

1. Upload the scenes stored in the actuator using the Read In button.
2. Change the scenes as needed.

Description of the Parameters

Parameter Name	Selection	Description
Scenes Active	<ul style="list-style-type: none"> • No • Yes 	<p>No:</p> <p>Table will be hidden. Scenes are not active.</p> <p>Yes:</p> <p>Table will be displayed. Scenes are active.</p>
Command	<ul style="list-style-type: none"> • Not Active • No Drive Command • Up • Down • Shading • P1 • P2 • P3 • P4 • Height 	<p>Select the desired command.</p>

Height	<ul style="list-style-type: none"> • Angle • Height/Angle • 0...100% or 0...255 	<p>The input field "Height" will be displayed with the selection of Command / Height at the respective scene number.</p> <p>The value entered will be sent via the communication object "Height".</p>
Angle	<ul style="list-style-type: none"> • 0...100% or 0...255 	<p>The input field "Angle" will be displayed with the selection of Command / Angle at the respective scene number.</p> <p>The value entered will be sent via the communication object "Angle".</p>
Lock-out Function	<ul style="list-style-type: none"> • None • Automatic Lock-out 	<p>None:</p> <p>The automatic lock-out is inactive (off).</p> <p>Automatic Lock-out:</p> <p>The automatic lock-out is active (on).</p> <p><i>Note:</i></p> <p>The command set will be executed regardless of the setting "Lock-out Function".</p>

Note:

If, for example, only a height is specified in a scene and after the motion is completed, the scene is resaved via EIB/KNX, then the current angle value will also be saved (the setting will be overwritten).

Tab "Logic"

=> This tab is not available for the actuator MCU-09

Purpose and Content

On the "Logic" tab, you can implement room functions, such as presence, heating & cooling, etc. based on EIB/KNX signals.

For this purpose, two logic tables are available:

- Logic table for a 2-bit input
- Logic table including allocation table for four 1-bit inputs

About the Designations "Input" and "Output":

- Here, a signal from the KNX BUS (communication object) is designated as an input (binary input, 2-bit or 1-bit).
- The output, or the function to be executed, goes to the channel (motor), not to the bus.

Your first decision on this tab:

Do I want to create a logic with a 2-bit input or with a maximum of four 1-bit inputs?

A note in this regard:

The 2-bit input is used for buttons which support the 2-bit communication object "Channel n, Logic".

A typical application is the "Cleaning Lock-out".

Selecting a Logic Table

In accordance with your decision, select the logic table in the drop-down menu on the top left hand corner:

Parameter Name	Selection	Description
Logic Table	<ul style="list-style-type: none"> • Off • 1 x 2-bit Input 	Off: The function tables are hidden.

- 4 x 1-bit Input

1 x 2-bit Input:

A function table with 2 input variables (bit 0 and bit 1) will be displayed.

4 x 1-bit Input:

A function table with 4 input variables (each bit 0) will be displayed.

- The variables 1...3 allow all settings.

- The variable 4 only allows the function table to be switched on and off.

Structure and Principle of Operation of the Logic Tables:

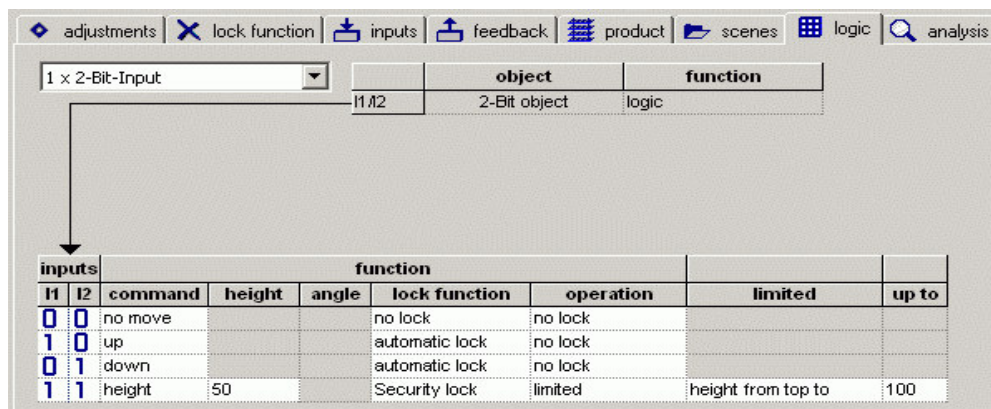
- In the column at the far left, the values for the input variables are displayed as a bit pattern. These allocations are permanent.
- In the columns below Function, the various setting options are available as menus.
- In the individual rows, select the Function, which you wish to allocate to a certain value of the input variable(s).
- When the respective input signal with the corresponding bit value arrives, then the allocated functions will be executed – applied to the output/channel.

Defining Room Functions for the 2-Bit Input

Proceed as follows:

1. Select the option 1 x2-bit Input in the drop-down menu on the top left hand corner:
=> The logic table will be displayed.
2. Edit the rows:
Allocate the desired functions to the bit values.

Example



Description of the Parameters in the Logic Table

Parameter Name

Command

Selection

- No Drive Command
- Up
- Down
- Shading
- P1
- P2
- P3
- P4
- Height
- Angle
- Height/Angle

Description

When one of the drive commands Height, Angle or Height/Angle is selected, then the columns "Height" and "Angle" will be displayed.

Lock-out Function

- No Lock-out
- Automatic Lock-out
- Safety Lock-out

No lock-out, or the selected lock-out is active.

Safety Lock-out: Sets the lock-out (internal) to the level set on the "Priorities" tab.

The safety lock-out locks out the central commands (SCO object, communication object "Central Command")

Operation

- No Lock-out

When Limited is selected, then the cells in the columns

Limited	<ul style="list-style-type: none"> Limited Locked out Angle from Top to Angle from Bottom to Height from Top to Height from Bottom to 	"Limited" and "To" will be activated for the selection or input in the respective rows. The field in the respective row will become active when Operation > Limited is selected.
To	<ul style="list-style-type: none"> 0...100% or 0...255 	The field in the respective row will become active when Operation > Limited is selected. Enter the desired limit: 0...x

Defining Room Functions for the 1-Bit Inputs

Proceed as follows:

1. Select the option 4 x1-bit Input in the drop-down menu on the top left hand corner:
=> The logic table and the allocation table for the inputs will be displayed.
2. In the allocation table, rows E1...E4, select the required Objects and their Function:
=> the logic table can be adapted accordingly under Inputs.
3. Edit the rows: Allocate the desired functions to the bit values.

Example

Notes regarding behaviour after a reset (initial behaviour)

EIB/KNX inputs must receive a value (0/1). Only when all EIB/KNX inputs have been defined, the function (row) will be executed.

Inputs directly connected to the actuator will be directly imported.

Description of the Parameters in the Allocation Table

Parameter Name	Selection	Description
4 Inputs (arbitrary)	<ul style="list-style-type: none"> None EIB/KNX Input 1 EIB/KNX Input 2 EIB/KNX Input 3 EIB/KNX Input 4 EIB/KNX Input 5 EIB/KNX Input 6 EIB/KNX Input 7 EIB/KNX Input 8 Physical Input 1 Physical Input 2 	<p>Both the EIB/KNX objects as well as the physical inputs can be used for every input E1...E4.</p> <p>The number of columns for the input variables of the logic table will be adapted for the selection None.</p> <p>Physical Input 1:</p> <p>Physical input from actuator for Down ▼</p> <p>(e.g. channel 1, terminal 12 for MCU-06)</p> <p>Physical Input 2:</p>

Physical input for Up ▲

(e.g. channel 1, terminal 13 for MCU-06)

Note:

Although the selections Physical Input 1 and Physical Input 2 are always available, they are only active if the selection Input for Logic has been made on the tab "Inputs" below "Inputs Connected to Actuator (Operation)".

Depending on the function selected, the associated icon will be displayed in the function table or labelling of the communication object "Input...."

Function of the Input	<ul style="list-style-type: none"> • Presence • Heating&Cooling • Radiation • Time • Logic
-----------------------	---

Description of the Parameters in the Logic Table

Parameter Name	Selection	Description
Command	<ul style="list-style-type: none"> • No Drive Command • Up • Down • Shading • P1 • P2 • P3 • P4 • Height • Angle • Height/Angle 	When one of the drive commands Height, Angle or Height/Angle is selected, then the columns "Height" and "Angle" will be displayed.
Lock-out Function	<ul style="list-style-type: none"> • No Lock-out • Automatic Lock-out • Safety Lock-out 	<p>No lock-out, or the selected lock-out is active.</p> <p>Safety Lock-out: Sets the lock-out (internal) to the level set on the "Priorities" tab.</p> <p>The safety lock-out locks out the central commands (SCO object, communication object "Central Command").</p>
Operation	<ul style="list-style-type: none"> • No Lock-out • Limited • Locked out 	When Limited is selected, then the cells in the columns "Limited" and "To" will be activated for the selection or input in the respective rows.
Limited	<ul style="list-style-type: none"> • Angle from Top to • Angle from Bottom to • Height from Top to • Height from Bottom to 	The field in the respective row will become active when Operation > Limited is selected.
To	<ul style="list-style-type: none"> • 0...100% or 0...255 	<p>The field in the respective row will become active when Operation > Limited is selected.</p> <p>Enter the desired limit: 0...x</p>

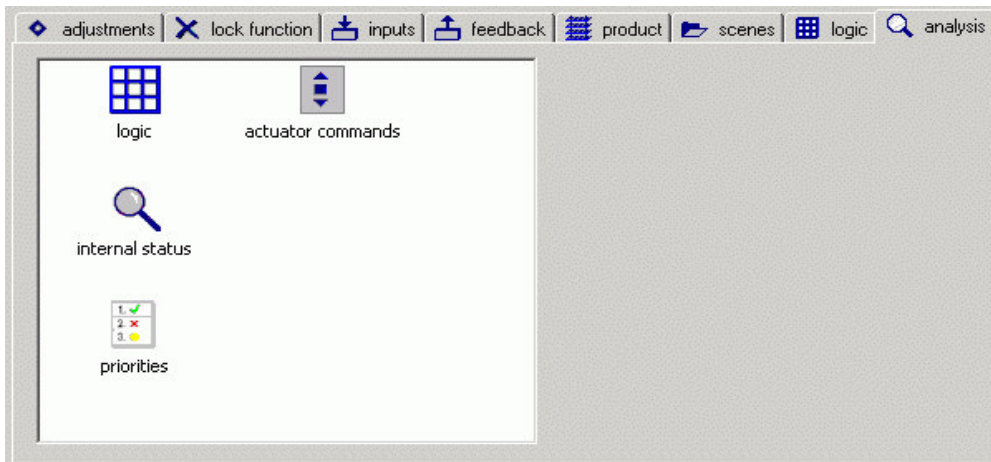
Tab "Analysis" – Overview

=> This tab is not available for the actuator MCU-09

Purpose

The tab "Analysis" helps you in the following ways during initial start-up and fault analysis:





- To check the internal states of the actuator in general
- To analyse a certain configuration



Contents

The tab contains the icons for opening four different analysis windows.

The windows can be opened by double clicking on the corresponding icon. They offer the following information and functions:

Icon	Window	Information / Functions
	Logic	Shows the functions which are defined on the "Logic" tab. The current state is tagged. Inputs can be simulated.
	Internal States	Shows the current states of the most important internal actuator parameters.
	Priorities	Shows the priority list with the commands which are specific to the channel for each priority level.
	Actuator Commands	Is used to send commands to the actuator.

Note

All the channel diagnosis windows can be open simultaneously so that interrelationships can be observed.

Prerequisites for Channel Diagnosis

For the functional efficiency of the four windows, please mind that:

- The application/ETS3 must be online, i.e. connected to the KNX BUS.
- The actuator must be loaded and configured.

Tab "Analysis" – Logic


Purpose and Content

The window "Logic" is used for:

- Listing of the functions that have been defined on the tab "Logic", along with the display of the current state
- Simulation of the inputs

Operation

How to operate the window "Logic":

1. Double click on the icon  on the tab "Analysis":
=> The window "Logic" will open and the logic table will be displayed.
=> The current state is tagged with a yellow bar.
2. Simulate the desired input by selecting the respective checkbox in the upper area of the allocation table:
=> The respective function will be executed / the motor runs.

=> The respective row will be tagged in yellow.

Display Example

logic

configuration: 4 x 1-bit input

KNX input 1	<input type="checkbox"/>
KNX input 2	<input checked="" type="checkbox"/>
KNX input 3	<input type="checkbox"/>
KNX input 4	<input checked="" type="checkbox"/>

inputs				function				limited	up to
I1	I2	I3	I4	command	height	angle	lock function	operation	
0	0	0	1	up			no lock	no lock	
1	0	0	1	up			no lock	no lock	
0	1	0	1	up			Security lock	no lock	
1	1	0	1	sunshad			no lock	no lock	
0	0	1	1	no move			no lock	no lock	
1	0	1	1	no move			no lock	no lock	
0	1	1	1	no move			no lock	no lock	
1	1	1	1	no move			no lock	no lock	
			0	sunshad			no lock	no lock	

update

Note

By clicking on the Refresh button, you can pull up the current values at any time.

Tab "Analysis" – Internal States


Purpose and Content

The window "Internal States" is used for:

- Display of the current states of the most important internal actuator parameters alone
- Display of this window in combination with the window "Actuator Command"

Operation

How to operate the window "Internal States":

1. Double click on the icon  on the tab "Analysis":
=> The window "Internal States" will open.
=> The most important parameters and their current states will be displayed.

Display Example

internal status	
height	50%
angle	78%
end position	No
Security lock activated	No
automatic lock activated	No
Local control locked	No
Last command carried out	height
origin of last command carried out	Central command KNX
Diagnosed problem	no
Target position reached	yes
Last central command KNX	height
Last local command KNX	Unknown
Last pushbutton command	Unknown
Last command SunControlObject	Unknown
Feedbacks active	No
correction factor of central unit	100%
Resulting correction factor	100%
correction of position angle	100%
Time of down-movement	29.69 s
Time of up-movement	29.69 s

update

Notes

- A display of 180 s for "Run Time Up" or Run Time Down" means that now measurement of the run time has been performed (or that, with end-position detection switched off, the end position has not yet been moved to).
- By clicking on the button Refresh, you can pull up the current values at any time.
For example, this is necessary if you have made a change in the window "Actuator Command" and you wish to check the result of the change here.

Tab "Analysis" – Priorities


Purpose and Content

The window "Priorities" is used for:

- Showing the priority list with the commands specific to the channel for each priority level
- Determination of the object responsible for the safety lock-out

Operation

How to operate the window "Priorities":

1. Double click on the icon  on the tab "Analysis":
=> The windows "Priorities" will open.
=> The priority list with the current states will be displayed.

Display Example



Explanations regarding the Display

Current State:

The three possible lock-outs and their current states (none, limited, active) are displayed.

Safety Lock-out:

The possible safety lock-outs are listed in the priority sequence as defined on the tab "Priorities".

There is an indication of whether "locked-out" or "released" for each safety lock-out.

This makes it possible to determine which object is responsible for the current state,

Note

By clicking on the Refresh button, you can pull up the current values at any time.

Tab "Analysis" – Actuator Commands

Purpose and Content

The window "Actuator Commands" serves to:

- Check whether a command entered is executed correctly as a local command or as a central command
- or
- Whether the command has not been executed (because, for example, a lock-out is in effect for central commands).

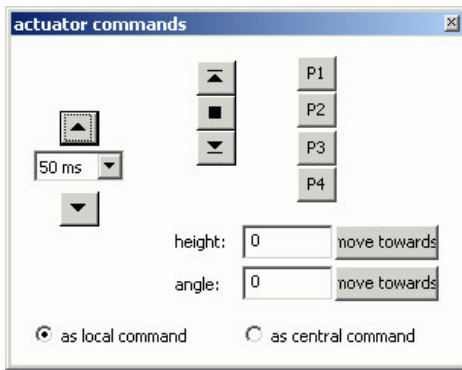
The use of this window is especially beneficial in connection with the window "Priorities".

Operation

How to operate the window "Actuator Commands":

1. Double click on the icon  on the tab "Analysis":
=> The window "Actuator Commands" will open.
2. Enter the desired commands using the buttons and fields.

Display Example



Items in the Window

Item

Drop-down menu 50 ms

Buttons ▲ and ▼

▲ button

■ button

▼ button

Buttons P1...P4

Move to: Height button

Move to: Angle button

As Local Command option button

As Central Command option button

Function

Selection of the tilt step size.

Move to the desired angle.

Move to the upper end position.

Stop

Move to the lower end position.

Lower end position + move to the corresponding angle.

Note: The command can be executed from any position.

The height entered in the text field will be moved to.

The angle entered in the text field will be moved to.

The entry will be transmitted as a local command.

The entry will be transmitted as a central command.